



# SMART ODISHA HACKATHON 2022



# MoSwasthya

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# Problems

01

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Non- Communicable Diseases (NCDs) are estimated to cause more than **60% of all deaths** and considerable loss in potentially productive years of life as they are chronic

02

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Though facilities are available in different government health facility centers,**public awareness is still low for accessibility to services**

03

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**Information asymmetry causes** many chronic patients to incur huge **out-of-pocket expenses.**

# Further Research on the Problems

**HERE . NOW**

## OrissaPOST

HOME STATE METRO NATIONAL INTERNATIONAL BUSINESS OPINION FEATURE TIMEOUT ENTER

### Alarming! Non-communicable disease prevalence in Odisha highest in India

IANS — Updated: July 23rd, 2021, 17:18 IST in Home News, Metro

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#### Non-Communicable Diseases



Cardiovascular Diseases    Diabetes    Chronic Respiratory Diseases    Cancer

Pic- Indus Health Plus

The Statesman

INDIA WORLD BUSINESS SPORTS ENTERTAINMENT OPINION LAW LIFESTYLE

Home » Cities » Bhubaneshwar » Prevalence of non-communicable diseases in Odisha higher than the national average: Study report

### Prevalence of non-communicable diseases in Odisha higher than the national average: Study report

According to the report, the state has a higher prevalence of digestive diseases, hypertension, diabetes, respiratory diseases, and neurological disorders as compared to the National Average Prevalence Rate of these diseases.

SNS | Bhubaneswar | September 17, 2021 1:32 pm



Odisha Gets A Heart Attack: 2020-21 Records 329 Acute Cases A Day, 38 Deaths Every 24 Hrs

# ASSOCHAM Discussion on Healthy Heart

## 1. The NCDs :

- Identified Hypertension, Digestive diseases and Diabetes as top three NCDs
- Followed by Heart Diseases/CVD, Respiratory and Neurological Disorders

## 2. Gaps in the treatment-seeking behavior of people

- about 10% of the respondents suffering from CVD or hypertension stated they are not seeking any treatment.
- Over 52% of CVD/heart disease patients seek medical advice only in the case of an emergency.
- 25% of people with heart disease spend between 10-50 thousand annually for the same.

## • Comorbidity Problems

1. hypertension, respiratory diseases and diabetes have the highest comorbidity with heart diseases.

Diseases	Comorbidity of Heart and Hypertension with Other NCDs					
	Heart Disease	Hypertension	Cancer	Diabetes	Respiratory Disease	Kidney Disorders
Heart Diseases	100	6.2	5.3	4.4	5.6	6.5
Hypertension	22.3	100	6.4	24.3	15.6	12.6

- We decided to work on the Heart Diseases/CVDs problem considering its high co-relation to the higher ranked morbidities.

# Solutions

We propose **MoSwasthya**. A one stop application for all heart related diseases and which provides access to the best treatment for the same near you.

- Real-Time Healthcare Facilities with Doctor details
- Book an appointment directly through the app.
- Display of Government offered Schemes
- Prediction of Heart Disease Related Risk based on Personal Non-Medical Inputs.
- Dashboard of Health-records data Visualization for Future Studies and Awareness.

# Key Features of MoSwasthya



# Real Time Healthcare Facilities Listing

The screenshot shows a web application interface for MoSwasthya. At the top, there is a navigation bar with links for Home, Find Hospitals, Public Scheme, Prediction, and Dashboard. Below the navigation, a section titled "SERVICES" is displayed, with a sub-section titled "Hospitals Near You". A dropdown menu labeled "Hospital Type" is visible. Three hospital entries are listed:

- TRINITY NEURO HOSPITAL AND TRAUMA CENTER**  
1.87 km  
Call icon | Map icon | **Make Appointment**
- SPARSH HOSPITAL**  
1.88 km  
Call icon | Map icon | **Make Appointment**
- SAAOL HEART CARE CENTER**  
1.94 km  
Call icon | Map icon | **Make Appointment**

# Display of Government offered Schemes and Free Services

**State Government Health Schemes**

**BIJU SWASTHYA KALYAN YOJANA**

Biju Swasthya Kalyan Yojana  
BSKY Helpline : 104  
Annual Health coverage of Rs. 5 lakh  
Additional Rs. 5 lakh for the women

**Free Medicines Distribution Scheme**

Govt. of Odisha,  
Health & Family Welfare Dept  
Implemented since 1st May 2015

[Details](#) [Details](#)

**FREE TREATMENT**

**Governmental Schemes for Free Treatment**

**CAPITAL HOSPITAL BHUBANESWAR**  
WE CARE

**SIKSHYA 'O' ANUSANDHAN**  
INSTITUTE OF MEDICAL SCIENCES & SUM HOSPITAL

**VEER SURENDRA SAI INSTITUTE OF MEDICAL SCIENCES AND RESEARCH**  
वैद्य वैद्य परामिति नित्यम्

**Heart Checkup Clinic**  
Date: 2.12.2022  
Time: 09:00am to 1:30 pm  
Location: Capital Hospital, Bhubaneswar  
Contact No: 0674 239 1983

**Diabetes Testing and Consultation Clinic**  
Date: 14.12.2022  
Time: 08:00am to 11:30 pm  
Location: Sum Hospital, Kalinga Nagar, Bhubaneswar  
Contact No: 0674 238 6281

**Heart Consultation Camp**  
Date: 18.12.2022  
Time: 09:00am to 1:30 pm  
Location: Veer Surendra Sai Institute of Medical Sciences and Research  
Contact No: 0663 243 0768

# Prediction of Heart Disease Related Risk

 MoSwasthya

Home Public Scheme FAPS Dashboard

### First Action Prediction System (FAPS)

Body Mass Index (BMI)

Have you smoked at least 100 cigarettes in your entire life?  
 Yes  No

Heavy drinkers (adult men having more than 14 drinks per week and adult women having more than 7 drinks per week)?  
 Yes  No

(Ever told) (you had) a stroke?  
 Yes  No

Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good? (0-30 days).

Thinking about your mental health, for how many days during the past 30 days was your mental health not good?

Do you have serious difficulty walking or climbing stairs?  
 Yes  No

Are you male or female?  
 Male  Female

Age Group.

Imputed race/ethnicity value.

(Ever told) (you had) diabetes?

Are you an adult doing physical activity or exercise during the past 30 days other than your regular job?  
 Yes  No

Would you say that in general your health is...  
 Yes  No

On average, how many hours of sleep do you get in a 24-hour period?

(Ever told) (you had) asthma?  
 Yes  No

Not including kidney stones, bladder infection or incontinence, were you ever told you had kidney disease?  
 Yes  No

(Ever told) (you had) skin cancer?  
 Yes  No



# Dashboard of Health Data Visualization





# Working

# Tech Stacks Used

- Programming Languages
  - Python**
  - HTML/CSS**
  - Javascript**
- Framework/Libraries
  - Django**
  - Tensorflow**

# Future Scaling

MoSwasthya can be expanded to become a full-proof solution incorporating all the NCDs prevalent in the state via:

- 01
- 02
- 03
- 04

Inclusion of suitable healthcare facility listings for customized choices tailored to each NCD.

Adding First Action Prediction Systems for each NCD .

Gathering additional health care records from healthcare facilities for visualization and future research.

Ongoing verification and addition of updated health camps, doctor listings, ambulance services, rehabilitation centers to the application