



Centre for Healthcare Innovation Start-up Enterprise Link (CHISEL)

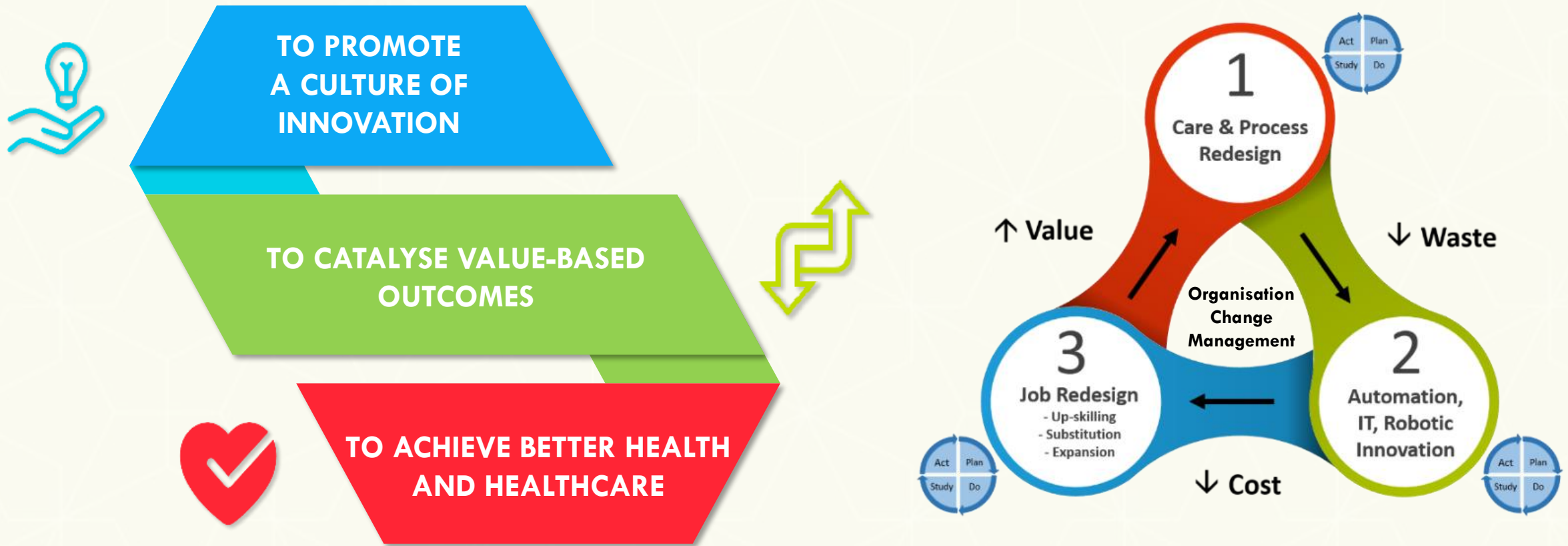
Organised By: Centre for Healthcare Innovation (CHI)

*Supported by:
Temasek Foundation*

Feb 2024

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Our Strategic Thrusts & Our Approach to Innovation



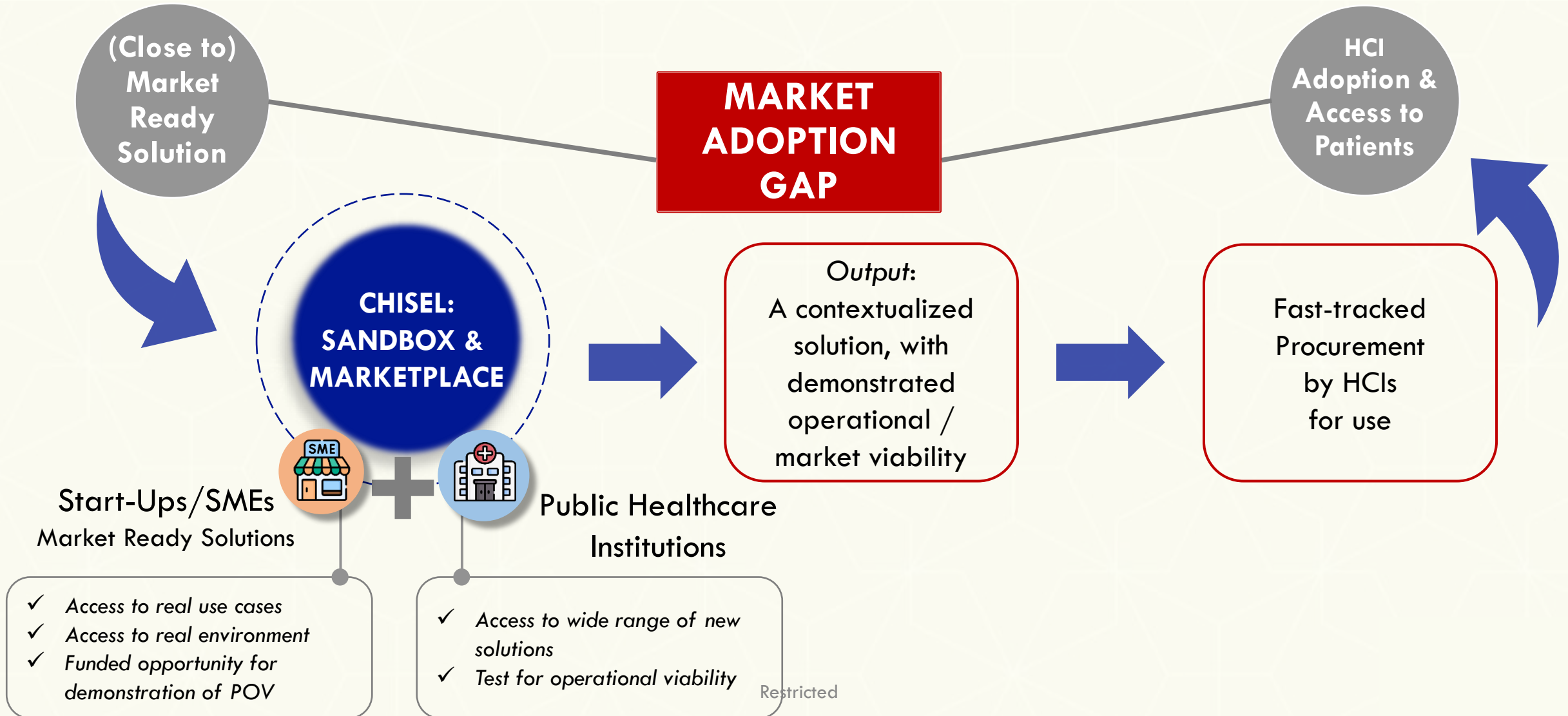
Crossing the Adoption Chasm for Translation

- Long process for healthcare innovation adoption, from identification of clinical need, discovery of an innovative solution, to its application in hospital and on patients
- Challenge of crossing the **chasm of adoption**
 - where a solution transits from market-ready status, to fit-for-mainstream use
- Due in part to:
 - Care providers needing evidence that the solution is feasible, and can deliver on stated outcomes
 - Need to compete with enterprise solutions on standard procurement routes



CHISEL – A “Sandbox” & “Marketplace”

A programme that aims to accelerate the adoption of market-ready healthcare innovations that are fit for mainstream use, at speed at scale.



CHISEL – Value on both ends

A programme that aims to accelerate the adoption of market-ready healthcare innovations that are fit for mainstream use, at speed at scale.

A platform established for Start-Ups / SMES



Gain Access to **Real Use Cases and Environment**



Funded Opportunity to Demonstrate **POV** of **Market Ready Solutions**



Opportunity for **Results to be Endorsed and Solution Adopted** by Local HCIs

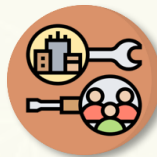


Establish a **strong connection** with the healthcare communities



Receive **guidance, coaching** and insights from Local HCIs

Enabling Healthcare Institutions



Early Access to New and Emerging Healthcare Innovations



Test for Operational Feasibility before Procurement

CHISEL – Intended Outcomes



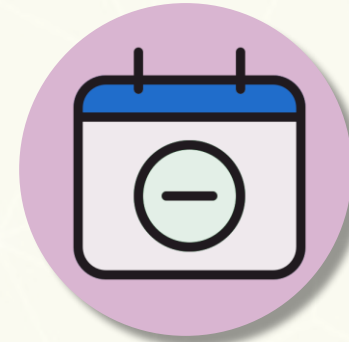
Better **patient**
health outcomes



Improved
accessibility of
care



Increased **quality**
of life



Reduce the **necessity**
and frequency to
visit the hospital



Better **value and**
cost effectiveness

CHISEL Healthcare InnoMatch 2021 - 2023

CHISEL holds a global innovation challenge - **CHISEL Healthcare InnoMatch**, for innovative, market-ready or near market-ready solutions to address critical and emerging healthcare needs.

InnoMatch 2021

- 144 participants from 31 countries
- Themes: **Frail No More** | **Reducing Hospital Acquired Infections** | **Digitisation to Enhance Patient Care, Journey & Experience**
- Test-bedding completed



Playback: <https://youtu.be/hclc-36ackA>

InnoMatch 2022

- 256 participants from 32 countries
- Theme: **Delivering Care Beyond Hospital Walls**
- Target test-bedding end date in Oct 2024



Playback: https://youtu.be/Lv_uLnQYyQ

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InnoMatch 2023

- 163 participants from 28 countries
- Theme: **Reshaping Preventive Care for a Healthier Population**
- Target test-bedding end date in Mar 2025



Playback: <https://youtu.be/1Svw-OVFOk8?si=UN8DBrYjdOj5gVHV>

CHISEL Healthcare InnoMatch 2021 - 2023

Hear past winners' experience: <https://www.youtube.com/playlist?list=PLTrhD5VOFZmqRWMkTact2PYFwFnXVeY4>

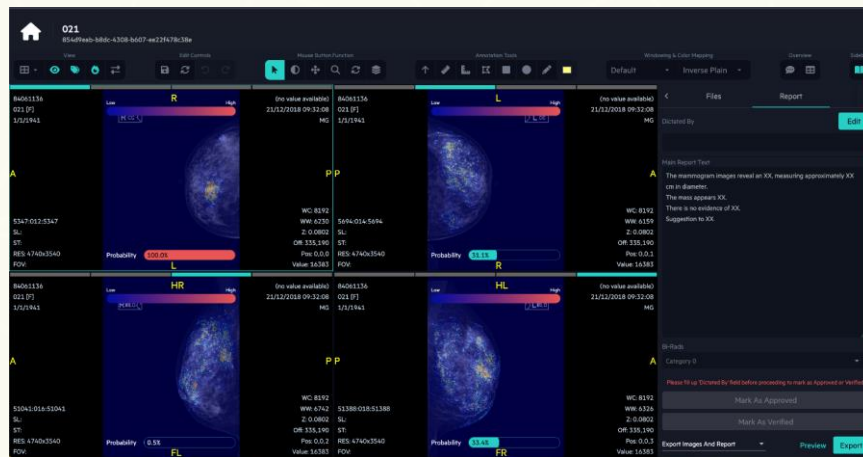
Smart Robot Therapists at Home by Articares (CHISEL 2021)

- Articares presented a scalable solution (H-Man and Care Platform) for robotics-assisted telerehabilitation at home. Its system provides intelligently adaptable therapy exercise at home while enabling remote monitoring by clinicians.
- Completed test-bed with Tan Tock Seng Hospital and evaluating by CHI Evaluation Framework (CHIEF).



FxMammo by FathomX (CHISEL 2022)

- FxMammo is an AI assistant that analyses mammograms to assist early detection of breast cancer. With deep learning technologies and clinically validated parameters, the software improves both the efficiency and accuracy of existing methods, thereby reducing the burden on clinicians.
- Completed test-bed with National University Hospital, obtained I2Adopt funding from NHIC – funding to support development of solution for eventual implementation and adoption.

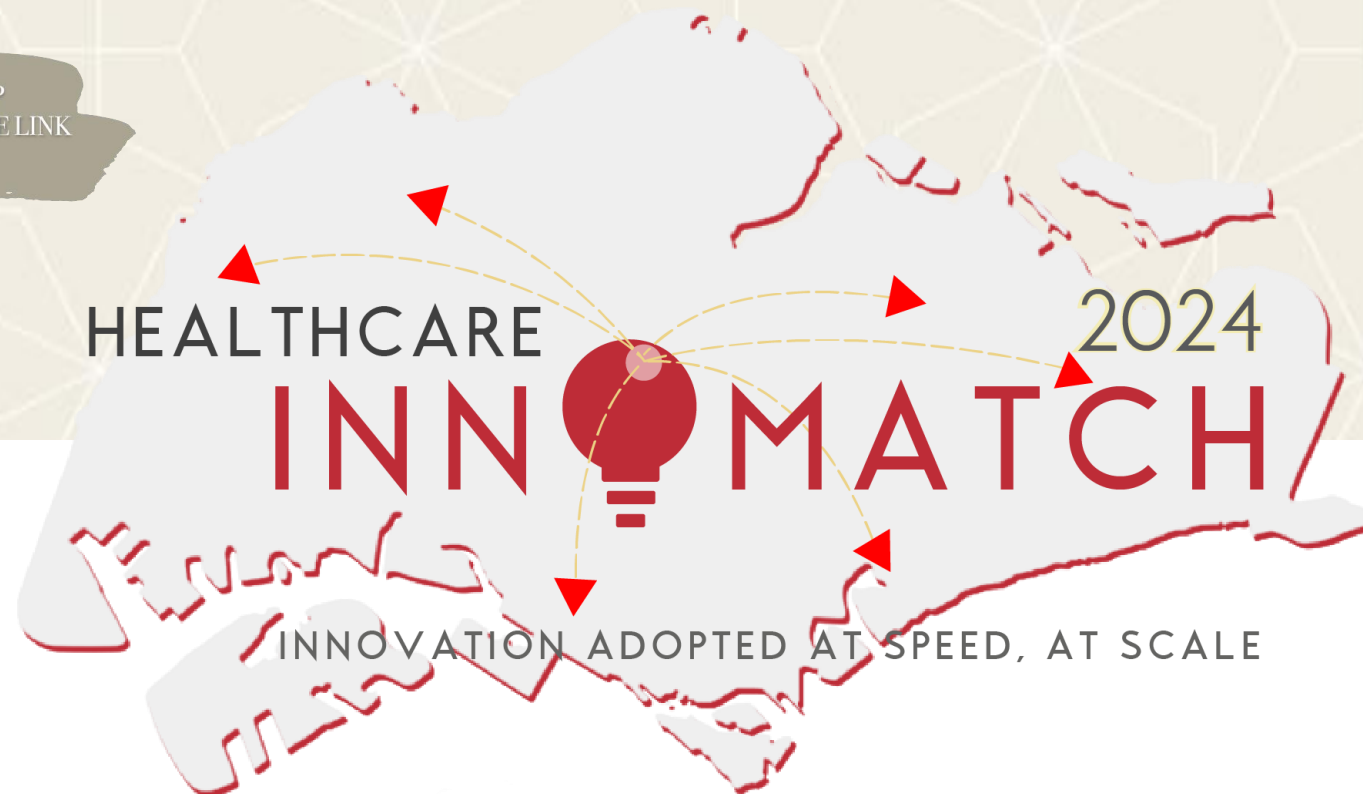


“Using Voice to Save Lives” by Wonder Technology (CHISEL 2023)

- Voice AI Platform for mental health, providing a secure, accurate, fast, effective mental health screening and monitoring solution. The AI technology captures the subtle acoustic changes in voice and can be used to assess mental disorders such as depression.
- Test-bed preparation ongoing with Changi General Hospital.



PRESENTS



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Co- Supported by



Healthcare InnoMatch 2024 – Participating Requirements

- Participating Start-ups/SMEs



Registered Business

\geq TRL 7

High Level Market
Readiness Solutions



$<$ S\$100M

Revenue

NOT be in
Negotiation for Exit

- Partner Healthcare Institution (PHI)



Committed
manpower for
Test Bedding



Provide necessary
information and
access for Test
Bedding

Healthcare InnoMatch 2024 – Funding Assistance

Up to **\$500K** per project

- **For Start-ups/SMEs and HCI**



Pilot manufacture



Consumables



Customisation



Test Bedding
Services



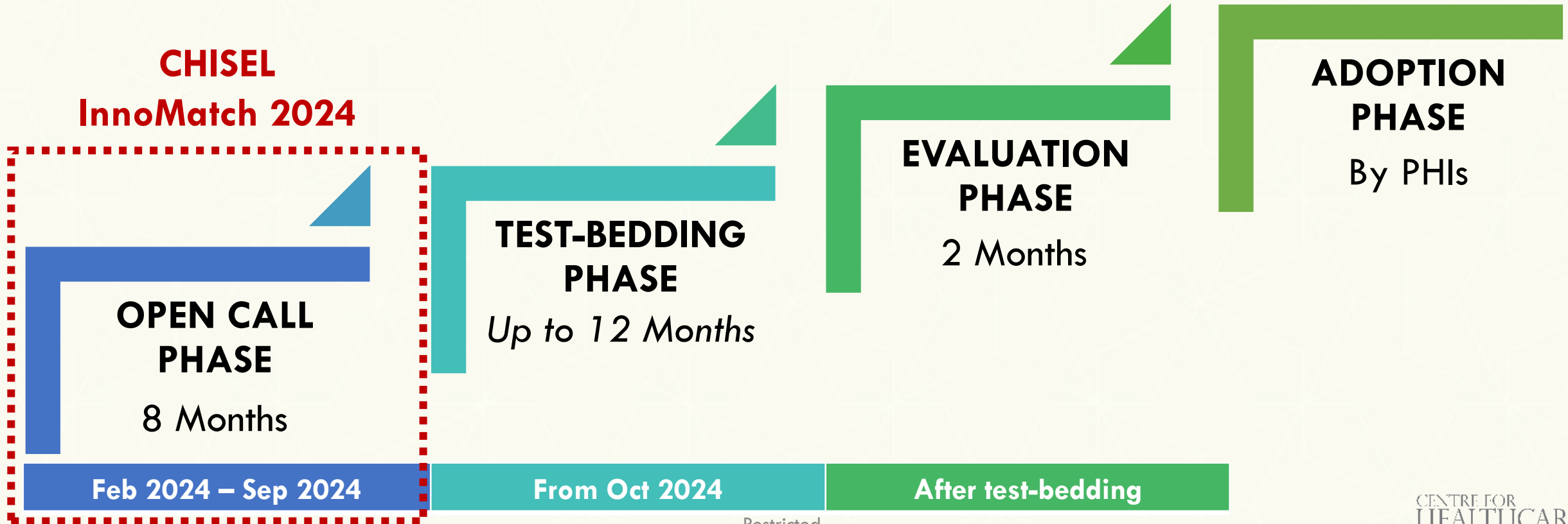
Evaluation
Services

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*CHISEL Project funding is equity-free, non-dilutive and non-debt

Healthcare InnoMatch 2024 – Open Call Phase

An end to end process that moves a potential solution from proof of value to adoption



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Healthcare InnoMatch 2024 – Theme

Strengthening Care for a Healthier and Resilient Aging Society

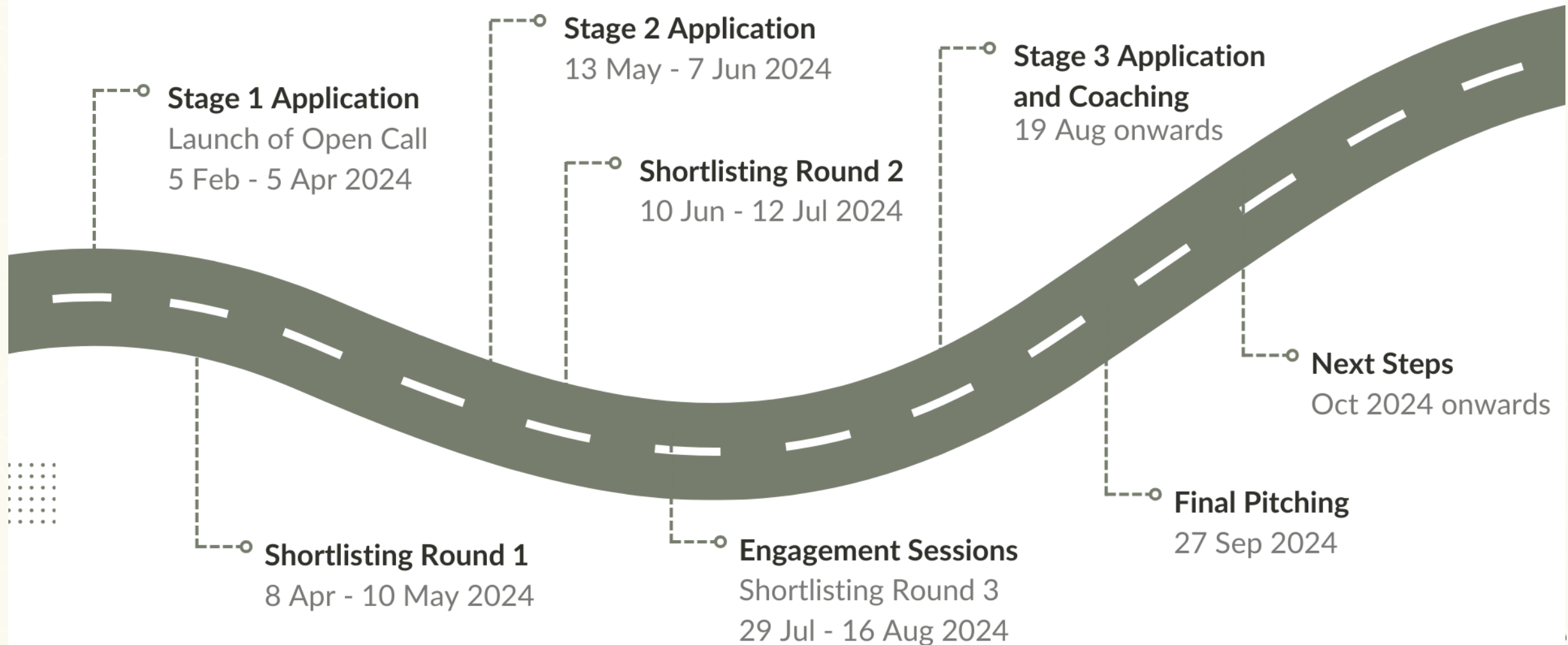


Singapore is at the forefront of preparing for a super-aged society, anticipating that by 2023, 1 in 4 citizens will be aged 65 and above. The Age Well SG initiative, a comprehensive national program, underscores the commitment to support seniors in aging actively and independently within their homes and communities. However, the challenge lies in addressing the evolving and diverse care needs of the elderly, fostering holistic well-being, and enhancing the effectiveness of existing efforts.

Problem Statement

How might disruptive innovations enhance existing efforts, bridge critical gaps and fulfil unmet needs in the **holistic care** of the elderly and young seniors, so as to create **sustainable** (business model and environment perspective) **and personalised care models**?

Healthcare InnoMatch 2024 – Open Call Phase Timeline



Healthcare InnoMatch 2024 – Assessment Criteria



**Healthcare Need
& Relevance**



Innovation



Market Readiness



Impact
(Patient, Carer, Health System,
& Environment)



Business Plan



**Clinical, Technical and
Operational Capacity**



**Technical Viability
and Compliance**



**Potential Test
Bed Partner**

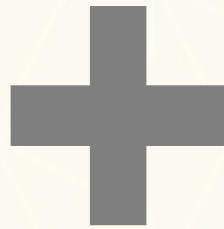


**Potential for
Adoption in HCs**

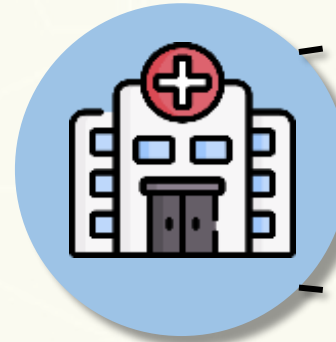
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CHISEL – Test Bedding Phase (from Oct 2024)

Selected
Start-Ups/SMEs



Assigned Project Lead
from HCLs



3 months* for preparation



12 months to complete the test-bedding
in a simulated clinical environment

Assigned Secondary
Site Rep from the
other two clusters

* Additional 3 months if ethic approval is required

CHISEL 2024 – Evaluation Phase (after test-bedding)

All CHISEL 2024 test-bed solutions are to be evaluated using CHIEF. CHIEF is a holistic framework for the evaluation of innovative solutions seeking real world deployment.

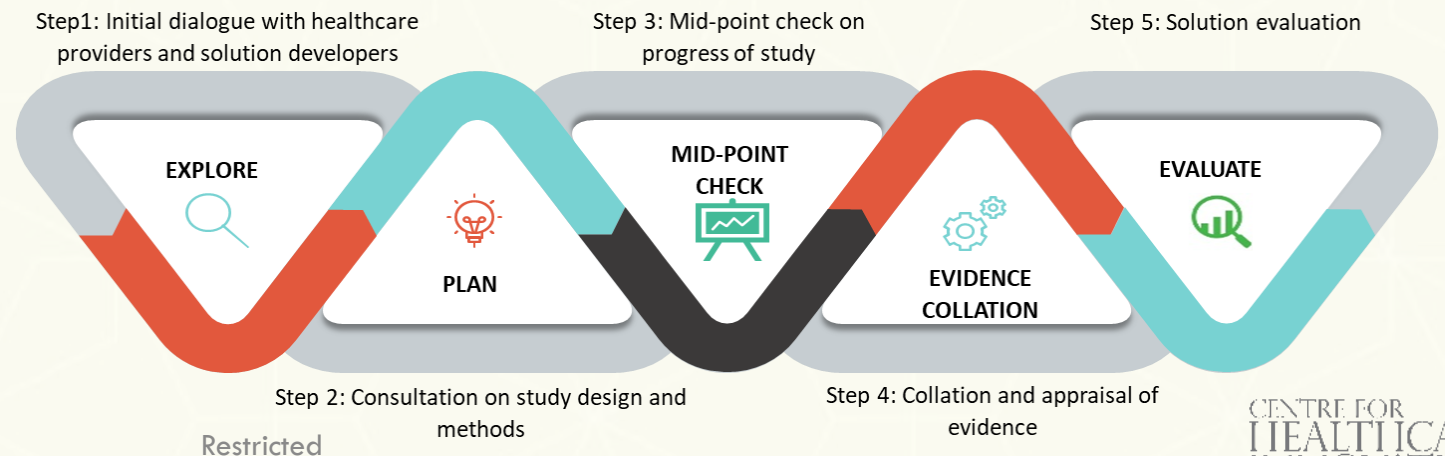
CHI Evaluation Framework (CHIEF)



Scan to view
CHIEF Guidance Document

The framework is designed to provide pre-consultation on needs and tiered-evaluation of the proposed solution by:

- Working with solution developers and healthcare professionals to **design studies** that generate relevant and high-quality evidence,
- Bringing together **independent clinical and industry experts** to provide objective evaluation of the solution, and
- Providing end recommendation on solution's **potential for further development/ investment/ adoption/ scale**



CHISEL 2024 – Evaluation Phase (after test-bedding)

Tiered- based Evaluation – Value components at different pivotal stages.



Evaluate the success of the
POV according to pre-agreed
success criteria - CHIEF



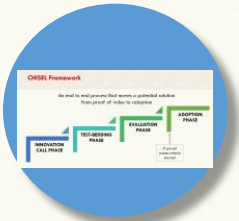
A final evaluation report
will to be shared across all
participating HCLs for
wider adoption

POTENTIAL FOR FURTHER INVESTMENT/ EARLY ADOPTION (EVIDENCE FROM INITIAL CLINICAL STUDIES)	POTENTIAL FOR ADOPTION & INTEGRATION (EVIDENCE FROM PRAGMATIC/ REAL-WORLD STUDIES)	POTENTIAL FOR SCALE (EVIDENCE FROM IMPLEMENTATION STUDIES)
<ol style="list-style-type: none">1. Quality of evidence<ul style="list-style-type: none">• Completeness and consistency of reporting evidence• Relevance and validity of evidence2. Study design & results<ul style="list-style-type: none">• Robust and unbiased estimates3. Need for intervention<ul style="list-style-type: none">• Disease severity (if applicable)• Size of affected population4. Technology/ Intervention<ul style="list-style-type: none">• Current interventions' limitations• Improvement of efficacy/ effectiveness• Improvement of safety & tolerability• Improvement on reported outcomes, convenience & adherence• Reliability (availability & non-failure)• Usability• Public health interest (if applicable)• Type of therapeutic benefit5. Economics<ul style="list-style-type: none">• Early cost effectiveness/ cost benefits	<ol style="list-style-type: none">1. Quality of evidence<ul style="list-style-type: none">• Completeness and consistency of reporting evidence• Relevance and validity of evidence2. Study design & results<ul style="list-style-type: none">• Robust and unbiased estimates3. Need for intervention<ul style="list-style-type: none">• Disease severity (if applicable)• Size of affected population4. Technology/ Intervention<ul style="list-style-type: none">• Current interventions' limitations• Improvement of efficacy/ effectiveness• Improvement of safety & tolerability• Improvement on reported outcomes, convenience & adherence• Reliability (availability & non-failure)• Public health interest (if applicable)• Type of therapeutic benefit5. Early implementation outcomes<ul style="list-style-type: none">• Usability• Acceptability• Appropriateness• Feasibility• Sustainability6. Economics<ul style="list-style-type: none">• Cost-effectiveness/ cost benefits of intervention• Cost of use & maintenanceOthers<ul style="list-style-type: none">• Implementation risk management	<ol style="list-style-type: none">1. Quality of evidence<ul style="list-style-type: none">• Completeness and consistency of reporting evidence• Relevance and validity of evidence2. Technology/ Intervention<ul style="list-style-type: none">• Evidence on sustained benefits and impact of technology3. Implementation outcomes<ul style="list-style-type: none">• Acceptability• Adoption• Appropriateness• Feasibility• Fidelity• Coverage• Sustainability4. Economics<ul style="list-style-type: none">• Implementation costOthers<ul style="list-style-type: none">• Implementation risk management

CHISEL 2024 – Adoption Phase

If success criteria are met, the participating HCI(s) will proceed to

- Demonstrate that the **resources and processes** (infrastructure, IT integration, manpower, service and/or business models) to implement the new innovation are **feasible and sustainable**; and allow PHIs the opportunity to validate the solution during service implementation transition and system integration.
- Establish **National-wide Procurement Agreement** through ALPS for future adoption.
- Adopt/ procure the solution directly, subject to:



1. Within the ambit of CHISEL framework



2. Completion of evaluation of POV using CHIEF



3. Fulfilment of CHIEF outcomes criteria, solution is ready for deployment and adoption in HCI



4. Pricing offer is made according to the pre-agreed negotiated price (if applicable)

CHISEL Networking Session

- Date/Time: 8 March 2024, 3pm to 5pm SGT (GMT +8)
- Venue: Ng Teng Fong Centre for Healthcare Innovation, Level 4, Kampung Square
- Programme
 - Gather more insights about Healthcare InnoMatch 2024 Theme and what clinicians are looking for
 - Hear from past winning companies and clinicians about their experience and test bed journey under the CHISEL programme
 - Network with interested clinicians and CHISEL partners for potential collaborating opportunities
- Drinks and d'oeuvres provided

REGISTER NOW!



For enquiries, please contact us at: CHISEL@chi.sg

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Thank You



<https://for.sg/chisel2024>



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APPLY NOW!