Case Study: Selangor Saring

To combat the ever-growing silent pandemic of Non-Communicable Diseases and Cancer, the government of the Malaysian state of Selangor conducted a free health screening program targeted to high-risk citizens.

Selangor Saring is carried out across the state based on the government’s early screening, diagnosis, and treatment policy. The digital health screening tool in Selangkah (Selangor State Mobile App) is used to optimise efficiency, allowing for precision screening through predictive user risk profiling.

With medical practitioners, stakeholders, NGOs and members of the public involved, the Selangor state government is committed to continue this program till 2028.

Key Achievements (2022 – 2023)

Encouraging Outcomes:
Predictive risk profiling boosted turnout to 70% and positive yield to 65%, and reduced follow-up loss to 30%, surpassing the national benchmarks of 30%, 40%, and 80% respectively.

Seamless Information Exchange:
51 and 17 participating clinics and hospitals, respectively, had exchanged information digitally, with 2,380 referral appointments generated—a unique feature in Malaysia.

Increased Participation:
Digital methods led to 81,415 screenings conducted with 27,428 registrations, boasting a strong 67% attendance rate, which is among the highest in the country.

Cost-Saving Impact:
Digital analysis revealed rising chronic kidney disease cases in Selangor Saring participants in 2022, prompting continued screening in 2023. Early intervention could save RM68 million in annual haemodialysis costs for 3,056 participants.

FAQ

Who can access a patient’s health records?
Both the healthcare providers and the patient can access the health records. This tool allows users to manage their health records effectively.

How much does it cost to use the Digital Health Screening Tool?
It is free if you join the related screening program.

How do I participate in the screening program?
You may download the Selangkah mobile app and register.

Will users’ personal information be kept confidential?
Yes, the participants’ privacy and confidentiality are of utmost importance. We follow strict privacy and data protection protocols to ensure the security of personal information collected during the screening process.

About Hayat Technologies

Hayat Technologies is a pioneering tech company that harnesses the power of AI, machine learning, and Big Data Analytics to deliver innovative solutions. With a focus on public health, wellness, and lifelong care, Hayat Technologies strives to deliver cutting-edge technology to empower individuals, communities, and decision-makers worldwide.

Through our projects and partners worldwide, we’ve established a strong track record.

Join us in exploring new possibilities together.

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Digital Health Screening Tool
PRECISION SCREENING
Product Brief

What is it?
An AI-powered digital tool designed to optimise the precision of non-communicable disease (NCD) screening and improve program outcomes. Built-in risk stratification algorithms and multi-level health system integration allows for reduction in unnecessary repetitive screening cost, targeted allocation of screening slots, and better profiling at detecting undiagnosed NCD cases, in comparison with current conservative methods of relying on individual self-declaration of risk factors.

How is it used?
Individuals can use their mobile device to access a comprehensive health screening service with our digital health screening tools anytime and anywhere.

What are the outcomes expected?
It aims to empower individuals to take control of their health and detect potential health issues early on, enabling them to make lifestyle changes and seek medical treatment if necessary. Early detection and management of diseases can help prevent complications and improve the users’ health outcomes.

Problem Statement

Delayed Access to Screening Result:
The absence of a digital platform to deliver results hampers immediate access to risk factors, delaying timely actions.

Disjointed Health Data Handling:
Without a centralised digital platform, individuals struggle to monitor their health history, and healthcare providers lack a comprehensive view of patient health.

Delayed Intervention and Lifestyle Changes:
Inaccessible screening results hinder swift actions on managing health issues, potentially worsening complications.

Untapped Tech for Preventive Healthcare:
Lack of a user-friendly screening tool obstructs proactive health management, hindering preventive care and better health outcomes.

Inefficient Inter-Agency Information Exchange:
Poor information exchange between agencies undermines collaboration and service efficiency, posing obstacles to seamless operations.

Modules We Can Develop

- Coupon Generation & Management – for Health Screening activity
- The data upload module, LIS Integration and API Integration
- Follow-up Appointment Module
- Health Check Configuration Portal
- Application and registration
- Health Questionnaire Authoring
- Follow-up appointment module
- Screening Configuration Portal
- Data Entry for Case Clerking
- Health Screening Coupon Management
- Lifetime Health Record
- Biometric Application for Patient Identification Engine
- Risk Factors Algorithm for Coupon Distribution
- e-KYC for Medical Record Verification

Example of Screening Flow Chart

Before Event
- Pre-register Program

On Site
- Present coupon/voucher and MyKad to confirm registration.
- Station 3: Taking Urine Sample
- Station 2: Taking Blood Sample (if needed)
- Station 1: Physical Examination
- Station 4: Cervical Swab Test (if needed)
- Station 5: Eye Screening (if needed)
- Station 6: General Consultation

Testimony

TESTIMONY 1
"45,000 people have undergone free health screening during the four-month Selangor Sarang programme, the number exceeded the target of 31,000 people. The programme’s ecosystem was complete as hospitals and university hospitals were part of the screening and diagnosis process.”
(Source: The Star, 17 Sept 2022)

Dr Siti Mariah Mahmud
Chairman of the Selangor Public Health, Unity, Women and Family Empowerment Committee

TESTIMONY 2
"Based on my experience joining this program, I can see that it helps participants discover if they are suffering from any diseases. Prevention is better than cure!"

Dr Sazali

Processing of NCD Samples & Follow-up Actions

Sample from subject → Lab Test Conducted → 48-72 Hour → Lab Info System (LIS) → Data Transmission → Database → Display Result in Mobile Application

REMINDER: Repeat annually.

END

NORMAL

ABNORMAL

No Further Treatment Required

Patient visits GP for Consultation

Patient selects DATE & LOCATION “FOLLOW UP” Appointment

Requires Treatment/Follow Up

Hospital