AI FOR EVERY AGE: FROM DIGITAL DIVIDE TO DIGITAL DIVIDEND

Lessons from Singapore's Community Care Journey

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SINGAPORE'S AGEING SOCIETY

Challenges and opportunities

Singapore will become a **super-aged society**. By 2030, **1 in 4 Singaporeans will be aged 65 and above**.



2.7 working adults for every senior aged 65 and above



83,000 seniors living alone



10,000 seniors with mild disabilities

(MOH 2023, 8)

An ageing society also provides opportunities to **explore and implement** new solutions from **emerging technologies**

ABOUT LIONS BEFRIENDERS



Our Vision

A nation where every senior can age actively, healthily, and happily

Our Mission

To provide friendship and care for seniors to age in place with community participation, enabling them to enjoy meaningful and enriching lives

ABOUT LIONS BEFRIENDERS

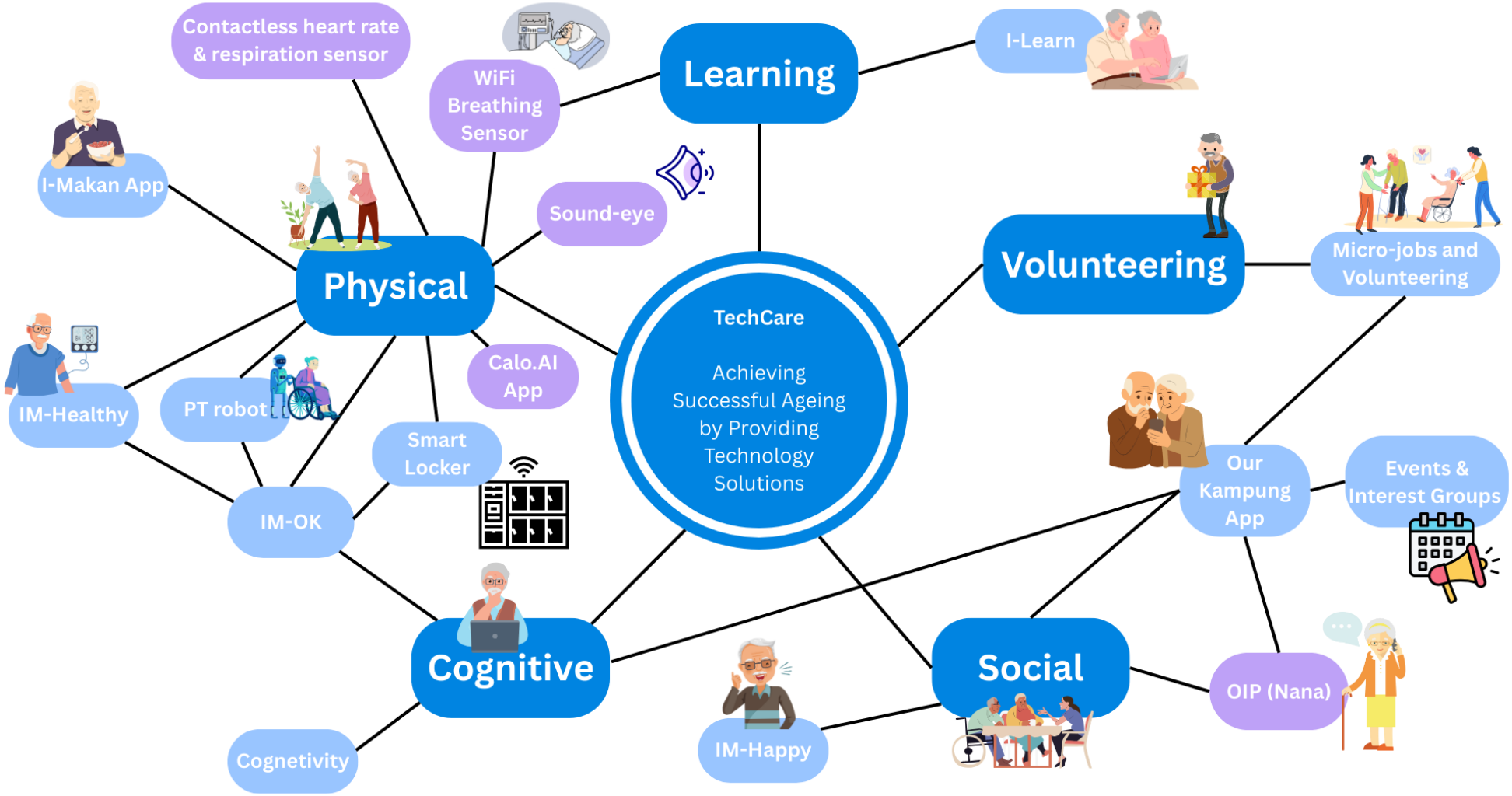
What we do



- 10 Active Ageing Centres
- Life Unlimited @ 170
- Gym Tonic
- Communities of Care (CoC)
- 2 Community Case Management System
- 4 Integrated Community Care Providers (ICCP) sub-regions
- Caregiver Support
- LB Tech Care Platform
- Counselling
- Community Gym Centre
- Home Personal Care (HPC+)

OUR TECHNOLOGY ECOSYSTEM

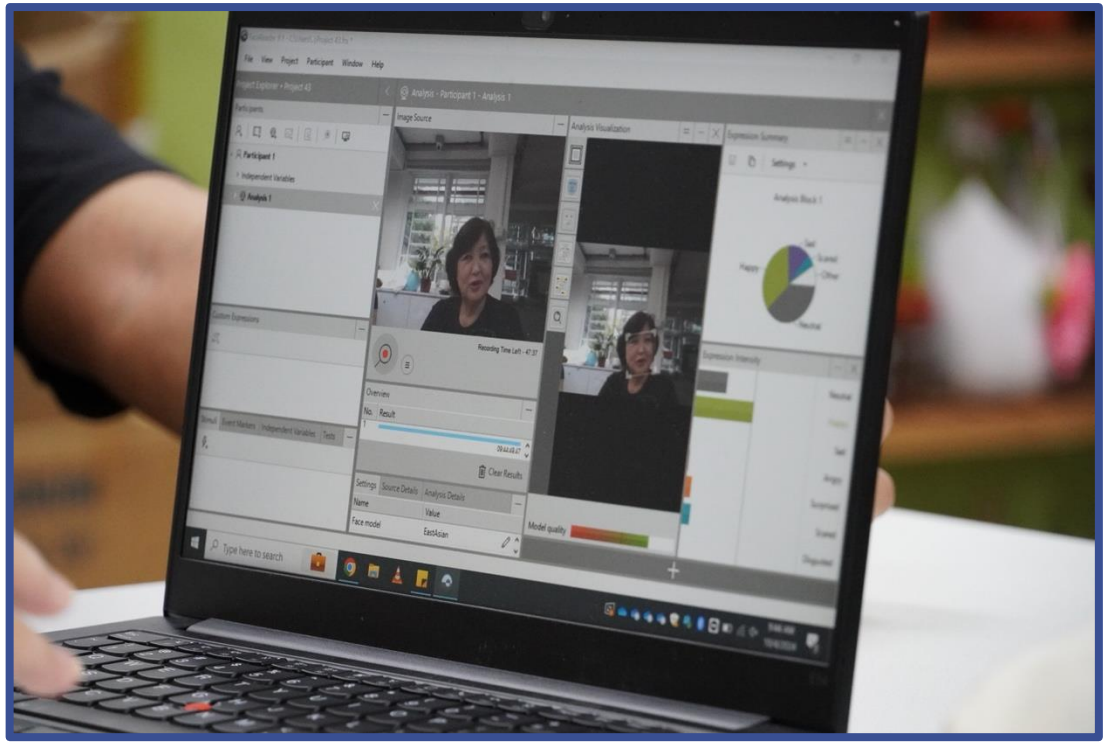
Lions Befrienders' implementation of gerontechnology



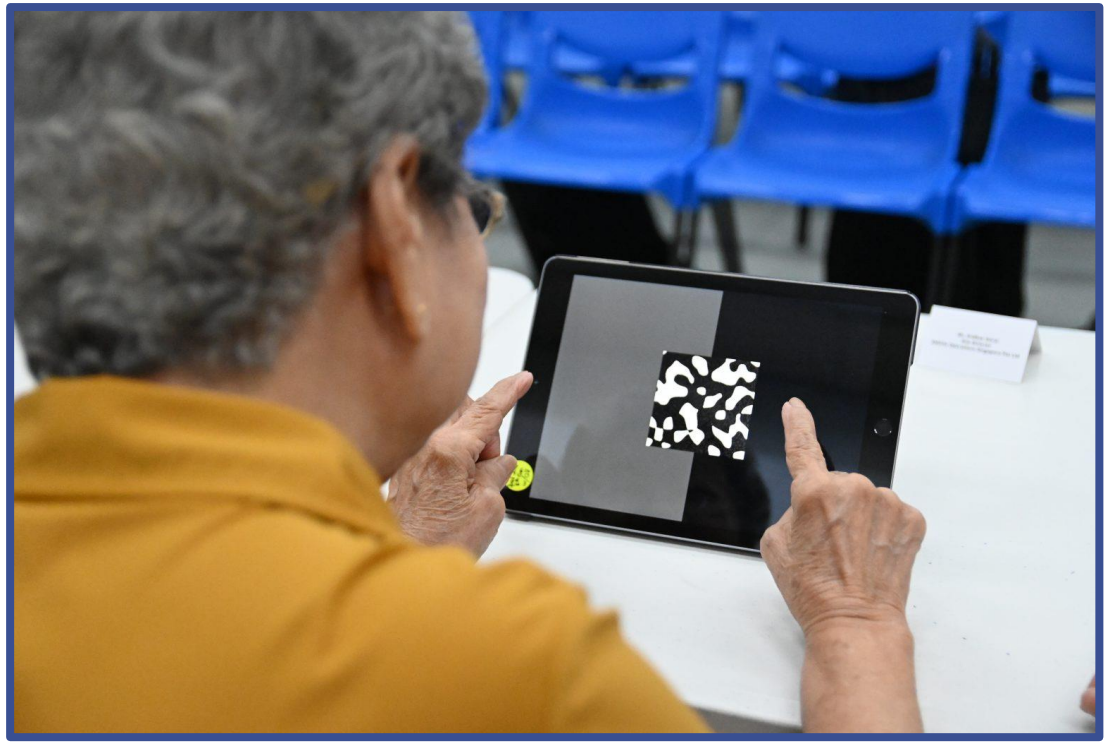
OUR TECHNOLOGIES

Lions Befrienders' approach to technology and AI in eldercare

IM-Happy



IM-Alert



OUR TECHNOLOGIES

Lions Befrienders' approach to technology and AI in eldercare

NANA (Neighbourhood Assistant for Nurturing Ageing)



DRBA (Data-driven Robotic Balance Assistant)



THE DIGITAL DIVIDE

Challenges and opportunities in technology adoption among seniors

ADOPTION

Chart 1: Percentage of resident households with internet access (2017-2022)[5]

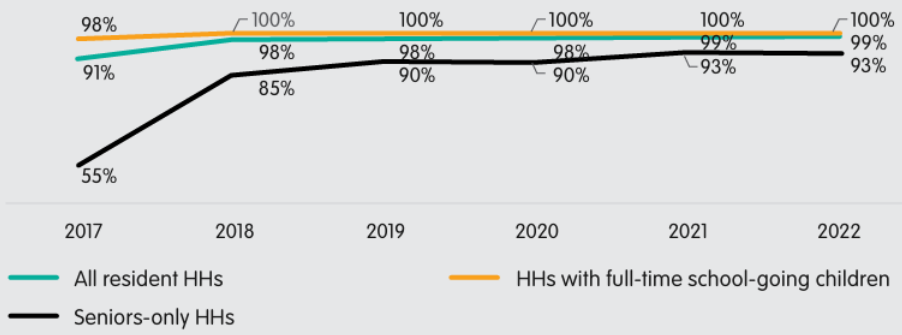


Table 4: Percentage of Singaporeans who have positive sentiments towards digital technologies[41]

	Agree that digital technologies have made their lives easier	Generally keen to try out new digital technologies
Age group	**% of Singaporeans**	
General population (aged 15 and above)	84%	65%
Seniors (aged 60 and above)	66%	45%

Table 5: Percentage of residents who know how to use devices or applications with emerging digital technologies[42]

Age group	% of Residents
General population (aged 18 and above)	55% (▲1pp from 2021)
Residents aged 18-39	78% (▲2pp from 2021)
Residents aged 40-59	56% (▼2pp from 2021)
Seniors (residents aged 60 and above)	24% (▲4pp from 2021)

Table 6: Percentage of Singaporeans who are willing to accept the risks that come with the use of technology[43]

Age group	% of Singaporeans
General population (aged 15 and above)	51% (▼15pp from 2021)
Seniors (aged 60 and above)	33% (▼5pp from 2021)

THE DIGITAL DIVIDE

Challenges and opportunities in technology adoption among seniors

DIGITAL LITERACY AND SAFETY

Chart 4: Percentage of residents setting up or keeping their smartphones up to date[12]

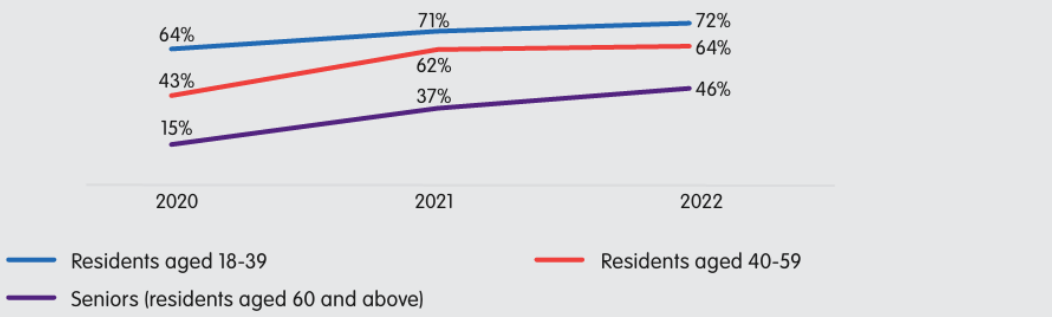


Chart 11: Percentage of residents conducting security checks when making online transactions[29]

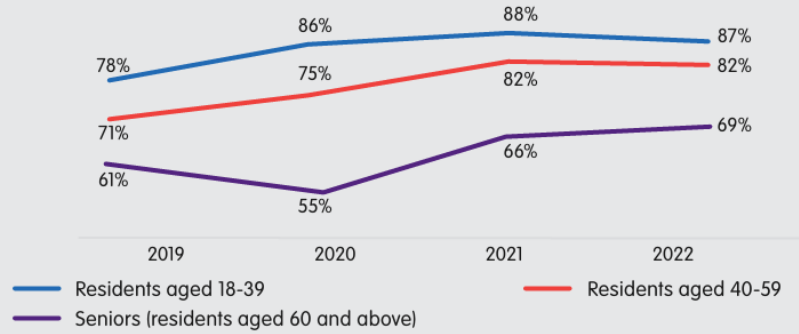
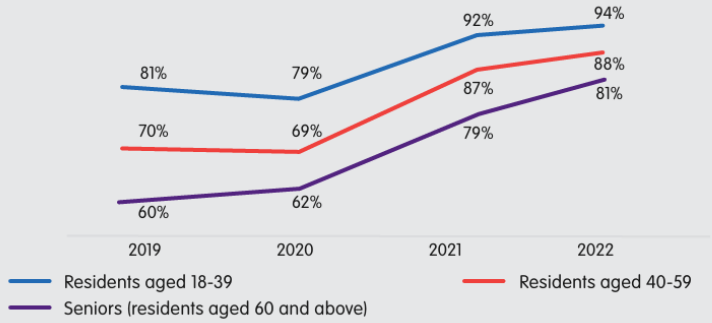


Table 2: Percentage of residents who are at least moderately confident about identifying scams on messaging platforms[24]

Age group	% of residents
General population (aged 15 and above)	52%
Seniors (residents aged 60 and above)	44%

Chart 12: Percentage of residents checking if information in news stories/ online articles is true[32]



THE DIGITAL DIVIDE

Challenges and opportunities in technology adoption among seniors

ADOPTION

Lower proportion, but same rate of growth

DIGITAL LITERACY AND SAFETY

Lower proportion, but same rate of growth

SENIOR'S PROFILE

Though seniors are vulnerable to the risks of technology, they are capable of adapting and learning as readily as the general population

Getting digital dividends from adopting emerging technologies can be achieved if they are managed carefully

OUR AI PHILOSOPHY

How we bridge the digital divide

ACCESS

Providing every senior with **access** to emerging technologies that can help in their ageing

ABILITY

Giving seniors confidence and competence, developing in them the **ability** to use technology

AGENCY

Ensuring seniors retain choice and control over their health, allowing them to feel **agency** over their lives

ASSURANCE

Creating a safe environment for seniors, with the **assurance** that they can remain protected

HUMAN CONNECTION

Using AI to **enhance, not replace,** the role of humans in community care, retaining **human connection**

OUR AI PHILOSOPHY – ACCESS

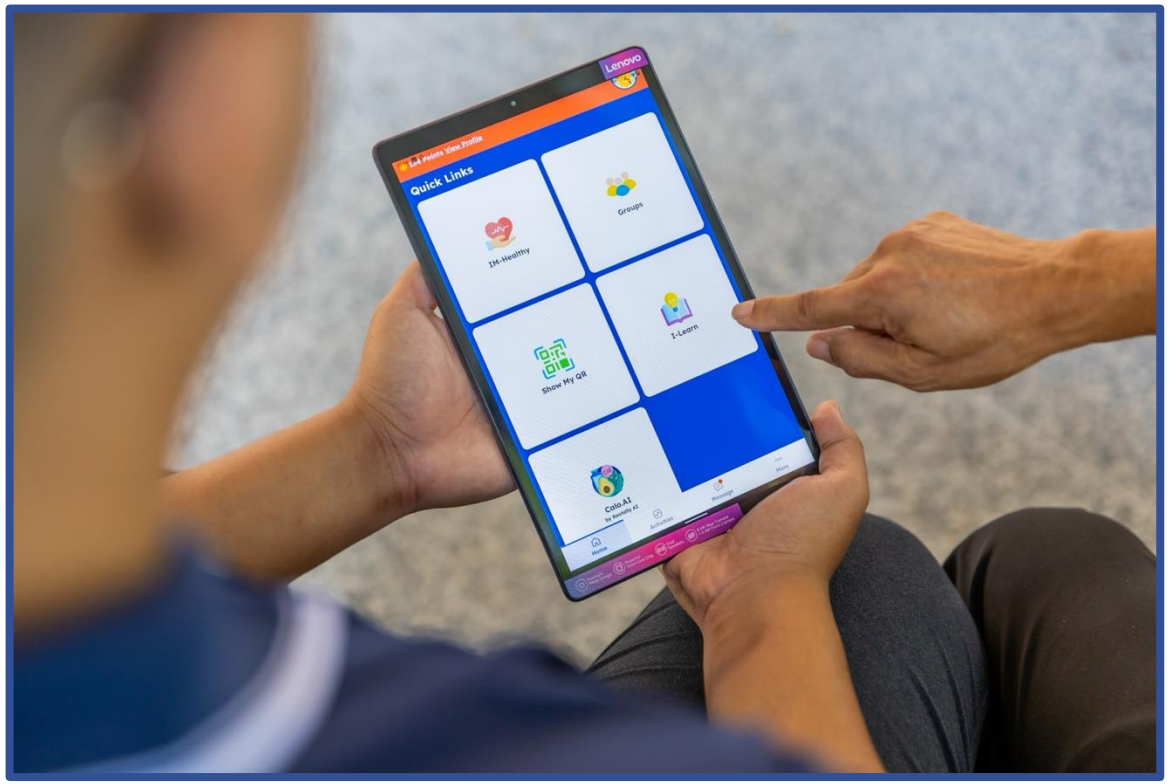
How we bridge the digital divide

ACCESS

Financial

Emerging technologies are expensive, and seniors may not be able to pay for them

- Devices for emerging technologies must either be distributed for free or shared at central locations
- Products should be focused on software, so that when a new service is rolled out, seniors can simply update their devices at almost no cost



OUR AI PHILOSOPHY – ACCESS

How we bridge the digital divide

ACCESS

Experiential

Many seniors already struggle with digital literacy and will be confused by even more technologies

- Seniors will need a safe community space where they can practice digital skills
- Software must be designed with accessibility features such as large letter fonts and software locks
- The complexity of direct interaction between seniors and technology is kept simple



OUR AI PHILOSOPHY – ABILITY

How we bridge the digital divide

ABILITY

Active Participation

Seniors cannot just be passive recipients of technology

- Seniors must be given training to develop their confidence and competence with using emerging technologies
- Senior volunteers can hone their understanding of emerging technologies by helping to teach other seniors at their AACs.
- Seniors are encouraged to learn about the possible use of emerging technologies for malicious purposes, e.g. deepfake scams



OUR AI PHILOSOPHY – AGENCY

How we bridge the digital divide

AGENCY

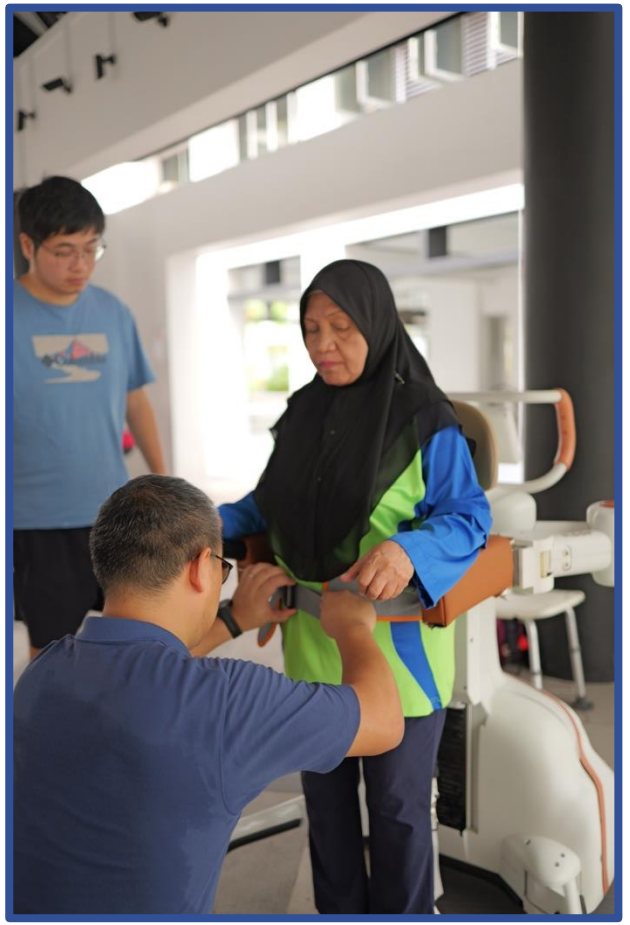
Seniors get to choose

Seniors retain control over the use of emerging technologies in their ageing journey

Seniors must be able to opt out or withdraw from using emerging technologies, and alternatives must be made available

All systems involving the use of AI in care must have human oversight and safeguards to prevent AI from making important decisions unsupervised

For systems that require direct interaction between seniors and LLMs, frequent review should be conducted to ensure the LLMs do not mislead seniors



OUR AI PHILOSOPHY – ASSURANCE

How we bridge the digital divide

ASSURANCE

Develop a sense of safety

Seniors must feel that they are in a safe environment: connected to people who care for them and comfortable with the installation and use of technologies.

- AI must not replace human social workers for sensitive conversations such as expressing grievances and counselling
- Strong data protection policies and measures must be established to prevent data leakage



OUR AI PHILOSOPHY - EXAMPLE

How we bridge the digital divide

Problem

Social workers have more duties and limited time

Routine telephone wellness checks take up precious time that can be used for case management

Possible Solution

Use an AI-assisted voice agent as a chatbot to make automated voice calls

Removal of human agents creates distance between social workers and the seniors under their care

No agency

Seniors cannot choose to be listened to by a human

No access

Not every senior has a smartphone or knows how to use a LLM

No ability

Many chatbots are limited by languages, and seniors have trouble with English

No assurance

Seniors do not feel assured that chatbots will listen to their concerns

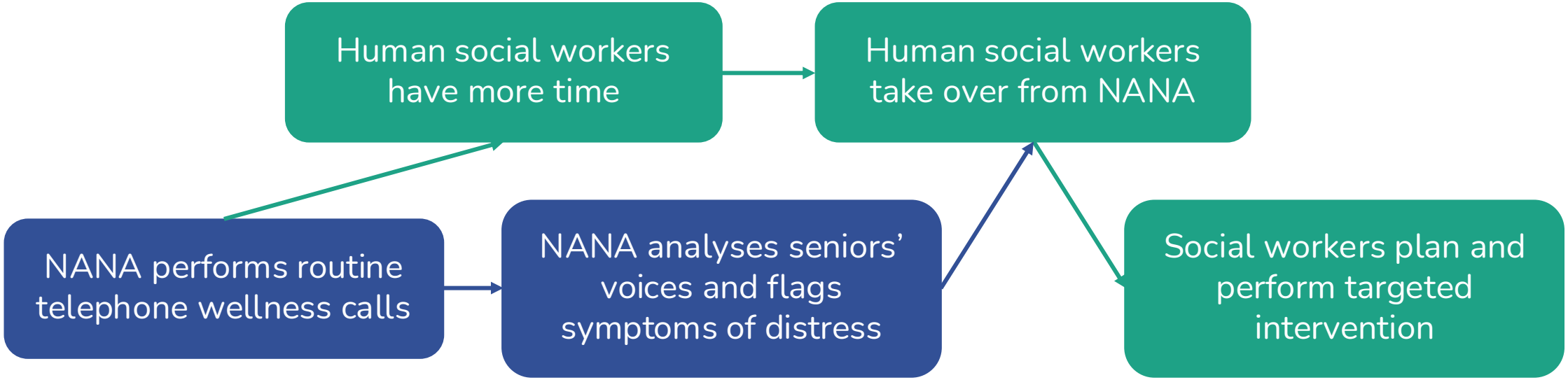
OUR AI PHILOSOPHY - EXAMPLE

How we bridge the digital divide

Problem	Solution
No access: Seniors may not be able to afford or use a smartphone.	NANA is designed to be compatible with the simplest of telephone systems, requiring no installation of or change in hardware or software on the seniors' part.
No ability: Many chatbots are limited by languages, and seniors often do not communicate well in English.	Using AI, NANA has been trained in identifying and speaking in local languages, dialects, and accents.
No agency: Seniors cannot choose to be listened to by a human.	NANA is only assigned to the routine portions of telephone wellness calls. Portions where human connection is essential, including emotionally and data sensitive portions such as counselling, are assigned to human social workers.
No assurance: Seniors do not feel assured that the chatbot will meet their concerns.	Human social workers remain an essential part of the assessment and intervention process.

OUR AI PHILOSOPHY - EXAMPLE

How we bridge the digital divide



Human connection is retained

Digital divides are turned into digital dividends

FROM DIGITAL DIVIDE TO DIGITAL DIVIDENDS

Making emerging technologies work

EMERGING TECHNOLOGIES CREATE OPPORTUNITIES, BUT ALSO A DIGITAL DIVIDE

↓

PRIORITISE

ACCESS | ABILITY | AGENCY | ASSURANCE

HUMAN CONNECTION

↓

OPPORTUNITIES TURN INTO DIGITAL DIVIDENDS

The true measure of AI is not how advanced our technology becomes, but how few people we leave behind.



THANK YOU

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