

Gist of

KURUKSHETRA

VOL.01

January 2020

Health and Nutrition



Health and Nutrition:

Prime Movers of Nation's
Development

Health and Nutrition:

Overview and the
Way Forward

Health System:

Towards a New India

Nutrition:

A Public Health Priority

Appropriate Nutrition for

Women and Children

INCREDIBLE RESULTS

CSE 2018 Results

11 Ranks in Top 50

28 Ranks in Top 100

183 Ranks in the Final List



Rank 11
Puja Priyadarshni



Rank 16
Dhodmise Trupti Ankush



Rank 21
Rahul Jain



Rank 24
Anuraj Jain

CSE 2017

5 Ranks
in top 50

34 Ranks
in top 100

236 Ranks
in the final list



Rank 3
Sachin Gupta



Rank 6
Koya Sree Harsha



Rank 8
Anubhav Singh



Rank 9
Soumya Sharma



Rank 10
Abhishek Surana

CSE 2016

8 Ranks
in top 50

18 Ranks
in top 100

215 Ranks
in the final list



Rank 2
Anmol Sher
Singh Bedi



Rank 5
Abhilash Mishra



Rank 12
Tejaswi Rana



Rank 30
Prabhash Kumar



Rank 32
Avdesh Meena

CSE 2015

5 Ranks
in top 50

14 Ranks
in top 100

162 Ranks
in the final list



Rank 20
Vipin Garg



Rank 24
Khumanthem
Diana Devi



Rank 25
Chandra Mohan
Garg



Rank 27
Pulkit Garg



Rank 47
Anshul Agarwal

CSE 2014

6 Ranks
in top 50

12 Ranks
in top 100

83 Ranks
in the final list



Rank 4
Vandana Rao



Rank 5
Suharsha Bhagat



Rank 16
Ananya Das



Rank 23
Anil Dhameliya



Rank 28
Kushaal Yadav



Rank 39
Vivekanand T.S

CSE 2013

5 Ranks
in top 50

62 Ranks
in the final list



Rank 9
Divyanshu Jha



Rank 12
Neha Jain



Rank 23
Prabhav Joshi



Rank 40
Gaurang Rathi



Rank 46
Udit Singh

KURUKSHETRA – JANUARY 2020 ISSUE

HEALTH AND NUTRITION

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Chapter 1 - Health and Nutrition Prime Movers of Nations Development

Introduction:

- Article 21 of the constitution of India guarantees every citizen, the right to live with dignity and protection of personal liberty.
- The Supreme Court has also held that the right to live with human dignity as described in Article 21 is derived from the Directive Principles of State Policy and includes the protection of health.
- **Article 25** of the **United Nations Universal Declaration of Human Rights** states that every person has the right to a standard of living adequate for the health and well-being of himself and of his family. This includes food, clothing, housing, medical care and necessary social services.
- Recognizing health and nutrition as the primary requirement of national development, the new National Health Policy was approved in the Union Cabinet meeting on 15 March 2017 to ensure government medical facilities for all the citizens of the country and also insurance of the patients.

The National Health Policy (NHP) of 2017:

- The National Health Policy allows patients to visit a government or private hospital for treatment from specialists.
- Under this policy, the government aims to provide medical facilities to 80 percent of the people in a government hospital completely free of cost. It includes medicines, diagnostic tests and treatment.
- However, compliance of this policy has not been made mandatory for the states.
 - The New Health Policy has been provided to them as a model and its implementation is left to the discretion of the individual states.
- The National Health Policy, 2017 is set to increase its spending on public health to 2.5 per- cent of Gross Domestic Product (GDP) in a time- bound manner.
 - As of now, this expenditure is only 1.15 percent of GDP.
 - It underlines increasing life expectancy from 67.5 years at present to 70 years by 2025.

Goals to accomplish by 2025 under the NHP:

The NHP has set certain goals which it aims to achieve by 2025. These include:

- To reduce the total fertility rate at-the -national and sub-national levels to 2.1.
- Reduction in the mortality rate of under-five children to 23 per thousand births.
- Reduce neo-natal mortality rate to 16 and the still birth rate to a single digit.
- Reduce the number of blindness cases to 0.25/1000.
- The policy focuses on reducing premature mortality from, cardiovascular diseases, cancer, diabetes and respiratory diseases by 25 percent.
- It also aims to increase utilization of public health facilities by 50 percent.
- Full immunization of more than 90 percent of new-borns, and meet the need of family planning above 90 percent at national and sub-national level.
- A relative reduction in the prevalence of current tobacco use by 30 percent.
- The goal of the government is to **control the increase in incidence of diabetes cases**.
 - According to a study by the **Indian Council of Medical Research – India Diabetes (ICMR-INDIAB)**, Punjab was found to have the highest number (8.7 percent) of diabetic patients in terms of rural area and Union Territory of Chandigarh has highest (14.2 percent) number of diabetic patients in terms of urban areas.

Initiatives taken:

1. Recognizing the fact that many diseases are caused due to non-availability of clean and safe drinking water to the people, target has been set under the “Swachh Bharat Mission” to ensure access to safe water, and complete sanitation to all countrymen by the year 2020.

2. The Government at the Centre is fully committed to universal health coverage. To achieve this, two schemes in the medical sector have been initiated through the health sector's ambitious scheme – “**Ayushman Bharat**”.
3. One of the schemes is related to the opening of health and welfare centres, while the other is about **the National Health Protection Mission (NHPM)**.
 - The Schemes are used to address the **inequalities related to access to health and medical care facilities in hospitals, reduction of the accidental burden of huge medical expenses on families and improving the quality and accessibility of health services in public and private sector.**
4. Under the “Ayushman Bharat” more than 21 thousand health and welfare centres have started functioning.
 - Health and Welfare Centres have been considered as the foundation of the country's health system in the National Health Policy.
 - It is expected that under this, one and a half lakh Health and Wellness Centres will be opened, which will bring adequate health. Emphasis has been laid on providing holistic health care facilities through them.
5. “**Pradhan Mantri Swasthya Suraksha Yojana**” is being implemented with the objective of removing imbalance in the availability of reliable and affordable health care facilities in different parts of the country. The Scheme focuses on the spread of medical education, especially in states with no facilities or less facilities of quality medical education.
 - So far, 22 new institutes have been announced to be established on the lines of All **India Institute of Medical Sciences- AIIMS**. The second phase of Scheme focuses on the up-gradation of the existing medical colleges and institutions of the state government.

What is the Ayushman Bharat Scheme?

- “Ayushman Bharat” is a unique initiative and vision of Hon'ble Prime Minister to provide health care facilities to the poor and the underprivileged.
- It is the world's largest initiative related to public health care.

6. The Union Budget 2019-20, places a complete focus on the health sector.
 - Investment in the health sector leads to an increase in welfare and well-being as well as increased productivity and employment generation.
 - Overall, it has a direct and positive impact on the country's economic condition.
 7. Diabetes treatment is being provided in health centres run by the central and state governments. Poor and needy people are being given treatment in government hospitals free of cost or at affordable rates.
 8. Under the '**Jan Aushadhi Yojana**', quality generic medicines are being made available at affordable prices to all individuals in collaboration with the state governments.
 9. The central government is also committed to the eradication of tuberculosis i.e. TB by the year 2025. To achieve this goal, a national plan has been drafted for the year 2017 to 2025, covering a wide range of activities through various stakeholders.
 10. Tuberculosis cases in India were estimated to decrease by 3.3 per cent the campaign “**TB Harega, Desh Jeetega**” was launched along with the “**National TB Prevalence Survey**”.
- The campaign emphasized community involvement with various stakeholders. In order to fulfil the commitment of TB eradication, the focus has been to establish patient forums in more than 95 per cent districts in the first 100 days. The new tuberculosis control campaign incorporates three strong pillars-clinical approach, public health component and active community participation.
 - 8. The Government in April 2018 launched the “**Nikshay Poshan Yojana**” a Direct Benefit Transfer (DBT) scheme to provide nutritional support to TB Patients. During the last 5 years, the services of Central Government Health Scheme – CGHS have been extensively expanded.
 - 9. The **National Medical Commission Act 2019** passed by both the Houses of Parliament is a watershed movement. It is a comprehensive and visionary reform in the medical education sector.

NFH SURVEY: As per the fourth National Family Health Survey (NFHS) children below five years were found to be underweight, about 38 per cent stunted and about 21 per cent, suffering from high malnutrition. Anaemia was found in about 48.4 per cent of children and 53 per cent of women. On the contrary, the problem of overweight or obesity in children, adolescents and adults is also increasing rapidly.

10. Efforts are being made to reduce the mortality rate of unborn and new borns through the **India Newborn Action Plan (INAP)**.
11. Under Mission Indradhanush, children up to the age of 2 years have been brought under immunization programme to protect against 7 types of diseases: **diphtheria, whooping cough, tetanus, tuberculosis, polio, hepatitis-B and measles**. Pregnant women are also vaccinated against tetanus.
12. **Revolving Funds** up to Rs. 50 lakh have been set up in 13 Central Government Hospitals/Institutes for the treatment of patients below poverty line under the **Rashtriya Arogya Nidhi (RAN)**.
13. Several important steps have been taken under the “**National Nutrition Policy**” to address the problem of malnutrition.
14. **Rashtriya Poshan Abhiyaan (National Nutrition Mission)** has been launched in March 2018.
15. **Schemes for Women: Beti Bachao, Beti Padhao, Mid-Day Meal Scheme, Janani Shishu Suraksha Karyakaram, Rashtriya Bal Swasthya Karyakram Balika Samridhi Yojana** and 26 weeks maternity leave scheme for pregnant women are contributing significantly in addressing problems associated with health and nutrition.
16. Under the **Pradhan Mantri Matru Vandana Yojana** based on Direct Benefit Transfer, cash benefits are provided to pregnant women directly into their bank accounts. The scheme aims to meet enhanced nutritional needs and partially compensate for wage loss during pregnancy.
 - The eligible beneficiaries also receive cash incentive under **Janani Suraksha Yojana (JSY)**. Thus, on an average, a woman gets Rs. 6,000. The government has doubled the budget provision under this scheme.

Conclusion

- It is very important to overcome the challenges of health and nutrition in order to transform the vision and resolve of a '**Clean India - Healthy India**', to a reality.
- The government has given adequate importance to nutrition, health and education in the budget of 2019-20.
- It is evident from this that the present government is moving forward to provide more and better services and facilities in the field of health and nutrition so that public health and nutrition related facilities reach the last mile and every citizen.

Chapter 2 - Health and Nutrition: Overview and the Way Forward

- A study by the World Bank has estimated that annual cost of malnutrition in India is at least US\$ 10 billion and is driven by loss of productivity, illness and premature deaths.
- Alongside, illnesses in an otherwise 'normal weight' person can lead to under-nutrition, which can spiral into a vicious cycle the challenge of nutrition is multi-layered.
- It is being recognized that in many settings and countries, both under and over-nutrition are increasing as an emerging challenge, described as 'Double Burden of Malnutrition' (DBM).
- While under-nutrition continues to be major and pressing challenge in India, the issue of over-nutrition is also real. Therefore, it is time that India also shifts attention on holistic approach of targeting malnutrition with focus and appropriate strategies to tackle DBM.

Under-nutrition as a Persistent Challenge:

- India had poor health and nutritional indicators at the time of independence in 1947. Over these years, through targeted interventions, the proportion of population living below poverty line has declined and even the food production and availability has drastically increased.
- The prevalence of underweight, stunted and wasted is higher in rural than urban populations.
- The progress on other parameters of the nutritional status such as level of anaemia in population groups and birth-weight of new-borns is also slow.

Under-nutrition and Health:

- While the poor nutrition affects the health outcomes in all population sub-groups, it is the women in reproductive age and new-born and children, who are most commonly and adversely affected.
- An underweight and under-nourished child is at a higher risk of diarrhoea, typhoid and pneumonia. The chances of recovery in such children are slower.

The public health science has generated evidence that it is vicious cycle of under-nutrition which starts at the time of pregnancy (in mother's womb) and continues to affect the new-born for the rest of the life and for many generations.

- The initiatives to tackle under-nutrition are targeted for women in reproductive age groups, children and adolescent girls.
- According to the findings of **India state level disease burden initiative**, under-nutrition contributed to more than two-third of under-five deaths in India. Nearly 4 of every 10 under five children in India fail to meet their full potential because of chronic under-nutrition or stunting.
- Problem of stunting cannot be solved by increased access to nutritious food. It requires better housing and improved water and sanitation.
- India is world's second largest producer of rice (more than 100 million tonnes) and wheat (nearly 90 million tonnes) and the largest producer of pulses (23 million tonnes) and yet, the country is home to a large number of under-nourished children and adults.
 - There is high level of protein deficiency though the country produces large quantity of pulses.

Diseases Linked to Over-nutrition:

- Over-nutrition is an emerging phenomenon which is resulting in increased burden of Non-Communicable Diseases (NCDs).
- A range of diet related chronic diseases- diabetes, cancers, cardiovascular diseases and liver diseases are rising rapidly.
- Chronic diseases affect all populations, however, poor and rural populations are often worst affected. They cannot afford dietary nutritious food and the access to healthcare for them is limited.

Initiatives to Improve Nutritional Status:

1. The Government of India had launched **National Nutrition Strategy** and then **National Nutrition Mission (NNM)** under the Ministry of Women and Child Development aiming for **Kuposhan Mukh Bharat** by year 2022.
 - *The programme aims at reducing levels of underweight, stunted low birth weight and anaemia in population.*
2. **Pradhan Mantri Matru Vandana Yojana** known as **Maternity Benefit Scheme**, aims to provide financial assistance to pregnant women for the first pregnancy and ensure good nutritional status.
3. There is renewed attention on reducing prevalence of anaemia through **Anaemia Mukh Bharat**.
4. There are a number of complimentary initiatives under different ministries to focus on improved nutritional status through approaches such as **Eat Healthy** and **Fit India** initiative.
5. **The Aspirational District Programme** also has nutritional status as a performance indicator.
6. **Regular monitoring on real time basis: Comprehensive National Nutrition Survey (CNNS 2016-18)** is the most recent survey on nutritional status of Indian population.
7. **Promote 'Nutrition Garden' concept:** Ministry of Human Resource Development has brought the concept of school 'nutrition garden'. These gardens are intended to give students lifelong skills to identify fruits and vegetables for their plates
8. **Attention on 'dietary diversification' and focus on healthy diet:** The dietary diversity with balanced nutrients is the key to growth and good health across the life course. The skewed agricultural priorities due to production of cash crops, marketing tactics, food processing has resulted in the sacrifice of nutrient rich balanced diet by many people.
 - The Expert Committee of the Indian Council of Medical Research (ICMR), New Delhi has released a set of guidelines for a healthy plate method. These guidelines should be widely promoted.

Necessity for Good Nutritional Status:

- The first 1000 days of the Nutritional status of a child's life are very crucial for his/her health and development.
- Much of the development of brain happens either in pregnancy or the first two years of life. Therefore, poor nutrition affects the new-born for the rest of the life.
- The nutritional status is the inter-play of at least three broad factors: dietary intake contributes to 45—50 per cent, poor maternal health results in low birth-weight which accounts for another 25 per cent and illnesses amongst children such as diarrhoea for another 25-30 per cent of under-nutrition.

The Way Forward:

- **Integrated health and nutrition initiatives** with closer collaboration of Health, Women and Child Development and Education departments is the need of the hour.
- **There is a need for diversification of supply of food** under government programmes, including more nutritious items.
- **There is a need for** inclusion of pulses and edible oil in the **Public Distribution System (PDS)** as well as the **National Food Security Act (NFSA)**.
- **There is a need to increase protein and micronutrient content in mid-day meal and food under Integrated Child Development Services (ICDS).**
- Establish more cold chain storage capacity for food items across the country: It has been recognized that while India produces a lot of fresh fruits and vegetables, significant amount is wasted during sorting/grading, transport, and storage.
- Promote local production of fruits and vegetables in rural India.
- Educate people on health benefits of consumption of fruits and vegetables along with training on community or kitchen gardening or terrace gardening. The school and college teachers and student should be involved in the process.
- Link the overall nutrition and healthier lifestyle: The awareness about nutrition should be linked to healthy life style to prevent non-communicable disease risk factors and adopt physical activity, and a healthy diet. Schools and colleges should regularly invite nutritionists and health experts to deliver talks to parents and family members of students.

Conclusion:

- The Double Burden of Malnutrition (DBM) is a new 'nutritional reality' for many countries including India.
- The target for accomplishment of sustainable development goals is 2030, therefore, there has to be an urgency to accelerate Interventions.
- The current efforts and initiatives have been focused on priority challenge of under-nutrition, the policy makers and programme managers in India, both at national and state level, need to be mindful of the new nutritional reality. It is time to consider new approaches to reduce under-nutrition and obesity at the same time.



Chapter 3 - Health System: Towards a New India

- India has made noteworthy strides on health and nutrition over the last two decades. Polio, guinea worm disease, yaws as well as maternal and neonatal tetanus have been eliminated.
- Contrary to expectations, India was able to achieve the Millennium Development Goals in respect of the **Maternal Mortality Ratio** (MMR level of 130 against a target of 139) as well as the **Under-5 child mortality target** (U5 MR level of 43 against a level of 42).

Concerns:

India's health system is still facing multiple challenges. There are significant inter and intra-state disparities in outcomes and socio-economically disadvantaged groups are especially vulnerable to gaps in healthcare access.

- The burden of non-communicable diseases is rising, there is also a substantial unfinished agenda with respect to communicable diseases as well as maternal and child health.
- The health system is fragmented at multiple levels: payers and modes of financing, providers of healthcare Services and the digital backbone.
- Currently the government spends approximately 1.13 percent of GDP on health. As a consequence, households finance 62 percent of the healthcare spending through out-of-pocket expenditure at the point of care.
- Risk pooling is low, with less than 35 percent of the population participating in any risk pooling scheme and less than 10 percent being covered by a functioning risk-pooling mechanism which provides effective protection against catastrophic health events.
- Delivery of health services is also fragmented into small sub-scale entities with 95 percent of the care being delivered by providers employing less than 10 workers each.
- The digital systems used in these health care entities, if at all used, are also siloed in the absence of mandatory adherents to any data standard. The result is that the patient health records lie buried in manual systems or disparate IT systems with little standardization. This limits the availability of Information that could potentially guide policy making.

Public and Primary Health:

- Over 2.55 crore children and 70 lakh pregnant women were immunized over a period of two years under Mission Indradhanush. The programme has emerged as a global best practice in public health.
- Comprehensive effort is being made for incorporating traditional medicine within the overall framework for promoting health and well-being through the National AYUSH Mission.
- In 2017, the first-ever All India Institute of Ayurveda was launched along the lines of AIIMS, New Delhi, for creating synergies between the traditional wisdom of Ayurveda and modern technologies.
- Following the implementation of the Swachh Bharat Abhiyan, nearly 100 per cent of households in rural India now have access to a toilet.
- The battle against Tuberculosis (TB) has also been escalated through the launch of a new National Strategic Plan in 2017.
- To build a robust primary healthcare system, the government has announced the setting up of 150,000 Health and Wellness Centres (HWCs) between 2018 and 2022 under the Ayushman Bharat initiative.
- The Centres will provide diagnostics and drugs free of cost which will have a direct impact on controlling out-of-pocket expenditures.
- Currently, over 55 percent of India's out-of-pocket expenditure is on outpatient care, of which drugs constitute the biggest component.

Secondary and Tertiary Healthcare:

- The second pillar of Ayushman Bharat is the **Pradhan Mantri Jan Arogya Yojana (PM-JAY)** which will provide 10 crore of the poorest and most vulnerable families in the country an annual cover of RS 5 Lakh per annum for hospitalization-related expenses.
- By consolidating multiple health insurance schemes under PM-JAY, the government is taking a major step towards '**One Nation One Scheme**'.

Human Resources for Health:

- One cannot build a world-class health system without first investing in a world-class medical education system.
- the government has enacted the landmark **National Medical Council Act 2019** for overhauling medical education in India.

Medicines and Devices:

- More than 5,500 **Jan Aushadhi** stores have been opened for providing quality drugs at affordable prices.
- To make medicines affordable for all citizens, the government has also **fixed the ceiling prices** of nearly 850 drugs.
- The prices of **Drug Releasing Stents** which are used for treating blocked arteries were also lowered. This is a significant step because an estimated 5 lakh patients undergo the stent procedure every year.
- Recognizing the vital role played by medical devices in ensuring a well-functioning health system, the **Medical Devices Rules** were notified by the government in 2017.
- India also finalized its first **National Essentials Diagnostics List** to guide decision making with respect to different kinds of diagnostic tests required by the healthcare facilities across the country.

Health Technology and Data Systems:

India has made considerable progress in leveraging Information Communication Technology (ICT) for enhancing the coverage and quality of maternal and child health services.

- The **Auxiliary Nurse Midwives Online or ANMOL** application has been developed to equip public health workers to register pregnant women, encourage institutional birthing and monitor Immunisation programmes for new-borns.
- In the area of digital health, **the National Health Stack** proposed by NITI Aayog in 2018 is an important step. It is designed to offer a suite of advanced technologies which can be incorporated into overall digital health implementation in India.
 - The focus of this work will allow policymakers to experiment with policies, detect fraud in health insurance, measure outcomes and move towards smart policy making.
- In 2019, the **National Digital Health Blueprint** was released by the government. The key features of the blueprint include a Federated Architecture, **a set of architectural principles, a 5-layered system of architectural building blocks, Unique Health ID (UHID), privacy and consent management, national portability and Electronic Health Records (EHRs)** among others. Operationalizing EHRs for every citizen will be the key to optimizing health information systems.
- AI solutions can provide doctors unbiased second opinion on diagnosis, treatment options and potential risks and predicted outcomes.
- Cancer screening and treatment is one area where AI provides tremendous scope for targeted large-scale interventions.
- NITI Aayog is in advanced stages of launching a programme to develop a national repository of annotated and curated pathology images for cancer screening and treatment.

Nutrition:

- A critical determinant of ill health is malnutrition. Even though governments have launched multiple schemes over the years, a robust convergence mechanism has been absent, resulting in persistent high levels of malnutrition in the country.
- The POSHAN Abhiyaan focuses on engaging all stakeholders to make nutrition a Jan Andolan.
- The results of the recent Comprehensive National Nutrition Survey (2016-18) indicate that we are moving in the right direction. It shows an accelerated decline in stunting at the rate of 1.8 per cent per annum, almost double to that of the previous decade.
- A challenge that will need to be addressed going forward is the prevalence of Overweight. Obesity is one of the most important risk factors for non-communicable diseases.
- Surveillance mechanisms for monitoring overweight-obesity prevalence in the population must be established and scaled-up. Physical and wellness activities like yoga also need to be promoted in every age group.

Conclusion:

- The government has launched several reform initiatives over the last few years which need to be rigorously implemented. Additionally, the key enablers of health system reform such as financing, organisation and provision of service delivery as well as digital health need to be strengthened.
- In its three year Action Agenda, NITI Aayog has called for a new wave of institution building with a strong and a proactive stewardship role by the government to overcome the persistent challenges while also leveraging the potential of a mixed health system.

Chapter 4 - Nutrition: A Public Health Priority

What is Nutrition?

- British Nutrition Foundation defines nutrition as the intake of food, considered in relation to the body's dietary needs. The important aspect to note here is the intake of food in relation to the body's dietary needs, this implies that as the body changes, so should the diet i.e. a life cycle approach should ideally cater to dietary needs of each stage.

Nutritional terminologies:

- **Malnutrition:** It comprises of both **under-nutrition** and **over-nutrition** and they both lead to their own set of diseased conditions.
 - In the realm of public health, we consider three terms which are the standards to measure under-nutrition i.e. stunting, wasting and under-weight; while over-nutrition is measured by incidence of overweight, obesity, and diet-related Non-Communicable Diseases (NCDs) comprising of heart disease, stroke, diabetes and cancer.
- **Under-Nutrition:**
 - **Stunting** is the result of long-term nutritional deprivation and often results in delayed mental development, poor school performance. Also, women of short stature are at greater risk for obstetric complications because of a smaller pelvis.
 - **Wasting** is defined as a condition where the weight of the child is lower than the standard weight for the given height. Wasting in children is a symptom of acute under-nutrition, usually as a consequence of insufficient food intake or a high incidence of infectious diseases.
 - **Underweight** is a condition where the weight is lower than the standard weight for the given age of the child. Evidence has shown that children who are even mildly underweight have an increased risk of mortality.
- **Over-nutrition:**
 - A child is considered to be over-weight when the weight of the child is higher than the standard weight for the given age of the child.
 - **Childhood obesity** is associated with a higher probability of obesity in adulthood. The risks for most NCD's resulting from obesity depend partly on the age of onset and the duration of obesity.

Nutrition Status:

- Child growth is internationally recognized as an important indicator of the nutritional status and health in populations.
- In India, 4.66 crores children are stunted, and 2.55 crores are wasted.
- India figures among the set of countries that have more than 10 lakh overweight children.
- Overall, of the 141 countries analysed in the report, 88 per cent (124 countries) experience more than one form of malnutrition.
- The developmental, economic, social and medical impacts of the global burden on malnutrition are serious and lasting, for individuals, that suffer from loss of productivity and therefore lower growth.
- It can be observed from National Family Health Survey (NFHS) -3 to NFHS-4 that more than 50 per cent of Indian children and adolescent women are anaemic.

Initiatives by Government:

1. **The Swachh Bharat Mission** focuses on creating **Open Defecation Free (ODF)** communities; this has significantly contributed to reduced incidences of diarrhoea and gut infections among children.
 2. The **Pradhan Mantri Matru Vandana Yojana** provides support to pregnant women and lactating mothers and also, encourages health seeking behaviour and immunisation.
 3. **Mission Indradhanush**, which targets the left out and missed out children and pregnant women for immunization, is aimed at increasing the rates of complete immunization of women and children.
 4. **Mothers Absolute Affection (MAA)**, the exclusive breastfeeding initiative, is focused on increasing rates of exclusive breast feeding to reduce infection amongst children up to the age of six months.
- However, these are all individual and independent programmes run by separate Ministries and work has been carried out in silos.
 - International experience has shown that converging initiatives such as these, with focus on areas with high malnourishment, accelerates the rate of reduction of malnourishment and this was the genesis of the **National Nutrition Mission (NNM)**.
 - The NNM, since been renamed as '**POSHAN Abhiyaan**.'
 - POSHAN Abhiyaan targets to reduce stunting, under-nutrition, anaemia (among young children, women and adolescent girls) and low birth weight by 2 percent, 3 percent and 2 percent per annum respectively.
 - **Community mobilisation** and bringing about social behaviour change on nutrition is one of the biggest strategic components of POSHAN Abhiyaan.

What is Anaemia Mukht Bharat (AMB) campaign?

- MoHFW started the **Anaemia Mukht Bharat (AMB) campaign**.
- The AMB strategy focuses on testing and treatment of anaemia in school going adolescents and pregnant women using newer technologies, establishing institutional mechanisms for advanced research in anaemia, promoting consumption of fortified foods, and a comprehensive communication strategy including mass/mid media communication material.
- Anaemia Mukht Bharat strategy is focussed on benefitting six target beneficiary groups, through six interventions and six institutional

Conclusion:

- The increasing burden of communicable disease as well as over-nutrition, are leading to complex policy challenges.
- The government is trying to provide solution to this issue by increasing focus on preventive healthcare. The focus is on enhancing awareness around nutrition and healthy eating practices, and to make shift to a healthy lifestyle too.
- As the tagline of POSHAN Abhiyaan states "Sahi Poshan Desh Roshan" – a healthy population is the foundation rock for a healthy and productive nation.

Chapter 5 - Appropriate Nutrition for Women and Children

Our nutrient needs are affected by age, gender, physical activity, body composition, growth rate physiological stress, pathological conditions and many other factors. The diets of women need to be nutritionally adequate which further attains a greater significance in view of their reproductive role.

- Since the mother's nutritional status, both prior to and during pregnancy, impacts foetal growth and development, it is important for the mother to be nutritionally, physically and emotionally sound.
- Poor maternal weight gain during the 2nd and/or 3rd trimester increases the risk for Intra-Uterine Growth Retardation (IUGR).
- Teenage pregnancy among adolescent girls poses double burden—the nutritional burden of adolescence along with that of the pregnancy—and it often results in dire consequences.
- Due to pubertal growth spurt and the accompanying changes, nutrient requirements of adolescents are greatly enhanced.
- **Iron Deficiency Anaemia**, which is most widespread among pregnant women and nursing mothers, poses severe consequences such as maternal mortality, pre-term deliveries and infant mortality.
- Similarly, folic acid deficiency is associated with spontaneous abortions and obstetric complications and an increased incidence of congenital malformations. Hence, all women of child-bearing ages should increase their folic acid intake much before conception.

Importance of Appropriate Nutrition for Women and Children:

- Dietary adequacy for women is of immense importance, and this needs to be taken care of not only after marriage but even during adolescence and rather childhood. Therefore, a girl child's nutrition and care, right from birth onwards, should attain top priority so that the inter-generational cycle of malnutrition can be disrupted.
- Optimal breastfeeding and complementary feeding practices together can significantly reduce the under-five mortality rates (U5MR) from various infections like diarrhoea and pneumonia.
- Infant and young child nutrition should be given utmost important and the appropriate IYCF (Infant and Young Child Feeding) practices should be followed.
- Adoption of healthy eating habits will help children to follow healthy lifestyle not only during childhood, but lifelong. The dual burden of malnutrition (under-nutrition as well as overweight/obesity) needs to be addressed right during childhood itself.
- The practice of giving them finger foods should be promoted and they should be fed small amounts at frequent intervals.

Ministries of Health and WCD Identity Areas of Convergence for Enhancing Nutrition, and Health of Women and Children:

The two Ministers have jointly agreed that both Ministries need to work on developing common and standard Information, Education and Communication (IEC) material and joint campaigns including in vernacular languages, on several schemes which have similar goals.

Conclusion:

- Dietary Diversity needs to be boosted.
- Increasing the variety of foods helps to ensure adequate intake of essential nutrients for promoting good health.

- Thus, an appropriately well balanced diet comprising a variety of foods needs to be advocated to the masses.
- Appropriate nutritional intervention coupled with advocating adequate physical activity is the best recipe for maintaining good health and fitness.



Chapter 6 - Educating Masses on Health and Nutrition

Many developing nations including India are presently dealing with severe health concerns at both ends of the nutrition – spectrum bearing dual burden of malnutrition. **Article 47 of the Constitution** states that it is the “duty of the state to raise the level of nutrition, standard of living and to improve public health”.

- Socio-economic/industrial development coupled with lifestyle changes have led to a drastic shift in disease pattern from communicable to non-communicable diseases. In addition, disparity in social justice/equity adds to the existing concerns.
- Due to several factors, the curative treatment of these diseases remains inaccessible to the masses and its prognosis is often lacking.
- Health promotion approach is envisaged to empower the population to take well informed and rational health related choices.
- According to FAO (2010, 2013) by linking the curriculum to local food cultures and biodiversity, the elements of cultural preservation and environmental sustainability can be effectively incorporated into a more integrated approach.
 - Connecting food and nutrition education to healthy school meals also help students and their families to experience elements of the curriculum.

Initiatives for educating masses:

- Effective communication strategies for generating awareness and greater community engagement using locally available resources/technology supported with healthy policies is need of the hour.
- India has been in the forefront for developing food and nutrition databases including the Indian Food Composition Tables, 2017 and undertaking research studies/surveys detailing agriculture, food and nutrition transitions.
- Numerous programmes and schemes have been implemented for improving health/nutrition as well as combating malnutrition by the Government of India.
- Government organises training of grassroots level functionaries belonging to concerned sectors like agriculture, health, women & Child development, education, rural development, etc. at village/block level.
- **POSHAN Abhiyaan (National Nutrition Mission)** is India's flagship programme, launched for improving nutritional status of children up to 6 years, adolescent girls, pregnant women and lactating mothers to achieve specific targets for reducing low birth weight babies, stunting, under-nutrition and anaemia over next three years.
- **Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)** was launched in 2003 for improving regional imbalances in the availability of affordable and reliable tertiary healthcare services as well as augmenting facilities for providing quality medical education.
- **National Health Mission (NHM) encompasses two sub-missions, the National Rural Health mission (NRHM) and the National Urban Health mission (NUHM).**
 - The main programmatic components include Health System Strengthening, Reproductive-Maternal-Neonatal-Child and Adolescent Health (RMNCH+A) and Communicable and Non-Communicable Diseases.
- **National Healthcare Innovations Portal** is an endeavour to pool-in and showcase innovative programmes, designs, practices, technology solutions and products across public and private healthcare sector of India.
- **Ayushman Bharat** — Health and Wellness Centres attempts to move from a selective approach to health care towards delivering comprehensive range of services including preventive, promotive, curative, rehabilitative and palliative care.

- **Mera Aspatal (My Hospital)** is a **Ministry of Health initiative** to receive patient feedback for the services received at the hospital through user-friendly multiple channels such as Short Message Service (SMS), Outbound Dialling (OBD) application and web portal.
- Ministry of Health and family Welfare (MoHFW) has adopted a strategy of organising **Health Melas to provide health education and early diagnosis** besides providing health care services completely free of cost.
 - These Health Melas are envisaged to attract citizens desiring to avail quality health care services with essential pathological tests/medicines.
- The **'Eat Right India' movement** incorporates mass media, including social media, as part of its outreach to generate public awareness.

Way forward:

- Masses need to be educated to grow, harvest and prepare nutritious seasonal produce in their local settings. This will in turn promote the environmental, social, and physical wellbeing of the communities.
- A positive step that is being taken by several countries and is planning to be implemented in India too, is banning the sale or serving of junk food/sugar-sweetened beverages in school/college cafeterias and stores in and around school premises to promote healthy food/ drinking water.
- All health and nutrition interventions should be designed for long term sustainability.
- Stakeholders across all levels needs to be kept well informed and encouraged to participate.
- There is a dire need for academicians to:
 - Prioritise educational Interventions on optimal dietary practices and cost effective policies
 - Monitor and evaluate positive health indicators and policy outcomes.
- Employers, communities, schools, hospitals, and religious bodies need to implement organisational strategies for healthy eating.

Conclusion:

- Changing foods habits with reduced physical activity is a growing phenomenon around the world. Therefore, food should supply necessary nutrients in appropriate quantities to meet the body's needs.
- Multi-sectorial innovative approaches are needed to involve all age groups covering all sections of the society, keeping in view cultural diversity in food habits/practices and the purchasing power parity to make people cognizant of healthy nutrition.
- Appropriate initiatives need to be taken right from childhood in schools, child-care centres such that foundation stone of healthy eating habits and good health is laid at the right age and can be transmitted well in future generations too.

Chapter 7 - Role of Anganwadi Workers and ASHAs in Curbing Malnutrition

India persistently faces high levels of maternal and child under-nutrition as well as anaemia, characterized by an inter-generational cycle that is compounded by multiple deprivations caused by poverty, social exclusion and deeply entrenched gender discrimination.

Under-nutrition in Children:

- Decreasing child mortality and improving maternal health depend on reducing malnutrition which is directly or indirectly responsible for 35 per cent of deaths among children under five.
- Under-nutrition in infants and children is further categorized as **Severe Acute Malnutrition (SAM)** and **Moderate Acute Malnutrition (MAM)**.
 - **Severe Acute Malnutrition (SAM)** refers to very low weight for height, visible severe wasting, the presence of nutritional oedema.
 - **Moderate Acute Malnutrition (MAM)** can be due to a low weight for height (wasting) or a low height-for-age (stunting) or to a combination of both.

As per the National Family Health Survey (NHFS-2, 2015-16), 35.7 percent children were reported to be underweight and 38.4 percent stunted.

Role of Anganwadi Workers and ASHAs

Anganwadi Workers and the ASHA workers are the grassroots level functionaries under the Umbrella Integrated Child Development Services (ICDS) Scheme and the National Health Mission respectively.

Roles and Responsibilities of Anganwadi Workers

- Under the ICDS Scheme, Anganwadi Services were launched in 1975 as a pilot project covering 33 blocks in the country. Its objectives are:
 1. To Improve nutritional and health status of children in the age-group 0-6 years;
 2. To lay the foundation for proper psychological, physical and social development of the child.
 3. To reduce the incidence of mortality, morbidity, malnutrition and school dropouts.
 4. To achieve effective co-ordination of policies and implementation strategies among the various departments for promoting child development; and
 5. To enhance capability of the mothers to look after the normal health and nutritional needs of their children through proper nutrition and health education.
- Inter-sectoral convergence is in-built and integral to the Anganwadi services.
- Package of services under ICDS Scheme:
 - Supplementary Nutrition
 - Pre-school non-formal education
 - Nutrition and health education
 - Immunization
 - Health check-up
 - Referral services
 - Out of the six, three health related services viz., immunization, health check-up, and referral services are provided by **National Rural Health Mission (NRHM)** & Public Health infrastructure.

Roles and Responsibilities of ASHA Workers:

- Under the National Health Mission (NHM), ASHAs (Accredited Social Health Activists)—the envisaged community health volunteers—are entitled to task/activity-based incentives.
 - Recently, as a routine and recurring incentives ASHAs will get at least Rs. 2000/- per month (as against Rs. 1000 earlier) along with the benefits of PM Jeevan Jyoti Bima Yojana and PM Suraksha Bima Yojana.
- An ASHA is primarily a literate woman (married/widowed/divorced and aged 25 to 45 years) resident of the village, preferably 10th standard pass who is chosen through a rigorous selection process involving various community groups.
- Empowered with knowledge/skills and a drug-kit for first-contact healthcare, every ASHA worker is expected to elicit community participation in public health programmes in the village.
- ASHAs are the community-level health activist for creating awareness on health and its social determinants as well as for mobilizing the community towards local health planning and increased utilization/accountability of the existing health services.
- They are promoters of good health practices. In addition, they provide a minimum package of appropriate and feasible curative care or arrange for timely referrals.
- They generate community awareness concerning the various determinants of health such as nutrition, basic sanitation hygienic practices and healthy living/working conditions, as well as regarding the existing healthcare services and the importance of timely utilisation of health & family welfare.
- Since ASHAs cannot function without adequate Institutional support at the village level, women's committees (self-help groups/ women's health committees), village health & sanitation committee (Gram Panchayat), peripheral health workers especially (Auxiliary Nurse-Midwife) ANMs and Anganwadi workers, and the ASHA trainers (for periodic in-service training) provide them the needed support.
- Recently, Home-Based-Care for Young Children (HBYC) has been initiated to extend the community-based-care by ASHA workers with particular focus on nutrition counselling, improved child rearing practices and breastfeeding promotion etc.

Conclusion:

Thus, looking at the job responsibilities and activities of Anganwadi workers and the ASHAs as well as their close connect with the population at large, it is pertinent to say that this dedicated and devoted brigade of grassroots level functionaries play an essential role in curbing malnutrition and hence, improving health and nutritional status of the masses.

Chapter 8 - Water and Sanitation for Healthy India

Water is the most precious and essential commodity in the lives of the human beings and every human being has the right to have continuous availability of potable water. Water is also in the main agenda items of the Sustainable Development Goals (SDGs). Sustainable Development Goal 6 aims to: “Ensure availability and sustainable management of water and sanitation for all”.

- Continuous availability of potable water is one of the most important parameters of human index.
- UN has recognized the right of every human being to have access to enough water for personal and domestic use which must be safe, acceptable and affordable.
- Emphasis has also been given to the fact that the water cost should not exceed 3 percent of the household income.
- Water source should be located within 1000 metres of the home.

Indian Scenario:

*In India, the provision of clean drinking water has been given priority in the Constitution, with Article 47 conferring the duty of **providing clean drinking water and improving public health standards** to the State.*

- India is facing its worst-ever water crisis, with 600 million people facing acute water shortage.
- The water crisis is “only going to get worse”, in the years ahead as per the NITI Aayog Report, which is based on the data from 24 of India's 28 states.
- According to a recent report based on sample tests done by Bureau of Indian Standards (BIS), tap water in Mumbai is the safest for drinking while Delhi's water is the worst among 21 big cities where the samples were drawn.
- A greater concern is the fact that all the samples of tap water taken from 15 out of 21 cities failed to meet one or more safety parameters out of 28 parameters prescribed for drinking water standards of BIS notified in 2012.
- A 2012 WHO study shows that every US \$1 invested in improved sanitation translated into an average global economic return of US \$5.5.

Hygiene and Water:

- According to the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, at least 1.2 billion people worldwide are estimated to drink water that is not protected against contamination from faeces.
- Childhood diarrhoea is closely associated with insufficient water supply, inadequate sanitation, water contaminated with communicable disease agents, and poor hygiene practices.
- The prevalence of stunting in India (38.4 per cent) is among the highest in the world and diarrhoea is a major killer of children younger than 5 years.
- A 2012 WHO study shows that every US \$1 invested in improved sanitation translated into an average global economic return of US \$5.5

Need for Better Water Governance:

- The water crisis in the 21st century has more to do with poor management than scarcity and stress.
- Water management normally refers to the government making decisions to manage water systems.
- Water governance includes both internal and external processes through which societies manage their water resources.

- According to the UN World Water Report (2006), the crisis of water is largely due to the failure of water governance, and for the sustainable development of water resources, water governance should be given due priority.
- One of the most successful examples of water governance is the example of the Phnom Penh Water Supply Authority (PPWSA) in Cambodia. In the span of just 15 years, an almost bankrupt poor-performing water utility was transformed into an efficient profitable taxpaying entity, providing 24 hours of uninterrupted water supply to the residents of the Cambodian capital different aspects of water governance legal and regulatory aspects, human resources, cost recovery, and financial sustainability.
- There is a need to improve water governance in India by educating the governance machinery in our rural and urban India managing the supply of water.

Government Initiatives:

Scientific management of water is increasingly recognized as being vital to India's growth and ecosystem sustainability.

- The Government of India is being proactive about water management and has created the new, **Ministry of Jal Shakti**, in which the erstwhile ministries of Water Resources and Drinking Water and Sanitation will be merged, to consolidate interrelated functions pertaining to water management.
- The **Jal Shakti Abhiyan**, launched by the Ministry of Jal Shakti, is a time-bound, mission-mode water conservation campaign.
- Central and State Governments are actively pursuing the achievement of SDGs. These initiatives include the **Water Framework Law of India 2016, National Rural Drinking Water program (NRDWP), Accelerated Urban Water Supply Programme (AUWSP), Namami-Gange (National Mission for Clean Ganga), and National Water Policy.**
- NITI Aayog in 2018 came out with a baseline index of Indian States' performance on various UN Sustainable Development Goals (SDGs).
 - The States of Himachal Pradesh, Kerala and Tamil Nadu and the Union Territories of Chandigarh and Pondicherry, were among the front-runners.
- Central and State Governments are making efforts to increase the coverage of water availability.
 - As on 31 December 2018, 79 percent of rural habitations have been covered at 40 litres per capita, 18 percent of rural households were provided with **Piped Water Supply (PWS)** household connections.
 - There is a significant variation in piped water coverage across States to be reflection of State priorities and geography.
- Sanitation is also one of the important components of the quality parameters in the composite human index.
- The Swachh Mission (SBM), India's flagship and the world's largest sanitation programme, aims to accelerate universal access to sanitation in rural and urban India.
- Today India is at an important juncture, with SBM data showing more than 98 per cent sanitation coverage and sample studies reporting good progress but lower coverage in terms of latrine ownership (71 per cent) and sanitation coverage (93.1 per cent) in rural India.

State government initiatives:

- **Rajasthan's Mukhya Mantri Jal Swavlambhan Abhiyan**, launched in 2016, is a multi-stakeholder programme which aims to make villages self-sufficient in water through a participatory water management approach.
 - It focuses on converging various schemes to ensure effective implementation of improved water harvesting and conservation initiatives. Use of advanced technologies such as drones to identify water bodies for restoration is one unique feature of the programme.

- The Andhra Pradesh Government has launched the **Neeru-Chettu Programme** as a part of its mission to make Andhra Pradesh a drought-proof state and reduce economic inequalities through better water conservation and management practices.
 - Efforts under the Neeru-Chettu programme have enabled irrigation access to needy 2, 10, 000 acres of land in the State.
 - There are number of such initiatives in Uttarakhand, Kerala, Himachal Pradesh, Rajasthan, Gujarat, Maharashtra, Karnataka and other states

Missions Ahead:

- NITI Aayog has identified nine key areas that require significant improvements.
- Among these, **source augmentation and restoration of water bodies, source augmentation (groundwater), and policy and governance** assume great significance.
- India is still water surplus and receives enough annual rainfall to meet the need of over one billion plus people. India captures only eight per cent of its annual rainfall—among the lowest in the world. India has been also poor in treatment and re-use of household wastewater.
- About 80 percent of the water reaching households in India is drained out as waste flow through sewage that then pollutes other water bodies including rivers.
- India needs to strategize plans for capturing rainwater through effective rain water harvesting.

Conclusion:

There is a need to sensitize the people so that the movement towards water conservation takes place at the grassroots level, starting from primary schools, office premises and each household.

Chapter 9 - Digital Transformation in Healthcare

Digital technologies are playing a pervasive role in transforming the healthcare sector in India. The wave of this transformation has not only impacted the urbanites but it has also digitally enabled the rural hinterland across the country.

- The National Health Policy, 2017 envisages the goal of attainment of the highest level of health and well-being for all at all ages, through increasing access, improving quality and lowering the cost of healthcare delivery.
- The policy lays strong impetus on leveraging digital technologies for enhancing the efficiency and effectiveness of the delivery of all the healthcare services.

Need for Moving from Physical to Digital

- While the efforts of deploying technology for rural healthcare have been consistent and widespread, the benefits to the rural masses are concentrated only in small pockets of the country.
- India has just around one doctor for 11,000 people - a ratio far below from the World Health Organisation's standards.
- The government spends 4.7 per cent of the country's annual gross domestic product on health, and little of this spending reaches remote rural areas. Lack of infrastructure makes it extremely difficult to retain doctors in villages, as they fear becoming professionally isolated and outdated.
- A study by Indian Institute of Public Opinion found that 89 percent of rural Indian patients have to travel about eight kilometres to access basic medical treatment, and the rest have to travel even farther.
- This lack of quality healthcare Infrastructure in rural India results in people dying due to preventable and curable diseases makes it difficult for the government to quickly control roadblocks of epidemic outbreaks.
- One of the major roadblocks is the lack of adequate health care providers in villages. In such a situation, introducing "Digital" instead of "Physical" Health Centres could pave the way or quality healthcare at a lower cost.
- Primary Health Centres play a pivotal role in building a robust low cost healthcare system. Doctors of the Indian diaspora have been asked to adopt their own villages and help in improving the Primary Health Services.

CSCs Enabling Digital Healthcare:

Telemedicine is the form of primary care where the patient walking in at a Common Service Centre (CSC) seeks the doctor's advice about non-emergency medical problems which don't require immediate doctor's location visit.

- CSC- Special Purpose Vehicle (SPV) has provided Village level Entrepreneurs (VIEs) an access to two platforms which are integrated on Digital Seva for providing tele-consultation services to rural masses.
- With the mandate of the Ministry of Electronics & IT, CSC-SPV is also implementing the **Digi Gaon initiative** in rural and remote villages of the country, where citizens can avail various online services such as tele-education, telemedicine, financial services, internet connectivity and others.
- CSC works with the objective to develop a platform that can enable the government, private and social sector organizations to align their social and commercial goals for the benefit of the rural population in the remotest corners of the country through a combination of IT-based as well as non-IT-based services.

Central and State Level Digital Projects in the field of Healthcare:

- A few of the ongoing initiatives in digital healthcare being implemented Ministry of Health and Family Welfare (MoHFW) include the following programmes: **Reproductive Child Health Care (RCH)**, **Integrated Disease**

Surveillance Programme (IDSP), e-Hospital, e-Shushrut, Electronic Vaccine Intelligence Network (eVIN), National Health Portal (NHP), National Identification Number (NIN), Online Registration System (ORS), Mera Aspatal (Patient Feedback System) and National Medical College Network (NMCN).

- These initiatives are operational at a substantially mature level and are already generating an enormous amount of data in the health sector. Since health is a state subject, states are supported under **National Health Mission (NHM)**.
- The **state of Gujarat has implemented e-Aushadhi project**, which is primarily a supply chain management application that deals with purchase, inventory management and distribution of various drugs, which deals with the management of stock of various drugs, sutures and surgical items required by different district drug warehouses.
 - The main aim of 'e-Aushadhi is to ascertain the needs of various district drug warehouses in such a way that all the required materials/drugs are constantly available to be supplied to the user district drug warehouses without delay.
- Similarly, Rajasthan has initiated **Pregnancy, Child Tracking & Health Services Management System** which is an online software used as an effective planning and management the system maintains online data of more than 13,000 government health institutions in the state.
- **Andhra Pradesh initiated Rashtriya Bal Swasthy Karyakram (RBSK)** which was aimed at screening over 27 crore children from 0 to 18 years for the 4 Ds- **Defects at birth, Diseases, Deficiencies and Development Delays including Disabilities**.
 - Children diagnosed with illnesses shall receive follow ups including surgeries at tertiary level, free of cost under NRHM.
 - The RBSK programme has been enabled through a cloud-based Tablet PC system.
- **Chhattisgarh Government launched Chirayu Programme**. Chirayu's aim is to screen these children for birth defects and various types of nutritional deficiencies, so that any Permanent disability can be cured at an early stage.
 - Its aim is to detect and manage the aforementioned 4Ds prevalent in children.

Transforming Rural Healthcare through ASHA

- While several state and central institutions played a seminal role in pushing rural healthcare through technology innovation, it is believed that the biggest transformation in the rural healthcare sector of India triggered with the inclusion of **Accredited Social Health Activists (ASHAs)**. Today, nearly 900,000 ASHAs, which are mostly the first point of contact in the health system, play a critical role in the early diagnosis of diseases and their prevention. They were pivotal in bringing down the Infant Mortality Rate (IMR) from over 58 deaths per 1000 live births in 2005
- The top 5 States/UTs in terms of ASHAs selected under NHM as on September 2018 were Uttar Pradesh, Bihar, Madhya Pradesh, Chhattisgarh and Maharashtra.
- Apart from the government, many private institutions are supporting initiatives like ASHA.
- Tata Center has initiated a project that focuses on NCH (Neonatal and Child Health), which is a core function of the ASHA workers.
- The centre is developing a series of smart phone-enabled apps to empower ASHAs. These mobile apps make use of the smartphone camera combined with computer vision and Augmented Reality (AR) to extract, collect, and analyse data from the image of the child. The end goal is to encapsulate all of the apps into a comprehensive smartphone-enabled mobile toolkit.
- Technology has changed the way these ASHA workers perform their duties. They can now digitally track pregnant women and infants' health and schedule home visits. Many experts believe that the real transformation would come when these ASHA workers are empowered with better skill sets to handle even complex cases and perform tasks during the unavailability of doctors.

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