

# Indian Home Healthcare 2.0

## Redefining the Modern Care Continuum

March 2022



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# Executive Summary

Indian Home Healthcare has evolved and grown to a USD 5.4 Bn market today. This segment is expected to grow to a USD 19.9 Bn market by 2025. This market has the potential to grow an additional USD 5 Bn with the right impetus. With advanced digital care seamlessly integrated to provide cutting-edge care at the health seekers' fingertips, this segment holds the latent power to provide integrated, personalized care at scale to the most peripheral areas.

India has multiple home healthcare players providing healthcare across preventive, promotive, chronic, acute rehabilitative, and palliative care in the comfort of the patient's home. Traditionally, 60–80% demand for home care has been driven by senior citizens seeking supportive long-term care at home. However, the second wave of the COVID-19 pandemic in India, has highlighted Indian Home Healthcare, as a sturdy pillar of support to the Indian Healthcare continuum, by providing advanced and safe care at home.

The pandemic has introduced the possibility of new avenues of care delivery to health seekers, with advanced, specialized healthcare customized to their specific needs and available on-demand, now accessible outside institutions. The emerging health seeker segment with a higher disposable income has the proclivity to pay for care that is personalized, less disruptive to their fast-paced lifestyle as well as accessible at their fingertips.

Globally, home healthcare is preferred, encouraged, and even incentivized due to its cost effectiveness and reach. Indian home care has also matured similarly with respect to its ability to deliver digitally enabled, reliable, and advanced care at home. This industry is one of the fastest growing segments in healthcare and holds the potential to become a hyper-scaled care delivery model. This segment, strengthened by the adoption of digital and virtual care technologies, now delivers acute and critical care at home and across geographies.

The Digital, Geographic and Scope unlock of the hyper-scaled Indian Home Healthcare ecosystem, relies on the timely activation of regulatory nodes and capability building channels, with care financing innovation being a pre-requisite. A supportive foundation and focused stewardship would enhance the ability of the segment to provide sustainable, quality, patient-centric, and integrated care across the healthcare continuum.

# Home Healthcare Enabling Care Delivery Innovations Across the Globe – The Big Shift

Reliable home care is not a distant promise anymore – it has emerged as an outcome-focused, cost-effective and personalized care delivery modality that caters to all kinds of medical and non-medical needs of all age groups.

“ The global home healthcare market is estimated to grow to USD ~390 Bn by 2026

The global home healthcare market is estimated to grow to ~ USD 390 Bn by 2026 from an estimated ~ USD 275 Bn in 2020.<sup>1</sup> The accelerated growth of the segment across the developing and developed world is bolstered by strong consumer preference, adoption of virtual care, and digital tools. Reliability, accessibility, and scale readiness have recognized homecare as a mainstream care modality worldwide.

Technology-powered, integrated home care is emerging as a reliable, outcome measurable, and scale-ready

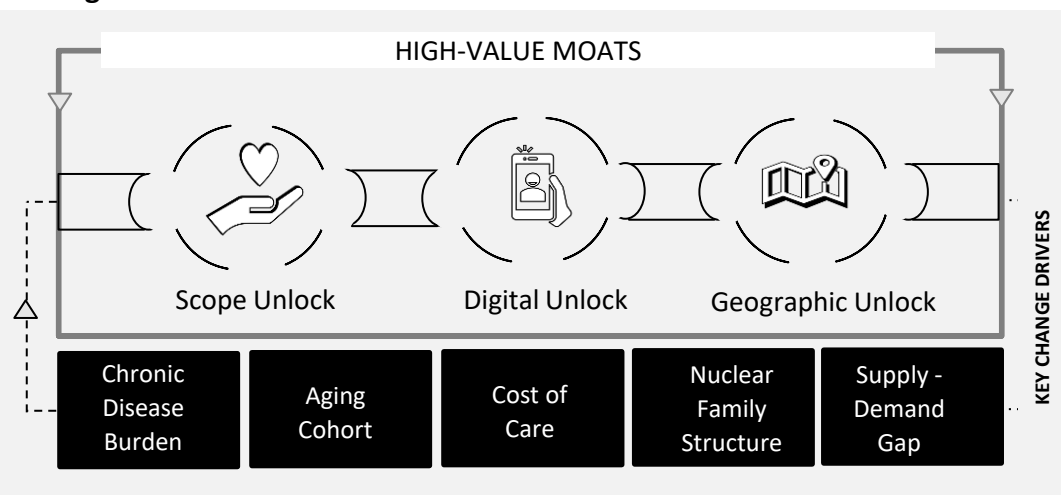
solution to bring high-quality healthcare to the patient's doorstep.

The promise of home healthcare holds the key to unlock sustainable solutions to address the long-standing global challenges of shifting disease profiles, changing population pyramid, transitioning family structures, and the skyrocketing cost of care.

India is now at a similar evolutionary tipping point. We must evaluate scalable, cost-effective, and sustainable solutions to navigate effectively through these challenges.

FIGURE 1

## Change Drivers and Value Unlock



“ Additional **USD 5 Bn** could be attributed to Indian Home Healthcare Market from the value unlock across the Scope, Digital and Geography moats in the next two to four years.

FIGURE 2

The advantage of home healthcare models is evident from the fact that countries worldwide continue to leverage it to create seamless integrated care delivery systems with the benefits of lower cost of care, higher efficiency, institutional capacity release, improved care outcomes, and resource optimization.



Value Pool	Country	Initiative	Outcomes
<div>Chronic and acute care</div> <div></div>	USA	“Triple Aim” by the Institute of Healthcare Improvement proactively optimizes health systems. 73% of people who are differently abled prefer home care and are now a part of Medicare. <sup>2</sup>	Medicare expenditures per patient was 39% lower with post-acute care at home. <sup>2</sup>
		John Hopkins’ “Hospital at Home” initiative for acute-care delivery at home. Based on identification and recommendation by physicians & the Emergency Department, patients and their homes are assessed, and a personalized care program (including treatment plan and home equipment) is designed based on need. <sup>3</sup>	32% cost reduction and 33.33% reduction in average length of stay (ALOS) realized for care at home instead of hospitalization. <sup>3</sup>
<div>Value Drivers</div> <div><div></div><div>COST   LENGTH OF STAY</div></div>		Mayo Clinic’s Advanced care at home program provides quality, tech-driven, compassionate care at home using AI-powered clinical decision support through remote monitoring. <sup>4</sup>	Real-time data collection with ambulatory care. Doctors claim faster recovery with 30% lower costs for both the hospital and the patient. <sup>4</sup>

FIGURE 2






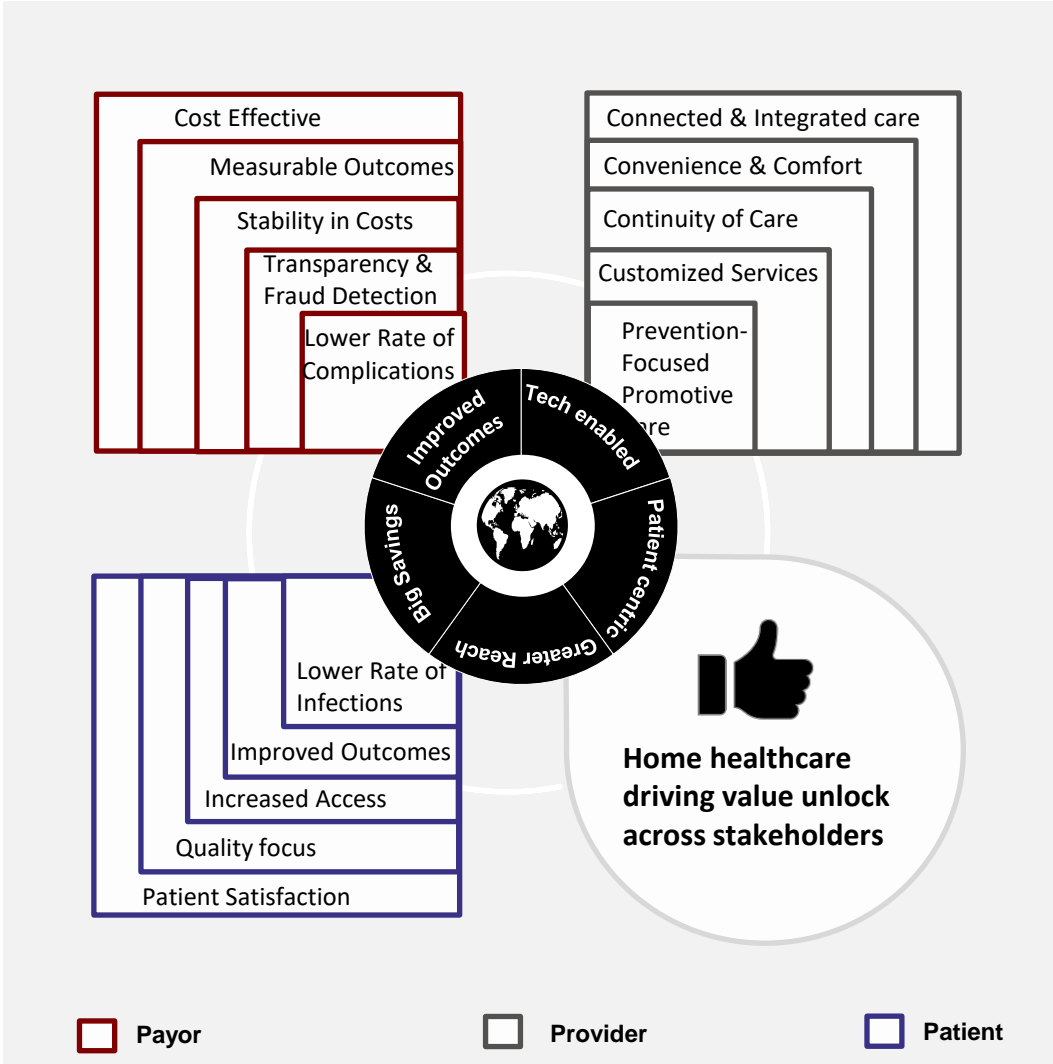
Value Pool	Country	Initiative	Outcomes
<b>Long-Term Care</b>  	<b>Japan</b>	The Japanese Long-Term Care Insurance (LTCI) has been implemented since 2000, to fund newer care models to support Japan's rapidly rising geriatric population. 86% of LTCI users gave a positive feedback for home-based care. <sup>5</sup>	Adoption of home care services rose by 52% in the first year and by 82% in the second year. <sup>5</sup> The initiative has generated ~ 2 million jobs within the first decade since its implementation.
	<b>Canada</b>	To address the needs of the rising aging population as well as to support chronically ill elders which accounts for 77% of the total elderly population, the Ramnow Commission recognized home care as an essential part of the Canadian healthcare system. <sup>7</sup>	100% rise in home care beneficiaries within a decade. 82% decline in hospital bed days. <sup>7</sup>
<div>Value Drivers</div> <div>  <div> <b>RESOURCE OPTIMIZATION</b> </div> <div> <b>LENGTH OF STAY</b> </div> </div>			
<b>Digital Integration</b>  	<b>Denmark</b>	Large-scale telehealth projects in Denmark to support care delivery and monitoring of Chronic Obstructive Pulmonary Disease (COPD) patients remotely. <sup>8</sup>	Auto-generated and transmitted diagnostic reports, remote patient monitoring at home nursing care at home, personalized diet and rehabilitation at home. Localized management of care and services via municipalities. <sup>8</sup>

FIGURE 2

Value Pool	Country	Initiative	Outcomes
<b>Digital Integration</b> 	<b>Iceland</b>	Iceland has established an interconnected health information exchange system with high security to support clinicians seamlessly by providing any data pertaining to health care continuity. <sup>8</sup>	Patient lifestyle changes are updated on mobile apps, making it easier for doctors to manage medications and care aspects in a continuous manner in real time. <sup>8</sup>
	<b>Sweden</b>	In Sweden, citizens are empowered to monitor their own health condition, by following their heart rhythm to detect atrial fibrillation using smartphones or a wearable device. <sup>8</sup>	Pre-emptive and preventive care supported by real-time patient health status available to physicians to monitor condition efficiently and provide personalized ambulatory service on demand. <sup>8</sup>
	<b>Norway</b>	Norway focuses on developing a dementia-friendly society, augmented and aided in real time by technology. <sup>8</sup>	Technology-enabled homes with surveillance systems for emergency support, medication reminders, and telemedicine on demand. Electronic patient journal using IoT provides real-time data and increase the efficiency of caregivers. <sup>8</sup>
<b>Value Drivers</b>  <div> <div>PROCESS EFFICIENCY</div> <div>IMPROVED OUTCOMES</div> </div>			

Globally, home care has stood the test of time and continues to perform as a high technology-enabled, prevention-focused, cost-effective, and scalable mode of care delivery to sustainably provide high-quality healthcare in the patient’s preferred care setting, i.e. the patient’s home.

FIGURE 3      **The Global Benefit Unlock For Patients, Providers, and Payors**



Global learnings indicate that home care is a promising and highly sustainable solution to solve the key challenges of the

Indian healthcare ecosystem with significant value unlock.



India should be no different from other countries in unlocking the potential of home healthcare. Growing at 19% CAGR, the Indian Home Healthcare market is expected to grow ~2.5 times by 2025. The value unlock across Digital, Scope of services, and Geography, will further increase the market size in the next two to four years.

“ Growing at **19% CAGR**, the Indian Home Healthcare market is expected to grow to USD 20 Bn.

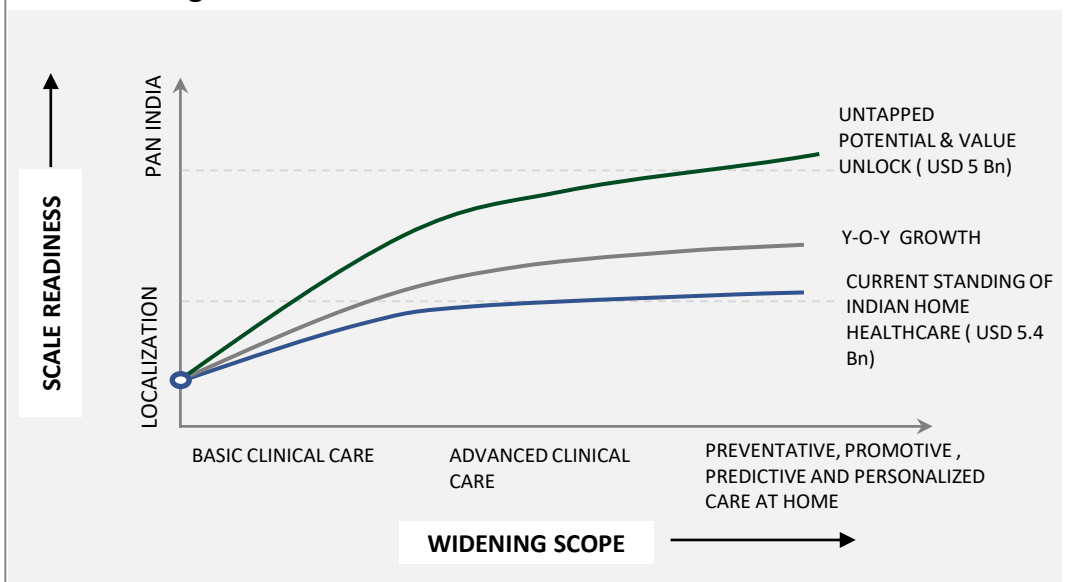
The Indian home healthcare segment is also witnessing similar evolutionary leaps on every front, from business model innovations to quality-driven outcome focused care. The limited adoption of home healthcare in India could be attributed to low insurance coverage, urban-rural divide, and lack of integration on the care delivery side. However, in the last few years, Indian Home Healthcare has emerged as a strong component of the care continuum. It has matured from supporting basic nursing care at home to providing critical intensive care at home.

Indian Home Healthcare is moving swiftly towards creating a well differentiated, specialized yet holistic, quality-driven, outcome-focused, tech-enabled and integrated care delivery ecosystem. Currently, the size of the Indian Home Healthcare market size is USD 5.4 Bn, and it is growing at a 19% CAGR.

There is potential for an additional USD 5 Bn value unlock by 2025 in this segment, given the rapid pace of evolution, government inclination towards innovative and efficient care models, increasing internet penetration, and the consumer mindset shift driven by the pandemic.

FIGURE 4

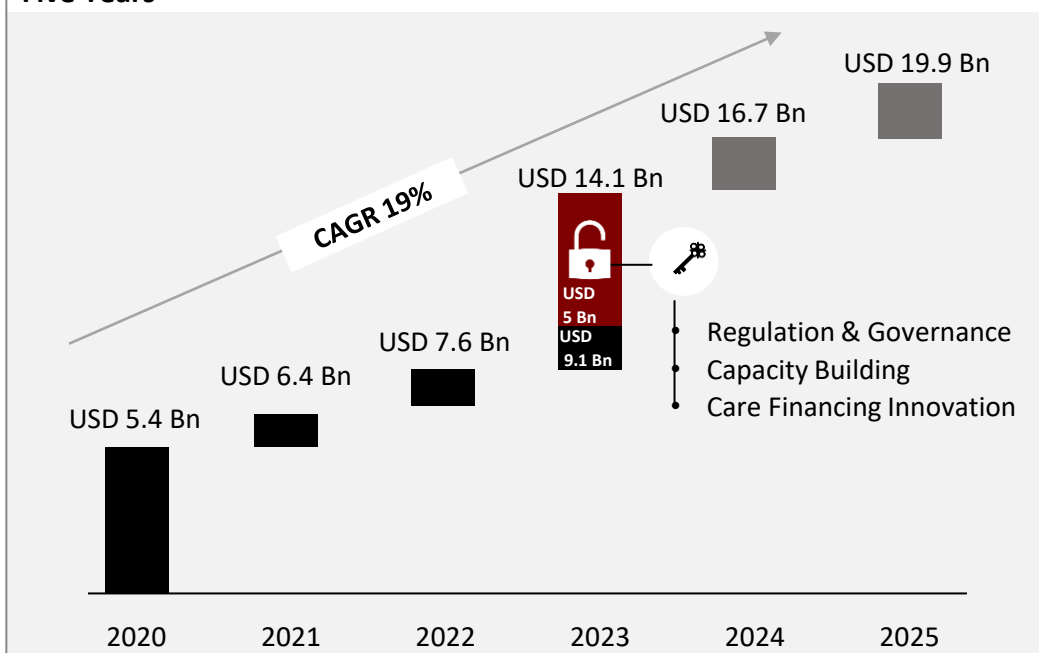
### Redefining Indian Home Healthcare Growth



This potential value unlock of **USD 5 Bn** can be attributed to the following moats of opportunities by activating three major enablers, keeping India-specific dynamics in mind: **(1) Digital Unlock**, **(2) Scope Unlock**, **(3) Geography Unlock**

FIGURE 5

### Indian Home Healthcare Accelerated Growth Potential – Quadruple Size in Five Years



**Digital Unlock** – Healthcare systems worldwide are adopting digital innovation to create seamless and boundaryless care delivery modalities. From symptom checkers to 360 degree 24\*7 remote patient monitoring, digitalisation is enabling the metamorphosis of care delivery from being “Reactive” to “Proactive.”

Indian Home Healthcare is currently in the early stage of digital adoption and technology integration. With increasing provider inclination, government drive for a national digital agenda, and pandemic-induced shift in consumer perception, digital innovations alone have the potential of unlocking exponential growth for the home care segment.



**Scope Unlock** – There has been a major expansion in the scope of at-home services, from acute and episodic care to long-term and chronic disease management across clinical specialties. Home-based preventive and promotive care can now be supported by a tech-enabled smart home environment.

This extended spectrum of services boasts of care solutions for all age groups, disease profiles, and health statuses, unlocking the untapped zones in the diverse universe of health seeker care needs.

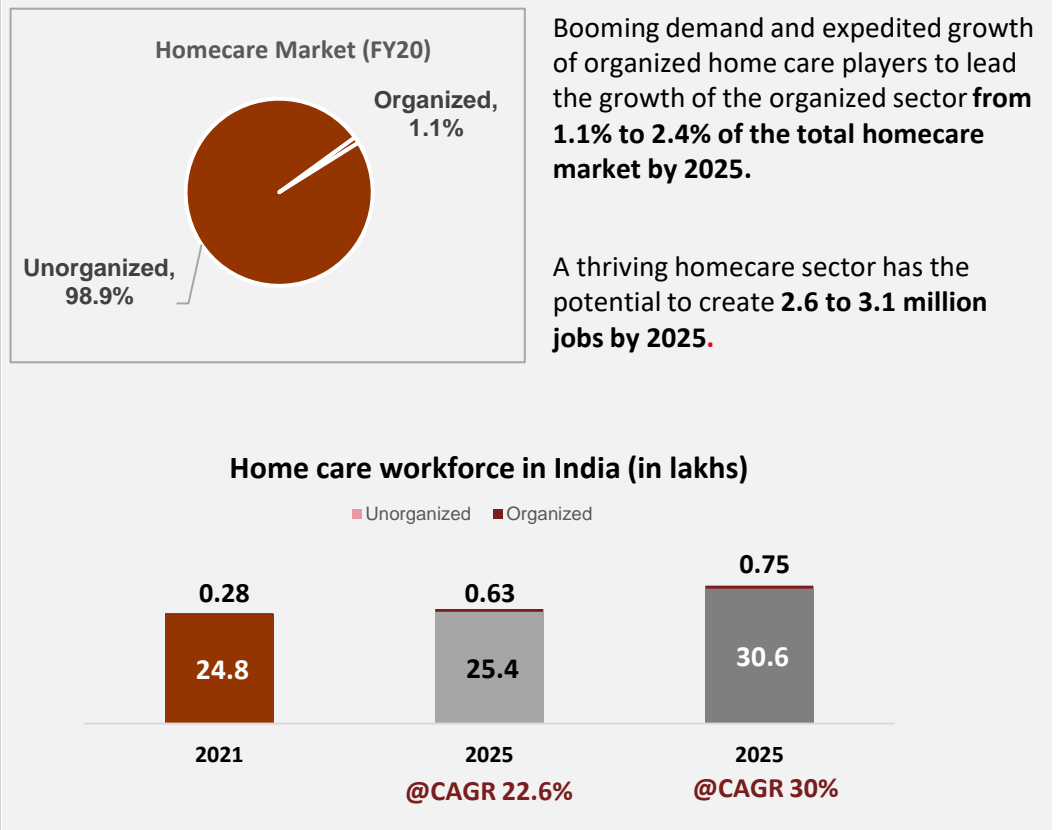


**Geographic Unlock** – India is currently in a state of rapid urbanization. This has led to the rapid development of infrastructure and facilities as a part of the country’s Smart Cities Initiative across 100 cities and towns. The initiative focuses on the development of health, housing, water supply, sanitation, electricity supply, education, mobility, safety and security, IT connectivity, and

digitalization, while maintaining a sustainable environmental balance & strengthening urban governance. These selected cities alone are home to over 130 million citizens, thereby creating a huge opportunity to target this extended base of high-value health seekers.

FIGURE 6

### Employment Opportunities Driven By Above-Mentioned Potential Unlock



“ As the self-regulated organized sector grows, **higher employment** in the organized sector will support a safer and better working conditions.

The second wave of the COVID crisis in the country highlighted, in a true sense, the important role home healthcare plays in the larger care continuum. It not only extended the healthcare capacity across metro cities when the entire healthcare system was

overwhelmed by the sudden surge in demand, but also proved itself as possibly the most effective and efficient solution to India’s care supply demand gap.

# Home Healthcare Innovations Bridging the Supply-Demand Gaps in Current Care Continuum

A significant consumer mind shift is being witnessed in recent years. There is an increased focus on value-based, scalable, viable, and sustainable business model innovations that cater to the fast-evolving landscape in India.

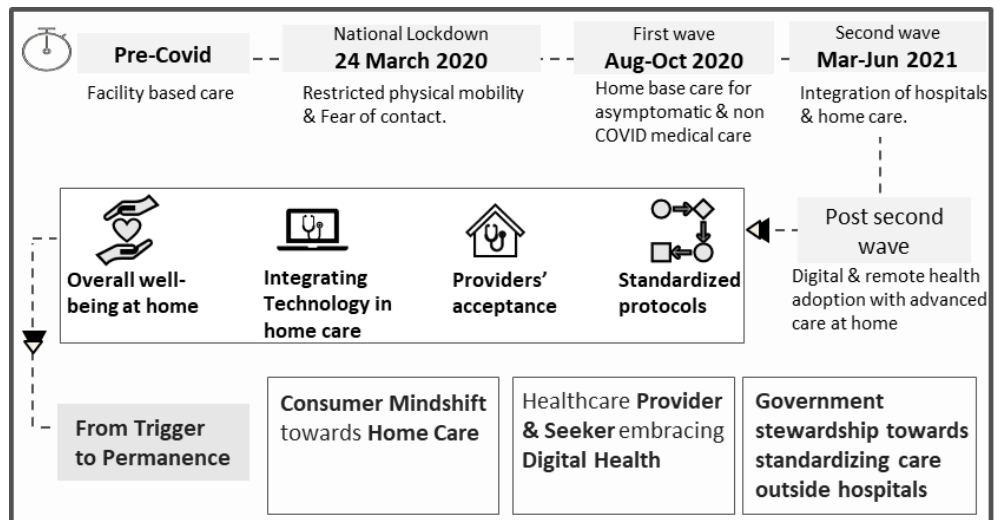
Indian Home Healthcare has emerged as a strong component of the healthcare ecosystem by enhancing care capacity during the pandemic. Its actual potential was glimpsed during the national lockdowns, showcasing its capability for delivering care at scale while allowing significant capacity release in formal care settings. An average of ~60% COVID patients were treated at home. Telemedicine services also gained significant impetus during the pandemic. The national telemedicine service, e-Sanjeevani, completed over

three million online consultations, within the first year of its inception.<sup>10</sup>

During the pandemic, the home-based care model established evidence for the components of a viable, patient-centered, efficient and sustainable model of care across public and private sectors. While consumers realized this during the pandemic, the Indian homecare players, have, for many years now, striven to align, deliver, sustain, and demonstrate value in the home healthcare environment.

FIGURE 7

## Rapid Evolution of Home-based Care



# Home Care Enabled Ageing in Place

“ ~320 elderly in India by 2050<sup>15</sup>

will require care for both medical and non-medical needs.

“ 60-80% of all home care demand from senior citizens; home care a key enabler for Active and Healthy Aging at home.

India's elderly population will triple in the next three decades to represent 20% of the country's population by 2050. On average, the life expectancy of an Indian senior at 60 years of age is ~17–18 yrs. The Government of India (GoI) and private sector enterprises are striving to add value to these silver years.

Studies have shown that Indian seniors, like their counterparts across the globe, prefer to age at home. The GoI agenda of 'Aging in Place' also aims to support and promote 'Active and Healthy Aging' at home.

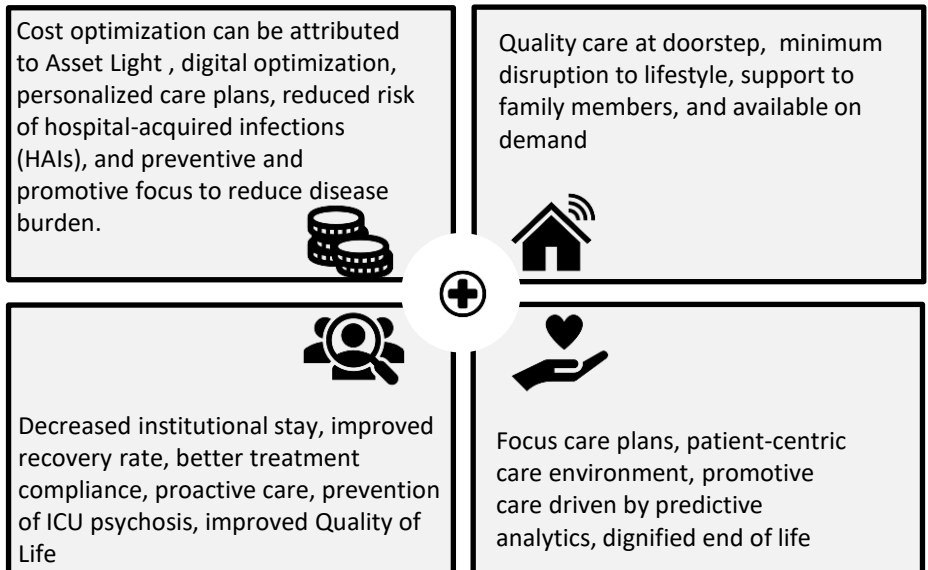
Changing family dynamics, rise in chronic illnesses, and increasing affordability have made Indian seniors the largest consumer of homecare services in India today. This had led to the development of multiple senior-focused products and services.

Home-based senior care services today are strengthened with a spectrum of digital health-focused medical devices and solutions that support active aging at home, increase adherence to treatment, enable home care management and monitoring, as well as offer a range of wearable emergency response devices.

This future-ready avatar of senior care delivery at home is well poised to take Indian senior care delivery to the next level of advancement as not only the care modality of choice of most seniors but also the most sustainable and efficient one.

FIGURE 8

## The Home Care Differentiators



Indian homecare is not only helping bridge the healthcare supply-demand gap but also providing safe and specialized acute, chronic, and geriatric care at the patient doorstep. The largely self-regulated providers have demonstrated great potential and readiness to scale to help overcome the challenges of the Indian healthcare system.

## Integrating the Care Continuum

A steep rise in the demand for healthcare and limited resources have necessitated the immediate expansion of system capacity while preserving the highest quality of care. Homecare plays a critical role in bringing this care delivery innovation, integration, and flexible care model to the Indian healthcare continuum.

The outcome-focused approach of present-day home-based care further reinforces the reliability, safety, and quality-driven home care ecosystem in India.

In a study conducted by *Apollo Home Care*, on execution of a standardized care plan at home under the supervision of a medical expert for post-discharge patients (a cohort of 3,374 patients), the re-hospitalization rate decreased from 36 per 1000 patients to 15 per 1000 patients within a year. In another case study, a structured, well-supervised care approach at home led to a 2% drop in rehospitalization rates among post Coronary Artery Bypass Graft (CABG) patients and a two-day reduction in hospital length of stay in Total Knee Replacement (TKR) patients.

The effectiveness of home care is illustrated by a study conducted by *Healthcare At Home* on a cohort of 119 stroke patients, demonstrating that a home-based physiotherapy program significantly improved functional outcome in stroke participants and improved functional outcomes in terms of activities of daily living. Post-stroke Hemiplegia patients (574 cases), achieved a Barthel Index of 17 against an international benchmark of 29.

*Kins Home Health* too extended the care from its hospital to its home care services, benefiting the patient as well as the releasing capacity at the hospital. Kins deployed a dedicated team of experts and a standardized process to closely monitor and delivery high standard care at home, leading to reduction in ALOS from seven to eight days to five days, as subsequent care was provided at home. Lower readmission rates was observed among geriatric patients by almost 40%, resulting in better quality-adjusted life-year (QALY) and reduced financial burden.

*\*Detailed case studies are in the case study section at the end of the paper.*

“42% decrease in rate of re-hospitalization, observed in patients choosing Standardized Care Plan at home under the supervision of a medical expert post discharge

“ Post-stroke Hemiplegia patients (574 cases) achieved a Barthel Index of 17 against international benchmark of 29.

## Bringing Critical Care at Home

Indian Homecare is continually evolving, from basic care to skilled nursing to complex critical care at home, defining a new era of advanced acute care delivery in the Indian healthcare ecosystem.

A critical care setup requires a high level of expertise and training, as it involves the supervision of an intensivist, continuous monitoring, advanced medical equipment, specialized care team, and precise care protocols. Indian home care players are not only bringing this complex ecosystem to the patient's doorstep beyond the highly controlled hospital settings but are also able to set quality benchmarks in this space.

*Portea* observed that out of the 6,854 critical care patients treated at home (Jan 19 – Jul 21), the percentage of patients who required re-hospitalization was only ~7.51% against the US national average of overall re-hospitalization of 16%. *Portea* provided an ICU setup at home with efficient nursing and supportive care for a patient diagnosed with stroke with seizure episodes and vomiting. Post stabilization at the hospital with tracheostomy care, oxygen support, and bed sore care, the clinical team recommended home health care services to avoid any

HAI and prolonged hospital stay. With the help of continuous monitoring and care, an expedited closure of tracheostomy without any oxygen support was achieved, bed sores healed, and the patient is now independent and back to a normal life.

Clinical cases of patients with Prostate Cancer, Hypertension, Deep Vein Thrombosis (DVT), Chronic Kidney Disease (CKD), Dementia and Sepsis or complex cases such as diagnosis of Central Pontine Myelinolysis (CPM) with pontine infarction, sepsis, lower respiratory tract infection, right side pneumonia, acute kidney injury, decompensated chronic liver disease, portal hypertension, coronary artery disease with left ventricular dysfunction and multiple bedsores were taken care of at home in the Critical care setup enabled by *Critical Care Unified*. These showed faster recovery with improvement on the Glasgow Coma Scale, discontinued suction process, improvement in swallowing, limb movement stimulation from regular physiotherapy, improvement in bedsores, mobility, and many such parameters.

“ Out of 6,854 critical care patients served at home, (Jan 19 – Jul 21) the percentage of patients who required re-hospitalization was merely 7.51% against the US national average of overall re-hospitalizations of 16%.

*\*Detailed case studies are in the case study section at the end of the paper.*



## Adding Health Span to Life Span

Geriatric care, long-term care, and palliative care are some very important aspects of care that not only require specialized skills but also demand focus around patient dignity, comfort, and improvement in quality of life.

*One Life Homecare* enabled care at home to address the following critical needs:

1. A geriatric patient with cancer who underwent a complex surgery was provided care at home in the presence of doctors and nurses with close monitoring and regular assessment. The round-the-clock specialized care led to the complete recovery of the patient. The key focus areas were the promotion, restoration, and maintenance of the patient with the maximum level of comfort, function, and health through good quality care with a consistent focus on clinical outcomes.
2. End-of-Life care for a cancer patient, leading to pain-free, ambulated, and comfortable last days in the comfort of the home. Along with a dignified end-of-life and quality care, the economic burden was also reduced by ~50%.

High quality of homecare in India can further be evidenced in a study by *Health Care At Home*, with 221 critical patients showing a marked improvement in quality of life, personalized care led to an increased survival in end-of-life cases with a ~19% success rate.

*\*Detailed case studies are in the case study section at the end of the paper.*

Indian patients are demonstrating greater trust in the Indian Home care system and providers by choosing extended long-term arrangements with providers compared to the earlier preference for episodic care and skilled nursing care.

While serving a 2.5-year-long engagement with a geriatric patient with multiple chronic conditions and comorbidities with a history of recurrent hospitalization, *Portea* deployed a group of specialized staff to initiate pain management, rehabilitation, and continuous monitoring to ensure medication compliance, therapy compliance and condition management, which led to a pain-free life with regained mobility, improved quality of life, and cost saving.

## Addressing Pandemic Challenges

Amid the COVID pandemic's first and second waves, the entire healthcare system of the country was highly strained with issues ranging from bed, oxygen and ventilator availability to physical contact restrictions. The Indian home care ecosystem emerged as a critical component of care continuum and bridged the gaps.

*Apollo Home Care* addressed the needs of over 25,000 COVID patients at home from over 120 locations across India – 10,000 in the first wave over five months and 15,000 in the second wave over six weeks) in the comfort of their homes in a cost-effective, convenient, and compassionate manner.

“ With quality of care, the economic burden was also observed to reduce approximately by 50%.



“ Over four lakh patients were managed remotely across multiple locations in India including Tier 2,3 and 4 cities.

*Portea* deployed a ten-day COVID home isolation program focusing on the holistic care of asymptomatic and mildly symptomatic COVID patients from the first wave, which continued through the third or Omicron wave. Over four lakh patients were managed remotely across multiple locations in India, including Tier 2,3 and 4 cities.

*Health Care At Home* employed a remote monitoring protocol to bring contactless COVID care to the patient's doorstep with focus on lowering cost of care and risk of HAIs, while providing safe and high-quality care.

*Critical Care Unified* served a critical COVID-19 patient with respiratory failure, CKD, shortness of breath, visible swelling of the lower limbs, atrial fibrillation, pneumonia, and sepsis with septic shock and history of cancer.

## Data and Digital Integration Transforming Home Care

Real-time data with technology holds the potential to transform the way care is being delivered as well as accepted.

Evidences are available for these innovations that are paving the path for the Indian home care ecosystem's transformation. The life insurance sector is seeing a rise post COVID. The pandemic showed that the established methods of risk assessment would not suffice, for all

scenarios. *CallHealth* re-imagined this process through digital innovation. A protocol for virtual KYC, with strict quality control and error checks, was deployed, leading to successful processing of 35,000 applications, 20% reduction in efforts, and 2.5X faster application processing with less than 0.5% error rate.

Another such initiative was service innovation for pre-policy medical tests for completing risk assessments by digitally connecting the insurer to the patient and the patient to the diagnostic labs. *CallHealth* is driving a real-time data driven command center with 600 processes, 35 businesses, and tens of thousands of officers to create a seamless digital ecosystem for home care services.

Another example of the digitally enabled care continuum is *CallHealth's* engagement with the Tribal Welfare Department of Telangana for periodic health screening and remote monitoring of approximately 100,000 tribal students, studying in 462 institutions spread across 33 remote locations in Telangana. *CallHealth* has deployed trained healthcare workers who can provide primary care for these students at their doorstep as well as triage an online call with a remote doctor. This has helped identify 11,130 cases of dental fluorosis, 1,191 cases with vision issues, and 124 critical cases of severe infection, which have been effectively controlled and treated through a combination of telemedicine and field staff.

*\*Detailed case studies are in the case study section at the end of the paper.*

“ Early identification and treatment of 11,130 cases of dental fluorosis, 1,191 cases with vision issues and 124 critical cases of severe infection amongst 100,000 tribal students, studying in 462 institutions spread across 33 remote locations in Telangana.

“ Critinext, an e-ICU monitoring protocol, showed significant reduction in infection and re-hospitalization rates as well as reduction in the cost of care, (reduction of 30,000 on average per day per readmission).

Such digital integration not only enabled health monitoring but also moved a wide range of diagnostics such as Optometry, Audiometry, Sleep Study, X-Ray and so on moved to the comfort of being done from a patient's home. more than 100,000 patients and 30,000 Orders in Hyderabad between Jan 2020 till now. The model enables the customer to have the flexibility of choosing the labs, while the sample is collected from the convenience of one's home

*HealthCare At Home* conceptualized and implemented “Critinext,” an e-ICU monitoring process in a cohort of 506 patients.

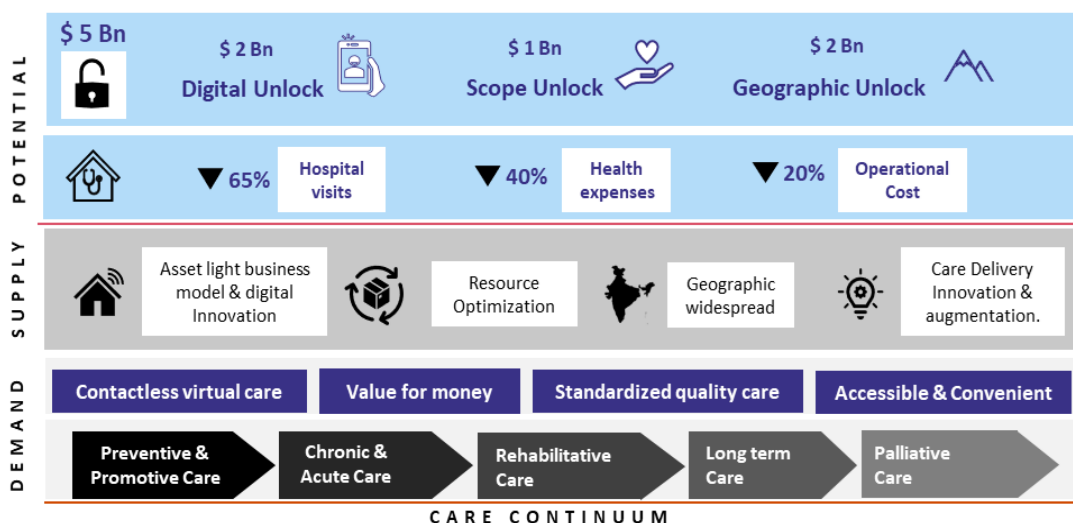
The protocol involved virtual evaluation by experts, real-time incident management, and 24/ 7 electronic monitoring using ‘Critinext’. The study showed significant reduction in infection and re-hospitalization rates as well as reduction in the cost of care (30,000 reduction on average per day per readmission).

Indian Home Healthcare players are undertaking scope-of-care expansion, extension of geographical range, and digital enablement to create a robust, holistic, and seamlessly integrated care ecosystem.

Enroute unlocking the actual potential, the converging synergies across the home care ecosystem will augment the exponential growth and bridge the demand-supply gap.

FIGURE 10

## Hyper-Scale Ready Indian Home Healthcare



Unlocking the Digital, Scope & Geographic potential is aligned to sustainably provide cost-effective high-quality care. Hyper-scaling this will eventually open cascading opportunities for Indian Home Healthcare models.

The shift in demand from the consumers is an accessible care continuum that is contactless, instant, and modeled on a 'care-anywhere' mode. Home health care augmented by digital tools can not only meet these requirements but also be efficient, standardized, and quality driven.

The Asset Light Home care business model enables basic care provision at home. The advancement in the scope of services, digital potential, and expansion of geographic reach can be

leveraged. This will help in scaling up the existing and future models of care with very high viability to deliver high-quality care, in a sustainable manner aided by resource optimization in the rapidly evolving healthcare ecosystem.

The data-driven hyper-scaled model of home healthcare holds the ability to scale up consumer interactions, leading to greater revenue generation while unlocking value streams for all.

A wide spectrum of care has already been enabled. Hyper-scaling today's Indian Home Healthcare continuum, will help tap the underlying potential. This will empower and sustain the vision of inclusive affordable healthcare for all Indians.

# Visualizing the Hyper-Scaled Home Healthcare in India

Home care in India is all set to transform to a 'Hyper-Scaled Care Anywhere' model. From qualifying as a mainstream care modality to being the preferred mode of care and adding value to the entire healthcare ecosystem, the Indian home care segment has the potential for exponential growth via Digital, Geographic, and Scope unlock in the near future.

“ **74%** patients prefer home sample collections over visiting a hospital or lab. <sup>12</sup> ”

“ A consumer survey study showed **49%** consumers willing to pay for care at home. <sup>12</sup> ”

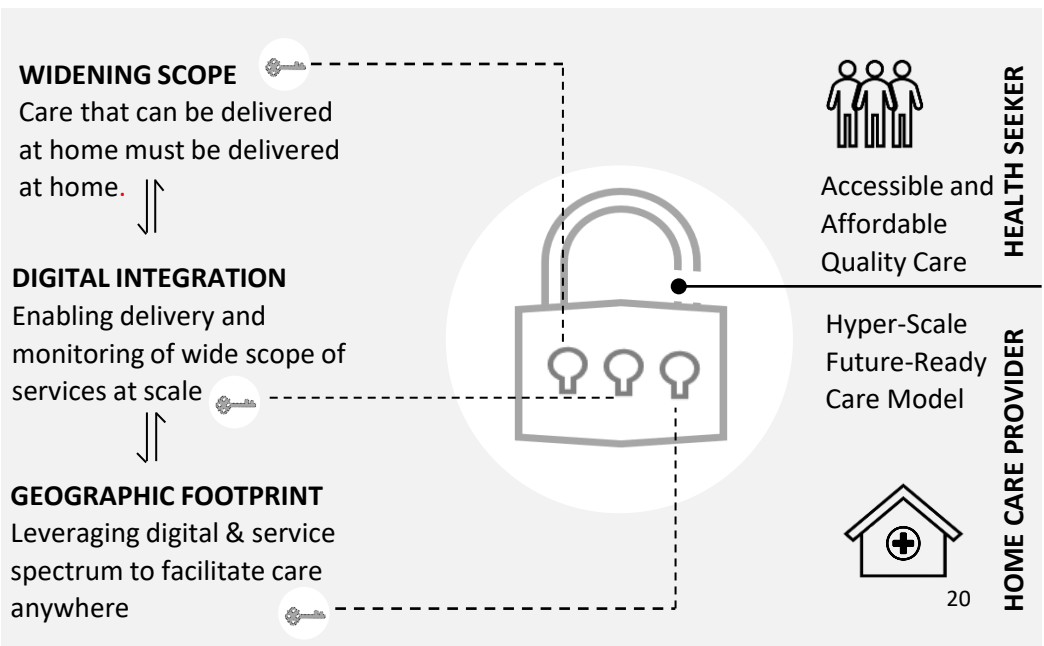
The opportunity moats driving the transformation of a subscale segment to a hyper-scale mainstream care modality lie in the three key zones Digital, Geographic, and Scope Unlock, driving the metamorphosis of Indian home care from 'Care At Home' to 'Care Anywhere'. Additionally, on the health seeker part, these unlocks will address the two most important aspects – accessible and affordable quality care.

Indian healthcare is experiencing a range of reprioritization and

reorganization as a result of learnings from the challenges and opportunities highlighted by the pandemic. This created a major shift in perceptions, motivation, and aspirations both at the health seekers' as well as the care providers' side. It is important to capitalize on these shifts fast and leverage each tenet of this change in favor of the Indian home care segment to ultimately benefit the entire healthcare ecosystem.

FIGURE 11

## The Enabler Interaction and Value for Stakeholders

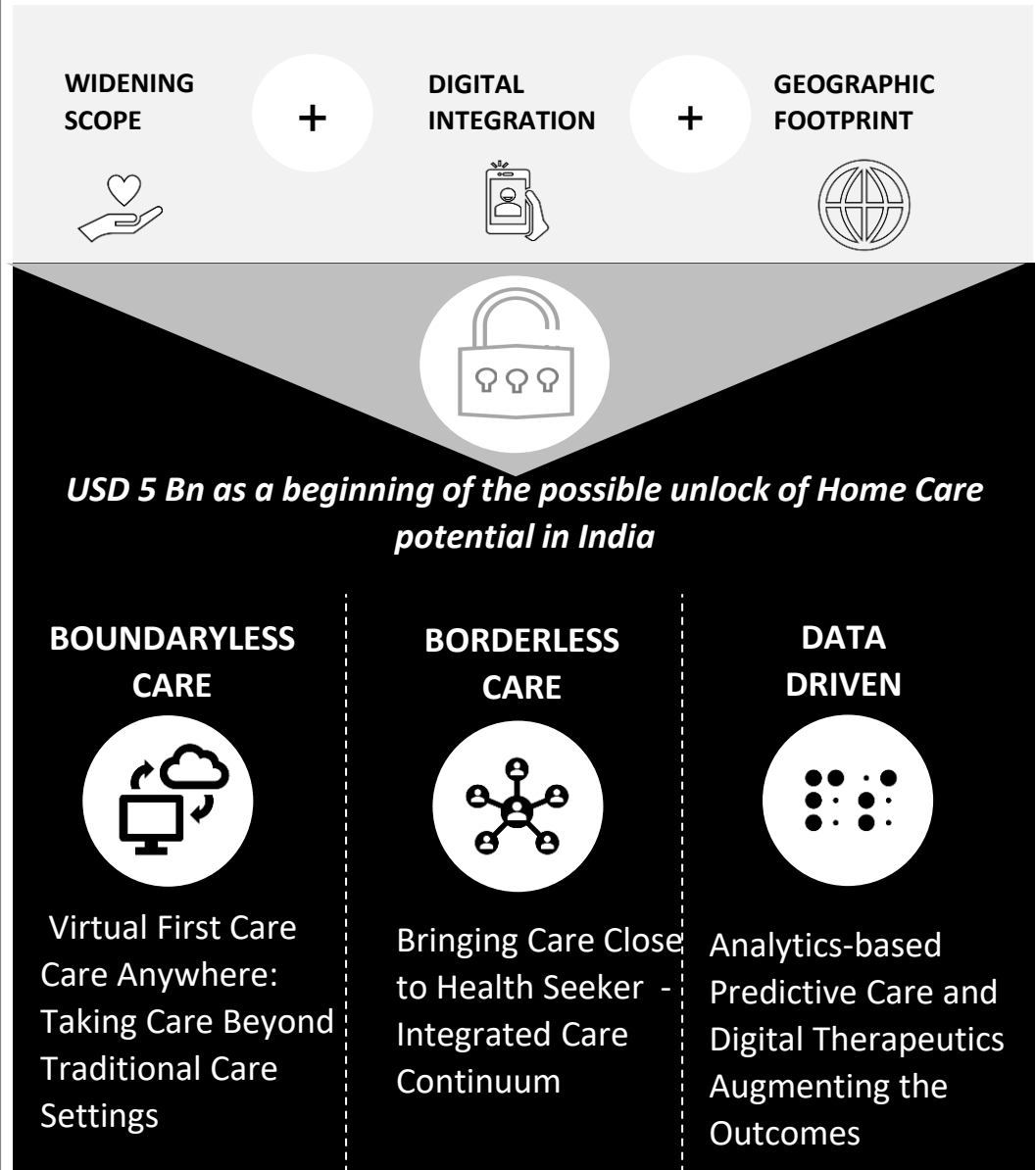


While Scope, Digital, and Geographic unlock will together initiate the growth spree for the Indian home care segment, USD 5 Bn is just the tip of the actual potential of this segment. The continuous seamless interplay of

these three components will expedite the evolution of hyper-scaled home care in India, characterized by a boundaryless, borderless, and data-driven predictive care focused care model.

FIGURE 12

### Roadmap to Unlock USD 5 Bn



Indian healthcare ecosystem is one of the fastest evolving segments in the world. However, unlike developed countries, the classification into primary, secondary, tertiary, quaternary care, and so on is yet to

happen.

As a result, the entire healthcare system is overwhelmed by increasing care needs and inadequate resources.

Home care has emerged as a strong component that brings the required flexibility to the current healthcare context to decongest existing traditional care delivery, adequate resource deployment, and cost efficiency. It is also playing an eminent role in expanding the reach of care beyond the modern India with the metros, Tier 1 and Tier 2 cities to Bharat or the semiurban and rural parts of the country without compromising quality and outcomes. Both developed and developing countries, such as Australia, UK, USA, Nordic Countries and many more, have already set a strong precedent for how home healthcare is fostering the efficiency of their healthcare systems efficiency and the overall country's health outcomes.

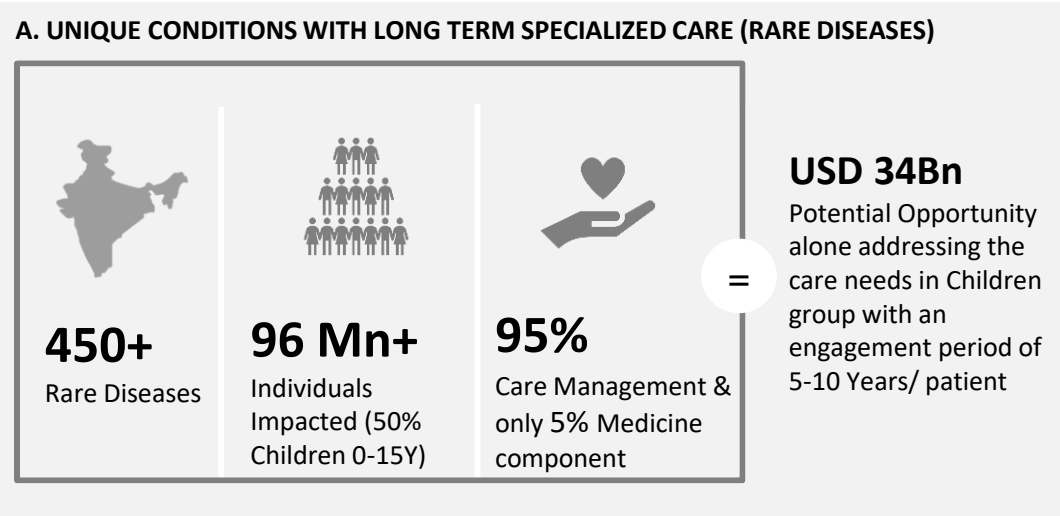
Indian Home Healthcare is already in its advanced stages in terms of its capability and capacity to deliver specialized care with comparable

outcomes according to both national and international traditional care benchmarks.

Given the rising disease burden, changing population dynamics, increasing cost of care, & challenges in access to care, the Indian health ecosystem needs a robust triaging system to keep tertiary and quaternary care systems focused on specialized care. Home care is in the best position to support this process and seamlessly maintain the continuity of care. For example, chronic conditions and long-term rare conditions with major components of care management and procedures that do not require dedicated attention of super specialists' & can be performed at home. In this manner, home care players can connect the missing dots in the continuity of care and between the clinicians and their patients, leveraging their well-trained workforce, standardized processes, and digital capabilities.

FIGURE 13

Potential Zones for Home Care Intervention



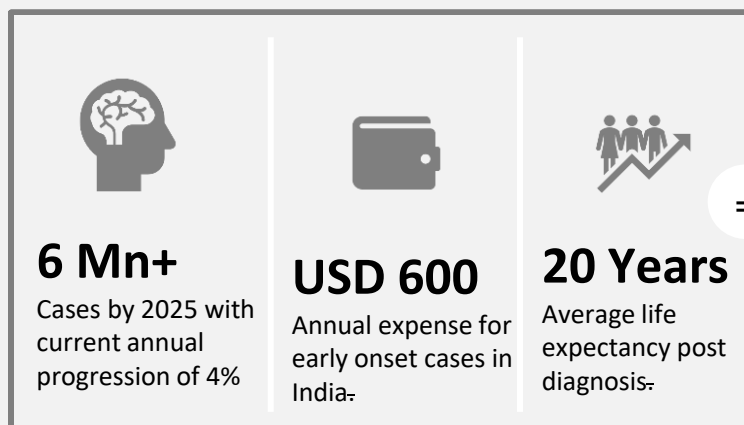
**SCOPE UNLOCK:** India is undergoing a shift in population demographics and trends from increasing proportion of the elderly to an emerging affluent class, from changing patient behaviors and preferences to the rising tide of tech savvy millennials. Over the next 5 to 10 years, Indian homecare must action a plan to hyper-scale the existing offerings & maximize care delivery to the convenience-seeking, high-paying, tech-oriented Indian population. According to a survey by an industry body, 54% of the people

surveyed prefer lab tests, medicine delivery, and clinical care at home. The baby boomers and millennials born in the technological era are most likely to retire with high disposable incomes. This segment is willing to pay the “convenience premium.” Even though lifestyle diseases will account for a three-fourth of all deaths by 2030, it is still not the key area of focus for institutional care settings that are mainly focused on acute care and curative therapies.

FIGURE 14

## Potential Zones for Home Care Intervention

### B. CHRONIC CONDITIONS WITH SPECIALIZED CARE (DEMENTIA)



=

**USD 76 Bn**  
Opportunity Moat

The important zone that can be augmented by home care players is that of high-cost, low-value minor procedures, where resource deployment and time cost is much higher in terms of cost-benefit ratios in traditional care settings. From overflowing waiting areas to inadequate utilization of trained resources, these areas need immediate attention. These minor procedures include a wide range of

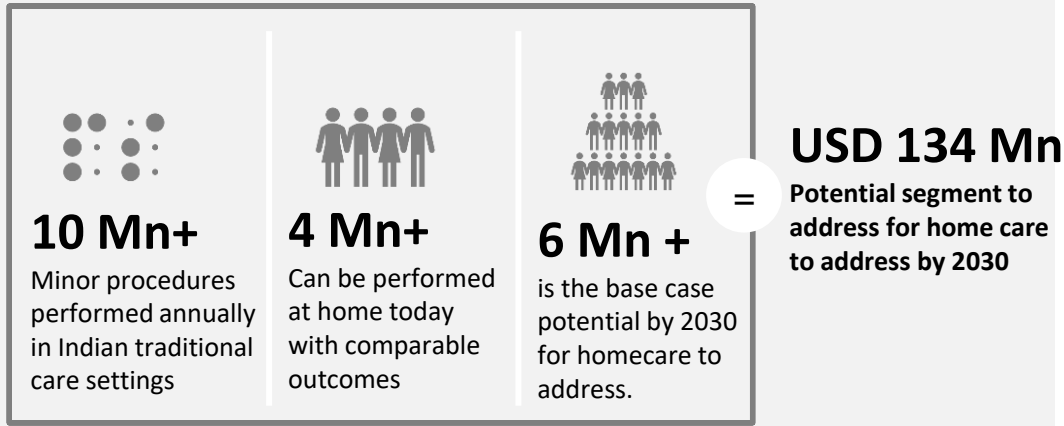
procedures from suture removal to incision and drainage and wound care to adult immunization. There is adequate evidence even in the current context showing comparable / better outcomes when these are performed at home. Along with these, non-surgical cases requiring long-term care that block hospital beds could also be considered for home care models for better efficiency and reduced risk of HAIs.

“ **75%** of all deaths by 2030 is projected to be because of lifestyle diseases.

FIGURE 15

## Potential Zones for Home Care Intervention

### C. HIGH POTENTIAL MINOR PROCEDURES



**GEOGRAPHY UNLOCK:** Over the last decade, institutional care providers have focused on expanding beyond tier 1 cities. However, this traction is limited to tier 2 geographies. The majority of emerging urbanizing India is yet to experience high-quality healthcare in their neighborhoods. The government is focusing on the creation of over 100 smart cities that will in house over 130 million people in the future. These smart cities, along with their rapidly

urbanizing neighboring towns and villages, presents enormous opportunity to expand the digital as well as physical outreach of home care services.

The awareness and confidence that high-quality, affordable care is possible at the patient doorstep for people in these areas, beyond the current model of travelling to seek care in tier 1 cities that is cost-and time-intensive, will create significant traction and enhance the adoption of home care services.

FIGURE 16

## The Potential Zones for Home Care Intervention

### D. ACCESSIBLE CARE FROM INDIA TO BHARAT





“ **INR 2.05 trillion** is proposed by the govt. for smart city developments and technological advancements. <sup>13</sup>

“ **Over 60 million** nation wide e-consults till 2021 across the Government-supported telehealth infrastructure

**Digital Unlock:** The adoption of digital and virtual health offerings during the pandemic merely provided an entry into a universe of possibilities. Patients can now envision services from “*wellness at home*” to “*ICU at home*” as the new normal of healthcare being delivered at home.

Similar interest and confidence is evident amongst investors towards home care, digital innovations, and virtual care companies. Digital penetration and adoption bring along the capture of structured data, which in turn provides opportunities to scale and monetize.

Digital health, a USD 200 bn promising opportunity segment, is growing at a CAGR of 25-30%. From ‘*Remote Health Monitoring*’ to ‘*Cloud Physician*’ to ‘*Virtual Wellness*’, digital health holds multiple high-value high opportunity zones as drivers of the ‘*Hyper-Scaled Model of Home Healthcare*’ for the future.

These components, intervention, and opportunity zones are together driving the need-based impetus for the evolution and emergence of home healthcare and redefining its new equation in India.

FIGURE 17

### Home Healthcare 2.0 Equation

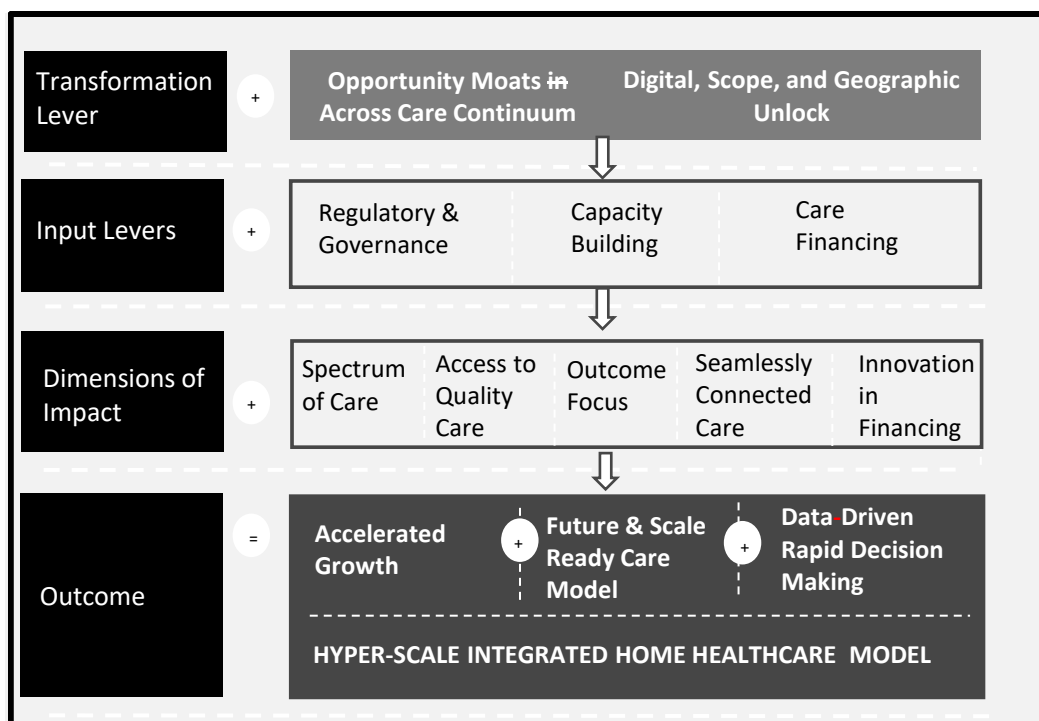
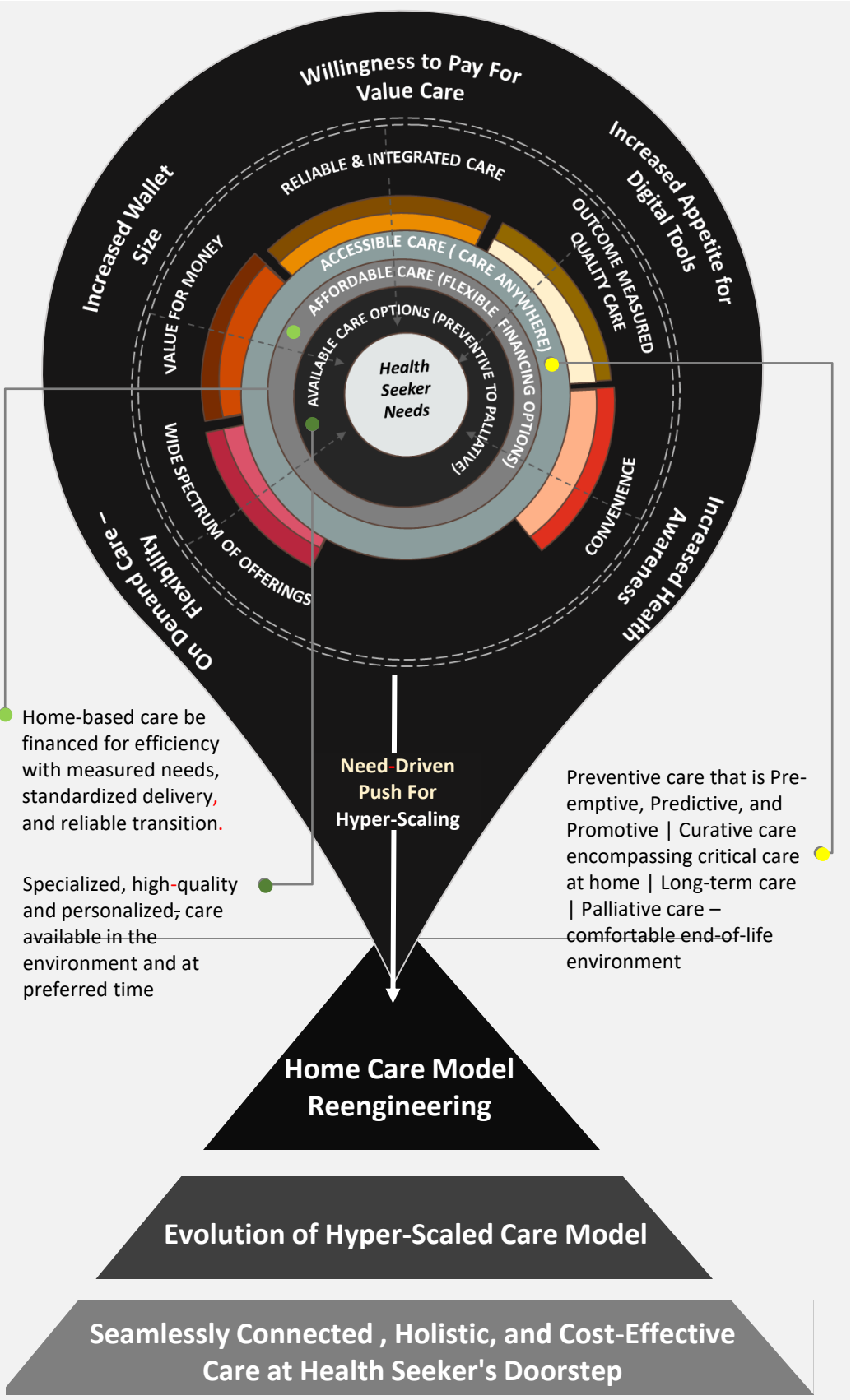


FIGURE 18

Need-Driven Impetus for Hyper-Scale Model



# Reimagining Indian Home Healthcare 2.0

The Indian home care segment is at an inflection point of transforming into a hyper-scale, viable, and sustainable segment that will leverage the technology, government support, and market variables to redefine the care continuum of tomorrow.

- Indian Home Healthcare constitutes around 3.6% of the total healthcare expenditure.
- 15-20% of the healthcare ecosystem is likely to shift to a virtual care model, including remote monitoring.

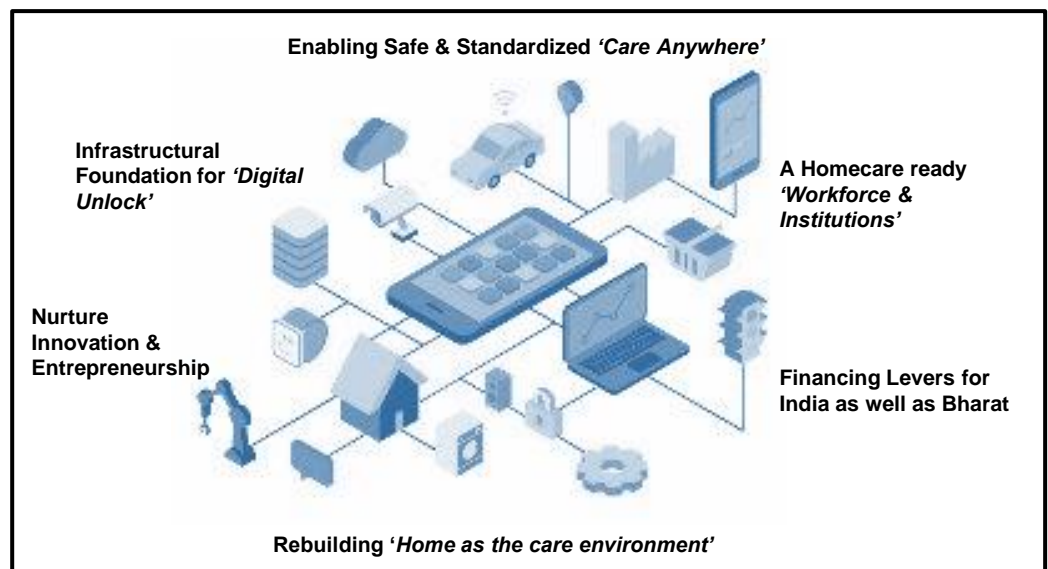
Currently, Indian Home Healthcare constitutes approximately 3.6% of the total healthcare expenditure as compared to the approximate 8.3% in developed countries.<sup>12</sup> Insurers showing inclination towards and IRDAI's nod on allowing coverage of home care services<sup>14</sup> as an add-on to existing or new policies will drive the adoption even faster. These drivers together are presenting a significant impetus for growth in the near future, particularly when the organized home care segment is growing at a CAGR of ~ 40%.

With timely activation of Governance regulatory nodes, capacity building channels, and care financing innovation, this number increases multifold. The Indian Home Healthcare could be reimagined as a technology-driven hyper-scaled segment with a quality-focused patient-centric care spectrum, driving viability and innovative financing products to ensure sustainability.

FIGURE 19

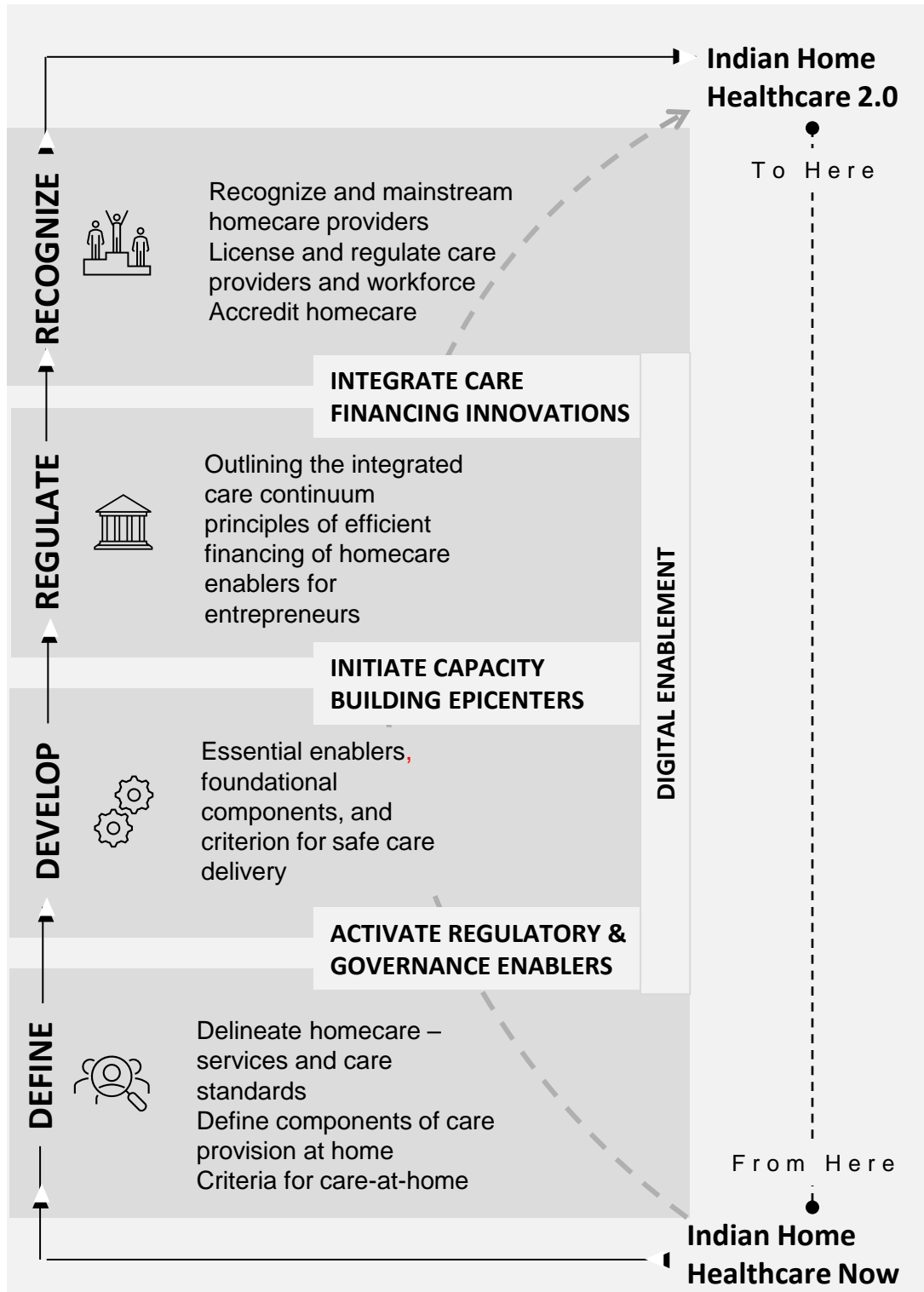
## Levers for Hyper-Scale: From Vision To Reality - Indian Home Healthcare 2.0

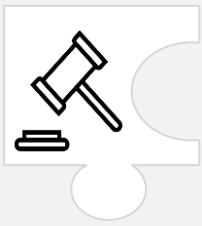
- The foundational levers for achieving the vision of hyper-scaled 'Care Anywhere' require regulatory, financing, and capability focus.



# Key Levers to Enable Indian Home Healthcare 2.0

FIGURE 20




#	Key Recommendations	Call to Action by Government
1	<p><b>Regulatory/ Governance</b></p>  <p><b>1</b></p> <p><b>Registration and licensing for home care providers akin to hospitals in Clinical Establishments Act, 2010</b></p> <p><b>Rationale</b></p> <ul style="list-style-type: none"> <li>· Establish minimum standards for home care providers</li> <li>· Streamlining and standardizing care delivery</li> </ul>	<p><b>A. 'National Home care licensing standards and Regulatory Authority'</b></p> <p><b>i. Mandatory registration of all players providing facilities outside care institutions</b></p> <p><b>ii. Tiered-registration as per scope of services</b> with minimum standards defined for each tier including the following:</p> <ul style="list-style-type: none"> <li>• <b>Infrastructure requirements</b> – Care provision, home modifications, equipment, patient transfer facilities</li> <li>• <b>Workforce credentials and privileges</b></li> <li>• <b>Workforce ratios and mandates for operational parameters</b> (recording hours, billing standards, staff safety, patient-to-staff ratios)</li> <li>• <b>Equipment standards (mandates on certification, standards, safety)</b></li> <li>• Linkage to Telemedicine and Telehealth</li> </ul>
<b>Impact</b>	<p>Inclusion into Clinical establishments act or as a separate policy</p> <ol style="list-style-type: none"> <li>1. Regulate &amp; mainstream the large unorganized segment</li> <li>2. Ensure safe care delivered to patients</li> </ol>	

#	Key Recommendations	Call to Action by Government
2	<p><b>Medical care delivered outside institutions to be integrated with institutional care</b></p> <p><b>Rationale</b></p> <ul style="list-style-type: none"> <li>Care continuity</li> <li>Developing an integrated ecosystem</li> </ul>	<p>i. <b>Defining care pathways and integration criteria with institutional care, i.e., initiation, referral, handover, discharge</b></p> <p>ii. <b>Clinical care standards for care delivery outside institutions including the following:</b></p> <ul style="list-style-type: none"> <li>Qualification / initiation criteria for care at home</li> <li>Referral / termination / discharge criteria-</li> <li>Handover standards</li> </ul> <p>iii. <b>Home modification, equipment, and monitoring standards by care pathway</b></p>
Impact	<ol style="list-style-type: none"> <li>Standardizing care at home</li> <li>Guidelines for care eligibility and financing</li> <li>Directional principles for innovation in home care technology development</li> </ol>	
3	<p><b>Accreditation standards for home care</b></p> <p><b>Rationale</b></p> <p><b>Accrediting home care delivery for an inclusive environment.</b></p>	<p>i. <b>Accreditation mandatory for insurance, public reimbursement, and Government initiatives and schemes</b></p> <p>ii. <b>Home care accreditation standards to include standards for the following:</b></p> <ol style="list-style-type: none"> <li>Care provision &amp; patient safety</li> <li>Remote medical monitoring equipment standards-</li> <li>Home care digital tools / Medical wearables standards</li> <li>Telemedicine and Telehealth Standards</li> <li>Safe home device standards</li> </ol>
Impact	<ol style="list-style-type: none"> <li>Regulate and mainstream the sizeable currently unorganized segment.</li> <li>Build patient and clinician trust.</li> <li>Ensure delivery of safe care to patients.</li> </ol>	

FIGURE 22

### Solution Canvas : Capacity Building focus

#	Key Recommendations	Call to Action by Government
2	<b>Capacity Building</b> 	<p>A. <b>Recognize homecare workers &amp; professionals</b> as an <b>allied and Healthcare professional category</b> in the National Commission for allied and healthcare professions act, 2021</p> <p>B. To include all <b>categories of homecare workers</b> <b>Specific role to deliver Home based care like –</b></p> <ul style="list-style-type: none"> <li>• Family Physician</li> <li>• Homecare Aids / Attendants</li> <li>• Nursing Aids / Attendants / Assistants</li> <li>• Eldercare Aids</li> <li>• Others</li> </ul>
1	<b>Addition to ‘The national commission for allied and healthcare professions act, 2021’</b> <p><b>Rationale</b></p> <p>Recognize &amp; govern Home Care personnel as <i>‘Allied &amp; healthcare workers</i></p>	
2	<b>Standardized training and curriculum for home care personnel</b> <p><b>Rationale</b></p> <p>Creating a specialized homecare workforce</p>	<p>A. Creation of curriculum and training standards for home care personnel:</p> <ol style="list-style-type: none"> <li>Identification and definition of homecare personnel roles with qualification criteria</li> </ol> <p>B. Skill Council of India’s (National Skill Development Corporation [NSDC]) existing minimum training criteria for home care personnel to be modified for relevance with respect to changing consumer expectations</p> <ol style="list-style-type: none"> <li>Inclusion of bedside manners</li> <li>Soft skills and bedside manners</li> <li>Patient and staff safety</li> </ol> <p>C. Technical education to include digital tools and remote medical equipment training</p> <p>D. Inclusion of home care training under existing Government Initiatives - <b>Pradhan Mantri Kaushal Vikas Yojana (PMKVY)</b> is the flagship scheme of the Ministry of Skill Development &amp; Entrepreneurship implemented by the NSDC. The objective of this skill certification scheme is to enable Indian youth to undertake industry-relevant skill training that will help them secure a better livelihood.</p>

Impact


1. Standardized industry-relevant trained care of specialized homecare personnel  
2. Fulfil the workforce requirement of a rapidly growing sector

FIGURE 22

## Solution Canvas : Capacity Building focus

#	Key Recommendations	Call to Action by Government
3	<p><b>Multiple learning modalities</b></p> <p><b>Rationale</b> Efficient utilization of existing and development of a new workforce</p>	<p>A. Institutionalization of <b>multiple models of learning</b> to allow flexibility and interest from aspirants (Adding skills and upskilling certifications for existing professionals to conduct a wide range of procedures)</p> <p>i. Full-time as well as part-time courses for employed individuals</p> <p>ii. Include as a part of nursing and medical curriculum</p> <p>iii. Add-on / Bridge courses for ANM/ GNM nursing and other allied healthcare workers</p> <p>iv. Remote learning modes for grassroot level workers – ASHA / PHC / CHC level staff</p> <p>B. Engaging private sector in the training and development of public workforce for home care.</p> <p>C. Focused training modules on Elder Care, Care of the Disabled, Mother and Childcare, Mental Health and Palliative care.</p>
Impact	<ol style="list-style-type: none"> <li>1. Career and skill upgrade opportunities for existing personnel</li> <li>2. Enhanced uptake of courses</li> <li>3. Improved employability of allied healthcare professionals</li> </ol>	
4	<p><b>Licensing and registration of home care personnel akin to other skilled medical professionals</b></p> <p><b>Rationale</b> Standardized licensing of caregivers for home healthcare</p>	<p>A. <b>Role-based licensing</b> of specialized skilled homecare professionals with periodic renewal mechanisms</p> <p>B. Inclusion of <b>Ethics Framework</b> for ethical behavior, safety (Patient &amp; Staff) etc.</p>
Impact	<ol style="list-style-type: none"> <li>1. Credentialing and verification of home care providers and staff</li> <li>2. Improved patient safety and care quality</li> <li>3. Providers supports with the reliability of skilled staff</li> </ol>	




#	Key Recommendations	Call to Action by Government
3	<b>Care Financing</b> 	<b>A. 'National Home care licensing standards'</b> i. <b>Mandatory registration of all players providing facilities outside care institutions</b> ii. <b>Tiered-registration as per scope of services</b> with minimum standards defined for each tier including the following: <ul style="list-style-type: none"> <li>• <b>Infrastructure requirements</b> – Care provision, home modifications, equipment, patient transfer facilities</li> <li>• <b>Workforce credentials and privileges</b></li> <li>• <b>Workforce ratios and mandates for operational parameters</b> (recording hours, billing standards, staff safety, patient-to-staff ratios)</li> <li>• <b>Equipment standards (mandates on certification, standards, safety)</b></li> </ul> iii. <b>Clinical care standards for care delivery outside institutions including:</b> <ul style="list-style-type: none"> <li>• Qualification / Initiation criteria for care at home</li> <li>• Referral / termination / discharge criteria-</li> <li>• Handover standards</li> </ul>
1	<b>Standard Treatment Guidelines based on international protocols such as NICE and Japanese guidelines</b>  <b>Rationale</b> Defined care protocols and guidelines to support development of insurance products	
Impact	1. Insurance coverage of home healthcare services and products 2. Enhanced adoption and reduced OOPE	

## Solution Canvas: Care Financing Focus

#	Key Recommendations	Call to Action by Government
2	<b>Financing for an Integrated institutional and home-based care continuum</b>  <b>Rationale</b> Care financing for care continuity and an inclusive care ecosystem-	A. Demarcated home care areas guided by “what can be done at home MUST be done at home” i. Mandated inclusion of proven homecare modalities for coverage in public and private insurance B. Incentivized medical care at home via a GIPSA-like model with define homecare packages- i. Clearly defined “end of institutional care” and “start of home care” in each package ii. Defined referral modes and mechanisms between institutional and home care providers iii. Prioritized adoption in Government schemes. C. Standardized needs assessment for transparency and uniformity
Impact	1. Innovative insurance product providing cost benefits to health seeker and volume benefits to the provider 2. Ensuring viability, sustainability, and adoption at scale-	
3	<b>Business financing enablers</b>	A. Ten-year tax holiday for new entrants; this could be associated with care delivery in Government focus areas or schemes. B. Tax breaks to incentivize care delivery in semi-urban and rural areas C. GST benefits as laid out for institutional healthcare providers
Impact	1. Attract entrepreneurial interest, investment to the sector. 2. Improve reach of services to the peripheral levels	
4	<b>Homecare adoption in Govt. insurance schemes &amp; programs</b>	A. Creation and inclusion of homecare packages into govt. sponsored insurance schemes – PMJAY packages, CGHS scheme, ESIC etc. Inclusion in Ayushman Bharat primary care packages. B. Packages to include Homecare provision for Elder Care, Care of the Disabled, Mother and Childcare and Palliative care
Impact	1. Improved choice for convenient care options to a large population of patients 2. Reducing cost of care for the schemes 3. Building patient & clinician trust in homecare options	

FIGURE 23

## Solution Canvas: Digital Enablement Focus

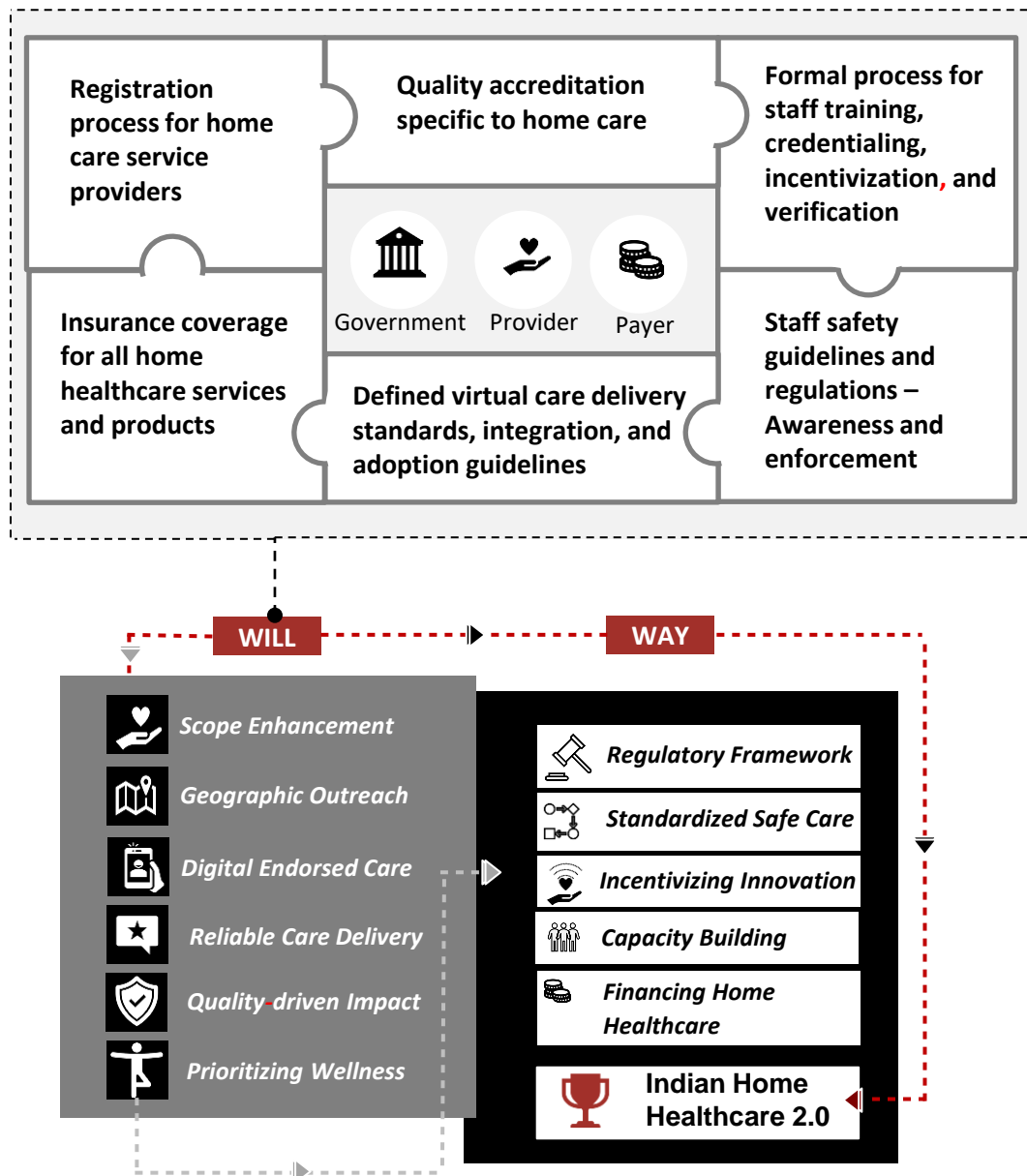
#	Key Recommendations	Call to Action by Government
<b>4</b>	<b>Technology Integration</b> 	A. Data sharing between providers B. Patient access to data and visibility to patient's family C. Defining the data security for report uploads and prescription documents on telehealth portals D. Patient consent for Telehealth related data capture, storage and use
<b>1</b>	<b>Define data privacy and security regulations</b>  <b>Rationale</b> <ul style="list-style-type: none"> <li>· Creating a transparent care delivery system</li> <li>· Ensuring trust, safety, and privacy-</li> </ul>	
<b>Impact</b>	1. Digital care delivery and integration of care 2. Incentivize adoption.	
<b>2</b>	<b>Digital infrastructure support for care delivery</b>  <b>Rationale</b> Enable home-based care delivery to the last mile	A. Enhancing the reach and strength of the digital infrastructure – <b>internet connectivity, digital devices, Telehealth</b> etc. that support care delivery <b>beyond Tier 1 cities and close to remote areas</b> B. Leverage digital routes to address Mental Health across the country
<b>Impact</b>	1. Home care reaching last mile leveraging Telehealth components 2. Care needs fulfilment in remote areas	
<b>3</b>	<b>Environmental support for innovations and entrepreneurs in the space</b>  <b>Rationale</b> Boosting the budding innovation in home health	A. Prioritized inclusion in-schemes for indigenous MedTech and Telehealth development – PLI Scheme, Draft Research & Development Policy 2021, PPO applicability for Government schemes – PMJAY, NDHM etc.
<b>Impact</b>	1. Support care provision at scale 2. Developing entrepreneurship in the space	

It is evident that Indian Home Healthcare holds immense potential and capability. This is also reinforced by the performance of the sector and acceptance amongst patients, providers, and insurers. It is critically important to initiate a precise set of actions to unbridle

this multi-billion dollar segment that is ready to augment and transform the way care is perceived and delivered in India to serve the 1.2 billion people with rapidly evolving care needs and spending capacity.

FIGURE 24

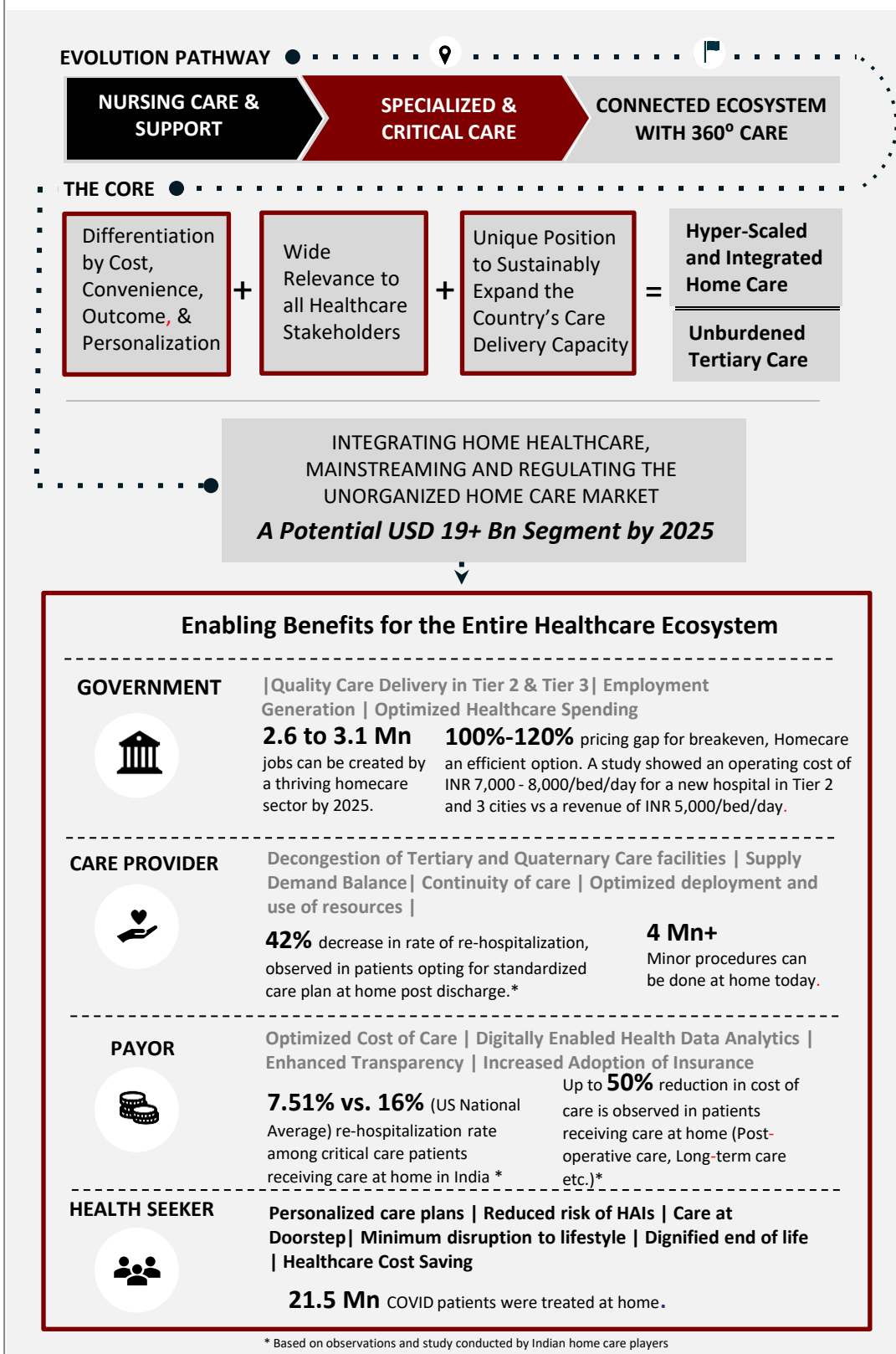
### Indian Home Healthcare 2.0 – Call to Action Summary



# Conclusion

FIGURE 25

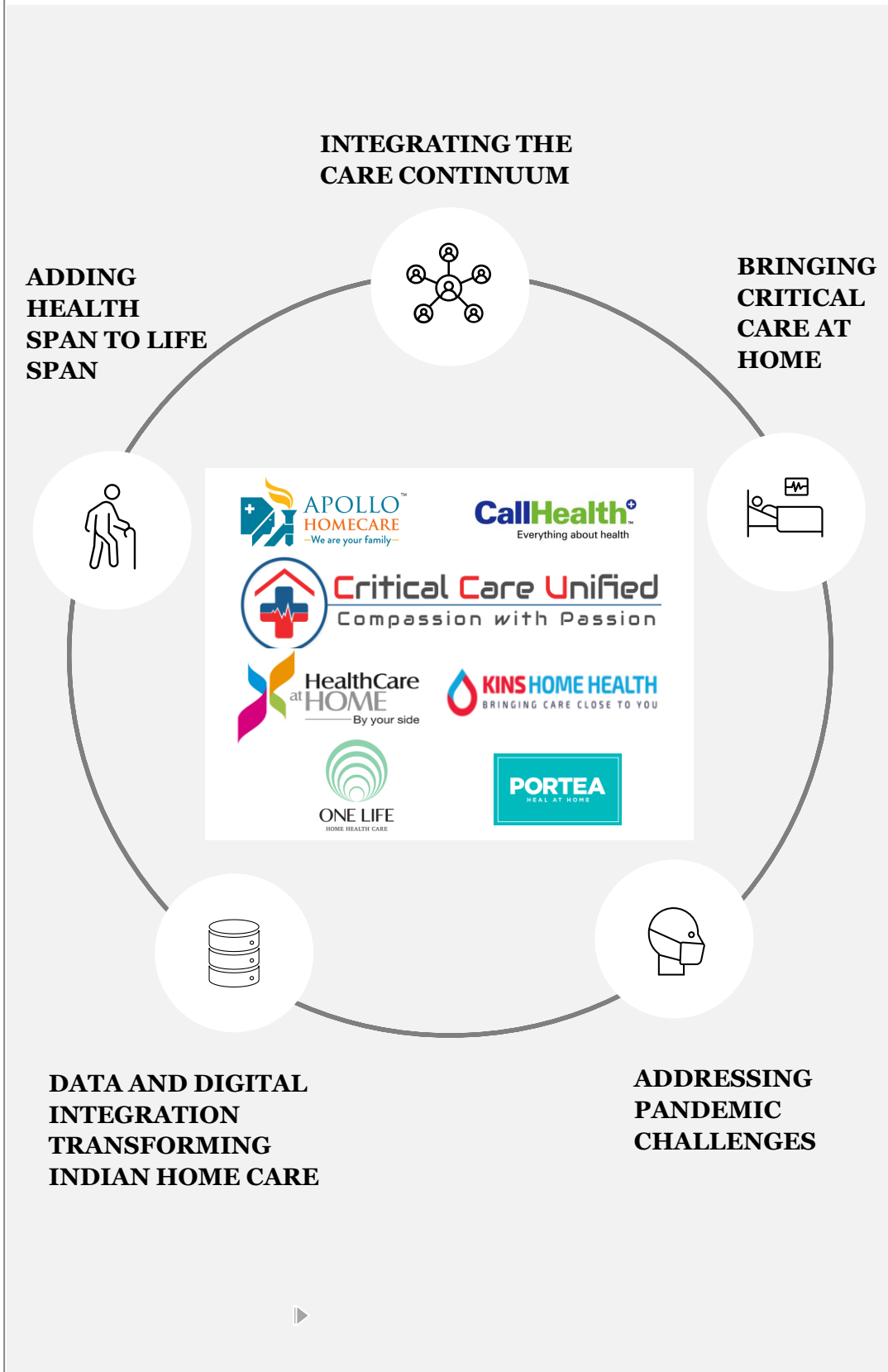
## Visualizing Indian Home Healthcare 2.0 Ecosystem



# Case Studies

in Alphabetical Order

FIGURE 26



## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Striving through the Pandemic”*** - COVID “Stay I (Isolated) at home” program received the FICCI Healthcare Excellence Award 2021 by addressing the needs of asymptomatic or mildly positive COVID patients.

### Context



**A 14-day remote monitoring home-based program during the first and second waves of COVID:** clinical care | rehabilitation | emotional and nutrition focused | professional care givers | home delivery of COVID isolation kit-

### Initiative: Remote Care Setup at Home



**24/7, app enabled**, continuous monitoring | effective systems and **protocols** | **Good incentivization for care givers** | **Partnership** with local care providers for amplified reach | **Cost transparency** | Periodic consultations: physicians, physiotherapists, dietitians, and motivational experts-

### Outcomes (Qualitative and quantitative)



- Average hospitalization rate is **4.6%**.
- Mortality rate was less than **0.5%**.
- Reduction in the hospital infrastructure burden.
- Significant cost saving for families that were financially affected during the pandemic.
- **25,000 cases** were handled at home from **over 120 locations** in India.

**Key outcomes: Higher efficiency | digitally enabled | cost effective | sustainable & scalable**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Follow your heart program”*** by Apollo Homecare was designed for post-operative cardiac care, for patients who have undergone, Coronary Artery Bypass Graft (CABG).

### Context



**The integrated CABG care continuum program** is designed to reduce the rate of rehospitalization and improve clinical outcomes

**A year-long study was conducted on the data for 100 post-CABG patients** who initially had a rehospitalization rate of 8%

### Initiative: Integrated Care at Home



**24/7 remote monitoring** | continuous monitoring of the patient's vitals | structured and **holistic two-week care plan** | Supervised trained staff | post discharge assessment | scheduled calls from caregivers | **multidisciplinary care** | personalized care plan followed | periodic specialist consultation-

### Outcomes (Qualitative and quantitative)



- Rehospitalization rate reduced to **6% from 8 %**.
- **Reduction in LOS by one day** in patients without comorbidities
- 100% medication compliance
- **Improved sugar control** in diabetics during post op period
- **Improved blood pressure control** in patients with hypertension
- Better international normalized ratio range in patients who underwent valve replacement surgery

**Key outcomes: Higher efficiency, digitally enabled, personalized care and Quality of Life-**



## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Back on your toes - Fast Track TKR”*** is an integrated care program designed to deliver post hospitalization care to past Total Knee Replacement (TKR) patients and facilitate home-based early rehabilitation / mobilization.

### Context



Fast-track daycare TKR is an advancement in knee surgery whereby the patient is discharged on the same day / 24-48 hours after the surgery. The objective is to reduce ALOS, reduce unwanted visits to the hospital and have a reduced risk of HAIs in the post-op period.

### Initiative: Holistic Care at Home



This program is facilitated by physical and virtual consultation with all the stakeholders in the care plan along with a remote monitoring device to monitor the real-time vital parameters of the patient. Site assessment is performed, and feasibility measures are calculated. Post assessment of the patient, the specialist doctor is connected to a nurse who is stationed at the homecare setup to provide care according to the plan. Periodic consultations are organized based on the medical requirement of the patient

### Outcomes (Qualitative and quantitative)



- **Reduced length of stay in the hospital by two days**
- Reduction in **cost of care** for patient
- **Zero DVT incidence** in the first 15 days
- **Improved pain management**
- Better blood pressure and sugar control
- No unplanned Emergency Department visits
- Primary consultant updated through digital medical records and wound site images
- **Early mobilization of operated limb**
- **Reduced risk of HAIs**

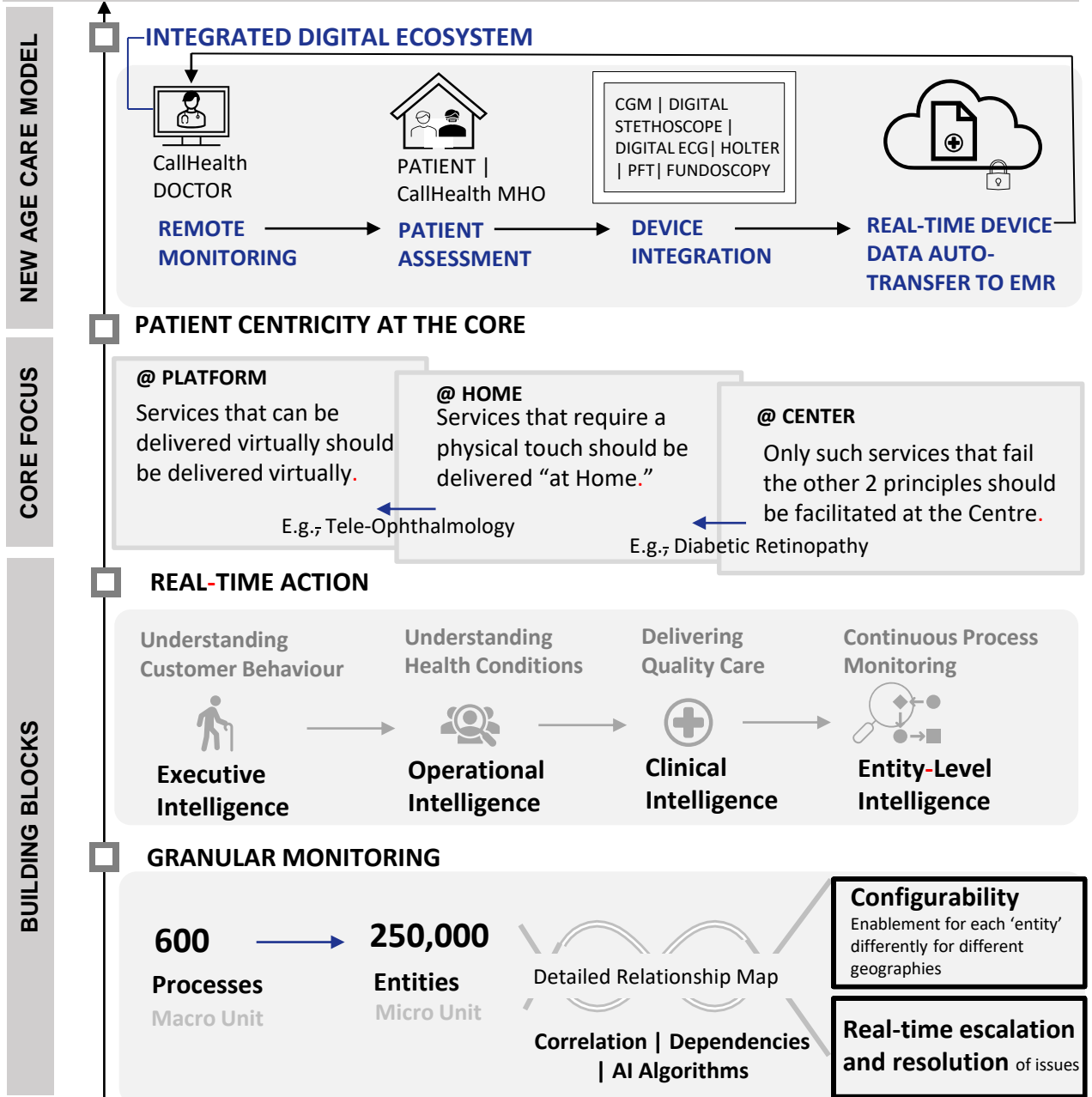
**Key outcomes: Higher efficiency, cost savings, digitally enabled, personalized care, faster recovery, and Quality of Life.**

# Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



*“Enabling the New Age Tech Enabled Data Driven Ecosystem to Drive High Quality Care to Elders at Their Doorstep”*

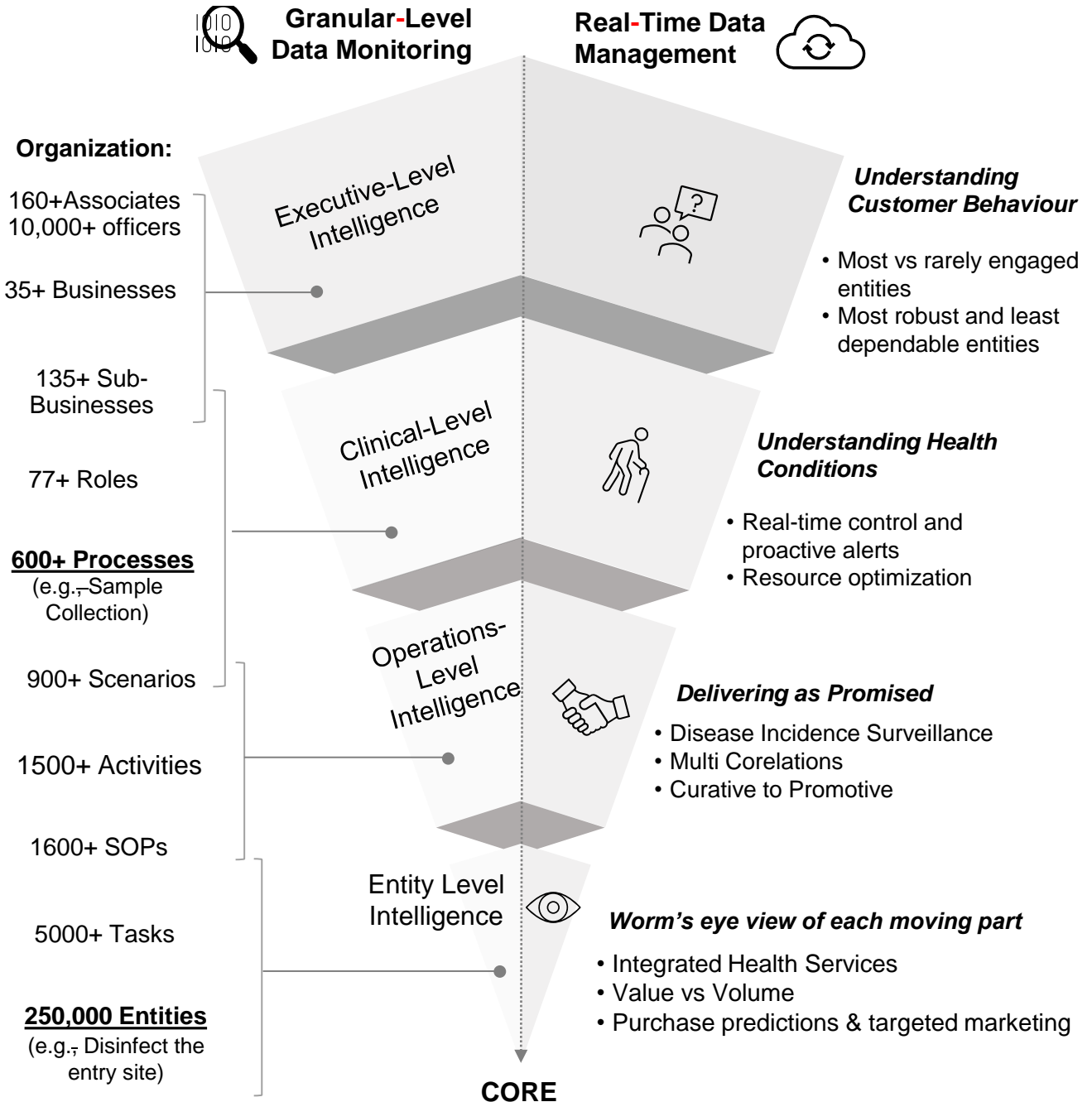
Bringing the **Power of Technology – Data – Clinical Expertise** to create a **Patient-Centric Virtual Home Care model**



# Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



**Data-driven, tech-enabled new age care delivery model**



**Real Time Correlations | Dependencies | AI enabled analytics | Entity Configuration based on Geography**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Re-imagining Risk Assessments for Insurance”***- As the insurance industry witnesses growth due to the pandemic. Curating Digital, Geographic and Scope unlock to provide a solution-oriented framework.

### Context



Virtual process with KYC as per IRDAI | Quality control (QC) for reports | Integrated with insurer portals | Defined model for conducting comprehensive pre-policy medicals as required | Appointment booking to medical completion defined seamlessly.

### Initiative: Redefined solutions for Insurance



**CallHealth delivered a digital solution (Tele and VMER) to meet the requirements and unlock value for insurers.**

Virtual medical examination with underwriting inputs | Point-of-sale risk assessments | Digital authentication for fraud prevention - Aadhar integration, live photo, geo-tagging | Paperless process with live QC checks | Complete transaction trail | Hybrid (pre-policy health checks | Digital aids for an omni-channel service | Curated network of NABL accredited diagnostic centers | Connected devices for onsite vitals capture

### Outcomes (Qualitative and quantitative)



- Processed **35,000 applications** for leading Insurers in 2021.
- **Cost per medical reduced by 60%**
- Applications **processed 2.5X faster**
- Error rates less **than 0.5%**
- **Reduces underwriting effort by 20%**
- Completed **25,000 medicals** in 2021 with leading insurers
- Reached **70% home visit penetration** in metros and **35% in non-metros**
- Case **conversions increased by 20%**
- Demonstrated **zero leakage** in the model with **no escalation or fraudulent reports**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Dignity in senior years”***- Improved outcomes with critical care at home, driven by personalized care with continuous connect with the patient and family.

### Context



Disoriented elderly patient with gastrointestinal bleeding, chronic kidney disease, respiratory failure, pneumonia, atrial fibrillation, adenocarcinoma colon, and fluctuating creatinine levels. They required periodic blood transfusion at the hospital and continuous oxygen support.

### Initiative: Critical and Rehabilitative Care at Home



At home, a setup was created to monitor the patient continuously, with suctioning done every four hours and blood transfusion performed at home twice a week. Bed sores were addressed, along with medication management and physiotherapy. Perineal care was provided, and Ryles tube installation to provide a high protein diet. Along with expert care, emotional support was offered to the patient and the family, and weekly video consultations were provided.

### Outcomes (Qualitative and quantitative)



With close clinical support at home and regular monitoring, the patient’s condition improved. The patient no longer requires oxygen support and is able to breathe naturally. The patient is conscious and oriented. Key vitals are stable now, and the patient can move and stand with support, communicate with family members, and has started consuming food orally. Gastrointestinal bleeding stopped, and no blood transfusion was required. Ryles Tube continues to be used only for medicines. Neurologically, the patient has improved. Regular physiotherapy is being done to stimulate and improve his lower limbs.

**Key outcomes: Personalized care, improved lifestyle, faster recovery, and Quality of Life**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Adding Productive Life Years”***- Improved acute care at home and saving the life of a young citizen residing in a remote location.

### Context



A young patient hospitalized in a different city, was diagnosed with Central Pontine Myelinolysis (CPM) with pontine infarction. The patient was also diagnosed with sepsis, lower respiratory tract infection, right side pneumonia, acute kidney injury, decompensated chronic liver disease, portal hypertension, coronary artery disease with left ventricular dysfunction, and multiple bedsores.

### Initiative: Critical Care Setup at Home



The Clinical Team immediately implemented the Care Plan at the patient’s home in a very remote area. Ventilator support with PC mode and oxygen was administered 15L per minute. When unconscious, the patient was on Tracheostomy; continuous suction and NORAD @ 15 ml/hour was being administered during unstable vitals, and central line was inserted. The Glasgow Coma Scale (GCS) score was very poor, and the entire body was swollen. Antibiotics were being administered with minimal output.

### Outcomes (Qualitative and quantitative)



Initially, NORAD @ 15ml/hour injection administered. It was administered initially for two days, and then the tapering off process started. Vitals were managed, and after a week, ventilator weaning off process began CPAP mode was applied for ventilator, and then T-PIECE was used during the day. The patient’s GCS score improved, and oxygen support stopped. After 15 days, T-PIECE was also removed; the patient was breathing naturally with an improved Braden Score of 23. The central line was removed after 15 days. The patient’s condition improved and wheelchair mobilization started. Five days later, decannulation was completed, and all antibiotics were stopped as the patient’s condition improved considerably. The GCS score improved, and the family was highly satisfied.

**Key outcomes: Personalized and consistent care, faster recovery, and Quality of Life.**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Digitally augmented skilled care”***- Increased transparency of care delivery with efficient and noticeable outcomes for care-seekers as well as care givers.

### Context



A five-month-long observational study was conducted on 506 patients to create an effective clinical governance by leveraging technology. This study included care for critical patients in a home care setup with documentation audit, incident management and E-ICU monitoring process.

### Initiative: Critical Care Setup at Home



Continuous monitoring of the patient was performed and documented digitally, with a Critical Evaluation team receiving a real-time trend chart of the patient's condition. A nurse was assigned for the patient and audited for her efficiency on a regular basis. An incident management tool helped resolve situations and emergency conditions efficiently. 24/7 monitoring was performed electronically using “Critinext,” where a specialized doctor evaluated the condition of the patient and adopted corrective measures proactively.

### Outcomes (Qualitative and quantitative)



A remarkable reduction in HAI was witnessed along with increased efficiency, thereby resulting in increased patient and family satisfaction. At the end of the study, the error rates reduced drastically and thus diminished the readmission rate of the patient. An average reduction of INR 30,000 per day per readmission was incurred along with an increased retention rate, leading to a 20% surge in the revenue from an existing patient.

**Key outcomes: Higher efficiency, improved quality of care, emergency care and highly personalized and focused care.**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Prevention based enhanced care”***- With digital dashboards providing continuous care in order to reduce infection rates among the catheterized critical care patients’ cohort.

### Context



A well-regulated home-based study was conducted for a year with ~40 patients admitted every month with an indwelling catheter. The aim was to reduce Catheter Associated Urinary Tract Infection (CAUTI) rates per 1000 device days among the ICU patients who were admitted with urinary catheters.

### Initiative: Critical Care Setup at Home



Continuous tracking and reporting was performed, and the CAUTI organisms were identified. Standard reporting environment was maintained, and guidelines were fixed to develop initiatives. A checklist was developed with protocols for patient hygiene and infection control practices. A central evaluation team continuously monitors the patient with specialized consultancy provided through the virtual mode to take corrective and preventive measures.

### Outcomes (Qualitative and quantitative)



CAUTI rates reduced from 12.87 per 1000 device days to 1.6 within 9 months that further reduced to 0 within a few months. Additionally, the staff was trained and eventually adopted working in synergy with the required care and reporting incidents diligently.

**Key outcomes: Higher efficiency, improved quality of care, emergency care and reduced infection rates**



## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Capacity release of specialized focus”***- Advanced Homecare across specialties and geographies to support focused delivery of specialized care at hospitals

### Context



Realizing the need for quick discharge but continued care for patients at home, Kins Hospital started Kins Home Health.

Data showed that a substantial number of patients, especially geriatric patients, came for multiple readmissions for complications that could be managed at home with the help of basic paramedical support and connected medical devices for remote monitoring. Managing at home would save costs and reduce the overburdening the hospital beds.

### Initiative: Remote Care at Home



A team of doctors, paramedics, and executives was deployed for Home Care specifically, and strategic partnerships with medical devices and medical technology companies (SaaS-enabled) were developed and deployed. Daily patient assessment, paramedical support, and regular monitoring of patients was performed at home virtually. For patients residing in remote areas with limited resources, receiving care digitally with technology as an enabler was initiated.

### Outcomes (Qualitative and quantitative)



Readmission for geriatric patients reduced by 40% resulting in better QALY and reduced financial burden. ALOS reduced from 7-8 days to 5 days as care was shifted to home.

With life expectancy and NCDs on the rise, disease-specific (Palliative, Post Surgery, Stroke, Geriatric etc.) homecare as well as providing quality care for the patients is emerging.

**Key outcomes: Consistent care, faster recovery, digitally activated, cost savings and Quality of Life.**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



ONE LIFE  
HOME HEALTH CARE

'Live Well Always'

***“Multi-dimensional home care (physical, emotional/mental and active palliative care)”***- to improve the health-related quality of life of patients with advanced illnesses

### Context



The main goal of palliative care is to improve the health-related quality of life of patients with advanced illnesses. Maintaining quality of life at end of life, requires a multidimensional approach. A middle-aged male patient diagnosed with Renal cell carcinoma with lung and brain metastasis underwent ten cycles of radiation therapy and chemotherapy.

### Initiative: Palliative Care Focus



One Life Home Healthcare's clinical team went to the patient's home for assessment; the patient was conscious and oriented, with a GCS score of 15/15 and was hemodynamically stable. The clinical team prepared a Clinical Care Plan for the patient, in view of monitoring vitals, pain management and wound management. The patient was given wound care, back care, and catheter care along with psychological support. A pain score of 7/10 was recorded by a visual analog scale, and as the pain score was severe, it was managed with opioid patches. Gradually, the pain score reduced to 2/10, and the patient ultimately became pain free after a period of six months.

### Outcomes (Qualitative and Quantitative)



Advanced age, restriction on daily life activities, increased disability, and chronic disease negatively affect the quality of life of this patient who had been diagnosed with carcinoma. The pain was managed with opioid patches. Till the end-of-life, the patient was pain-free, ambulated, comfortable and surrounded with loved ones at home.

**Key outcomes: Improved quality of care, efficient palliative care, highly personalized and focused care-**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



***“Integrated comprehensive critical care”*** to help individuals to improve their day-to-day functions and live with greater independence, and to promote the patient’s optimal level of well-being.

### Context



A 62-year-old female presented with complaints of severe neck pain that had been getting aggravated on movement for two months, with upper and lower limb numbness, which had increased in the past 15 days. Patient had gotten admitted in a hospital and was diagnosed with Tubercular spondylodiscitis C2-C3 with progressive symmetrical incomplete quadriplegia. The patient also underwent wound debridement with anterior column reconstruction.

### Initiative: Critical Care Setup at Home



On assessment, the patient was semiconscious and disoriented with a poor GCS score. Hemodynamically unstable, the patient-maintained saturation at 98% with 5 liters of oxygen support. The patient had a tracheostomy tube, Ryle’s tube, and silicon catheter. The patient also had a grade-2 bedsore in the left gluteal region and incomplete quadriplegia (muscle strength grade 2/5). Active physiotherapy had been started. Gradually, the patient was weaned off from oxygen support while maintaining 98% saturation on room air.

### Outcomes (Qualitative and quantitative)



One Life’s clinical team plays a key role in making a difference in the lives of patients, who stay at home and receive essential home care. With the help of an experienced and qualified physiotherapist conducting regular physiotherapy, the patient’s motor power improved in all four limbs. With robust monitoring and care provided by the qualified nursing staff, the bedsore healed completely, and catheter-related infections were completely prevented. The patient was weaned off from oxygen support and maintained adequate saturation in room air with the help of the clinical team (medical officers and nurses).

**Key outcomes: Higher efficiency, improved quality of care, critical care, care continuum, cost-efficient and highly personalized and focused care.**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



ONE LIFE  
HOME HEALTH CARE

'Live Well Always'

***“Creation of efficient seamless integrated care continuum”*** by partnering and coordinating with hospital and healthcare providers

### Context



A 79-year-old female presented with complaints of breathlessness and weakness of both upper and lower limbs. The patient had multiple comorbidities and was a known case of coronary artery disease, type-2 diabetes mellitus, systemic hypertension, Parkinsonism, Irritable bowel syndrome, hospital-acquired pneumonia, recurrent urinary tract infection, Bronchial asthma, Ischemic heart disease, and Chronic kidney disease. She got admitted and was diagnosed COVID-positive and as having intra cranial hemorrhage, bilateral axonal neuropathy, and Guillain barre syndrome.

### Initiative: Care Coordination



On assessment, the patient was unconscious, disoriented, hemodynamically unstable and maintaining saturation at 93% with 5 liters of oxygen. The patient was on lines and with tracheostomy. The patient had grade-3 bed sore in the bilateral gluteal region. The patient also had weakness in both upper and lower limbs and required muscle strengthening, for which active physiotherapy had been started. Gradually, the clinical team started weaning off the trial. After careful monitoring, the patient was successfully weaned off from oxygen support. Two-hourly suctioning of the tracheostomy tube was performed. Chest physiotherapy and breathing exercise continued. With continuity in clinical care, results were encouraging and positive: 1) The patient began to move all the limbs except the right upper limb. 2) Oxygen saturation was being maintained at 93% at room air. 3) A semi-solid diet was taken orally and tolerated well. 4) The patient's bed sore healed completely.

### Outcomes (Qualitative and quantitative)



With an extremely competent clinical team in handling chronically and critically ill patients, One Life Home Healthcare achieved various milestones with this patient such as initiation of oral intake, improvement of GCS score, healing of bed sore, improvement in muscle strength, weaning off from oxygen support and maintaining saturation at room air. Amid the COVID pandemic, hospital bed availability was scarce, and even the most critical patient was unable to get admission in a hospital. Chronically ill patients who required clinical monitoring were unable to be admitted to hospitals. At such trying times, home healthcare organizations have proven to be true healthcare partners to hospitals and the government.

**Key outcomes: Care coordination, care continuum, process efficiency , cost efficient and highly personalized and focused care.**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem

**PORTEA**  
HEAL AT HOME

***“From Critical Care at doorstep to Chronic Condition Management at home” – Home care providers making technology-enabled quality and reliable care available in the comfort of the patient’s home with 24\*7 Remote Monitoring (Healthspan Added to Lifespan)***

### Context



**Complex Clinical Profiles Managed at Home :** Elderly | Multiple Comorbidities – Hypertension , Diabetes | Recurrent Hospitalization | Comatose | Brain Stroke Episode | Spine Surgery Patient | Amyotrophic Lateral Sclerosis| Progressive Interstitial Lung Disease| Ventilated | Catheterized | Backache| Weakness in Limb | Disc Prolapse | Urinary incontinence | Dementia | Dengue

### Initiative: Care Setup at Home



**Service Portfolio Provided in the Comfort of Home :** Robust application of **Remote Monitoring** using digital platform and connected devices | **24\*7 Vital & Chronic Condition Monitoring** leading to prevention of risk of end organ damage and recurrent hospitalization | **Ventilator Care with Oral Feeds** | **24x7 BiPAP Support** through a tracheostomy tube | Tracheostomy care and regular suctioning | **Speech Therapy and Rehabilitation Assistance**| **Specially Curated Critical Care Set Up & Services at Home for** - cancer, severe pneumonia / COPD, congestive heart disease, stroke, polytrauma and transplant cases | **Regular Visits** from doctors, critical care specialist, therapists and nutritionist.

### Value Additions

PREVENTIVE  
VACCINATION

24\*7 EMERGENCY  
ASSISTANCE

DEDICATED HEALTH  
MANAGER

### Outcomes (Qualitative & quantitative)



**Out of 6,854 critical care patients served by Portea at home (Jan 19 – Jul 21), the percentage of patients who required re-hospitalization was merely 7.51% compared to the US national average of overall re-hospitalizations of 16%.**

Long Periods of Engagement  
**4 M to 2.5 Years**

Savings in Cost of Care  
**70% savings observed**

Improved  
**Quality of Life**

## Case Studies Evidencing the Potential Unlock in the Indian Home Healthcare Ecosystem



**“Technology led remote management”** of COVID patients across different corners of the country during all three waves of the pandemic.

### Context



A ten-day COVID home isolation program | Focused on holistic care of asymptomatic and mildly symptomatic COVID positive patients | Initiated during the first wave | Continued through the third/Omicron wave | Over four lakh patients managed remotely | Multiple locations in India including tier 2,3, and 4 cities.

### Initiative



- Provision of COVID kit including vitals monitoring devices
- Daily telecalls by health workers to monitor vitals and symptoms; all patient data recorded on the EMR system
- Periodic doctor video teleconsultations done through the portal
- Periodic nutritionist and psychologist teleconsults/counselling
- Coordination for transfer to hospital in case of deterioration of condition, with provision of ambulance and availability of hospital bed
- Provision of 24x7 helpline and a dedicated health manager

### Outcomes (Qualitative and quantitative)



- Services are continuing from April 2020 till date.
- Hospitalization rate of 2.94%
- Reduction in hospital infrastructure burden / more beds available for sicker patients
- Huge cost saving by the patient / family
- Expert medical care available in the most remote parts of India

# Endnotes

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# Acknowledgement



ADITYA BIRLA GROUP



# Key Contributors

**Mr. Atul Kotwal**

National Health System Resource  
Center (NHSRC)

**Dr. Ranjan Kumar Choudhury**

National Health System  
Resource Center (NHSRC)

**Anuradha Sriram**

Aditya Birla Health Insurance

**Dr. Gaurav Thukral**

Healthcare At Home

**Gaurav Tripathi**

Aditya Birla Insurance

**Hari Thalapalli**

CallHealth

**Dr. Harish Pillai**

Ex- CEO Aster DM

**Dr. Krishnashankar Sivaprasad**

Star Health & Allied Insurance

**Dr. Krishna Mehta**

One Life Home Healthcare

**Dr. Mahesh Joshi**

Apollo Homecare

**Mayank Bathwal**

Aditya Birla Health Insurance

**Meena Ganesh**

Portea Medical

**Nanki L. Singh**

ProTribe Services India Pvt Ltd

**Narayana Swami TR (Rahul)**

One Life Home Healthcare

**Prateep Sen**

Tribeca Care

**Dr PBN Chaudhary**

CallHealth

**Rajeev Sadanandan**

Health Systems Transformation  
Platform

**Rajiv Mathur**

Critical Care Unified

**Rohit Sathe**

Phillips India

**Siddhartha Bhattacharya**

NATHEALTH

**Dr Sooraj KM**

Aster DM

**Sudhakar Mairpadi**

Philips India Limited

**Sumit Singhal**

KINS Healthcare

**Dr. Venugopal Kaukuntla**

Century Super Specialty Hospital

**Dr. Vishal Sehgal**

Portea Medical

**Vipin Pathak**

Care24

**Vivek Srivastava**

Healthcare At Home

**Dr Rana Mehta**

Healthcare, PwC

**Dr Vijay Raaghavan**

Healthcare, PwC

**Samhita Bhakta**

Healthcare, PwC

**Dr. Kanchan Raghuwanshi**

Healthcare, PwC

**Sonali Dania**

Healthcare, PwC

NATHEALTH wishes to convey gratitude to the Ministry of Health and Family Welfare, NITI Aayog, Department of Pharmaceuticals and Department for Promotion of Industry and Internal Trade for their guidance and insights.

We would like to thank the entire NATHEALTH leadership and the NATHEALTH Diagnostics, Insurance, Provider, Senior care and MedTech forums for their contribution to the paper

A special thanks to the NATHEALTH secretariat and the entire NATHEALTH community for their support.