IPHA MAHARASHTRA BRANCH Newsletter

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IPHA MAHARASHTRA STATE BRANCH NEWSLETTER
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Awardees of Padvyuttar (Post-Graduate) Sanshodhan Prakalp Anudan and Padavidhar (Under-Graduate) Sanshodhan Prakalp Anudan – The Research Grant with support of UNICEF for 2025. Visit www.iphamaha.org for more information.

President's Page

Message for MHIAPSMIPHACON 2026

Welcome to Conference!

The entire team of Department of Community Medicine, of Seth G S Medical College & KEM Hospital, have wholeheartedly taken efforts for successful organization of this 27th Annual Maharashtra State Joint Conference of Indian Association of Preventive & Social Medicine (IAPSM), Maharashtra Chapter and Indian Public Health Association (IPHA), Maharashtra State Branch on the theme of **"Universal Health Care: Bridging Gaps In Urban and Rural Health"**

India's rapid urbanization has brought remarkable advances in healthcare infrastructure, technology and specialized services. Yet, these gains coexist with persistent inequities between urban and rural populations across socioeconomic groups and among marginalized communities. Rural areas continue to face challenges related to access, availability, affordability and quality of health services, while urban settings grapple with overcrowding, lifestyle-related diseases, environmental hazards and inequitable access within cities themselves.

Bridging these gaps requires more than expanding services; it calls for a strong preventive and promotive health approach rooted in equity, community participation and evidence- based policy. As professionals of Preventive and Social Medicine, we are uniquely positioned to address these challenges by strengthening primary healthcare, improving health systems, leveraging digital health innovations and ensuring that social determinants of health remain an important part of planning and action.

This conference provides an excellent platform to share experiences, exchange ideas and generate solutions that are practical, inclusive and sustainable. I urge all participants to engage actively, think innovatively and collaborate across disciplines to convert knowledge into meaningful action. Let our discussions contribute not only to academic enrichment but also to evident improvements in the health and well-being of populations across both urban and rural India.

I am sure that this conference will succeed fulfilling its objective, reminding us of our renewed commitment to achieving health equity and universal health coverage, under the able leadership of organizing chairperson Dr. Vijaykumar Singh, the Head of the Department of Community Medicine.

Dr. Prasad Waingankar

Editorial

One Health Approach: A Pathway to a Healthier, Safer, and Sustainable Future

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The health of humans, animals, and the environment has never been more interconnected than it is today. The rapid pace of globalization, urbanization, & environmental degradation has blurred the boundaries between ecosystems, enabling diseases to jump across species and borders with alarming ease. The COVID-19 pandemic was a wake-up call to the world, revealing how a microscopic virus originating in animals can disrupt societies, economies, and health systems worldwide. It reminded us that no sector can work in isolation when addressing global health threats. This understanding forms the foundation of the One Health Approach — a holistic, collaborative, and transdisciplinary framework that recognizes the interdependence of human, animal, and environmental health.

The idea behind One Health is not entirely new. Historically, medical and veterinary sciences have shared common roots. The work of pioneers like Rudolf Virchow and William Osler in the 19th century emphasized the link between human and animal health. However, in recent decades, the concept has gained renewed significance due to the increasing frequency of zoonotic diseases — infections that spread between animals and humans. According to the World Health Organization (WHO), more than 60% of emerging infectious diseases in humans originate from animals, and about 75% of new or emerging infectious pathogens are zoonotic in nature.

The One Health Approach is built on the recognition that the health of people is connected to the health of animals and the environment. It encourages collaboration, communication, and coordination across sectors and disciplines to prevent, detect, and respond to health challenges that lie at the human–animal–environment interface.

In an era of global mobility and ecological imbalance, human actions have drastically altered ecosystems. Deforestation, unplanned urbanization, intensive agriculture, and wildlife trade have increased the chances of disease spillover. The environmental contamination, climate change, & antimicrobial resistance (AMR) have compounded these challenges. The interconnectedness of these threats calls for a unified approach rather than fragmented responses. For instance, antimicrobial resistance is a classic One Health issue. The indiscriminate use of antibiotics in human medicine, livestock, and agriculture contributes to the emergence of resistant bacteria, which can spread through the food chain, water systems, and the environment. Similarly, vector-borne diseases like malaria, dengue, and Zika are influenced by environmental factors such as temperature, rainfall, and sanitation. Addressing them requires an integrated response that spans across sectors.

The One Health Approach goes beyond the management of infectious diseases. It extends to areas such as food safety, food security, climate resilience, environmental conservation, and sustainable agriculture. It promotes the idea that human well-being is inseparable from the well-being of the planet and its biodiversity.

Implementing One Health principles requires strong intersectoral collaboration and community engagement. It is not just a technical framework; it is a mindset that encourages cooperation across disciplines. At the policy level, governments must create enabling environments for cross-sectoral data sharing, joint risk assessments, and integrated surveillance. At the institutional level, medical, veterinary, and environmental departments should collaborate in disease surveillance, outbreak response, and

research. Educational institutions can play a pivotal role by incorporating One Health concepts into curricula to train the next generation of doctors, veterinarians, and public health professionals to think beyond their traditional boundaries.

At the community level, awareness and preventive measures are key. Public health professionals can engage communities in responsible animal handling, waste management, vector control, and environmental conservation. Strengthening local governance and health infrastructure can also help detect and manage zoonotic threats early. The One Health approach aligns closely with the United Nations Sustainable Development Goals (SDGs), particularly those related to health (SDG 3), hunger and food security (SDG 2), clean water (SDG 6), climate action (SDG 13), and life on land (SDG 15). By promoting collaboration across these domains, One Health serves as a bridge linking public health, agriculture, environment, and sustainable development.

Despite growing recognition, operationalizing One Health remains a challenge. Institutional silos, fragmented data systems, limited funding, and lack of coordinated governance often impede its implementation. Overcoming these barriers requires political will, capacity building, and sustained investment in research and surveillance infrastructure. Moreover, the One Health approach should not remain confined to high-level policy discussions. It must translate into tangible action at the ground level — in villages, farms, markets, and schools. Collaborative field projects, community-based surveillance, and interdisciplinary training programs can help bridge the gap between theory and practice.

To conclude with health of humans, animals, and ecosystems are threads woven into the same fabric. When one is threatened, the entire system is at risk. The One Health Approach offers a powerful framework to protect this shared health ecosystem through collaboration, communication, and coordination. As public health professionals, we must advocate for its adoption at every level — from policymaking to practice, from classrooms to communities. Embracing the One Health Approach is not just a scientific necessity but a moral imperative — to ensure that future generations inherit a world that is healthier, safer, and more sustainable.

APPEAL

The Indian Public Health Association (IPHA) existing since 1956 is a professional registered body (Society Act No. S/2809 of 1957 – 58) committed to promotion and advancement of public health and allied sciences in India, protection and promotion of health of the people of the country, and promotion of co-operation and fellowship among the members of the association. IPHA has local branches in almost all states of the country. Any professional graduate, MBBS or any equivalent degree recognized by any Indian university in Indian System of Medicine / Dentistry (BDS) / Engineering (BE) / Nursing (B Sc Nursing) / Veterinary (BV Sc & AH) are eligible to be ordinary & life member of the association after paying the necessary subscription.

We, the executive committee members of IPHA – Maharashtra Branch sincerely appeal the eligible qualified individuals to become the life members of the organization and enhance our strength and visibility. Kindly visit National IPHA website, **www.iphaonline.org** to fill up the online application form and for further official procedures of payment of membership fee. If you need any help in this regard, please feel free to contact.

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CANCERS IN INDIAN WOMEN: AN OVERVIEW

Laqushvedhi Lekh

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Introduction:

India is the most populous country in the world with almost 50% of the population being women. As per the Global Cancer Observatory, GLOBOCAN 2022, our country had 14,13,316 new cancer cases in 2022 with 9,16,827 deaths! Among these, 7,22,138 (>50%) new cases of cancer were women. The number of prevalent cases (5-Yr) of cancer in India was 32,58,518. This is a huge number with a significant burden on our healthcare system. Top three leading cancers in Indian women are, Breast, Cervix uteri and Ovary. Age standardized mortality rate was 62.6 which is fairly high! The key to improve outcomes is to offer Primary prevention as and when possible and early detection by screening for these cancers. We must also ensure accessibility to healthcare to both urban and rural population.

Statistics at a glance, 2022

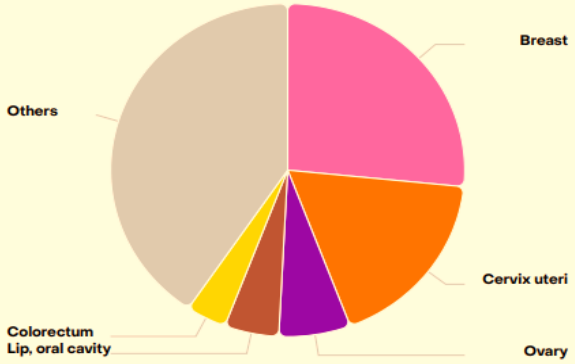
	Males	Females	Both sexes
Population	730 746 615	675 885 166	1 406 631 781
Incidence*			
Number of new cancer cases	691 178	722 138	1 413 316
Age-standardized incidence rate	97.1	100.8	98.5
Risk of developing cancer before the age of 75 years (cum. risk %)	10.6	10.7	10.6
Top 3 leading cancers (ranked by cases)**	Lip, oral cavity Lung Oesophagus	Breast Cervix uteri Ovary	Breast Lip, oral cavity Cervix uteri
Mortality*			
Number of cancer deaths	470 055	446 772	916 827
Age-standardized mortality rate	66.5	62.6	64.4
Risk of dying from cancer before the age of 75 years (cum. risk %)	7.5	7.0	7.2
Top 3 leading cancers (ranked by deaths)**	Lip, oral cavity Lung Oesophagus	Breast Cervix uteri Ovary	Breast Lip, oral cavity Cervix uteri
Prevalence*			
5-year prevalent cases	1 470 047	1 788 471	3 258 518

Risk Factors for cancer development:

1. **External factors:** Obesity, Sedentary Life-style, Metabolic disorders like Diabetes Mellitus, Tobacco in any form including vaping, e-cigarettes, Alcohol, Infections like HPV, HBsAg, HIV, Environmental pollution
2. Inherent factors: Familial cancers like BRCA 1/2 (BReast CAncer) syndrome. Individual's own susceptibility due to his or her genetic constitution.

Top 5 Cancers in Indian Women

Females



Total: 722 138

Rank	Cancer site	Number of cases	Percent
1st	Breast	192 020	26.6%
2nd	Cervix uteri	127 526	17.7%
3rd	Ovary	47 333	6.6%
4th	Lip, oral cavity	35 947	5.0%
5th	Colorectum	26 678	3.7%
-	Others	292 634	40.5%

Number of new cases in 2022, females, all ages

In this overview, five most important cancers in Indian women are discussed. Detailed discussion of management of each cancer is beyond the scope of this article.

A. Breast Cancer

This is the most common cancer in Indian women as well as in the world. The incidence is 26.6% of all women cancers in India and the mortality rate is 13.7%

- **Signs and symptoms:** Painless lump in breast, Nipple discharge or nipple inversion, Skin changes and systemic symptoms based on metastatic site e.g. bone pain, fracture, breathlessness, headaches, vomiting etc.

- **Screening tests:**
  - **Self-Breast examination (SBE):** This can be implemented for all women after the age of 40 years of age so they are able to differentiate between normal and abnormal findings. This practice also keeps women alert about breast cancer. SBE should be done 1 week after menstruation over in premenopausal women or on a fixed date in postmenopausal women every month.
  - **Mammography with Sonography:** Since Indian women present a decade earlier compared to women in western world, annual Mammography should be started from the age of 45 years of age. Simultaneous sonography helps to characterize the lesions found on Mammography. Due to improved Mammography machines, pain during the screening is reduced and radiation exposure is also minimum. Hence, every woman must be motivated to do regular Mammogram till the age of 70 years of age.
  - **MRI Breasts:** MRI can be used in women who have very glandular breasts as Mammography will fail to pick up any lesion. It can be used for women with silicone implant and young women who are BRCA carriers under screening.
- **Principles of management:**

Breast cancer requires a multimodality management involving surgery, radiation and systemic therapy. In today's era, breast conservative surgery is preferred over Modified radical mastectomy. Also, sentinel lymph node biopsy is carried out to decide whether complete axillary dissection is required. Due to this selective approach, incidence of lymphoedema has come down significantly. Radiation techniques have improved drastically giving more precise radiation with minimal toxicities. Short duration radiation protocols are also used in suitable patients.

Systemic therapy involves the Chemotherapy, Hormone therapy, Targeted therapy like Anti-Her2 therapy, Antibody drug conjugates and Immunotherapy. Depending on the stage, Menopausal status and biological nature of the disease, systemic therapy is planned. For Estrogen and/or Progesterone positive tumours, hormone therapy (Tamoxifen, Letrozole, Anastrozole) is an important modality in addition to other modalities. For Her2 positive disease, single or double anti-Her2 agents (Trastuzumab, Pertuzumab) are used. Antibody drug conjugates (ADC) are a novel group of agents where a drug is combined with an antibody with help of a linker. This helps deliver higher doses of anticancer drug intracellularly. Immunotherapy has a role in Triple receptor negative breast cancer. The accessibility and affordability of all the novel agents is still a challenge for Indian women.

B. Cancer of Uterine cervix (Cervical cancer)

The second most common cancer in Indian women is cervical cancer. The incidence is 17.7% with mortality of 11.2% This is the disease of young women who are in the productive phase of their life.

- **Primary Prevention:** As the majority of cervical cancer cases are related to HPV (Human Papilloma Virus) infection, vaccination against HPV is a very effective strategy to reduce cervical cancer incidence. Ideally, the vaccination should be done before the first sexual exposure. Hence, young girls above the age of 9 years are advised to take HPV vaccines. This has been now recommended as Indian made Vaccine is available. The schedule of administration can vary depending on bivalent or quadrivalent vaccine.
- **Secondary prevention and early detection:** Young women till the age of 25 years are advised to take HPV vaccine as it may still offer benefits. Beyond the age of 25 years, it is individualized and it can still be offered till the age of 45 years. It is important to remember that PAP smear is still required even if a woman has taken the vaccine as about 15% of cervical cancer is caused by non-HPV causes. High performance PAP like HPV DNA PAP is preferable than conventional PAP smears as screening. Even if two HPV DNA PAP smears are done at an interval of 5-10 years, it can bring down the incidence and mortality rate. Every young woman must be motivated to undergo annual gynecologic examination and PAP smear to pick up cervical cancer in early stages.
- **Signs and Symptoms:** Foul smelling per vaginum discharge, bleeding, itching etc. On examination, cervical erosion or a

mass is visible. It bleeds on touch. Hence, biopsy is sometimes risky in such patients.

- **Principles of management:**

Surgery is the treatment of choice for early stage disease, till stage IIa (FIGO). Majority of patients in our country present in locally advanced stage.

Concurrent chemoradiation is the modality of treatment for this stage of the disease. In this treatment, patients receive definitive radiation with weekly injection Cisplatin to make the cells more sensitive to radiation. It is a very effective modality of treatment.

Patients with metastatic disease or recurrent disease, systemic therapy with chemotherapy and Immunotherapy are the standard of care today. Due to non-affordability of Immunotherapy, it is not taken by all our patients. One more targeted agent viz. Injection Bevacizumab anti VEGF Receptor antibody, can be combined with chemotherapy in advanced stage disease. Injection Bevacizumab may lead to bleeding, hypertension, fistula formation. Hence, patient selection is important while planning the management.

C. Cancer of Ovary, Fallopian tubes and Primary peritoneal cancer

This is the third most common cancer in Indian women with the incidence of 6.6% and mortality of 4.6%

- **Screening and early detection:** Unfortunately, there are no reliable screening tests for ovarian cancer. Tumour marker CA 125 has been promoted as screening test. But it is neither sensitive nor specific for ovarian cancer. Annual pelvic sonography is also not approved as a screening test. Due to the same biological nature, ovarian, fallopian tube and primary peritoneal cancer are treated in the same manner.
- **Signs and Symptoms:** Due to deep seated position of ovarian cancer, majority of patients are diagnosed in late stages. Patients complain of abdominal fullness, bloating, constipation, urinary incontinence or retention, ascites, weight loss, fatigue etc. It requires a high index of suspicion to detect this disease in time.
- **Principles of management:** Surgery and Chemotherapy both are integral part of the management of ovarian cancer. The sequence of the two can differ from case to case. The patients who are eligible for primary debulking surgery with R0 resection are taken up for surgery first followed by chemotherapy. In stage III patients, HIPEC (Hyperthermic Intra Peritoneal Chemotherapy) is offered after achieving R0 status.

If a patient is not fit for primary surgery, patient has a huge ascites or R0 resection cannot be achieved, chemotherapy is started first. After about three to four cycles of chemotherapy, the patient is reassessed for surgery. Interval debulking surgery is planned so as to achieve R0 resection. If R0 resection is not achieved, survival of such patients continues to be poor.

- **Role of maintenance therapy:**

Maintenance therapy is a very important strategy to delay recurrence in ovarian cancer patients as majority of them present in advanced stage. Injection Bevacizumab, anti VEGF (Vascular Endothelial Growth Factor) receptor antibody has been approved for this purpose.

Injection Bevacizumab is started along with chemotherapy and then continued as a single agent for a long time. It is withheld peri-operatively as it can lead to bleeding and delayed healing. It can also lead to hypertension and thrombosis hence patients need to be monitored closely.

As a part of Maintenance strategy, every patient with Ovarian cancer must be tested for Somatic and/or Germline BRCA 1/2 mutations. If a patient is negative for BRCA, Somatic HRD (Homologous Recombination Deficiency) testing must be done. Any patient with either BRCA mutation or HRD positivity, should be considered for PARP (Poly ADP Ribose Polymerase) inhibitors maintenance therapy. These are oral preparations which can be used for a long time. These tablets can lead to fatigue, anaemia, nausea etc. But these are manageable toxicities.

****BRCA Syndrome

BRCA 1 and/ or 2 mutations can lead to clinical BRCA syndrome. This involves a very high risk of developing breast, ovarian, pancreatic and prostate (in men but this is

beyond the scope of this article) cancer at an early age. A patient can develop multiple cancers in her life time and may have a strong family history. These women require very close monitoring and screening. The first degree relative of the index case also must be screened thoroughly for BRCA mutations. Clinically, ovarian cancer patient with BRCA mutation, present at an early age, have ascites, high grade serous histology and very good response to Platinum group of chemotherapy.

D. Other Important Cancers

Cancer of Endometrium

This malignancy is relatively less common in Indian women with the incidence of 2.5% and mortality of 1%. However, in urban population, there is a gradual increase in number of cases. This is considered as a lifestyle disorder as the risk of this malignancy increases with obesity, sedentary life style and metabolic disorders.

- **Screening and early detection:** There are no reliable screening tests for this disease. Healthy lifestyle like weight control, exercises etc. can help reducing the incidence.
- **Signs and symptoms:** Post menopausal bleeding is the most common presentation. Because of this, the disease is usually detected at an early stage. Patient can also complain of abdominal fullness, bloating etc.
- **Principles of management:**

  The management of endometrial cancer involves surgery, radiation, chemotherapy, Immunotherapy, Targeted therapy and Hormonal therapy.

  For early stage disease, radical surgery with lymph node dissection, omental biopsy is the curative step.

  After surgery, patients with high risk features like high grade tumour, more than half of myometrial invasion, Lympho-vascular space invasion, non-endometroid histology etc. will require radiation to prevent recurrence.

  Patients in stage III and IV, will require chemotherapy as well. Patients with recurrence or metastatic disease will be advised chemotherapy and immunotherapy.

  For low grade histology like well differentiated endometroid carcinoma, hormonal therapy can be tried especially for young women wanting fertility sparing management.
- **Molecular classification of Endometrial carcinoma:**

  Endometrial carcinoma is found to be molecularly heterogenous disease. It is divided into four groups with distinct molecular signature and prognosis.
  - ❖ POLE mutated: excellent prognosis
  - ❖ Deficient MMR: Moderate prognosis and excellent response to Immunotherapy
  - ❖ p53 aberrant: Poor prognosis and moderate response to Chemotherapy
  - ❖ NSMP (No Specific Molecular Profile): Moderate prognosis

  This classification has therapeutic implications and prognostic value. For POLE mutated endometrial cancer, de-escalation of therapy can be considered. While for patients with p53 aberrant disease, aggressive approach can be suggested.

Cancer of Pancreas

As described earlier, BRCA mutated women do have higher incidence of Pancreatic malignancy. Due to lack of this knowledge, this malignancy is not suspected!

Otherwise also, the incidence of this malignancy is gradually increasing in our country due to its association with Diabetes Mellitus. Pancreas is a deep seated organ hence majority of patients are detected in advanced stages.

- **Screening and early detection**: There are no reliable screening tests for this cancer. In families with history of pancreatic cancer and breast, ovarian and prostate cancer, genetic counselling should be done. Germline BRCA and HRD tests should be advised. If a person is found with a pathogenic mutation, close monitoring must be advised.
- **Association of Diabetes and Pancreatic carcinoma:** There is a definite association of between these two clinical conditions. Approximately, one percent of newly diagnosed young diabetic patients will develop pancreatic cancer within three years from the diagnosis. Prediabetic state

is also associated with the same. Acute onset Diabetes prior to diagnosis of pancreatic cancer is thought to be induced by the cancer. With longer duration of Diabetes, the association between Diabetes and pancreatic cancer decreases.

- **Signs and symptoms:** Newly diagnosed Diabetes mellitus (age less than 50 years), Abdominal pain, weight loss, anorexia, Jaundice, backache. High index of suspicion is required to detect this cancer.
- **Principles of management:**

Surgery is the only curative treatment for this disease. The patient may be in resectable, borderline resectable or non-resectable stage.

Chemotherapy is given before surgery in borderline resectable cases so as to convert that patent into a resectable case. Aggressive protocols are used for this purpose in a fit patient.

Chemotherapy will be required after surgery to prevent recurrence and also in advanced stages. For BRCA mutated patients, Platinum based chemotherapy is used due to increased sensitivity to platinum agents in this group of patients.

For patients with metastatic disease, chemotherapy is the main treatment and radiation is used for palliation. These patients are also given Maintenance treatment either with single agent chemotherapy or PARP inhibitors (for BRCA mutated patients)

Take Home message:

1. Cancer in Indian women is a significant number requiring various preventive and screening strategies. Indian women must be motivated for regular PAP test and Mammograms. HPV vaccine must be given universally to young girls and women as indicated.

2. It is prudent to spread awareness among medical and paramedical fraternity about advances in the management of all these cancers resulting in increased survival in these patients. Value of family history and genetic counselling must be emphasized. High index of suspicion and alertness on the part of medical fraternity can help detect cancers in early stages.

	New cases				Deaths			
Cancer	Number	Rank	(%)	Cum.risk	Number	Rank	(%)	Cum.risk
Breast	192 020	1	13.6	2.9	98 337	1	10.7	1.6
Lip, oral cavity	143 759	2	10.2	1.1	79 979	2	8.7	0.65
Cervix uteri	127 526	3	9.0	2.0	79 906	3	8.7	1.3
Lung	81 748	4	5.8	0.71	75 031	4	8.2	0.65
Oesophagus	70 637	5	5.0	0.59	66 410	5	7.2	0.55
Colorectum	70 038	6	5.0	0.58	40 993	7	4.5	0.33
Stomach	64 611	7	4.6	0.54	57 727	6	6.3	0.49
Leukaemia	49 883	8	3.5	0.31	36 871	9	4.0	0.24
Ovary	47 333	9	3.3	0.72	32 978	10	3.6	0.55
NHL	39 736	10	2.8	0.31	22 972	12	2.5	0.18
Liver	38 703	11	2.7	0.33	36 953	8	4.0	0.31
Prostate	37 948	12	2.7	0.67	18 386	14	2.0	0.29
Larynx	35 855	13	2.5	0.31	22 467	13	2.5	0.21
Brain CNS	32 574	14	2.3	0.22	27 990	11	3.1	0.20
Hypopharynx	30 510	15	2.2	0.26	11 618	20	1.3	0.10
Oropharynx	23 174	16	1.6	0.19	14 202	17	1.5	0.12
Bladder	22 548	17	1.6	0.19	12 353	19	1.3	0.10
Thyroid	21 873	18	1.5	0.14	5 455	23	0.60	0.04
Gallbladder	21 780	19	1.5	0.18	16 407	15	1.8	0.13
Kidney	17 480	20	1.2	0.14	10 464	21	1.1	0.09
Corpus uteri	17 420	21	1.2	0.30	6 845	22	0.75	0.11
Multiple myeloma	16 526	22	1.2	0.14	14 216	16	1.6	0.12
Pancreas	13 661	23	0.97	0.12	12 759	18	1.4	0.11
Penis	10 443	24	0.74	0.17	4 450	26	0.49	0.07
Hodgkin lymphoma	9 611	25	0.68	0.06	3 522	27	0.38	0.02
Salivary glands	8 107	26	0.57	0.06	4 879	24	0.53	0.04
Nasopharynx	6 519	27	0.46	0.05	4 780	25	0.52	0.03
Vagina	5 000	28	0.35	0.08	2 465	28	0.27	0.04
Testis	4 456	29	0.32	0.05	1 050	32	0.12	0.01
Melanoma	3 689	30	0.26	0.03	2 197	29	0.24	0.02
Vulva	3 112	31	0.22	0.05	1 539	30	0.17	0.02
Mesothelioma	1 613	32	0.11	0.01	1 432	31	0.16	0.01

3. The government of India and state governments have introduced various schemes for cancer diagnosis and management. Patients in rural and urban areas must have an accessibility to oncology care.

4. Oncology should be included as a part in Medical and paramedical education curricula to make the young medical and paramedical students aware of this Non-communicable disease just like cardiac and metabolic disorders.

5. Last but not the least, documentation of all cancer cases in various registries will help to know the exact number and type of cancers prevalent in Indian patients. This will also help to plan future health policies for our patients.

Data Source:

International Agency for Research on Cancer
World Health Organization
GLOBAL CANCER OBSERVATORY

Community Health Camps: The Need & Practice – An Example

Dr. Vikas Kshirsagar

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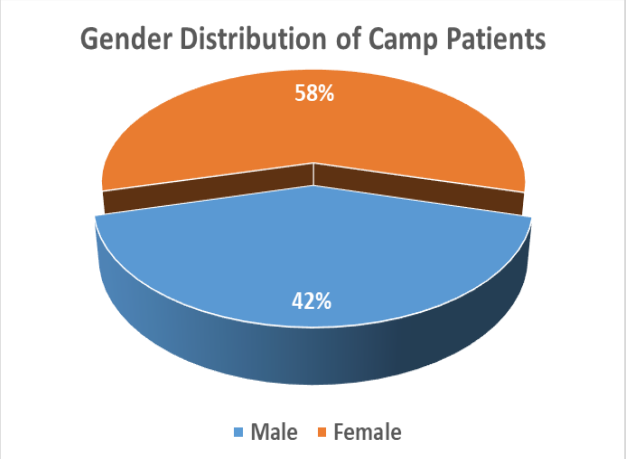
The "Health for All" concept is a global health goal by the World Health Organization (WHO) and it envisions a world in which all people have access to the healthcare services they need without financial hardship. "Health for All" laid the groundwork for the more recent goal of Universal Health Coverage, part of the United Nations Sustainable Development Goals (SDG3): Ensure healthy lives and promote well-being for all at all ages.

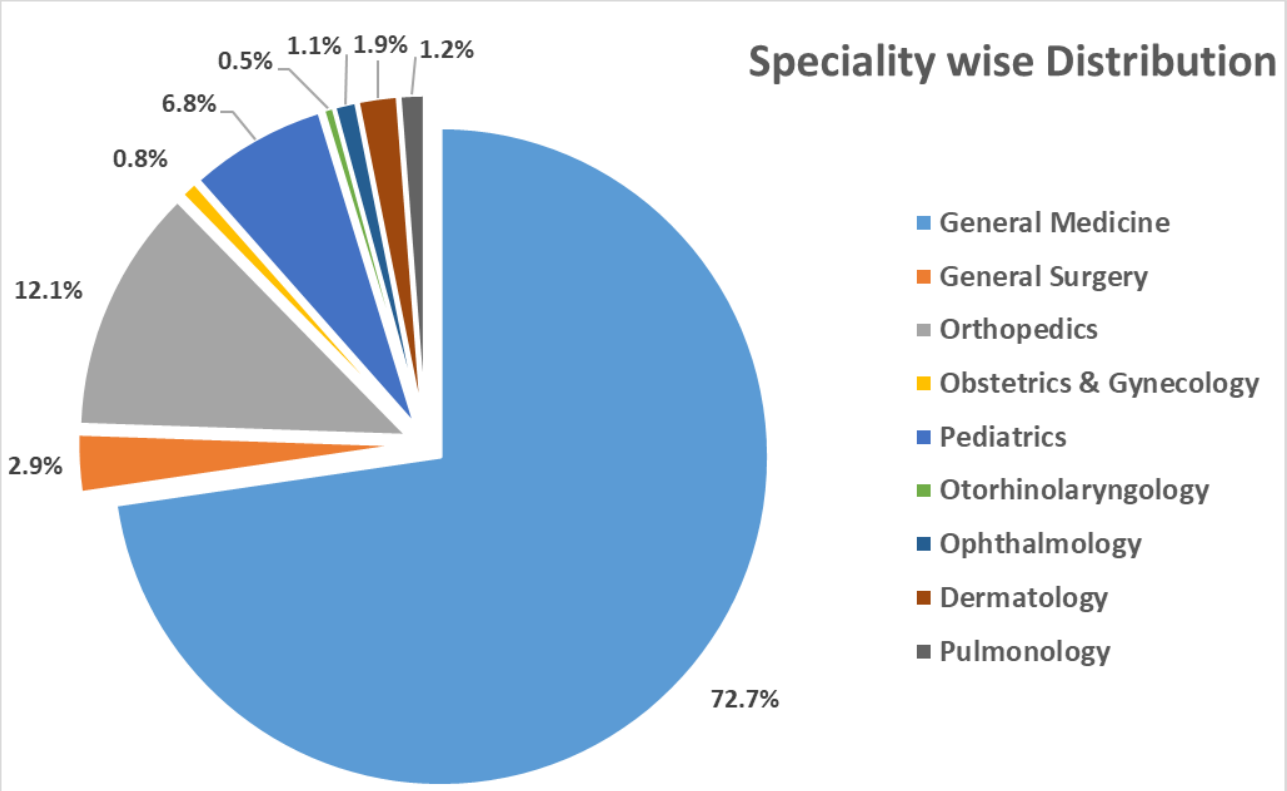
India is experiencing a rapid epidemiological transition with a large and rising burden of chronic diseases. Non-Communicable Diseases (NCDs), especially diabetes mellitus, cardiovascular diseases, cancer, stroke and chronic lung diseases have emerged as major public health problems due to an ageing population and environmentally driven changes in behaviour. Cancer has become an important public health problem in our country with an estimated 1.1 million cases occurring every year. At any point of time, it is estimated that there are nearly 3.9 million cases in the country. In India, tobacco related cancers account for about half the total cancers among men and 20% among women. In India, more than 12 million people are blind. Cataract is the main cause of blindness followed by Refractive Error and there has been a significant increase in proportion of cataract surgeries with Intra Ocular Lens (IOL) implantation. There is need of early screening of all these diseases in community to reduce burden on health facilities by avoiding complications of NCDs in future if not detected in early days.

In view of this, the Community Health Camps were conducted by CSM Govt. Medical College, Satara last year. The program effectively screened for major non-communicable diseases (NCDs) and provided consultations from specialists to the community. The focus was on health promotion and awareness about national health programs. No fee was charged for any consultation and laboratory investigations. Some of the medicines were also given as advised by the treating specialists. This initiative reflected a significant stride toward uplifting community health and ensuring inclusive access to essential services for health promotion.

Meeting of District Health Officer and Civil Surgeon was organized with Dean of the medical college to plan the community health camps in the rural and remote areas of the district. Assistant Professor of the Community Medicine department was nodal officer for the Community Health Camp. A team of Physician, Surgeons, Ophthalmologist, Dermatologist, Gynecologist, Pediatricians, Social workers, Laboratory technicians was formed. Community Health Camp location was selected after the discussion with taluka health officer. Medical officer of the Primary Health Centre and staff of the Primary Health Centre was included in the planning and organization of the camp. After selecting location, ASHA workers were made aware to mobilize the people in the community.

A total of 19 Community Health Camps were conducted in different villages in the district and 1950 patients were screened and examined in the Community Health Camps.





Majority screened patients were in the age group between 12 to 60 years i.e. 1151 (59%) followed by 598 (30.7%) were above 60 years and 201 (10.3%) were below the age of twelve years. Among these camps 166 patients were referred to tertiary health care centres for further management. Laboratory investigations such as Hemoglobin, random blood sugar etc. were carried out for 517 patients and ECG was done for 165 patients in these camps.

Community health camps not only provide treatment and health education but also offer disease screening and refer patients to higher health care centres for advanced care. These camps play an important role in promoting health at the community level through counselling and awareness activities, encouraging people to make use of healthcare services. They are especially valuable in identifying various cases at early stage and ensuring timely referrals, while also addressing the health needs of community by including them in general health programs.

One limitation of these Community Health Camps observed that meticulous follow up needs to be done after treatment as well as after referrals. The well-planned and systematically organized health camps can significantly benefit the rural population of our country.

Bridging Tertiary Care Services & Community Needs through Community Engagement: Evolving SCOPE model

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ABSTRACT

Bridging the gap between community needs and tertiary care is one of the most persistent challenges in India's health system. While tertiary hospitals provide advanced diagnostic and specialist services, communities often remain unaware, unable, or unmotivated to access them due to socio-cultural, financial, geographical, and informational barriers. Community engagement offers a powerful, people-centered mechanism to close this gap.

This article discusses conceptual frameworks, best practices and global evidence on community engagement, and presents an institutional model SCOPE (Symbiosis Community Outreach Program and Extension services) of Symbiosis International (Deemed University) under department of Community Medicine as an innovative example of strengthening the continuum of care. The article highlights new initiatives under SCOPE including need-based NCD risk assessment drives, MMU-based screening with geospatial planning, community-based maternal–child health interventions, risk communication strategies, internship-based outreach models, and linkage mechanisms with tertiary care specialists.

Newer initiatives introduced in 2024–25—including GIS-based MMU optimization, digital risk assessment, under-five risk profiling, adolescent health outreach, specialty-linked camps, and community feedback loops illustrate how medical colleges can transform into active public health partners rather than passive service providers.

The article proposes a replicable and scalable model for medical colleges seeking to institutionalize community engagement as a structured bridge between public health needs and speciality services.

Introduction

India's health system is designed as a three-tiered structure, but the movement of beneficiaries across these tiers struggles to be smooth and equitable. Community often struggles to recognize early warning signs, navigate referral pathways, travel long distances, manage costs, or follow up after specialist consultation. The consequences being delayed diagnosis, increased out of pocket expenditure, fragmented continuity of care and finally loss of trust in the health system. Community engagement emerges as a vital connector between community needs and tertiary care capabilities. It transforms health delivery from a provider-centric system to a people-centered, participatory, and responsive ecosystem.

Evidence shows that even where tertiary services exist, uptake remains low due to lack of awareness regarding red-flag symptoms, mistrust of formal systems, cultural preferences for home remedies, financial constraints for travel and diagnostics, poorly defined referral mechanisms, and inadequate post-treatment follow-up.

Despite years of health initiatives, gaps remain due to limited community participation, top-down planning, episodic outreach activities, poor follow-up, and lack of trust between health systems and communities. Many institutional programmes excel in technical guidelines but falter in implementation due to insufficient community ownership. A need of participatory, collaborative, and community-led models is urgently required. In this article, we discuss key community engagement strategies relevant to public health practice in India and present SCOPE (Symbiosis Community Outreach Programme & Extension) as a case example of how structured, innovative, and coordinated outreach efforts implemented through a

medical college can strengthen community engagement and improve health outcomes.

Community engagement is not a single activity; it is a relationship built over time. The engagement spectrum includes:

- **Inform:** sharing essential health information
- **Consult:** understanding community needs and concerns
- **Involve:** including communities in planning
- **Collaborate:** for joint implementation
- **Empower:** community-led action

The most programmes in India remain at the "inform" stage. The SCOPE model advances engagement towards collaboration and empowerment. Common reasons for poor community engagement include one-way communication, inadequate understanding of community dynamics, limited involvement of community influencers, lack of follow up after health camps, weak institutional linkages between health systems, medical colleges, and communities.

SCOPE (Symbiosis Community Outreach Programme & Extension) functions as the extension arm of a medical college, linking academic expertise with community needs.

Health risk assessment activities

Awareness sessions on Field

GIS Mapping of Service Utilization

Strengths of SCOPE are:

- Student and intern workforce
- Access to specialists at SUHRC (Symbiosis University & Hospital Research Centre)
- Integration with RHTC, UHTC
- Mobile medical units presently covering 35 villages
- Flexibility to innovate, test, and create evidence based models
- Strong community collaborations
- Ability to generate local morbidity profile of the community served
- Mechanisms That Strengthen Bridging
- Community-based screening through MMU and outreach health camps
- Health education and BCC
- Community level risk identification
- Social mapping
- Strengthening referral systems
- Digital health solutions
- Multi-stakeholder convergence
- Outreach camps linked to tertiary care
- Capacity building of CHWs

These mechanisms improve both demand-side readiness and system-side responsiveness.

IEC Session in Outreach by Interns

Digital Literacy

NEW INITIATIVES UNDER SCOPE (2025)

1. **GIS-Based Planning for MMU Outreach**
    a. GPS mapping of MMU halts
    b. Identification of underserved hamlets
    c. Disease clustering using MMU data
    d. Optimized selection of camp locations
    e. Travel-time analysis for referrals
2. **Digital Risk Assessment & Triage at field level**
    a. Unique patient IDs
    b. Auto-risk scoring using digital forms
    c. Standardized referral slips and patient information sheets
3. **Maternal & Child Health Innovations**
    a. Under-5 risk profiling
    b. Immunization awareness with pre–post tests
    c. Newborn danger sign counselling
    d. Pediatrics and Obstetrics faculty involved in basic ANC care and routine immunization public health sessions during VHNDs.
4. **Structured Intern Posting Model**
    a. Daily IEC sessions
    b. Community mapping
    c. Data entry and analysis
    d. Referral tracking
5. **Specialty-Linked Outreach**
    SCOPE conducts structured NCD screening drives using standard WHO PEN protocols with digital data entry and auto created unique patient IDs
6. **Community Feedback & Monthly Dashboards**
    a. Follow-up lists
    b. Referral status updates
    c. Monthly planning meetings
7. **Challenges that were inadvertently minimized by solutions**

Challenge	Solution
Limited manpower	Intern-based structured duty allocation, rotation, and clear SOPs
Documentation gaps	Standard formats, digital registers, Google Sheets with autocreation of unique IDs
Monitoring gaps	Regular analysis of routinely collected data for evidence-based insights
Coordination issues	Weekly planning meetings, duty rosters, clear communication pathway

Conclusion

Bridging community needs with tertiary care services is essential for achieving universal health coverage. The SCOPE model demonstrates how academic institutions can transform into community partners, strengthening both preventive and curative pathways. Through structured outreach, risk assessment, behaviour change, digital tools, and strong referral systems, SCOPE creates a

replicable blueprint for sustainable community–tertiary linkages.

Strengthening community engagement is essential to advancing health equity, improving service delivery, and realizing the vision of "Health for All." With continuous innovation, institutional support, and community partnership, models like SCOPE can significantly contribute to India's public health progress.

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Days of Public Health Importance – October to December

Month	Date	Day	Theme for 2025
October	Month	Breast Cancer Awareness Month	Every Story is Unique, Every Journey Matters.
	01st	International Day of Older Persons	Older Persons Driving Local and Global Action: Our Aspirations, Our Well-Being and Our Rights
	02nd	International Day of Nonviolence	Say No to Violence: Building Institutions of Peace
	09th	World Sight Day	Love your Eyes
	10th	World Mental Health Day	Mental health in Humanitarian Emergencies
	11th	International Day of Girl Child	The girl I am, the change I lead: Girls on the frontlines of crisis
	16th	World Food Day	Hand in Hand for Better Foods and a Better Future
	24th	World Polio Day	End Polio: Every Child, Every Vaccine, Every where
November	Month	Pancreatic Cancer Awareness	
	Month	Lung Cancer Awareness	
	03rd	World One Health Day	One Health: Together For A Safer Future
	07th	National Cancer Awareness Day	Cancer Prevention, Treatment, and Innovation
	12th	World Pneumonia Day	Urgent action will ensure every breath matters
	14th	World Diabetes Day	Diabetes across life stages
	15th – 21st	National Newborn care Week	Newborn Safety: Every touch, Every time, Every baby
	17th	World Cervical Cancer Elimination Day	Act Now – Eliminate Cervical Cancer
	18th – 24th	World Anti-Microbial Resistance (AMR) week	Act Now: Protect our Present, Secure our Future.
	19th	World Toilet Day	We'll Always Need the Toilet
	19th	World COPD Day	Short of Breath, Think COPD
	25th	International Day for Elimination of Violence Against Women	UNiTE to End Digital Violence against Women and Girls
December	01st	World AIDS Day	Overcoming disruption, transforming the AIDS response
	03rd	International Day of Persons with Disabilities	Fostering disability inclusive societies for advancing social progress
	10th	Human Rights Day	Human Rights, Our Everyday Essentials
	12th	Universal Health Coverage Day	Unaffordable health costs? We're sick of it!
	17th	World Patient Safety Day	Safe care for every newborn and child
	27th	International Day of Epidemic Preparedness	

Dietary Diversity Among Women of Reproductive Age (15-49 years): A Public Health Perspective

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Good nutrition and gender equality in women of reproductive age (WRA) group are pre-requisites for achievement of all 17 of the Sustainable Development Goals (SDG), and not only SDGs 2, 3 and 5, where their importance is explicitly stated. The nutritional and health condition of women of reproductive age is determined by food quality. Nutrient dense and diverse diets are highly recommended for women of reproductive age.

A less diverse diet, is often considered to be of lower nutritional quality.[1] Women of reproductive age are nutritionally vulnerable because of the physiological demands of pregnancy as well as lactation. Iron requirement is higher even in non-pregnant and non-lactating (NPNL) women. WRA consumed predominantly starchy staples like grains, roots and tubers, pulses and other vegetables. Animal sourced foods like meat, poultry and fish, dark green leafy vegetables eggs, nuts/seeds and fruits were least consumed.[2] [3] [4] Inadequate diversified diet among WRA can have serious consequences on their overall health and well-being, as well as their ability to conceive and carry a healthy pregnancy. Good nutrition before and during pregnancy reduces risks of anaemia, birth defects, and improves infant health Moreover, consumption of a diverse diet leads to a healthy life, which may also prevent many non-communicable diseases like type 2 diabetes, coronary heart disease, etc.[1]

Double burden of poverty and gender bias, coupled with incomplete knowledge about the diet quality precipitates inadequate dietary diversity. Dietary diversity is an indirect measure of diet quality which reflects the three pillars of food security availability, accessibility and utilization. Promotion of diverse diet is one of the many approaches to improve micronutrient adequacy of WRA.[5] [6]

Dietary diversity scores are used as an easy, cost-effective way to measure diet quality and nutrient intake in populations. It is defined as the number of foods consumed across and within food groups over a reference period. It reflects the concept that increasing variety of foods and food groups in diet helps to ensure adequate intake of essential nutrients & promotes good health.[7]

Minimum dietary diversity for women (MDD-W)[8]

The minimum dietary diversity for women (MDD-W) of reproductive age was developed by the United Nations Organization for Food and Agriculture (FAO) in 2016, as a proxy indicator to reflect dietary quality, micronutrient adequacy, showing associations with nutrient adequacy for all women of reproductive age regardless of physiological status. In addition, a manual was released to help practitioners collect data in a standardized manner defining the MDD-W as a dichotomous indicator of whether or not women 15–49 years of age have consumed at least five out of ten defined food groups the previous day or night. According to this methodology, women who achieve minimum dietary diversity, i.e., who consume at least five food groups, are more likely to meet micronutrient intake recommendations than those who consume fewer food groups.

Factors Affecting Dietary Diversity[1] [6] [10] [11]

- Socio-economic status: Higher socio-economic status was consistently associated with better dietary diversity.
- Education: Higher education levels were linked to improved dietary diversity.
- Family size: Smaller family sizes were associated with better dietary diversity.
- Occupation: Women with occupations other than homemakers had better dietary diversity.

- Decision making power & women empowerment
- Women's involvement in household decision making is crucial. Women having decision making roles in the family had more dietary diversity than other women
- Agricultural diversity: In rural areas, agricultural diversification positively influenced dietary diversity.
- Age and BMI: Older age and higher BMI were associated with better dietary diversity.
- Access to markets: Women with the freedom to access markets had better dietary diversity.
- Media access: It was associated with reduced risk of food insecurity.
- Land and livestock ownership: It was associated with better dietary diversity.
- Geographical Location: Influences the availability and accessibility of diverse food. Cultural & regional dietary pattern also affect.

Measurement of Minimum dietary diversity score[9]

Sr. No	Food Groups	Food ingredients	YES=1 NO=0
1	Grains, white roots and tubers and plantains	Porridge, bread, rice, pasta/noodles, sorghum, millet, corn, couscous, barley, White potatoes, white yams, manioc/cassava/yucca, cocoyam, taro roots or tubers, plantains	
2	Pulses (beans, peas and lentils)	Beans, peas, lentils, hummus, tofu, tempeh	
3	Nuts & seeds	Groundnut/peanut, cashew, walnut, Baobab seeds, chia seeds, flaxseed	
4	Dairy	Milk, cheese, yogurt or other milk products	
5	Meat, poultry and fish	Blood sausage, gizzard, heart, kidney, liver, Beef, goat, lamb, mutton, pork, rabbit, yak, Salami, bacon, bologna, hot dogs, Chicken, duck, goose, guinea fowl	
6	Eggs	Eggs from poultry or any other bird	
7	Dark green Leafy vegetables	Kale, mustard greens, spinach, amaranth greens, chicory, broccoli, Swiss chard	
8	Other vitamin A rich fruits and vegetables	Pumpkin, carrots, squash or sweet potatoes, ripe mango, ripe papaya	
9	Other vegetables	Beets, cabbage, cauliflower, celery, cucumbers, eggplant, zucchini, radish, tomato, mushroom	
10	Other fruits	Apple, avocado, banana, baobab fruit, berries, pineapple, orange, watermelon, berries, guava, coconut flesh, tangerine	

Adequate Minimum dietary diversity (MDD)score > 5; Inadequate Minimum dietary diversity (MDD) score <5

Dietary diversity in Urban slums[6 12]

Urban slums often present unique challenges to achieving adequate dietary diversity. Overcrowding, poor sanitation, and limited access to clean water and food can exacerbate nutritional deficiencies. Women in these settings may rely on inexpensive, processed foods with low nutritional value.

Dietary diversity in Rural areas[13]

In rural areas, women may have better access to locally grown foods but face challenges due to seasonal variations and limited market access. Women in rural areas may have limited access to markets and diverse food options compared to those in urban areas. Studies have shown that rural

women often consume a higher proportion of home-grown staples, which may lack diversity.

Implications on Women's Health

Inadequate dietary diversity can lead to micronutrient deficiencies, affecting women's health and increasing the risk of adverse pregnancy outcomes. For example, iron deficiency anaemia is prevalent among women with low dietary diversity, impacting their overall health and productivity.

Recommended Food Plate to achieve dietary diversity[14]

Preventive measures

Improvement in dietary diversity is important for enhancing micronutrient intake and overall nutritional status of WRA, which will positively impact maternal and child health outcomes. To promote the consumption of diverse diets multifaceted public health interventions should be implemented, including nutrition education, women empowerment, increase in decision making power of women and agricultural interventions that enhance the production and availability of nutrient-rich diverse crops. There is also a need for behaviour change communication to ensure that locally and seasonally available diverse food item is utilized to improve the diet quality of women of reproductive age.

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Public Health Imperatives For Addressing The Hidden Dangers Of Online Gaming In Children & Families

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Introduction:

Online gaming has rapidly ascended in popularity globally, particularly among children and adolescents. Platforms like Roblox and PUBG, alongside multiplayer ecosystems featuring microtransactions, loot box mechanics, and "gacha" or randomized reward systems, have become deeply embedded in daily routines. While the benefits of gaming, such as social connection, creativity, and problem-solving, are often highlighted, a growing body of evidence points to significant risks for mental health, sleep, financial well-being, and family stability. These dangers are no longer niche concerns but represent an emerging public health challenge, necessitating not only clinical recognition but also regulatory oversight and community-level preventive policies. Parenting practices and daily engagement in children's activities are powerful protective factors. Encouraging children to participate in reading, writing, singing, dancing, gardening, letter writing, and household chores without gender discrimination provides natural opportunities for learning, bonding, and self-reliance. These activities not only reduce excessive dependence on screens but also foster balanced social and emotional growth, serving as simple yet effective preventive measures against behavioral disturbances linked to online gaming.

Understanding Gaming Disorder and Behavioral Health Implications:

The World Health Organization (WHO) has defined Gaming Disorder in ICD-11 as a pattern of persistent or recurrent gaming behavior characterized by:

(1) impaired control over gaming;

(2) increasing priority given to gaming over other life activities and daily functioning; and

(3) continuation or escalation of gaming despite the occurrence of negative consequences, leading to significant impairment in personal, family, social, educational, or occupational functioning, typically over at least a 12-month period.[1]

This classification marks a significant shift, aligning problematic gaming with other behavioral addictions and establishing a standard diagnostic category for clinical and research use.

Research in recent years has underscored the seriousness of this condition. A comprehensive review highlighted how the public health perspective has evolved following the WHO's recognition of Gaming Disorder, emphasizing clinical diagnosis, prevention strategies, and integration into health systems.[2] Empirical studies demonstrate that game design features, particularly those incorporating gambling-like elements such as loot boxes, contribute to the severity of Gaming Disorder symptoms and co-occurring conditions like anxiety, depression, stress, and impulsivity. A systematic review found a consistent association between loot box spending and problem gambling, suggesting that monetization features can exacerbate mental health harms.[3] A more recent study further corroborated that loot box purchases are directly linked to depression, anxiety, and stress, with impulsivity and anxiety mediating these relationships.[4]

Beyond individual symptoms, clinical case reports and cohort studies have documented the far-reaching effects on families. Parents report children neglecting academic responsibilities, withdrawing from social interactions, becoming irritable when gaming is restricted, and engaging in escalating conflicts around screen use. In severe cases, outright refusal to attend school and complete withdrawal from family routines have been observed, placing immense stress

on parents and leading to marital discord over management strategies.

Impact on Sleep, Cognition, and Attention:

A critical health aspect is the impact of gaming on sleep patterns. While longitudinal studies are still emerging, evidence already indicates that late-night gaming significantly reduces sleep duration and delays sleep onset. The WHO's recognition of Gaming Disorder highlights sleep disruption as one pathway through which the condition interferes with daily functioning.[1] Research on screen use corroborates that exposure to blue light suppresses melatonin production, while the intense mental stimulation during gaming prevents children from falling asleep at expected times.[5]

Children who play games in bed experience, on average, 45 to 60 minutes less sleep per night, take over 30 minutes longer to fall asleep, and report poorer overall sleep quality.[5] Sleep deprivation contributes to daytime fatigue, irritability, and impaired attention at school, negatively impacting academic performance. Reviews examining nighttime gaming also point to systematic delays in circadian rhythms, often termed "social jetlag," which further exacerbate these issues.[6] Educators increasingly report difficulties with homework completion, reduced comprehension, and poor classroom focus, while parents contend with morning irritability and heightened household tension.

Cognitive impacts are also significant. The highly stimulating loops prevalent in many gaming environments can recalibrate the brain's reward pathways, promoting instant gratification and diminishing attention spans. Recent studies on the "flow profiles" of gamers have linked symptoms of Gaming Disorder to altered cognitive processing, including deficits in delayed gratification.[7] While preliminary, these findings suggest that excessive and maladaptively managed gaming may contribute to long-term difficulties in sustaining focus on less stimulating tasks, such as academic studies.

Excessive screen exposure often distracts children and lowers their ability to concentrate on meaningful tasks. Parents report that children quickly become restless or bored when not engaged with devices, leading to irritability and reduced creativity. Involving children in real-life activities and hobbies can restore balance, strengthen attention spans, and encourage healthy habits. This highlights the critical role of constructive alternatives in counteracting the cognitive and behavioral harms of prolonged gaming and screen use.

Financial Risks, Loot Boxes, and Gambling-Like Mechanics:

Perhaps one of the most controversial areas in online gaming research is monetization strategies. Loot boxes, which often require payment for a chance at receiving virtual items, have been linked to harmful outcomes in both adolescents and adults. A systematic review and meta-synthesis concluded that loot box usage is robustly associated with problem gambling and problematic video gaming behaviors.[3] Clinical data reinforces these findings, indicating that adolescents who purchase loot boxes exhibit more severe symptoms of gambling and gaming disorders. [8]

A study published in 2025 further corroborated that loot box purchases are not only linked to problem gambling but also to poorer mental health outcomes, including increased depression, anxiety, and stress.[4] These findings align with public health concerns raised by numerous mental health charities, who argue that the psychological design of loot boxes mimics slot machine mechanics and exploits children's sensitivity to variable reinforcement.[8]

Interventions, Shortcomings, and the Public Health Imperative:

Intervention research is expanding, but it remains nascent relative to the problem's scale. Cognitive Behavioral Therapy (CBT), mindfulness techniques, and family therapy have shown promise in treating Gaming Disorder, according to a review of evidence-based interventions.[5] These approaches aim to reduce problematic gaming behaviors, improve coping mechanisms, and restore functioning in affected individuals. Alongside clinical interventions, family-based strategies rooted in life skills education are equally important.

Parents should avoid discouraging or negative language and instead reinforce positive habits, motivating children to take responsibility for small daily tasks. Active

parental involvement in routine activities—such as helping with household chores, self-care, or creative hobbies—can promote resilience, problem-solving skills, and adaptability. These everyday measures offer practical, low-cost ways to mitigate risks associated with problematic gaming and strengthen family relationships.

However, shortcomings are evident. Long-term evidence for interventions remaining effective beyond a few months is limited. Randomized controlled trials (RCTs) of preventive programs are still rare, and their cost-effectiveness is largely unexplored. Furthermore, culturally adapted interventions for low- and middle-income countries, where gaming prevalence is rapidly increasing, are lacking.

A Public Health Imperative for Action:

The harms of online gaming span multiple public health domains: mental health, sleep and circadian health, financial well-being, child development, and family relationships. A public health response must proceed along three parallel tracks.

First, epidemiological research is needed to determine the prevalence, incidence, and long-term consequences of gaming disorder and related harms across diverse populations. Second, intervention research must test which family-based, school-based, and digital interventions effectively mitigate harms. Third, policy and regulation are essential to address the structural features of gaming that contribute to risks.

Research Priorities for Public Health:

Future research should include large-scale longitudinal cohort studies that follow children for many years to identify predictors of gaming behavior in relation to education, mental health, and social relationships.[2] RCTs are needed to test preventive strategies, including parent training, school-based digital literacy, and in-built platform tools like time limits and spending alerts. Measurement harmonization is also crucial, as differing definitions of Gaming Disorder impede cross-study comparability.[6] Cross-cultural research should assess how socioeconomic context and regulatory regimes influence risks and resilience. Policy evaluation research is particularly urgent, as governments that ban loot boxes or implement time limits provide natural experiments to study their effects.

Policy Implications & Regulatory Frameworks:

Several jurisdictions offer early lessons. Belgium and the Netherlands have already classified loot boxes as gambling and banned them.[3] The United Kingdom has issued parliamentary reviews documenting widespread non-compliance with voluntary industry codes, raising concerns about the ineffectiveness of self-regulation.[3] In Australia and Japan, consumer protection approaches include spending caps and disclosure rules, though enforcement remains inconsistent.

Schools and community health programs should incorporate structured life-skills training and parental guidance workshops as preventive strategies. Teaching parents the value of constructive engagement, positive communication, and consistent parenting can help reduce overreliance on screens and nurture healthier coping mechanisms among children. Integrating such approaches into educational and public health frameworks will support broader resilience against the hidden dangers of online gaming. Transparency and corporate accountability are vital. Regulators should mandate disclosure of game algorithms, require publication of safety reports, and hold companies accountable for repeated failures. Access to anonymized platform data should be granted to independent researchers to support surveillance and evaluation. Integrating Gaming Disorder screening into routine pediatric and adolescent care is essential for a public health framework. Health ministries should allocate resources for prevention and treatment, and train clinicians to recognize early warning signs. Schools should incorporate digital literacy curricula that explain deceptive game design, microtransactions, and peer pressure dynamics. Public awareness campaigns can empower parents to set effective limits and seek support when needed.

Government Intervention - A Necessary Regulatory Framework:

The full burden of managing harms systematically embedded in game design should not fall on families. Government intervention is imperative. Regulatory frameworks should mandate robust age

verification with tiered content access, complemented by regular independent audits of filtering effectiveness. Restrictions on monetization should include outright bans on loot boxes and gambling-like mechanics, mandatory spending caps for minors, transparent disclosure of odds, and cooling-off periods for significant purchases. Time management regulations should impose automated play-time limits for minors, require mandatory breaks, and restrict nighttime access. Transparency mandates should compel companies to publish regular safety reports, disclose algorithms influencing child engagement, and grant independent researchers access to platform data. Legal accountability measures should include substantial fines for safety failures, executive liability for repeated violations, and avenues for civil recourse for affected families. Governments should adopt a public health approach, formally recognizing Gaming Disorder, funding prevention and treatment programs, and integrating these concerns into national mental health policies. Finally, education and awareness campaigns can equip schools, parents, and the general public with knowledge about safe gaming practices. Without intervention, profit-driven design will continue to prioritize engagement over child well-being. Policymakers must act as guardians of children's mental health, financial security, cognitive development, and family relationships.

Conclusion:

Online gaming is now deeply woven into youth culture, offering avenues for creativity, collaboration, and entertainment. However, the documented risks are substantial. Evidence indicates that 3-12% of adolescents meet criteria for Gaming Disorder, sleep disruption is widespread, risks of inappropriate content and grooming are serious, cyberbullying affects 10-40%, violent content exposure is linked to aggression, loot boxes and gambling-like mechanics pose clear financial and psychological dangers, and pervasive family conflict is common.

The public health response must involve rigorous research, effective interventions, and decisive policy action. While parental roles are crucial, governments bear the ultimate responsibility for establishing protective regulations. The choice before society is clear: proactive regulation to safeguard children now, or acceptance of the long-term consequences for an entire generation. Coordinated action among families, educators, policymakers, industry leaders, and health professionals can forge a balanced path, preserve the positive aspects of digital innovation while protecting the children.

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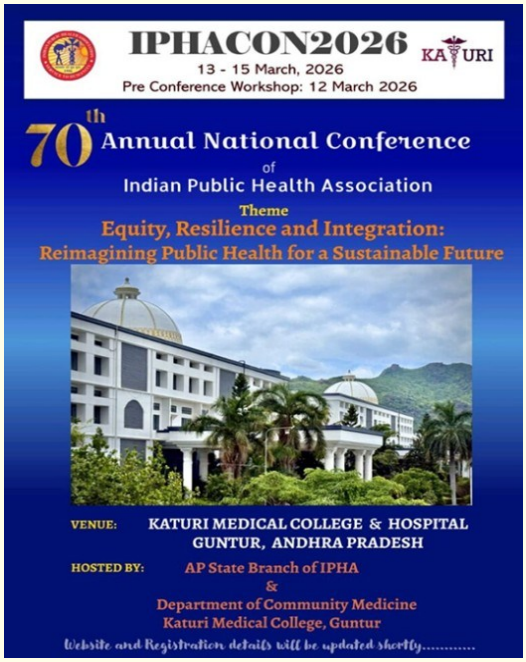

(..... Continued from Page 24 – Film Review)

This tension, portrayed with restraint and realism, reflects the lived experiences of frontline health workers across the country. Importantly, Asha highlights that ASHA workers are not merely health messengers but agents of social change. Through counselling young mothers, negotiating with families for institutional deliveries, and addressing sensitive issues such as contraception or adolescent health, the film shows how ASHAs slowly influence attitudes and behaviours.

Change, the film reminds us, does not happen overnight—it is built through trust, repeated conversations, and sustained presence within the community. From a public health perspective, the significance of Asha cannot be overstated.

The ASHA programme, launched under the National Rural Health Mission, has been instrumental in improving key health indicators in India, including maternal mortality, infant mortality, and immunization coverage. Yet, the contribution of ASHA workers often remains invisible, reduced to data points in reports and surveys. Asha bridges this gap by humanizing statistics and reminding viewers that behind every improved indicator is a woman walking long distances, balancing registers and responsibilities, often with minimal incentives and recognition.

Artistically, the film maintains a grounded tone. The rural landscape, natural dialogues, and understated background score support the narrative without overpowering it. Performances feel sincere, allowing viewers to connect emotionally without manipulation. The storytelling avoids overt preachiness; instead, it lets everyday situations speak for themselves. This makes the film accessible not only to health professionals but also to the general public.

For healthcare educators, public health students, and policymakers, Asha offers an invaluable learning opportunity. It can spark discussions on community participation, health communication, gender and health, and the challenges of implementing national health programs at the grassroots. For the general audience, it fosters empathy and awareness, encouraging respect for the ASHA worker they may encounter in their own village or neighborhood.

In conclusion, Asha is more than a film—it is a social document that captures the spirit of community healthcare in India. By placing the ASHA worker at the centre of the narrative, it reminds us that strong health systems are built not only on hospitals and doctors but on trust, compassion, and community engagement. Asha deserves to be watched, discussed, and remembered as a sincere homage to the silent workforce that continues to strengthen India's primary healthcare system, one household at a time.

A Cinematic Tribute to the Backbone of India's Primary Healthcare

Dr. Harshal Pandve
Professor & Head, Community Medicine, PCMC's PGI & YCM H, Pimpri, Pune

Film: ASHA (2025)
Film Language: Marathi (with English subtitles)
Cast: Rinku Rajguru, Sainkeet Kamat, Usha Naik, Suhas Shirsat
Director: Deepak Patil
Running time: 2 Hrs. 8 Minutes

Film Review

The Marathi film Asha (2025), directed by Dipak Patil, is a sensitive, powerful, and socially relevant portrayal of one of the most under-recognized yet indispensable pillars of India's public health system—the ASHA (Accredited Social Health Activist) worker. At a time when discussions around healthcare often revolve around infrastructure, technology, and tertiary care, Asha gently but firmly redirects our attention to the grassroots, where health truly begins.

The film follows the everyday life of an ASHA worker in a rural setting, capturing not just her duties but the emotional, social, and moral challenges that accompany her role. Far removed from glamour or dramatization, Asha presents a realistic narrative that resonates deeply with anyone familiar with community health work. The protagonist becomes a symbol of thousands of ASHA workers across India who walk door to door, often unnoticed, carrying health messages, hope, and responsibility on their shoulders.

One of the film's greatest strengths lies in its authentic depiction of the multifaceted role of ASHA workers. The audience witnesses her involvement in maternal and child health, antenatal care registration, institutional deliveries, immunization follow-ups, nutrition counselling, family planning motivation, tuberculosis and non-communicable disease screening, and health education. These activities, which often appear as bullet points in program guidelines, come alive on screen through human interactions, resistance from the community, moments of doubt, and small but meaningful victories.

The film also does not shy away from showing the social barriers ASHA workers face. Patriarchal attitudes, deep-rooted myths, superstition, mistrust towards the health system, and occasional hostility from community members are portrayed with honesty. The ASHA worker is often caught between community expectations and administrative targets, personal responsibilities and professional commitment. *(..... Continued on Page 23)*

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