

HEALTH OF THE NATION 2024

An initiative by Apollo Hospitals

DECODING THE INDIAN HEALTH QUOTIENT

In its fourth edition, coinciding with the World Health Day on April 7, Apollo Hospitals' Health of the Nation 2024, is a detailed and deliberate attempt to highlight the growing "silent epidemic" that needs prioritized action by every Indian.

Over the last two decades, non-communicable diseases (NCDs) have seen a steady rise as the leading cause of death in India. Not only the growth in NCDs but also their early arrival amongst the Indian population is alarming .

NCDs are worth reckoning because they are personal as well as collective in their impact; NCDs not only affect an individual's health and productivity but also impact the overall economic growth of a nation.

The Health of the Nation by Apollo Hospitals attempts to offer insights into the prevalence and risk factors of NCDs, putting the spotlight on diseases and risk factors that need immediate attention. The report draws

inferences and insights from data based on the people engaged through the Apollo Hospitals system as well as the medical ecosystem at large.

We believe this report will help us recognise problem areas and identify tangible solutions that have the potential to improve disease prevention, enhance the accuracy of diagnoses that will, in turn, lead to a more personalized and patient-centric treatment approach.

The majority of the data shared through the Health of the Nation is based completely on Apollo Hospitals' de-identified hospital information systems and EMR, and other studies as part of the Apollo Group, as well as publicly available information.

HIGHLIGHTS

India, now the Cancer Capital

Diagnosis at a younger age in India, compared to other countries

Feeling the Blues

Sharp increase in mental health disorders amongst those between 18 and 40

Expanding Waistlines

Beneath the illusion of normal BMI, significant increase in visceral fat

Stress on Pressure

India's pressure points tighten as more hover in the pre-hypertension zone

Sweet Tooth turns Bitter

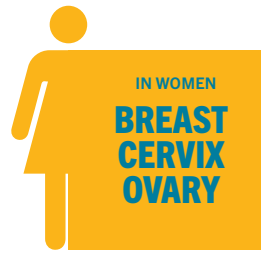
Prediabetes is increasing amongst young adults (<45 years)

“Cancer is just a chapter in our lives and not the whole story”... But what’s the story?

WHEN CANCER COMES TO TOWN

Cancers are one of the most common causes of death worldwide. The number of cases are projected to go up in India over the years to come, making it the cancer capital of the world.

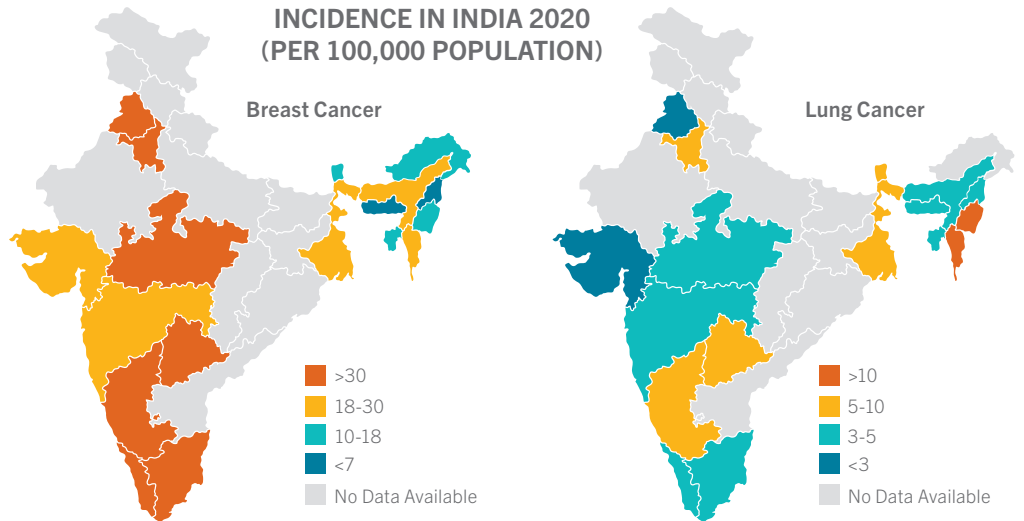
Cancer, Looking Up



MOST COMMON CANCERS IN ORDER OF OCCURRENCE

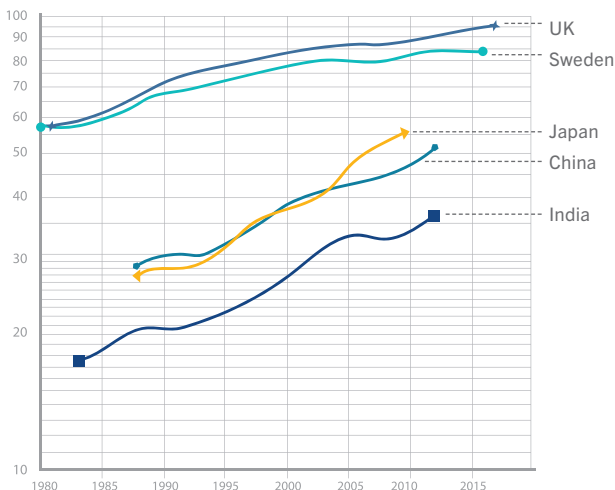
The number of cancer cases in India are on a sharp rise, with projections showing an increase from 13.9 lakh cases in 2020 to 15.7 lakh cases in 2025. This data represents a significant 13% growth in merely five years. Alongside, the cancer burden, measured in Disability-Adjusted Life Years (DALYs), is projected to grow from 27 million in 2021 to almost 30 million by 2025.

DISTRIBUTION OF CANCER INCIDENCE IN INDIA 2020 (PER 100,000 POPULATION)



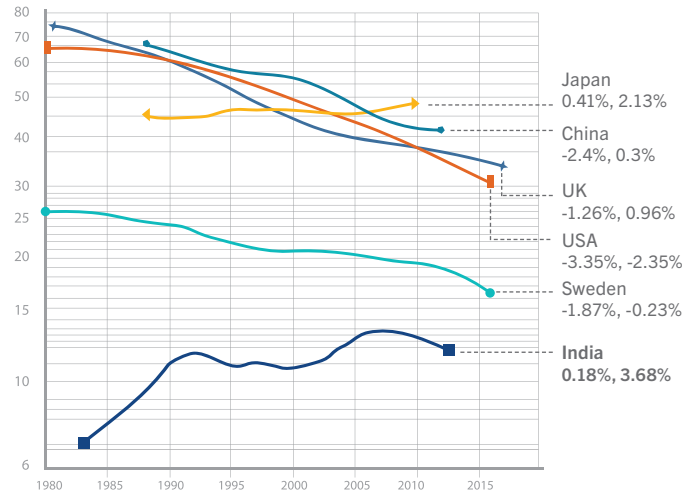
Note: If state data is missing, we use district data as a substitute. For multiple districts, average is calculated. Source: National Cancer Registry Program Report, 2020

Breast Cancer Incidence in Indian Women Vs Other Countries



Source: Global Cancer Observatory, IARC, WHO

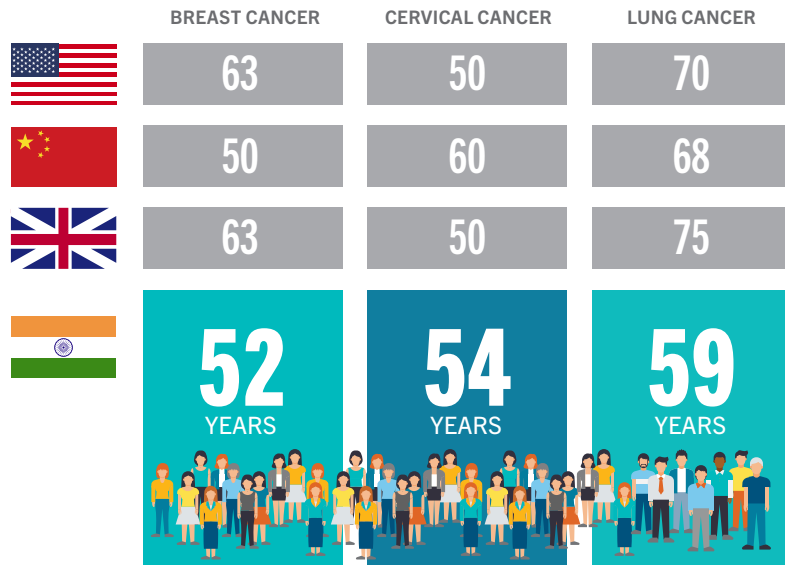
Lung Cancer Incidence in India Vs Other Countries (Male%, Women%)



Coming Home Early

Cancers are also making their presence felt amongst the young in the Indian population, even more so when compared to other countries like USA, Europe, and China.

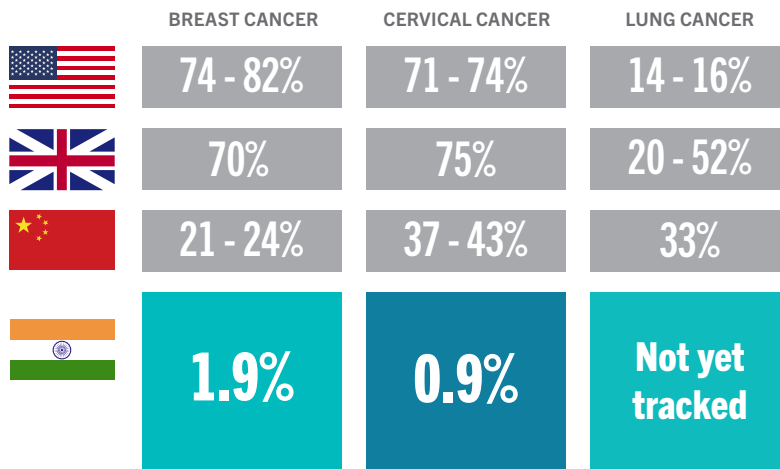
THE MEDIAN AGE FOR CANCER DIAGNOSIS



Source: American Cancer Society, Cancer Research UK, China CDC Weekly, Apollo Hospitals

COLON CANCER is increasing amongst younger people (< 50 years) globally and in India, and is projected to double over the next decade. At Apollo Hospitals, 30% of colon cancer patients are aged less than 50 years.

POPULATION SCREENING RATES



Source: NFHS-5, CDC, NIH, NHS

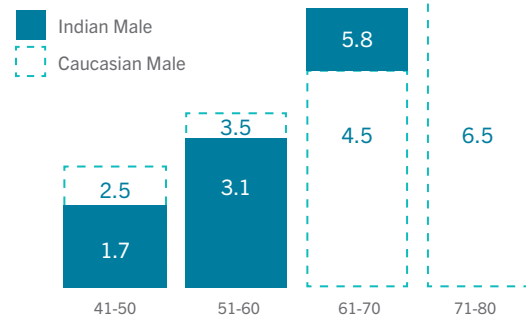
Screaming for Screenings

There is a dire need to ramp up cancer screenings in the country. Based on data sourced, the percentage of screenings in India are very low compared to other countries.

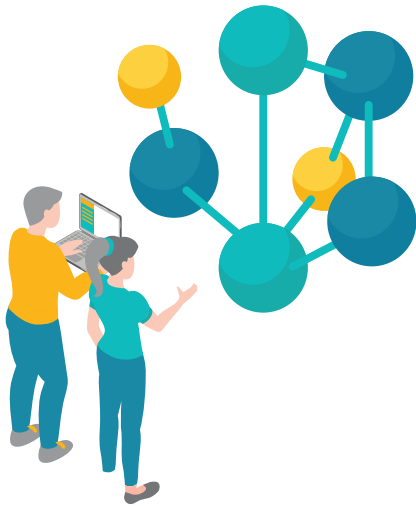
PSA MATTERS

An analysis of about 90,000 values by Apollo Hospitals found that the threshold for PSA (Prostate-Specific Antigen) in Indian males is different from the current standards, which is based on Caucasian populations. The threshold value is lower for younger age groups and, with age, this value increases. **This suggests that there is a need to create new guidelines for what is considered normal PSA levels for Indian men, to improve how doctors make decisions about prostate health.**

THRESHOLD FOR PSA VALUES BY AGE GROUP (NG/ML)



Source: Addla et al., 2023 Oesterling et al., 1993



“Because your mental health is as important as your physical health”

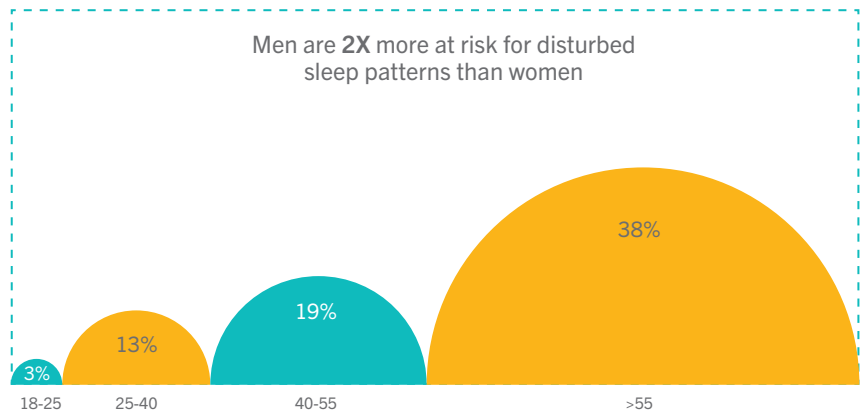
WHEN THE BLUES SING

Mental health disorders are increasingly making their way amongst the young in India. The country seems to be grappling with a range of cognitive disorders and NCDs that are caused by anxiety, depression and poor sleep.

**1 in 4
at risk of
disturbed sleep**

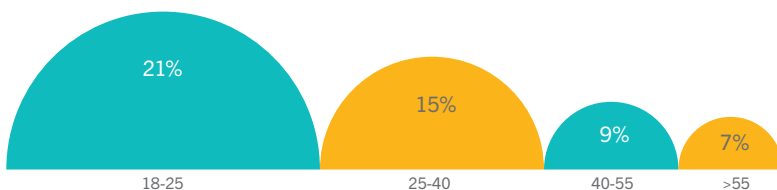
From amongst 5,000 persons who were screened for quality of sleep, 1 in 4 persons were at a high risk for obstructive sleep apnoea (OSA). If not treated and managed proactively, this can result in - in the short-term - sleep disturbances, decreased cognitive function and mood changes; and in the long-term can put one at a higher risk for cardiovascular diseases, hypertension and metabolic syndromes (like diabetes, high cholesterol, etc).

PEOPLE WITH HIGH RISK OF SLEEP APNOEA BY AGE GROUP



Source: Apollo Preventive Health

PEOPLE WITH DEPRESSION BY AGE GROUP



Source: Apollo Preventive Health

Depression is more than just feeling sad. It's a medical illness, which when recognised early is fully treatable.

**1 in 5
depressed in
18-25 age group**

In another cohort of 5,000 persons who were screened, 1 in every 10 had depression. What is worth reckoning is that the percentage of depression is highest amongst those in the age category of 18 and 25.

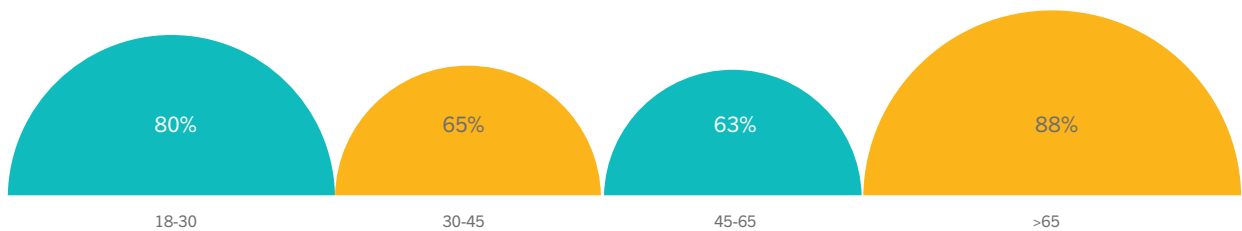
Stress worthy

Stress levels manifest as anxiety, obesity, fatigue, insomnia, lack of stamina and low productivity.

From amongst 11,000 persons who were surveyed to assess their stress levels, almost 80% of young adults (18-30 years) and seniors (>65 years) reported significant stress levels. Stress can have a direct effect on some NCDs like hypertension and diabetes.



PEOPLE WHO SELF-REPORTED SIGNIFICANT STRESS



Source: Apollo Preventive Health

AVERAGE INCIDENCE OF NCDs WITH AND WITHOUT CHRONIC STRESS



Chronic stress increases the incidence of hypertension and diabetes by 1.3 - 2 times, with women being more susceptible

“Don’t dig your grave with your own knife and fork”

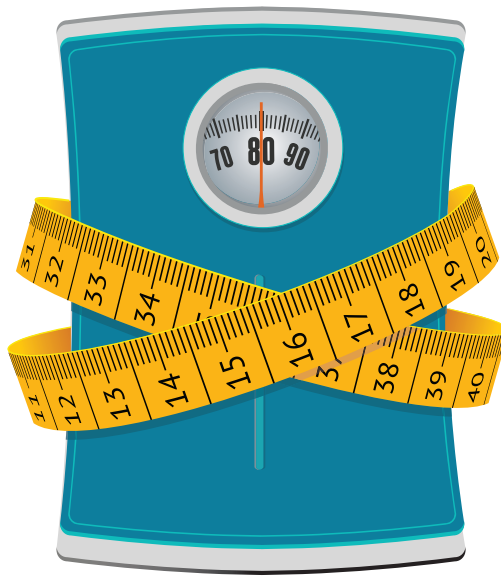
WHEN THE SCALE GOES UP

Obesity is the most common risk factor for all chronic NCDs, such as hypertension, high cholesterol, Type 2 diabetes, cardiovascular diseases, metabolic syndromes and cancers.

Weight of the Matter

High Body Mass Index (BMI) is the most common measure for overall obesity. Based on data from Apollo Hospitals, 3 in 4 persons who came for preventive health check-ups were either obese or overweight, as per their BMI. There is also a significant increase in the overweight and obese population, amongst those screened from the years 2016 to 2023.

3 in 4 obese or overweight

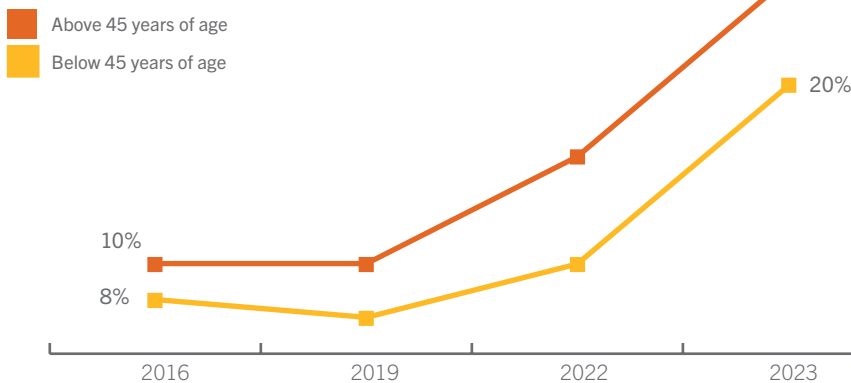


Using the Waist-to-Hip ratio to measure “central obesity” (proxy for visceral fat), we observed that 90% of women and 80% of men had a higher ratio than recommended.

All obese people (BMI >30) had high visceral fat levels (or “central obesity”), which is likely to compromise organ function, thereby accelerating the path to chronic NCDs.

The Thin-Fat Conundrum: Even among those with normal BMI (<25), nearly half (46%) of them had higher visceral fat levels than recommended.

BMI TRENDS BETWEEN 2016 - 2023



Source: Apollo Preventive Health

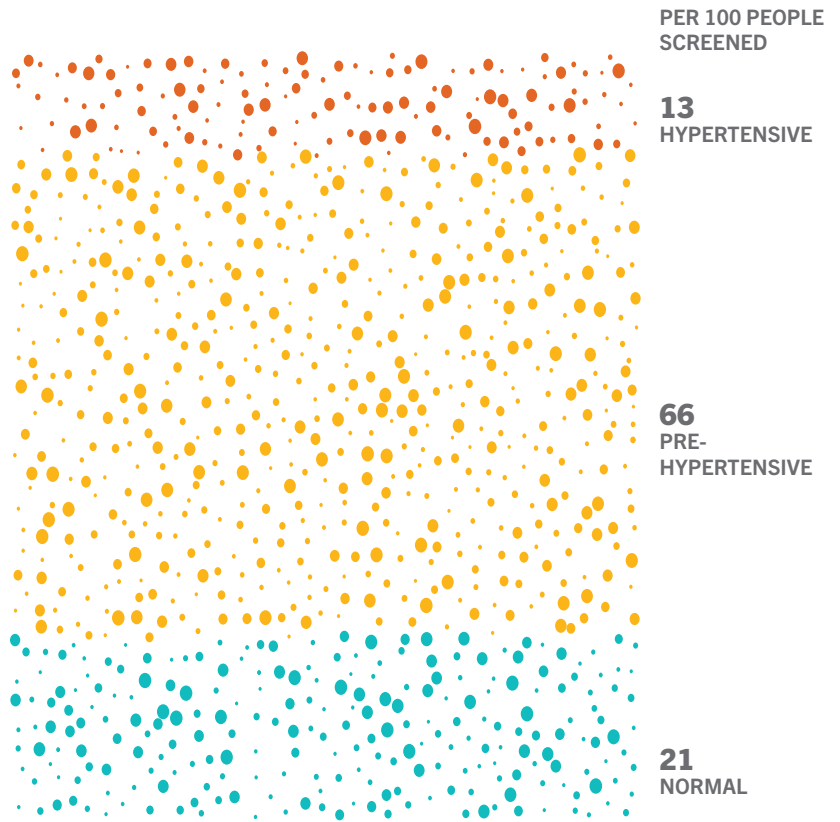
“The best way to keep your blood pressure down is to know what makes it go up”

WHEN BLOOD PRESSURE RISES

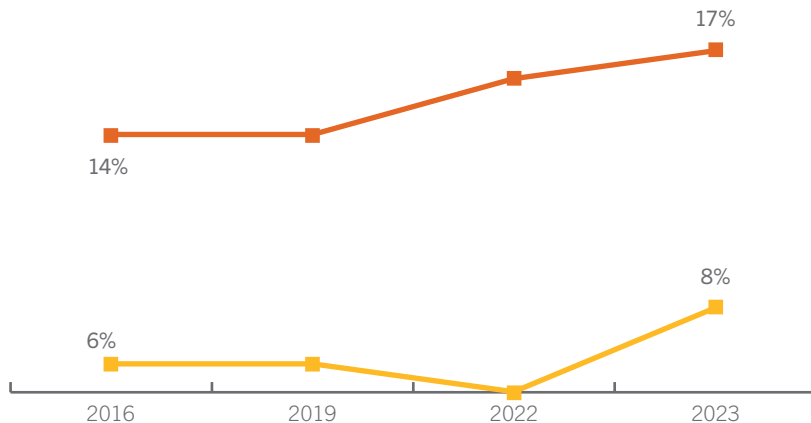
In India, hypertension is unarguably on the rise. With a whole host of lifestyle and environmental factors that have increased stress levels and triggered obesity, the spotlight is on blood pressure.

2 in 3 moving toward high pressure

Hypertension is often referred to as a “silent killer” because it often shows no symptoms. The only way to recognise the condition is to get your blood pressure checked and regularly. High blood pressure puts a person at an increased risk for heart disease, heart failure, and stroke amongst others diseases. The most common risk factors for hypertension are smoking, stress, high salt intake, hormonal health and age. Year-on-year, the prevalence of hypertension is increasing from 9% in 2016 to 13% in 2023.



Source: Apollo Preventive Health



Source: Apollo Preventive Health

HYPERTENSION TRENDS BETWEEN 2016 - 2023

- Above 45 years of age
- Below 45 years of age

With 66% in the pre-hypertensive stage, there's a large population at risk of developing hypertension and stroke, if not controlled.

“Diabetes doesn’t define me; it’s just a small part of who I am”

WHEN SUGAR GOES BAD

India is now home to 101 million diabetics with an equivalent number of pre-diabetics.

1 in 3 have pre - diabetes

Traditionally, > 45 years of age is considered as a risk factor for pre-diabetes but data reveals that 20% of the age group below 45 also had pre-diabetes. While there is significant and growing awareness about diabetes, actively managing in the pre-diabetic stage is the only real way to ‘reverse’ diabetes as well as slow the progression to other complications.

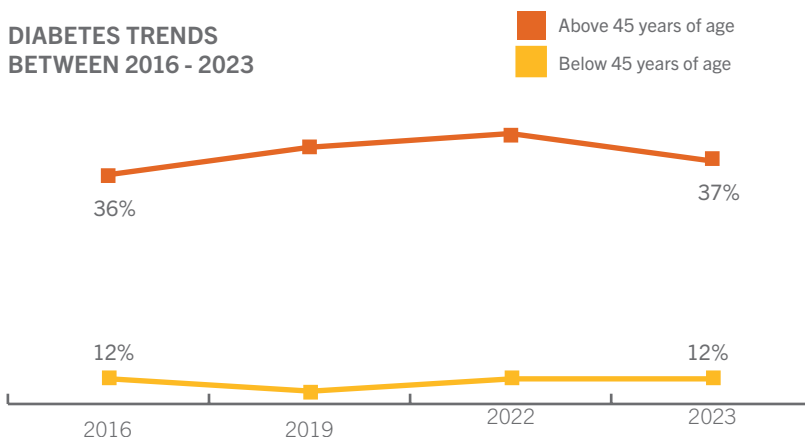
Typical progression from pre-diabetes to uncontrolled diabetes leading to complications is about 15 years. And the first five years could be asymptomatic.

Classical symptoms like frequent urination, excessive thirst and hunger, unexplained weight changes, frequent infection are observed typically when the blood sugars levels are uncontrolled.



1 in 10
Uncontrolled
Diabetes

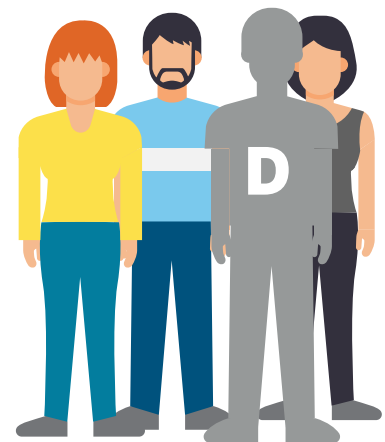
DIABETES TRENDS BETWEEN 2016 - 2023



Source: Apollo Preventive Health

ALL SUGAR

Almost 40% of women who have had gestational diabetes are likely to develop Type 2 diabetes within 5 years. Therefore, close monitoring of blood glucose is a must.



1 in 4
Diabetes

PAVING THE WAY FORWARD



Apollo's Health of the Nation report highlights the rising trends posed by non-communicable diseases amongst India's growing population and how important it is to take health seriously in a world that is mechanical, time-poor and technology-obsessed.

Committed to the cause of health, Apollo Hospitals believes the insights and analysis presented in this document have the potential of becoming a reference guide on the prevalence and rising growth of cancers and other NCDs in India, allowing all stakeholders in the health ecosystem to engage and take effective action to monitor, control and prevent these diseases.

HIGHLIGHTS

Screen in Time

Regular screening is the need of the hour

Monitoring Matters

Consistent monitoring prevents, improves and manages conditions

The Nudge Effect

Apollo ProHealth program significantly impacts people by guiding them on their path to wellness

A SCREEN IN TIME SAVES LIFE

Regular and timely health checks, based on each individual's risk factors, can help keep NCDs at bay.

Those who monitored their health on a consistent basis through health checks, more than three times in the last five years, noticed a significant lowering of their blood glucose levels, blood pressure and body weight.

The study also reveals that 1 in 4 people who were initially at high risk of developing heart disease within the next ten years successfully lowered their risk to a low or medium level.

Source: Apollo Preventive Health, NCCDPHP



In the context of cancers, regular and early screening can be life-saving. Almost 98% of women diagnosed with breast cancer at an earlier stage have a better 5-year survival rate compared to 31% of those diagnosed at an advanced stage.

Women > 40 years should do a mammogram (gold standard for breast cancer screening) every two years; those with risk factors should start early and do annually.

30% OF PEOPLE SURVEYED HAVE NEVER DONE A HEALTH CHECK. HERE ARE THE TOP 3 REASONS

FOLLOW A HEALTHY ROUTINE AND DON'T NEED ONE!

WORRIED A HEALTH ISSUE MAY SHOW UP

DON'T HAVE TIME

Source: Apollo Preventive Health Survey

FULL PROOF

Blood tests give you only part of your health picture. Most NCDs like cancer, heart disease, fatty liver, osteoporosis, cognitive dysfunction can be asymptomatic until the condition is fairly advanced. A thorough screening with imaging and clinically validated assessment tools according to individual risks will give you a more complete health picture.

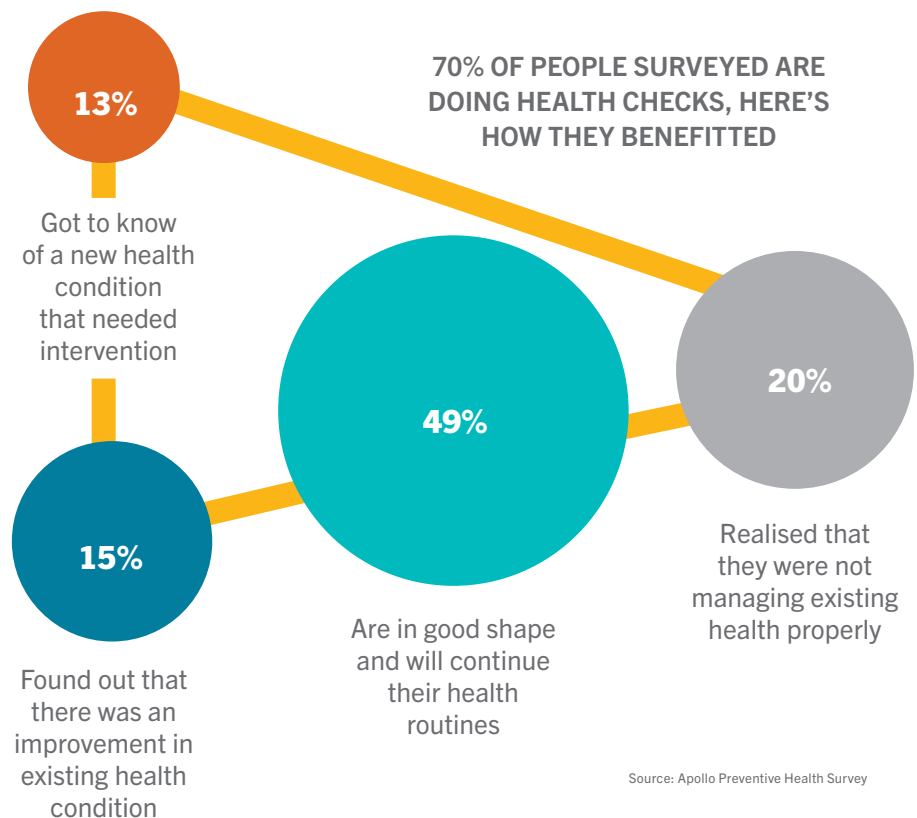
MONITORING MATTERS

Monitoring is crucial for living a long and healthy life.

It gives a glimpse into health trends and helps make informed decisions early. Tracking your parameters in a single place is important.

A series of curated programmes to help keep NCDs well within control is the need of the hour. These programmes, crafted with cause and outcome in mind, have yielded tangible results amongst patients suffering from these NCDs.

Monitoring regularly ensures early recognition of any undiagnosed issues, prevents misdiagnosis, detects asymptomatic medical problems, and encourages to make better choices. Maintaining a digital record of all health parameters in a single places enables tracking trends over time.



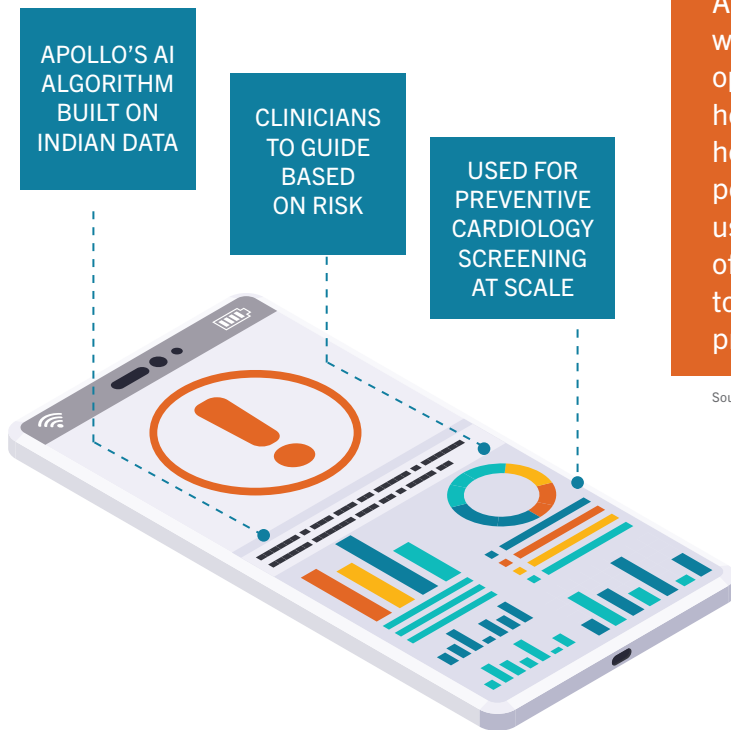
MANAGING THE SUGAR HIGH

Apollo Sugar's Long Term Diabetes Management Program, which uses a structured approach and evidence-based close monitoring with regular physical touchpoints, successfully reduced the blood glucose marker HbA1C levels by upto 3.3 percentage points compared to those not enrolled in the program. In addition, all patients in the program achieved improved outcomes in other parameters (cholesterol, triglycerides)

Source: Apollo Sugar Clinics

The Apollo 24/7 Diabetes Structured Management program, a 12-week support and monitoring plan, led to notable health improvements: on average, the blood glucose marker, glycosylated haemoglobin (HbA1C) decreased by 0.1 to 4.2 percentage points, with 80% of the participants losing weight, 73% of participants became more physically active, and 75% of those experiencing sleep disturbances were sleeping >6hrs per day.

Source: Apollo 24/7



ACCURATE PREDICTION WITH APOLLO'S AI RISK SCORES

Apollo's AI based cardiac risk score, built with data from the Indian population and optimised for 21 parameters that impact heart health, has accurately predicted heart problems in a study of over 50,000 people, followed over 5 years. We are now using this score to help identify the risk of heart issues early on and guide people to diagnose and manage their conditions proactively.

Source: Apollo Clinical AI Analysis

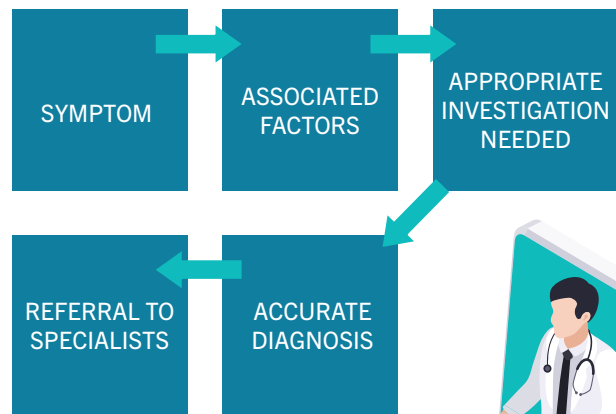
This risk assessment tool, validated at different national & international institutions has been built as an adjunct tool for the physicians to identify the forward-looking risk for the individual making it tangible and action-oriented

APOLLO 24/7 SYMPTOM CHECKER

Apollo 24/7's Symptom Checker is available to efficiently guide users experiencing symptoms to finding solutions, offering a precise pathway compared to generic internet searches.

30% of the 1 lakh searches using Apollo's Symptom Checker happened between 9pm to 6am.

Waiting for symptoms to manifest can delay the diagnosis and treatment efficacy.



HOW DOES THIS WORK IN THE EVERYDAY?

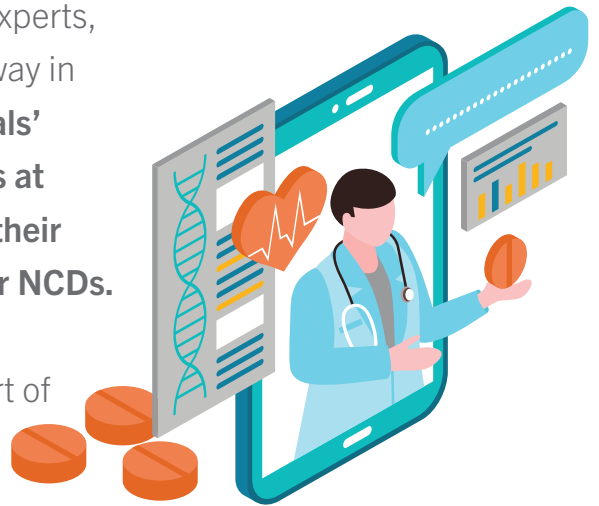
A web search for backache gives an exhaustive list of over 18 causes starting from spinal fractures to depression. On the other hand, through a series of chatbot interactions, Apollo's AI-powered Symptom Checker can narrow this to 3 - 4 potential diagnoses, with relevant follow up suggestions for action.

Source: Apollo Clinical AI Analysis

THE NUDGE EFFECT

In the world we live in, a little nudge from health experts, coaches, and relevant information can go a long way in improving the health of the nation. **Apollo Hospitals' ProHealth program enables just this with nudges at regular intervals, urging people to take stock of their health and prevent the onset of cancer and other NCDs.**

The risk-stratified care continuum program as part of ProHealth, where health coaches call and nudge you to adopt healthy habits, has led to significant health improvements.



**57%
DECREASED
THEIR BMI**



Amongst those found overweight or obese initially, average weight loss of 4.8 kg and a BMI decrease of 1.8 kg/m² was observed.



**70%
PRESSURE
DROPS
CONSISTENTLY
BY GOOD
MARGINS**

Amongst those with high blood pressure initially, on an average, systolic and diastolic blood pressures dropped by 24 mmHg and 15 mmHg, respectively.



**60%
REDUCED
THEIR SUGAR
LEVELS**

For those diagnosed with diabetes initially, 60% lowered their HbA1C by an average of 1.45 percentage points over 12-18 months.

Source: Apollo Preventive Health

ACKNOWLEDGEMENTS

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Purnima Joshi
Shankar Krishna A
Tasneem
Vaibhav Bhosale
Vaishnavi Ramakrishnan
Varun Dubey
Vijaya Rajagopalan

SOURCES

1.3 million health checks done at Apollo Hospitals or Clinics (de-identified)

56,000 followed up over 5 years on AICVD risk by Apollo Clinical AI Team

Addla et al., Determining age-specific prostate-specific antigen for healthy Indian men: A retrospective study, 2023

750+ customer survey on preventive health checks

National Family Health Survey (NFHS-5), 2019-21

National Cancer Registry Program Report, 2020

Global Cancer Observatory, International Agency for Research on Cancer, World Health Organization

National Institute of Health, U.S Department of Health

U.S Centers for Disease Control and Prevention

National Centre for Chronic Disease Prevention and Health Promotion

Power of Prevention, Health and Economic Benefits of Breast Cancer Interventions, National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)



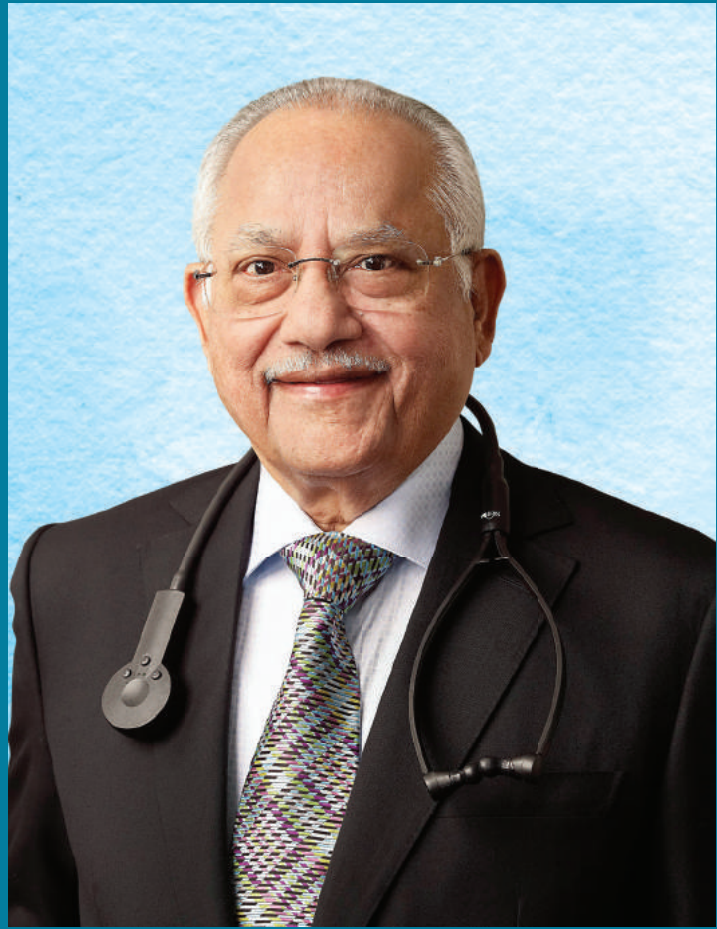
“In today’s fast-paced life, staying healthy is a challenge, and health has a new enemy called NCDs or non-communicable diseases.

Scientists estimate the value of one human body to be 6 trillion dollars. That is how priceless human life is. Hence, our focus is on preventing the occurrence of NCDs, a smarter, holistic approach compared to just curing them.

Let’s together declare war on NCDs and ensure the health and happiness of our people, our communities and our country.”



DR. PRATHAP C REDDY
Founder & Chairman, Apollo Hospital



#BeProHealth

Your **ProHealth score** is the first step to understand your current health status and enables you to make informed lifestyle shifts

www.askapollo.com/apollo-prohealth

An initiative by

