

## PUBLIC HEALTH

The practice of public health has been dynamic in India, and has witnessed many hurdles in its attempt to affect the lives of the people of this country. Since independence, major public health problems like malaria, tuberculosis, leprosy, high maternal and child mortality and lately, human immunodeficiency virus (HIV) have been addressed through a concerted action of the government. Social development coupled with scientific advances and health care has led to a decrease in the mortality rates and birth rates.

### DEFINITION

**Public health** refers to "**the science and art of preventing disease, prolonging life and promoting health** through organized efforts and informed choices of society, organizations, public and private, communities, and individuals." C.E.A. Winslow

It is concerned with threats to health based on **population health analysis**. The population in question can be as small as a handful of people, or as large as all the inhabitants of several continents (for instance, in the case of a pandemic).

Public health incorporates the **interdisciplinary approaches of epidemiology, and health services**. Environmental health, community health, behavioral health, health economics, public policy, insurance medicine and occupational safety and health are other important subfields.

The focus of public health intervention is to **improve health and quality of life** through prevention and treatment of disease and other physical and mental health conditions.

This is done through **surveillance** of cases and health indicators, and through promotion of healthy behaviors. *For Examples of common public health measures include promotion of hand washing, breastfeeding, delivery of vaccinations, and distribution of condoms to control the spread of sexually transmitted diseases.*

Modern public health practice requires **multidisciplinary teams** of public health workers and professionals including physicians specializing in public health/community medicine/infectious disease, psychologist, physiotherapist, speech therapist, nurses, pharmacist, nutritionist, social workers, public health lawyers, sociologist, dieticians, etc..

## HISTORY OF PUBLIC HEALTH

**Medieval Times:** Public health has early roots in antiquity. From the beginnings of human civilization, it was recognized that polluted water and lack of proper waste disposal spread communicable diseases (theory of miasma)

**15th Century BC :** Early Egyptians used Sedimentation Apparatus to remove suspended solids . It was well understood that proper diversion of human waste was a necessary tenet of public health in urban areas.

**400 BC:** Romans Engineered Safe water delivery systems- Roman Aqueducts

Hippocrates' Treatise Air, Water and Places served as a template for relationships between Places, health and disease. The believed Nature is the healer of all diseases.

**Black Death (Bubonic Plague) in Europe - 14th Century AD:**

Removing Dead Bodies  
Burning Cities (Killing Rat Fleas)



Prevented the Spread of Infection

**Modern Public Health**

**Industrial Revolution of 1829 in Europe-** worsened the Living conditions, and the need for Public Health Legislation Increased.

**Sir Edwin Chadwick** – Sanitary Reforms and Poor Law Commission.  
PUBLIC HEALTH ACT, 1848

**Cholera Outbreak (1854):**

Polluted Water Pump in Broad street is the Reason for Cholera Outbreak.(1854) - **John Snow** – he Spot map First one to Use a Spot Map for Cholera, Father of Epidemiology, believed in Germ Theory of disease.

**WILLIAM BUDD-** Concluded that Drinking water contamination is the reason for Typhoid outbreak

**PHASES OF PUBLIC HEALTH**

1. **Disease control phase 1880- 1920** : Public health during 19<sup>th</sup> century was largely a matter of sanitary legislation and sanitary reforms in order to improve health of the people due to disease and death control.

Massachusetts & Shattuck's Report;

Review of sanitation Practices



Controlling Man's Physical Environment  
Eg., water supply, sewage disposal

## 2. Health promotional phase 1920-1960:

A New goal of Health Promotion was added to Public Health services. It led to two great movements.

Basic Health Services	Community Development Program
<ul style="list-style-type: none"><li>• Establishment of PHCs and Sub centers for providing integrated curative and preventive health services (Bhore Committee, 1946)</li><li>• Highly Successful- Rural Population benefitted a lot</li></ul>	<ul style="list-style-type: none"><li>• For Village Development through active community Participation</li><li>• Failure- Due to Inadequate Resources</li></ul>

## 3. Social engineering phase (1960-1980)

Social and Behavioral aspects of Disease and Health were Prioritized to lessen Chronic Diseases burden on the society.

The Concept of 'Risk Factors' came into Existence



For eg., Occupation hazards, Smoking/Tobacco, second-hand smoke/passive smoking, Family history, aging, pollution, exposure to radiation

## 4. Health for all phase 1980-2000 AD :

A Health Gap between Rich and Poor, within and In-between Countries was realized upon the release of John Bryant's book "Health and the Developing World"

In the year 1981, W.H.O. pledged to Provide HEALTH FOR ALL by the year 2000.

## 5. Millennium development goals:

In order to eliminate Inequalities in health care, the Three- Tier system of Health Care was implemented.

WHO focused on eight Millennium Development goals:



- I. Eradicate extreme poverty and hunger
- II. Achieve Universal primary education
- III. Promote gender equality and empower women
- IV. Reduce child mortality
- V. Improve maternal health
- VI. Combat HIV/AIDS, malaria and other diseases
- VII. Ensure environmental sustainability
- VIII. Develop a global partnership for development

## **6. Health and Sustainable Development Goals (SDGs)**

SDG 3- “Ensure healthy lives and promote wellbeing for all at all ages”

The goals within a goal: Health targets for SDG 3

3.1- By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births.

3.2- By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births.

3.3- By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

3.4- By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

3.5 -Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.

3.6 - By 2020, halve the number of global deaths and injuries from road traffic accidents.

3.7- By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

3.8 -Achieve universal health coverage, 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.

3.9 -By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

3.a- Strengthen the implementation of the WHO Framework Convention on Tobacco Control in all countries, as appropriate.

3.b- Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.

3.c - Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.

3.d - Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

### **RECENT ADVANCES IN PUBLIC HEALTH**

The new agenda for Public Health in India includes the epidemiological transition, demographical transition, environmental changes and social determinants of health. Based on the principles outlined at Alma-Ata in 1978, there is an urgent call for revitalizing primary health care in order to meet these challenges. The role of the government in influencing population health is not limited within the health sector but also by various sectors outside the health systems. Health system strengthening, human resource development and capacity building and regulation in public health are important areas within the health sector. Contribution to health of a population also derives from social determinants of health like living conditions, nutrition, safe drinking water, sanitation, education, early child development and social security measures. Population stabilization, gender mainstreaming and empowerment, reducing the impact of climate change and disasters on health, improving community participation and governance issues are other important areas for action. Making public health a shared value across the various sectors is a politically challenging strategy, but such collective action is crucial.

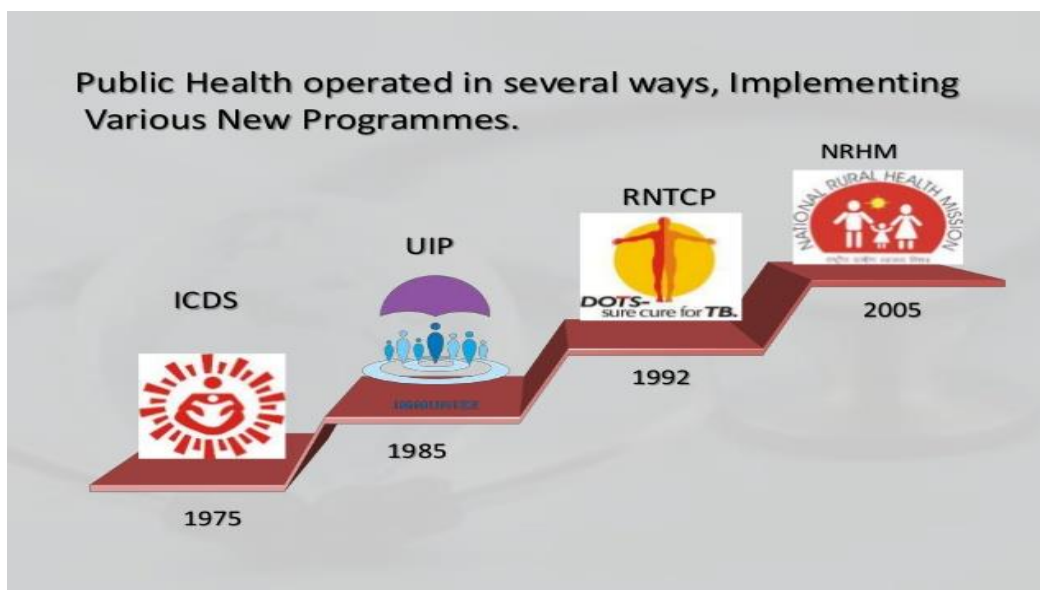


Figure: Public Health operated in several ways, Implementing Various New Programs

To Overcome Political, Economic and Social Obstacles- A New Movement called PUBLIC HEALTH 2.0 came forward. This aims to make field make more accessible to general public and more User-Driven. It works by reaching out through Social media and Health blogs.

TABLE: International public health instruments and key recommendations

Name of instrument	Key recommendation
Universal Declaration of Human Rights (1948)	Guarantees respect for economic, social and cultural rights since they are indispensable for human dignity
International Covenant on Economic, Social and Cultural Rights (1966)	Recognition of relevant rights to be exercised without discrimination in the context of a universal right to health
Declaration of Alma Ata (1978)	Primary healthcare approach to be developed as an integral whole, including promotive, preventive, curative and rehabilitative components
The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW, 1979)	Requires state parties to eliminate discrimination against women in all aspects of their healthcare, including drug addiction and related problems
The Convention on the Rights of the Child (CRC, 1989)	Emphasizes the right of the child to enjoy 'the highest attainable standard of health'
International Health Regulations (IHR, 2005)	Specific undertakings for international assistance in health
UN Convention on Rights of Persons with Disabilities (UNCRPD, 2008)	States parties to take all appropriate measures to ensure access for persons with disabilities to health services that are gender-sensitive, including health-related rehabilitation
The Declaration of Istanbul on Organ Trafficking and Transplant Tourism, 2008	All forms of transplant commercialism, which targets the vulnerable; transplant tourism and organ trafficking to be prohibited

## CHALLENGES CONFRONTING PUBLIC HEALTH

The new agenda for Public Health in India includes

- Epidemiological transition (rising burden of chronic non-communicable diseases),
  - Demographic transition (increasing elderly population)
  - Environmental changes
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- The unfinished agenda of maternal and child mortality, HIV/AIDS pandemic and other communicable diseases still exerts immense strain on the overstretched health systems.
  - Silent epidemics: In India, the tobacco-attributable deaths leading to huge social and economic losses.
  - Mental, neurological and substance use disorders also cause a large burden of disease and disability.
  - The rising toll of road deaths and injuries makes it next in the list of silent epidemics.
  - Health systems are grappling with the effects of existing communicable and non-communicable diseases and also with the increasing burden of emerging and re-emerging diseases (drug-resistant TB, malaria, Severe Acute Respiratory Syndrome (SARS), avian flu/bird flu and the current H1N1 pandemic).
  - Inadequate financial resources for the health sector and inefficient utilization result in inequalities in health.
  - The causes of health inequalities lie in the social, economic and political mechanisms that lead to social stratification according to income, education, occupation, gender and race or ethnicity.
  - Lack of adequate progress on these underlying social determinants of health has been acknowledged as a glaring failure of public health.
  - In the era of globalization, numerous political, economic and social events worldwide influence the food and fuel prices of all countries; we are yet to recover from the far-reaching consequences of the global recession of 2008.

## ROLE OF GOVERNMENT WITHIN THE HEALTH SECTOR

**Health system strengthening:** There is a need to establish effective integration and convergence of health services and affecting architectural correction in the health care delivery system in India.

**Health information system:** The Integrated Disease Surveillance Project was set up to establish a dedicated highway of information relating to disease occurrence required for prevention and containment at the community level, but the slow pace of implementation is due to poor efforts in involving critical actors outside the public sector. Health profiles published by the government should be used to help communities prioritize their health problems and to inform local decision making. Public health laboratories have a good capacity to support the government's diagnostic and research activities on health risks and threats, but are not being utilized efficiently. Mechanisms to monitor epidemiological challenges like mental health, occupational health and other environment risks are yet to be put in place.

**Health research system:** There is a need for strengthening research infrastructure in the departments of community medicine in various institutes and to foster their partnerships with state health services.

**Regulation and enforcement in public health:** A good system of regulation is fundamental to successful public health outcomes. It reduces exposure to disease through enforcement of sanitary codes, e.g., water quality monitoring, slaughterhouse hygiene and food safety.

**Health promotion:** Stopping the spread of STDs and HIV/AIDS, helping youth recognize the dangers of tobacco smoking and promoting physical activity. These are a few examples of behavior change communication that focus on ways that encourage people to make healthy choices. Development of community-wide education programs and other health promotion activities need to be strengthened. Much can be done to improve the effectiveness of health promotion by extending it to rural areas as well; observing days like “Diabetes day” and “Heart day” even in villages will help create awareness at the grassroots level.

**Human resource development and capacity building:** There are several shortfalls that need to be addressed in the development of human resources for public health services. There is a dire need to establish training facilities for public health specialists along with identifying the scope for their contribution in the field.

**Public health policy:** India need a road map to “better health for all” that can be used by states, communities, professional organizations and all sectors. It will also facilitate changes in resource allocation for public health interventions and a platform for concerted inter-sectoral action, thereby enabling policy coherence.

**Scope for further action in the health sector:** School health, mental health, referral system and urban health remain as weak links in India's health system, despite featuring in the national health policy. School health programs have become almost defunct because of administrative, managerial and logistic problems. Mental health has remained elusive even after implementing the National Mental Health Program.

On a positive note, innovative schemes through public-private partnerships are being tried in various parts of the country in promoting referrals. Similarly, the much awaited National Urban Health Mission might offer solutions with regards to urban health.

## CONCLUSION

“The health of people is the foundation upon which all their happiness and all their powers as a state depend”

– Benjamin Disraeli, British Prime Minister.

In this changing world, with unique challenges that threaten the health and well-being of the population, it is imperative that the government and community collectively rise to the occasion and face these challenges simultaneously, inclusively and sustainably. Social determinants of



health and economic issues must be dealt with a consensus on ethical principles – universalism, justice, dignity, security and human rights. This approach will be of valuable service to humanity in realizing the dream of Right to Health. The ultimate yardstick for success would be if every Indian, from a remote hamlet in Bihar to the city of Mumbai, experiences the change.

It is true that a lot has been achieved in the past: The milestones in the history of public health that have had a telling effect on millions of lives – launch of Expanded Program of Immunization in 1974, Primary Health Care enunciated at Alma Ata in 1978, eradication of Smallpox in 1979, launch of polio eradication in 1988, FCTC ratification in 2004 and COTPA Act of 2005, to name a few. It was a glorious past, but the future of a healthy India lies in mainstreaming the public health agenda in the framework of sustainable development. The ultimate goal of great nation would be one where the rural and urban divide has reduced to a thin line, with adequate access to clean energy and safe water, where the best of health care is available to all, where the governance is responsive, transparent and corruption free, where poverty and illiteracy have been eradicated and crimes against women and children are removed – a healthy nation that is one of the best places to live in.