



# SCALING WOMEN'S CANCER SCREENING THROUGH A PHYGITAL APPROACH

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July 2022

# Acknowledgements

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# Glossary

<b>ABDM</b>	: Ayushman Bharat Digital Mission
<b>ASHA</b>	: Accredited Social Health Activist
<b>AI</b>	: Artificial Intelligence
<b>AHP</b>	: Allied Health Professional
<b>ANM</b>	: Auxiliary Nurse Midwife
<b>CHC</b>	: Community Health Centre
<b>CHW</b>	: Community Health Worker
<b>CPHC</b>	: Comprehensive Primary Healthcare
<b>CRISPR</b>	: Clustered Regularly Interspaced Short Palindromic Repeats
<b>CSR</b>	: Corporate Social Responsibility
<b>CSO</b>	: Civil Society Organization
<b>DCCP</b>	: District Cancer Control Programme
<b>DHS</b>	: District Health Society
<b>FLW</b>	: Front Line Worker
<b>FPMNCH</b>	: Family Planning, Maternal, Newborn and Child Health
<b>FP</b>	: Family Planning
<b>HPV</b>	: Human Papillomavirus
<b>HWC</b>	: Health & Wellness Centres
<b>ICT</b>	: Information and Communications Technology
<b>MoHFW</b>	: Ministry of Health and Family Welfare
<b>MoWCD</b>	: Ministry of Women & Child Development
<b>ML</b>	: Machine Learning
<b>NCG</b>	: National Cancer Grid
<b>NCCP</b>	: National Cancer Control Programme
<b>NPCDCS</b>	: The National Programme for Prevention and Control of Cancers, Diabetes, Cardiovascular Diseases and Stroke
<b>OOPE</b>	: Out-Of-Pocket Expenditures
<b>PHC</b>	: Primary Health Centre
<b>PMJAY</b>	: Pradhan Mantri Jan Arogya Yojana
<b>PRI</b>	: Panchayati Raj Institutions
<b>RCC</b>	: Regional Cancer Centres
<b>RMNCHA+</b>	: Reproductive, Maternal, Newborn, Child and Adolescent Health
<b>SBE</b>	: Self-Breast Examination
<b>SHS</b>	: State Health Society
<b>SHG</b>	: Self-Help Group
<b>VHNSCs</b>	: Village Health Nutrition and Sanitation Committee
<b>WHO</b>	: World Health Organization

## Executive Summary

Cancer is one of the leading causes of premature deaths worldwide, as reported by 134 out of 183 countries. Among the various types of cancers, breast and cervical cancer are the highest contributors. This trend can also be observed in India where 1.39 million new cancer cases were reported in 2020 and are estimated to reach 1.57 million by 2025. Breast and cervical cancer made up 39.4% of the total cancer burden in 2020, meaning that a considerable number of women are at risk. The challenge of cancer prevalence is further exacerbated by the delay in detection in most cases, leading to an increased cost of treatment and lower survival rates for patients.

According to the World Health Organization (WHO), 30-50% of cancers can be prevented by timely screening and early diagnosis. The Central and state governments have been strengthening systemic levers to address the growing burden of non-communicable diseases, including cancer. However, lack of awareness regarding risk factors and symptoms, social stigma, and fear of exclusion, along with systemic challenges such as low screening coverage, lack of trained personnel, and weak screening infrastructure pose challenges to the reduction of the cancer burden.

Digital solutions such as point-of-care devices, predictive analytics, Artificial Intelligence (AI) and Machine Learning (ML) among others, hold great potential in scaling up cancer awareness and screening care, especially for women, as most of these solutions can be employed in the comfort of their homes and communities. However, socioeconomic inequities compounded by the digital divide, reduce the effectiveness of digital solutions for women seeking information and care through digital channels.

A *phygital* (physical + digital) approach has the potential to address individual bottlenecks of both physical and digital interventions. Collaborative, patient-centric phygital interventions can be implemented to strengthen women's agency to seek care, improve the effectiveness of the interventions and lead to positive cancer care outcomes. Collective action through the involvement of the government, philanthropy and nonprofits is needed to enable this change.

At the individual level, interventions could create safe spaces for women in the community where they could access and share information, acquaint themselves with the use of smart devices and digital channels, monitor feminine health parameters and consult specialists.

Existing community structures and local influencers can be leveraged to reduce stigma, drive awareness and encourage health-seeking behaviour. These channels can further be strengthened with digital interventions such as information and screening kiosks and e-sample collection touch points.

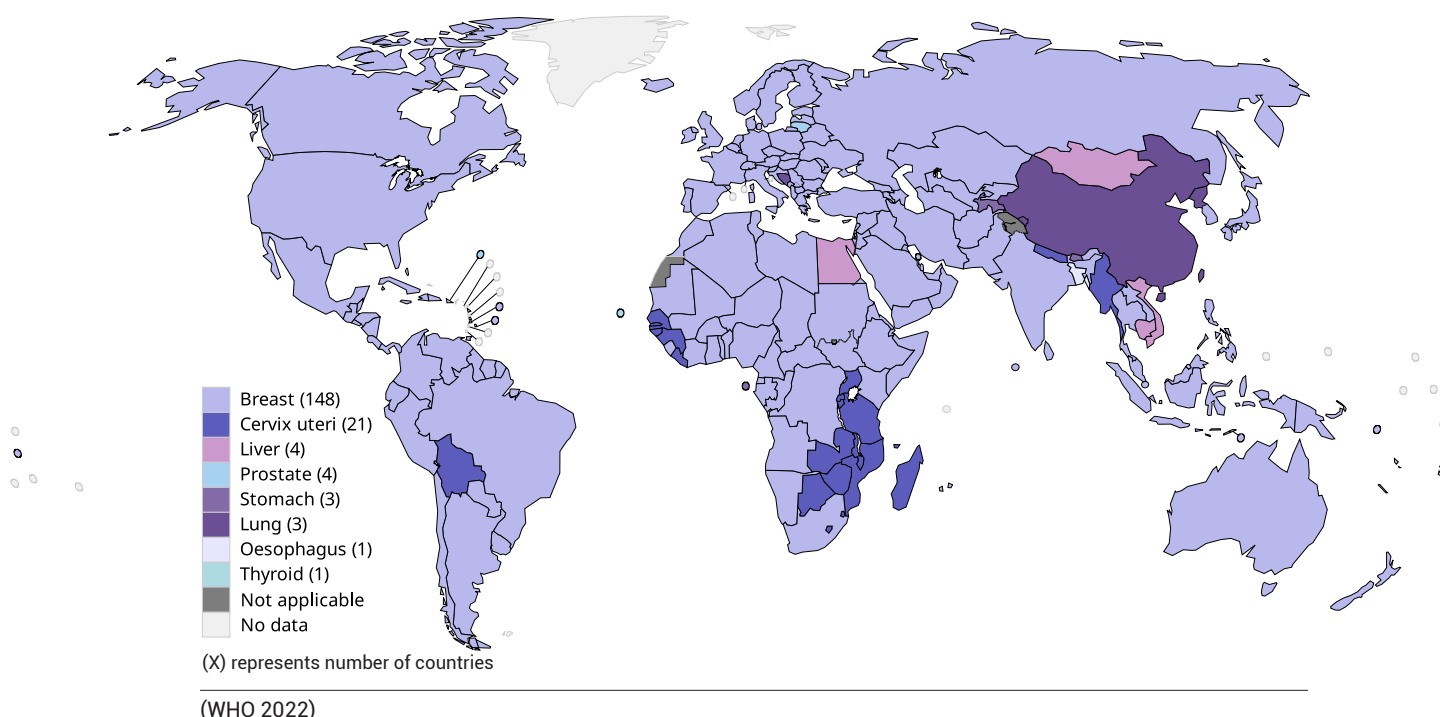
Strengthening existing healthcare delivery touch points can ensure on-time detection and diagnosis. While the updating of cancer prevention guidelines and upskilling of existing health cadres is essential, integration of these channels with digital health solutions such as point-of-care screening devices, telemedicine and clinical decision support system software can enable task shifting, empower health workers and scale up screening to cover a larger portion of the population.

## Current Breast and Cervical Cancer Burden

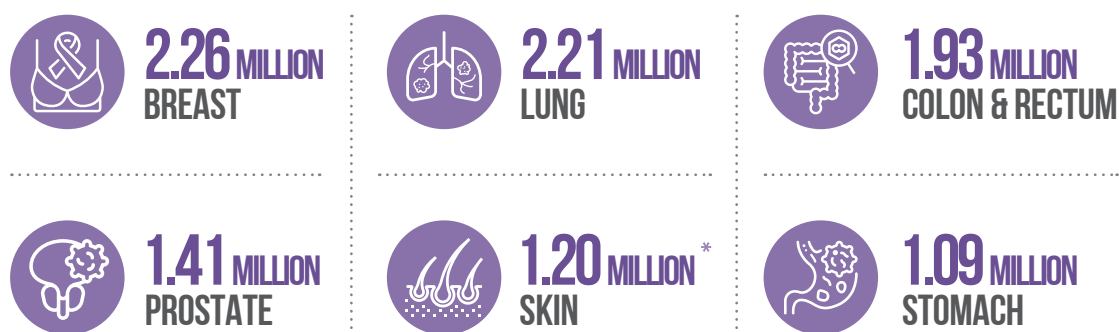
**Cancer is the leading cause of premature death, with breast and cervical cancers being the leading contributors.**

The global burden of cancer has grown dramatically in the past two decades. It is the leading cause of premature death in 134 out of 183 countries (Globocan 2020). Of the total premature deaths due to non-communicable diseases (NCDs) in 2016, cancer caused over 29% or 4.5 million deaths (Takhellambam, M, 2022). Breast cancer was reported as the top contributor to the cancer burden in 148 countries, followed by cervical cancer, reported in 21 countries (International Agency for Research on Cancer [IARC] 2020).

**Figure 1: Top cancer variant in terms of the estimated number of new cases for ages 20-64**



**Figure 2: The most common cancer sites, in new cases of cancer globally, in 2020**



(Globocan 2020)

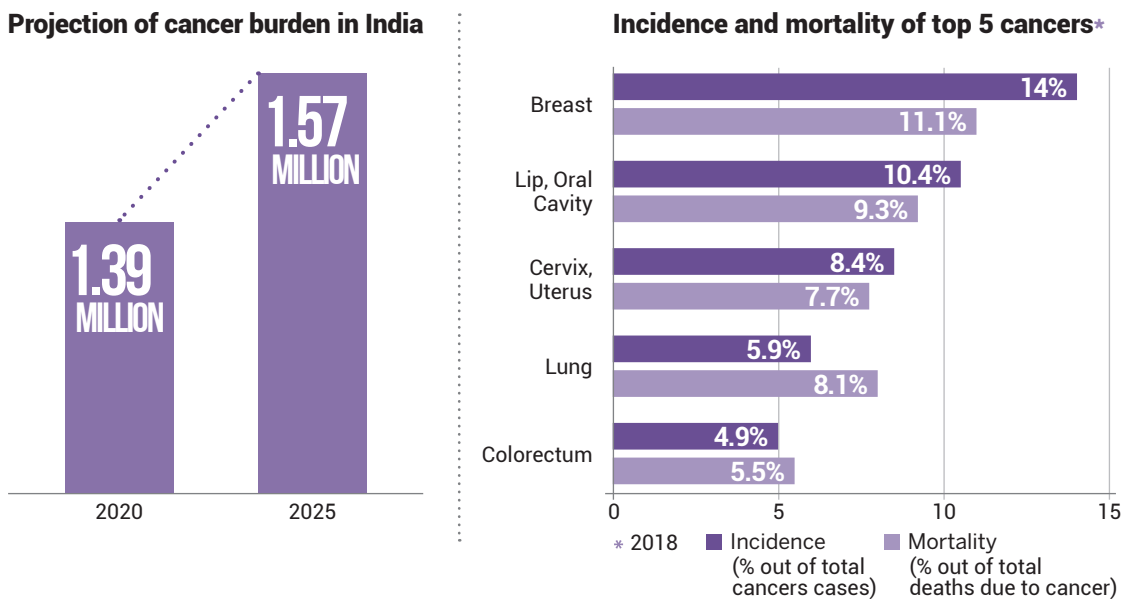
\* nonmelanoma skin cancer

Recognising the increasing burden, WHO has identified six priority areas to guide policymaking for cancer prevention and alleviation. With a greater focus on prevention, early detection and diagnosis, it is expected that targeted investment in cancer control could save 7 million lives globally by 2030 (WHO 2020).

**The disease burden and mortality due to the various forms of cancer are also on the rise in India.**

Cancer claimed over 0.8 million lives in 2020, with a nearly equal number of men and women among the casualties (IARC 2020). The mortality rate is especially high for breast cancer and cervical cancer, which together accounted for nearly 40% of the total cancer burden in 2020 (Sathishkumar, K et al. 2021). According to the National Institute of Cancer Prevention and Research (NICPR), as of 2022, 1 in 23 Indian women are at risk of dying from cancer before the age of 75 years among Indians.

**Figure 3: The growing cancer burden in India**



(ICMR NICPR 2020; WHO 2020)

**Cancer patients as well as their households have to contend not only with the debilitating disease, but also with the economic burden it imposes.** The ailment commands one of the highest out-of-pocket expenditures (OOPE). The treatment cost ranges from \$3,000 to \$6,500, a prohibitive sum for most Indian households, especially so for the low-income quartile. The situation is exacerbated by insufficient insurance coverage among the poorest families.

**In recent years, the central and state governments have been strengthening systemic levers to address all NCDs, including cancer.** The National Programme for Prevention and Control of Cancers, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) has been implemented in all states and union territories. The National Cancer Grid (NCG) has developed uniform

## A PHYGITAL APPROACH TO WOMEN'S CANCER SCREENING

standards for cancer care. NPCDCS is strengthening service delivery touch points in the form of 665 District NCD Cells, 637 District NCD Clinics, and 4,472 Community Health Centers (CHC) dedicated to NCD treatment (Ministry of Health & Family Welfare Government of India Directorate General of Health Services 2020). NPCDCS also directs the training of community health workers for population-based screening. Other initiatives include the incorporation of technology for screening, surveillance, data management, and financial assistance to patients through schemes such as the central Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (PM-JAY). This aims to provide cashless access to health care at the point of need through an annual health cover of US \$6,274.86 per family, for secondary, tertiary care and day care procedures (National Health Authority n.d). Also the Health Minister's Cancer Patient Fund, provides financial assistance towards treatment for cancer ailments in 27 regional cancer centres (NICPR 2022).

CSR spending on cancer has also grown in the last seven years (2014-21). Around \$295 million has been spent on cancer projects across the country with projects spanning awareness, screening and diagnosis, providing financial assistance for treatment, infrastructure augmentation and rehabilitation support for cancer patients.

## Challenges in Accessing Cancer Care

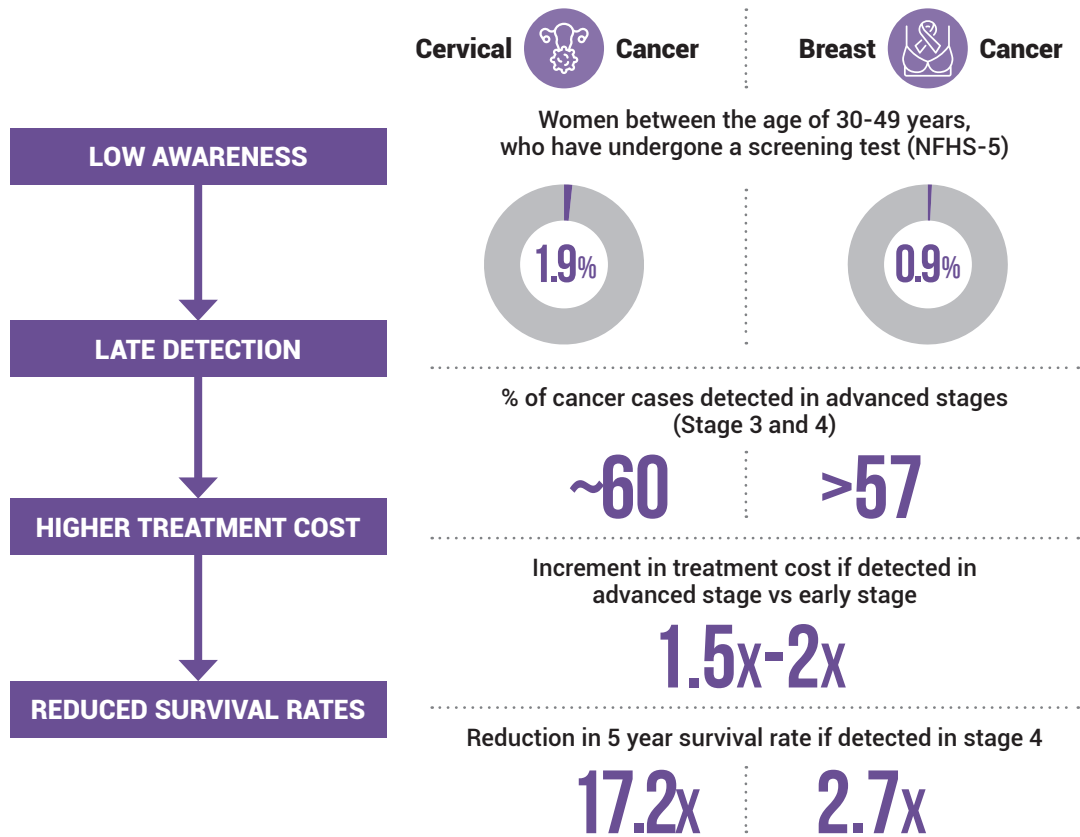
**There are, however, glaring gaps across the continuum of care.** Awareness of the ailment is alarmingly low among the population. India stood 13<sup>th</sup> in awareness levels for cervical cancer, in a survey conducted among 14 countries (FICCI FLO & EY 2017). Cultural taboos around gynaecological issues, coupled with generally low health-seeking behaviour among Indian women could contribute to low awareness levels. Embarrassment, misinformation about the disease, low proficiency among female healthcare professionals for conducting screening services, and loss of daily wage inhibit women from getting screened (FICCI FLO & EY 2017). Nearly 75% of women do not get screened due to ignorance, or low-risk perception (Future Generali Life Insurance Company Pvt. Ltd. & Momspresso's Breast Cancer Survey 2018). This is worsened by the digital divide, which places women, especially rural women, at a disadvantage and hinders easy access to information. Women Health Workers themselves fare no better, with less than a fourth of community health workers ever having conducted a self-breast examination (SBE) (FICCI FLO & EY 2017).

**Low awareness leads to significant delays in diagnosis and treatment.** An average four-month delay in treatment is seen among patients with breast and cervical cancers, which puts them at greater risk, compels higher OoPE and reduces chances of survival (Kumar, A et al. 2019; Deshmukh, V et al. 2017).

**The situation is further complicated by an already low screening and diagnostic coverage.** Less than 15% of the urban and 1% of the rural population are currently covered by population-



Figure 4: The cost of delayed detection



(NFHS-5; Mathur, P et al. 2020; Medanta 2018; FICCI FLO & EY 2017)

based cancer registries (Bhatia, A et al. 2020). The scarcity of local diagnostic facilities and poor referral pathways from primary to tertiary care, further impede timely and quality management. Only 15-20% of Indians have access to radiotherapy (FICCI FLO & EY 2017). Combined with a shortage of oncologists, 1:2000 (oncologists per cancer patient) in India as compared to 1:100 in the US, and prohibitive treatment costs, quality cancer treatment remains inaccessible for more than half of the Indian population (Gulia, S et al. 2016).

**Digital health can bridge the cancer care gaps to a certain extent.**

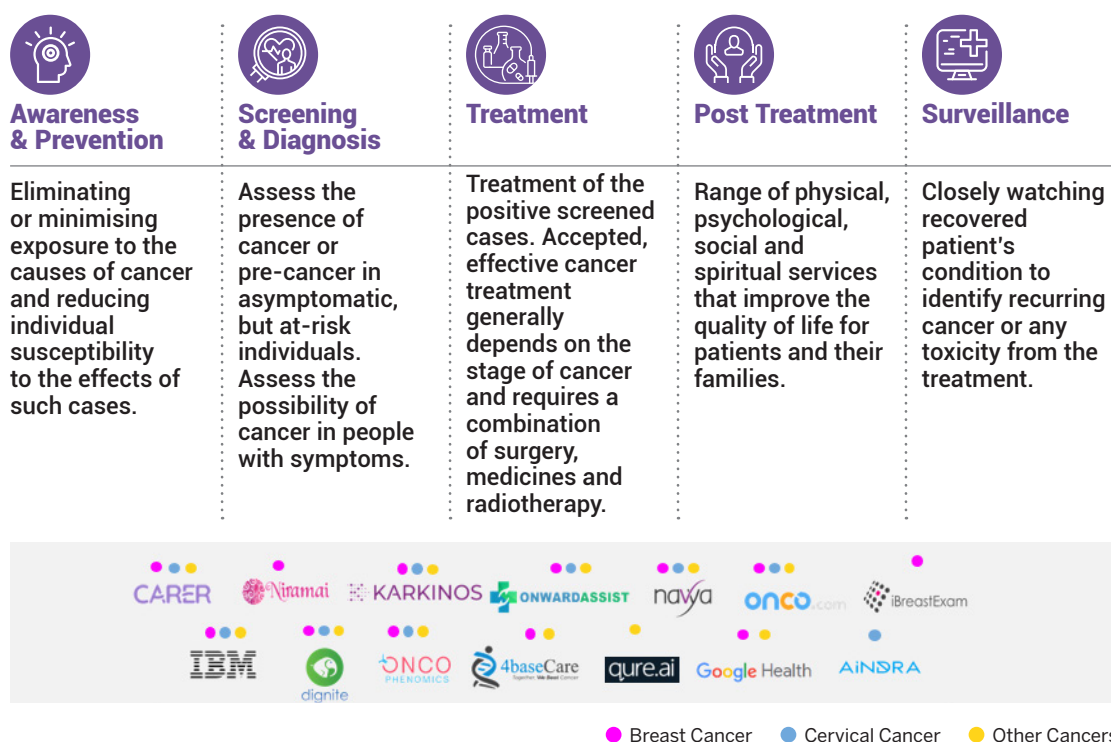
India is approaching a digital health revolution, enabled by increasing smartphone usage and internet penetration in the country, with an estimated 900 million active internet users by 2025 and government initiatives like the Ayushman Bharat Digital Mission (ABDM) that aims to develop the backbone necessary to support the integrated digital health infrastructure of the country (Kantar 2020). India is also witnessing burgeoning private sector investment with an investment of nearly US \$1,740 million and has over 7,598 health tech startups as of 2022 (Tracxn 2022).

Several digital health solutions have emerged across the care continuum. Particularly in cancer, digital interventions, such as AI and ML-assisted predictive diagnostics, can conduct risk

## A PHYGITAL APPROACH TO WOMEN'S CANCER SCREENING

profiling, opportunistic screening, and computer simulations to predict outcomes and create personalised treatment options. Predictive analytics can be leveraged to identify at-risk patients with higher chances of readmission, predict therapeutic responses, and support differential diagnosis to minimise treatment side effects. Digital tools such as wearables, self-monitoring and remote screening tools, can make cancer care more patient-centric and increase the monitoring of symptoms. Technologies such as CRISPR-Cas 9 technique, Infinium Assay, and Cryo-Electron microscopy, hold the promise of early diagnosis and thus, prevention of cancer.

Figure 5: Cancer focused digital solutions (data as viewed on July 2022)



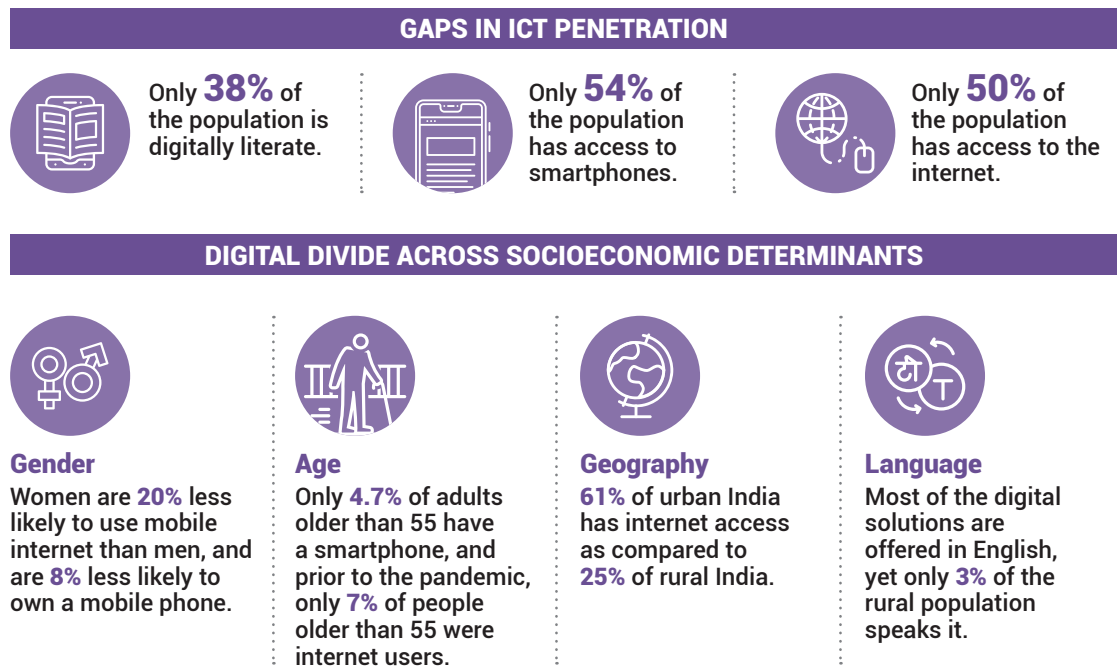
(Sattva 2022)

### Despite the presence of these interventions, equitable, timely and affordable access to care remains elusive.

Digital solutions rely heavily on the users' digital literacy, access to the internet and familiarity with smartphones. Solutions that are offered in few languages are inaccessible to a significant proportion of the population. Gender too, plays a major role in the accessibility of digital health solutions, as females are far less likely to use mobile phones than their male counterparts. This directly puts the most vulnerable group for breast and cervical cancer, that is, women across geographies, at a serious disadvantage. Socioeconomic inequities compounded by the digital divide, pose hurdles to women seeking information and care for these ailments.

It is clear, therefore, that effective cancer control would have to account for psychosocial, economic, as well as infrastructural hindrances.

Figure 6: Disparities in access to information



(Mothkooor,V, et al. 2021; Sun,S 2022 ; Keelery, S 2021; GSMA 2020; Basuroy, T 2022, Statista; Joshi S, et al.; CMIE; Oxford University Press; Website (Lok Foundation), Livemint 2019)

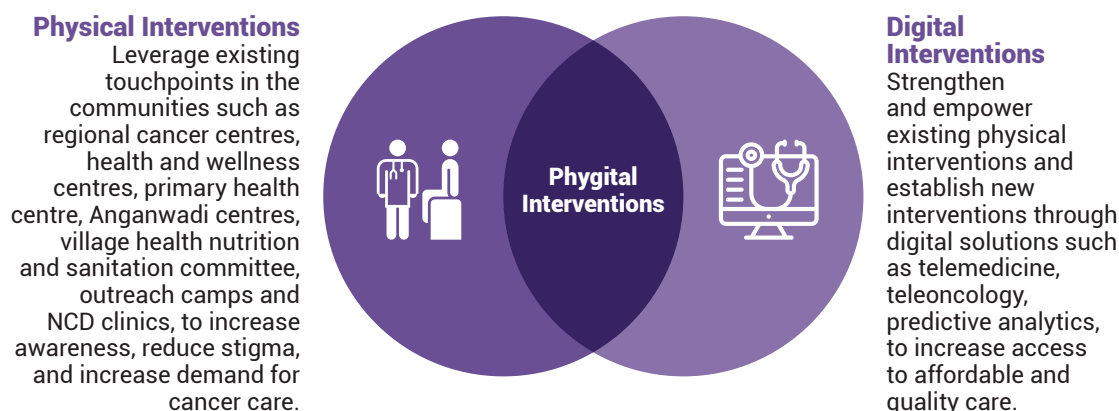
## Phygital Approach to Address Cancer Care Challenges

This synergistic combination resolves major bottlenecks in cancer control. On one hand, it is important to increase access to quality cancer care in the community, especially in the underserved and rural sectors, which can be enabled and strengthened by digital interventions. Solutions like AI or ML-enabled thermal screening devices can screen a large population, while solutions like telemedicine can increase access to specialist consultations by oncologists and radiologists. Personalised health tracking applications can help women monitor their health and track symptoms to stay alert in case of abnormalities. On the other hand, it is critical to generate demand for such services by increasing awareness, addressing taboos and creating safe spaces for information access and sharing. Community-level physical interventions leveraging existing structures like Self-Help Groups (SHG), Arogya Samitis, and the Village Health Nutrition and Sanitation Committee (VHSNCs), can improve awareness and bring about the necessary behavioural shifts. Here women can access information, promote the importance of cancer screening, and support other women diagnosed with cancer. Primary health care delivery touchpoints such as Primary Health Centers (PHC), NCD clinics and camps organised by local CSOs, can play an important role in delivering cancer care, especially screening, diagnosis and palliative support. This will ensure that individuals can access these services from the comfort of the community. Local

## A PHYGITAL APPROACH TO WOMEN'S CANCER SCREENING

administrative groups such as Panchayati Raj Institutions (PRI) and religious groups, can also play an important role to reduce stigma and generate demand. Integration of digital interventions with existing physical structures, promotes accountability as well as ensures sustainability and replicability, by being cost-effective.

**Figure 7: Phygital model for addressing challenges in seeking cancer care**



(Sattva 2022)

### The phygital approach can be implemented at three levels to strengthen women's agency to seek cancer care.




- **Women-centric interventions** aim at increasing awareness and encouraging healthcare-seeking behaviour among women. Non-specialised health cadres, such as Accredited Social Health Activist (ASHA) workers, community health workers (CHW) and volunteers working with civil society organizations (CSO) or the District Cancer Control Programme (DCCP) nodal agencies, can be leveraged for such interventions.
- The second level comprises **support structures in the community**. This not only includes the immediate family, but also the social structures, such as panchayats, Arogya Samitis, VHNSCs and SHGs.
- **Service delivery touch points** constitute the final level, wherein primary healthcare centres, health and wellness centres, facilities implementing district-level cancer control programmes, and tertiary healthcare institutions can proactively encourage and facilitate access to timely care.

**Figure 8: Strengthening women's agency to seek cancer care**






(Sattva 2022)

Figure 9: Phygital approach enabling breast cancer care

	AWARENESS	SCREENING & DIAGNOSIS	TREATMENT	POST-CARE
 <p><b>Rakhi</b></p> <ul style="list-style-type: none"> <li>• 35-years old.</li> <li>• Genetic predisposition to breast cancer.</li> </ul>	<ul style="list-style-type: none"> <li>• Aware on family history genetic predisposition, and risk factors.</li> <li>• Performs Self Breast Examination (SBE) and notices tenderness.</li> </ul>	<ul style="list-style-type: none"> <li>• Visits PHC for a clinical breast examination.</li> <li>• Visits mammography screening camps funded by CSR.</li> <li>• Referred to a tertiary cancer care centre as mammography confirms irregular growth.</li> </ul>	<ul style="list-style-type: none"> <li>• Tests confirm abnormal growth of breast tissues.</li> <li>• Undergoes breast conserving lumpectomy, to remove the abnormal cells.</li> </ul>	<ul style="list-style-type: none"> <li>• Receives surveillance and mental well-being support from community frontline workers.</li> </ul>
 <p>Physical interventions that worked on Rakhi's agency to seek care</p>	<ul style="list-style-type: none"> <li>• Awareness activities by the local PRI.</li> <li>• Training on SBE in village SHG facilitated by a non-profit.</li> <li>• Awareness about breast cancer as a part of Family Planning, Maternal, Newborn and Child Health services through ASHA.</li> </ul>	<ul style="list-style-type: none"> <li>• Regular screening camps conducted in the village.</li> <li>• Clear referral pathways and free or subsidised transport to the tertiary care facility.</li> </ul>	<ul style="list-style-type: none"> <li>• Coverage under AB-PMJAY scheme.</li> </ul>	<ul style="list-style-type: none"> <li>• Support from district mental health programmes.</li> <li>• Informed and trained frontline workers for regular monitoring and check-ups.</li> </ul>
 <p>Digital interventions that worked on Rakhi's agency to seek care</p>	<ul style="list-style-type: none"> <li>• Prompts for regular check-ups through SMS, Whatsapp and IVRS.</li> <li>• SBE videos accessible through Information kiosks set up in PRI.</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-held screening device for PHC staff.</li> <li>• Provision of teleoncology and teleradiology services.</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Health and Family Welfare's digital platform to check available slots and schedule for operation.</li> </ul>	<ul style="list-style-type: none"> <li>• Availability of telepsychology solutions to support through the journey.</li> <li>• Apps for front line workers to advice on diet and lifestyle post surgery.</li> </ul>

(Sattva 2022)

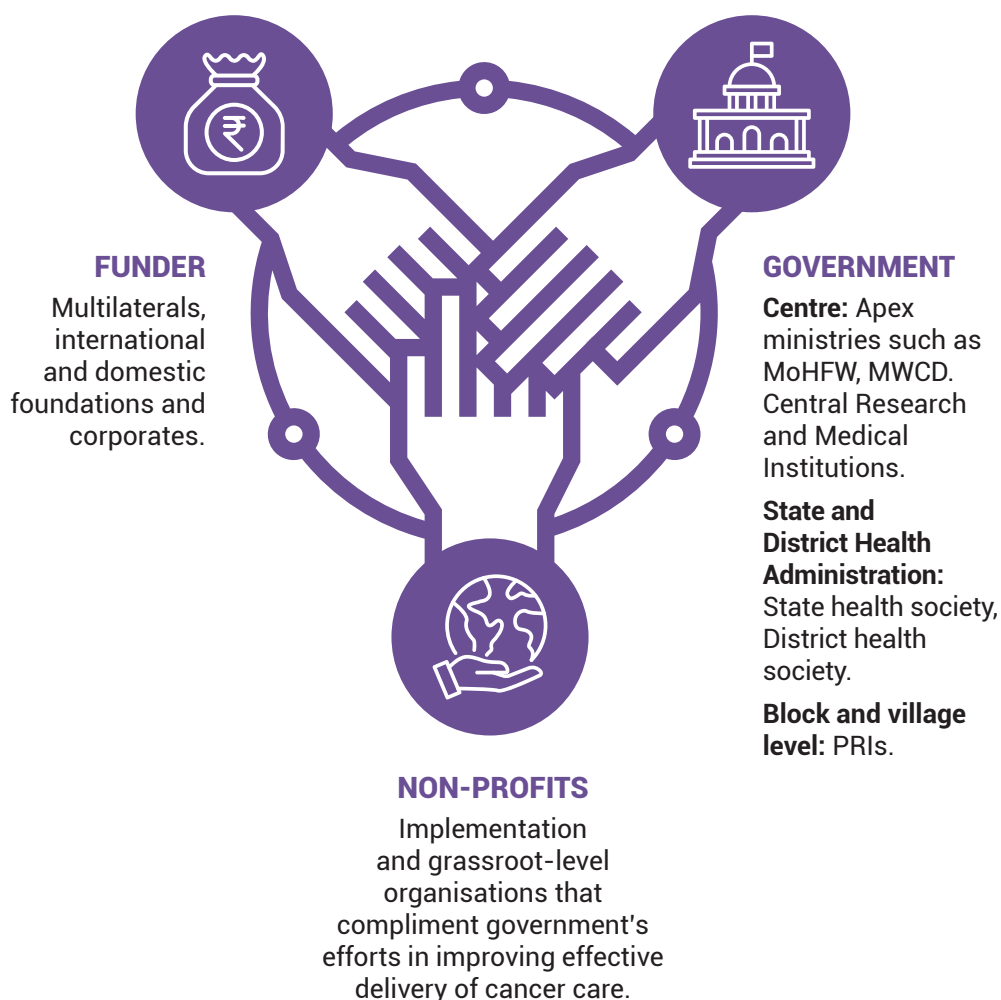
Figure 10: Phygital approach enabling cervical cancer care

	AWARENESS	SCREENING & DIAGNOSIS	TREATMENT	POST-CARE
 <p><b>Lata</b></p> <ul style="list-style-type: none"> <li>• 40-years old.</li> <li>• Genetic predisposition to cervical cancer.</li> </ul>	<ul style="list-style-type: none"> <li>• Aware of HPV infection risks family history and genetic predisposition.</li> <li>• Observes postcoital vaginal spotting, consults ASHA.</li> <li>• As a precaution, vaccinates 12 year old daughter against HPV.</li> </ul>	<ul style="list-style-type: none"> <li>• Visits HWC, undergoes pap smear and HPV tests.</li> <li>• District hospital confirms unusual cell growth and stage 2 cervical cancer.</li> <li>• Referred to tertiary cancer centre for further treatment.</li> </ul>	<ul style="list-style-type: none"> <li>• Aware about central and state financial support schemes.</li> <li>• Opts for combination of radiation therapy and chemotherapy to remove abnormal cells.</li> </ul>	<ul style="list-style-type: none"> <li>• Receives post-treatment care plan, adopts dietary and lifestyle changes.</li> <li>• Follows-up with oncologist every 5 weeks and regularly undergoes pap test.</li> <li>• Becomes a community champion.</li> </ul>
 <p>Physical interventions that worked on Malti's agency to seek care</p>	<ul style="list-style-type: none"> <li>• Regular awareness camps by PRIs and local non-profits on different types of cancer.</li> <li>• Awareness of HPV vaccination and screening facilities through ASHA's door-to-door visit.</li> </ul>	<ul style="list-style-type: none"> <li>• Provision for pap smear at HWC.</li> <li>• HPV vaccination camps at NCD clinics.</li> <li>• Clear referral pathways from the HWC to nearby tertiary cancer care facility.</li> </ul>	<ul style="list-style-type: none"> <li>• Subsidised transport facilities to tertiary care facility.</li> <li>• Coverage under Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana scheme.</li> </ul>	<ul style="list-style-type: none"> <li>• CHW provides surveillance and emotional support.</li> <li>• Participates in community-level support forums conducted in her village.</li> </ul>
 <p>Digital interventions that worked on Malti's agency to seek care</p>	<ul style="list-style-type: none"> <li>• Prompts for vaccination, regular screening through SMS, Whatsapp, IVRS.</li> <li>• Mass-media campaigns for HPV vaccination and healthy lifestyle.</li> </ul>	<ul style="list-style-type: none"> <li>• Availability of tele colonoscopy at the HWC for point-of-care diagnosis.</li> <li>• Telemedicine for connecting with oncologists from tertiary care centers.</li> </ul>	<ul style="list-style-type: none"> <li>• MoHFWs digital platform to check available slots and schedule for operation.</li> </ul>	<ul style="list-style-type: none"> <li>• Telemedicine kiosk at HWC for consultation with oncologist.</li> <li>• NCD application for auxiliary nurse midwife to track patient's progress.</li> </ul>

(Sattva 2022)

## Recommendations for Stakeholders

**Figure 11: Multistakeholder collaboration for successful demonstration of phygital interventions**



(Sattva 2022)

### **A multistakeholder approach is required to increase the effectiveness of phygital interventions and to increase the demand for cancer screening.**

The phygital approach can be adopted by these stakeholders to improve women's agency to seek care. The recommended priority areas are detailed on the next page.

**Figure 12: How stakeholders can adopt a phygital approach**

# PHYSICAL

Figure 12: How stakeholders can adopt a phygital approach



## SERVICE DELIVERY

**Stakeholders:** MoHFW, MWCD, Central and State Government, SHS, DHS, Philanthropic Funders and CSOs

- **Update cancer prevention strategies** as per the WHO's latest guidelines and operationalise cancer screening as per CPHC guidelines.
- **Create intersectoral and interministerial convergence** of women focused services to deliver cancer care:
  - Convergence with MWCD: anganwadi centres, training of teachers for increased cancer awareness.
  - Integrate breast and cervical cancer service delivery with service delivery of other national priority areas such as HIV, RMNCH+A and FP services.
- **Train AHPs and FLWs** to conduct early screening and diagnosis to **create a robust referral system** for effective triaging of high-risk cases.
- **Integrate NCCP with ABDM** to obtain real-time data, analyse trends and make data driven decisions.
- **Establish public-private partnerships** to strengthen cancer screening services at healthcare facilities:
  - Point of care testing by using hand held devices powered by AI or ML.
  - Basic ICT infrastructure and connection with tertiary facilities through telemedicine, appointment scheduling applications.
- **Task shifting and empowerment** of frontline workers through digital tools to provide information and clinical decision support softwares.



## COMMUNITY

**Stakeholders:** CSOs, DCCP implementers, DHS, PRIs, Philanthropic Funders

- **Active engagement with key opinion and religious leaders for advocacy** of cancer screening.
- Set up Arogya Samitis, Nodal SHGs, VHNSCs, Panchayat offices as **information and screening hubs**.
- **Decentralise** screening and diagnosis to increase access:
  - Create sample collection touchpoints in the community.
  - Conduct community cancer screening programmes in partnership with CSOs funded by corporates working in the geographical location and other philanthropic initiatives.
- **Conduct demographically relevant mass media campaigns**, leveraging social media to increase awareness in the community.
- **Strengthen the information hubs and cancer screening touchpoints with digital solutions:**
  - Telemedicine and digital information kiosk.
  - Low-cost, non-invasive solutions such as AI or ML enabled thermal screening tools.

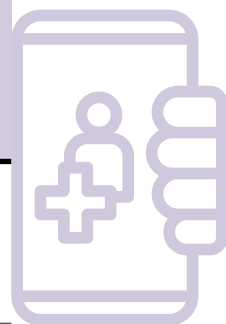


## WOMEN

**Stakeholders:** CSOs, DCCP implementers, PRIs, Philanthropic Funders

- **Create a safe space for women in the community** where women can share and access information on ailments that are otherwise considered taboo.
- **Promote healthy lifestyle** awareness on HPV vaccination, risk factors of breast, cervical cancer and training on Breast Self Exam (BSE) in VHNSCs, SHGs and school.
- **Raise one-on-one awareness** by leveraging existing women public health cadres delivering existing FPMNCH services such as ASHAs and ANMs.
- **Targeted messaging to high risk categories:**
  - Leverage social media, text messages, to increase awareness of risks, symptoms and prompting regular check-ups.
  - Outreach to women above age of 50, with family history of cancer, women with multiple full-term pregnancies and more.
- **Orient women on different mobile applications that facilitate self-care actions** to self-regulate their health needs, detect and track symptoms, and connects them to specialists from the comfort of their own home.

# DIGITAL



# Conclusion

In order to combat the growing burden of breast and cervical cancers, it is crucial to strengthen the awareness, screening and diagnostic services in both public and private sectors, and arrest the disease at an early stage to improve patients' survival rates. Digital health has an important role to play in enabling greater access to cancer care, especially for women in rural and inaccessible regions. However, the existing digital divide and sensitivity around the ailment, calls for a phygital approach.

The current scenario presents a unique opportunity for the central and state governments, philanthropy and civil society organisations to utilise their strengths and resources to bridge existing supply and demand gaps, enabling awareness and access to cancer screening and diagnostic services. The recommended strategies can be a starting point for moving the needle in a positive direction and enabling equitable, on-time access to cancer care and reducing the burden of breast and cervical cancer.



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