

AI for an Ageing World: Reimagining Care, Inclusion and Human Connection

In 2020, as Singapore confronted the dual realities of a pandemic and a rapidly ageing population, I found myself returning to a question that many ageing societies around the world are still grappling with today:

How do we continue to care for more seniors when their needs are growing faster than the workforce available to support them?

But the answer was never simply about recruiting more people. It was about reimagining how technology could strengthen human relationships, deepen trust and enable better care at scale. In a rapidly ageing society, care cannot remain static; it must evolve. Yet that evolution should never be driven by technology for its own sake. Rather, it should be guided by a simple purpose: ensuring that no senior is left unseen, unheard or unsupported.

Those early reflections led to even bigger questions. Could artificial intelligence help us identify risks before they became crises? Could technology strengthen human connection instead of replacing it? Could we create a future where older persons—many of whom had never used digital tools before—felt empowered rather than excluded?

Over the past five years, these questions have shaped my leadership of Lions Befrienders. They have guided our transformation from a traditional eldercare charity into one of Singapore's most digitally enabled community care organisations, using artificial intelligence, data and technology to expand care, deepen inclusion and help thousands of seniors age with dignity in an increasingly digital world.

As Singapore's population continues to age rapidly, the challenges facing the eldercare sector have become more complex than ever. Loneliness, social isolation, cognitive decline, depression and workforce shortages are no longer future concerns—they are realities we face every day. Yet I have always believed that moments of profound change also create opportunities to rethink long-held assumptions. Rather than reducing human interaction, technology can help make care more meaningful, more proactive and more accessible.

Finally, the question was never whether we should embrace AI. It was how we could do so responsibly, ethically and in ways that genuinely improve people's lives.

Scaling Human Connection Through Digital Transformation

When I assumed executive leadership during the pandemic, Lions Befrienders was already serving thousands of seniors across Singapore. At the same time, Singapore's Active Ageing Centre transformation was reshaping community care nationwide. Following the 2021 expansion, each centre grew from serving three to four HDB blocks to between 35 and 40 blocks, while a team of around three staff now supports approximately 4,000 seniors.

It was clear to me that the challenges ahead required more than incremental improvements. They demanded a different way of thinking.

Singapore is one of the world's fastest-ageing societies. By 2030, one in four Singaporeans will be aged 65 or above. Community-based care will continue to experience rising demand even as workforce constraints become increasingly acute. Rather than treating technology as a separate initiative, I believed it had to become an integral part of how care itself is designed, delivered and experienced.

Looking back, the results demonstrate what becomes possible when technology is used to strengthen, rather than replace, human care.

Between 2020 and 2025, the number of Active Ageing Centre members we served increased from 2,366 to 10,952, a 4.6-fold increase. Annual programme participation grew from 196,177 to 272,491, while the number of activities conducted almost doubled from 3,376 to 6,501. Most significantly, the number of seniors engaged annually by Lions Befrienders grew from approximately 6,500 to more than 13,000.

This growth was achieved with only a modest 15% increase in staff strength, from approximately 130 employees to around 150. The impact was not simply the result of working more efficiently. It reflected a fundamental redesign of how community eldercare could be delivered at scale.

For me, these outcomes reinforce an important lesson about digital transformation. Technology should never be measured by the sophistication of the tools we introduce, but by the greater impact it enables people to achieve together.

From Digital Projects to a Whole Ecosystem of Care

What began as a series of individual technology pilots gradually evolved into something much larger.

As each innovation addressed one aspect of ageing, it became increasingly apparent that no single technology could meet the diverse and interconnected needs of older persons. Physical health, emotional wellbeing, cognitive function, social connectedness and independent living are deeply intertwined. Supporting one without considering the others would never be enough.

This realisation shaped the development of the Lions Befrienders TechCare Ecosystem.

Over the past six years, Lions Befrienders has evolved from experimenting with AI-assisted mental health screening into building one of Singapore's most comprehensive technology-enabled community care ecosystems. Rather than introducing isolated digital solutions, we sought to create an integrated ecosystem that supports seniors across every dimension of ageing, from physical health and emotional wellbeing to cognitive health, home safety, digital inclusion, social connectedness and preventive care.

At the heart of this ecosystem is a simple belief: seniors should not have to wait until they become frail, isolated, cognitively impaired or seriously ill before receiving help.

Instead, our vision has been to move towards a predictive and preventive model of care, one that identifies risks earlier, supports timely intervention and empowers older persons to remain healthy, connected and independent for as long as possible.

Today, the TechCare Ecosystem brings together emotional wellness screening, cognitive assessment, voice companionship, remote wellbeing monitoring, digital community platforms, health monitoring technologies, robotics and AI-assisted operational intelligence into a connected model of community care.

One of the earliest building blocks of the TechCare Ecosystem was an AI-powered mental health facial screening solution, developed in partnership with Opsi Emotion AI. Introduced within Lions Befrienders' Active Ageing Centres, the solution analyses facial expressions and emotional cues to provide counsellors and care professionals with additional insights into a senior's emotional wellbeing. Rather than replacing professional judgement, it serves as an additional tool to identify subtle signs of emotional distress that may otherwise go unnoticed, creating opportunities for earlier conversations and intervention.

The experience of implementing this innovation reinforced an important insight: if artificial intelligence could help identify emotional risks earlier, it could also play a role in detecting other hidden vulnerabilities. This became the foundation for IM-Alert, powered by the AI-driven CognICA cognitive assessment platform. Recognising that cognitive decline is often identified only after symptoms become more pronounced, IM-Alert enables objective screening for Mild Cognitive Impairment (MCI) and early-stage dementia within familiar community settings, making cognitive assessments more accessible beyond traditional clinical environments.

As we deepened our understanding of healthy ageing, we also recognised that wellbeing is shaped not only by physical and cognitive health, but by everyday companionship and meaningful social interaction. To complement our preventive care efforts, we introduced Joy, an AI Wellness Buddy designed to provide seniors with friendly conversations, gentle wellness check-ins and encouragement to stay socially engaged. Rather than replacing family members, volunteers or care staff, Joy offers an additional

source of companionship between human interactions, helping to alleviate loneliness while encouraging positive daily habits and emotional wellbeing. In doing so, Joy reinforces our belief that technology is at its most meaningful when it strengthens human connection and helps older persons feel seen, supported and connected every day.

In doing so, Lions Befrienders became one of the earliest community care organisations in Singapore to operationalise AI-powered cognitive assessments within Active Ageing Centres, helping to shift cognitive care from reactive diagnosis towards earlier detection and timely intervention.

Building on these efforts, we expanded our focus from emotional and cognitive wellbeing to preventive physical health through IM-Healthy, a self-service health monitoring platform introduced within our Active Ageing Centres. By enabling seniors to regularly monitor key health indicators in a familiar community setting, IM-Healthy encourages greater ownership of personal wellbeing while creating opportunities to detect health concerns early and intervene before they escalate. Together, these innovations reflect our broader vision of bringing preventive care closer to where seniors live, enabling timely support across multiple dimensions of healthy ageing rather than waiting until needs become more complex.

As our understanding of ageing deepened, so too did our focus on supporting seniors beyond the walls of our centres.

The flagship IM-OK platform was developed to address the growing concerns surrounding older persons living alone and the increasing risks associated with social isolation. Using a simple, senior-friendly tablet interface, users indicate each day that they are "OK". When a check-in is missed, follow-up actions are triggered, providing an additional layer of safety while allowing seniors to continue living independently in their own homes.

Building on this commitment to ageing in place, IM-AIDEN explores how robotics and assistive technologies can support care delivery within the home. The intention was never to replace care professionals, but to reduce repetitive tasks so that frontline staff could devote more time to meaningful engagement with seniors. The project's potential contribution to future community care and urban ageing was recognised when it was selected for showcase at the Urban Redevelopment Authority's Draft Master Plan 2025 Exhibition.

Healthy ageing is about much more than physical wellbeing. It is also about belonging.

With this in mind, Lions Befrienders developed the Our Kampung App as a digital extension of its Active Ageing Centres. Through the platform, seniors can participate in interest groups, join activities, engage with peers through gamified experiences and

organise meetups based on shared interests. By extending social participation beyond the physical centre, the platform helps reduce loneliness while fostering friendships, purpose and community.

As the ecosystem matured, partnerships with academia and industry became increasingly important in accelerating innovation.

Among these collaborations is AMI-Go, an AI chatbot co-created with the Singapore University of Technology and Design (SUTD). Designed as part of the broader TechCare Ecosystem, AMI combines multilingual cognitive training with gamified experiences to support cognitive health and potentially delay cognitive decline. Research involving 105 seniors demonstrated significant improvements in cognitive abilities and verbal memory among participants using the bilingual games, while more than 85% reported that the platform was enjoyable and easy to use.

Following its successful pilot, AMI was integrated into 1,000 Lions Befrienders IM-OK tablets, extending cognitive stimulation directly into seniors' homes and transforming home-based care into a platform for both engagement and dementia prevention. The project also received international recognition in 2025, reflecting the value of co-creating future-ready solutions with research institutions and technology partners.

Preventive care extends beyond cognitive health to physical resilience as well.

In partnership with Nanyang Technological University (NTU), the Smart Urban Co-Innovation Lab and Lumens, Lions Befrienders developed the Data-Driven Robotic Balance Assistant (DRBA), launched in 2026. By combining robotics with data analytics, DRBA helps strengthen balance, mobility and physical resilience among seniors, supporting independence before significant functional decline occurs.

The ecosystem has continued to evolve through international collaboration.

In 2026, Lions Befrienders partnered with Japan's Kanamic Network, Kwong Wai Shiu Hospital and academic partners from the Singapore University of Social Sciences (SUSS) to launch a first-of-its-kind Japan–Singapore AI-enabled eldercare pilot. The initiative focuses on AI-assisted documentation, predictive workforce scheduling, voice-to-text reporting, workflow automation and care coordination. By reducing administrative burden, the project seeks to improve the sector's "time-to-care" ratio, enabling frontline staff to devote more time to direct engagement with seniors while drawing on Japan's extensive experience as one of the world's most advanced ageing societies.

Looking back, these collaborations represent more than individual innovations. They reflect a deliberate strategy of bringing together expertise from academia, industry, healthcare and the social service sector to develop evidence-based solutions that can be scaled across Singapore's ageing landscape.

Each project addresses a different aspect of ageing, yet collectively they contribute to a single vision: helping older persons remain healthy, connected, purposeful and independent for as long as possible.

Ultimately, what distinguishes the Lions Befrienders TechCare Ecosystem is not any individual technology, but the way these innovations work together as a connected continuum of care.

A senior may show declining muscle mass through IM-Healthy, exhibit emotional distress through IM-Happy, demonstrate early cognitive impairment via CognICA, miss routine check-ins on IM-OK, and speak about loneliness during a conversation with NANA. Viewed in isolation, each signal may appear relatively minor. Viewed together, they provide a richer and more holistic understanding of the individual's wellbeing, enabling timely intervention before challenges escalate into crises.

Personally, this integration represents the true promise of artificial intelligence in community care. It transforms eldercare from episodic support into continuous, proactive and personalised care.

Today, the TechCare Ecosystem stands as one of Singapore's most comprehensive examples of AI-enabled community care. More importantly, it demonstrates that technology is most powerful when it strengthens the human touch rather than replacing it. Every innovation has been developed with the same purpose: enabling older persons to age with dignity, independence, purpose and connection within the communities they call home.

Reimagining Human Connection Through AI

Throughout my career in community care, I have come to believe that trust must always come before technology.

Many of the seniors we serve did not grow up in the digital age. For them, confidence is not built through innovation alone. It is built through familiarity, transparency and genuine human connection. I realised early on that if we wanted AI to become part of community care, we first had to ensure that seniors felt respected, heard and comfortable engaging with it.

This belief became the foundation for Neighbourhood Assistant for Nurturing Ageing (NANA), Singapore's AI-powered voice companion for seniors.

NANA was developed in partnership with Seasalt AI to address a simple but important challenge: how could we maintain regular, meaningful contact with thousands of seniors while ensuring that our care staff could devote more time to those who required deeper support?

The objective was never to replace human interaction. Instead, we wanted technology to strengthen it.

By automating up to three hours of routine wellness and check-in calls each day, NANA enables our care teams to significantly increase outreach while allowing frontline staff to focus their attention where it matters most: supporting seniors facing urgent, complex or emerging needs.

From the outset, I was clear that we were not building an AI assistant to replace caregivers. We were building one to ensure that no senior felt forgotten.

Designed to eventually support up to 26,000 seniors under Lions Befrienders' care, NANA represents a different way of thinking about AI. Rather than being an isolated digital tool, it functions as another trusted touchpoint within a broader continuum of care. The Ministry of Digital Development and Information aptly described NANA as the "eyes and ears" supporting the "heart" of caregivers, a description that captures precisely what we hoped to achieve.

Equally important was how NANA was developed.

Since 2023, our staff, technology partners and seniors themselves have worked together to refine the system, starting with an early pilot involving 100 seniors who demonstrated strong acceptance and trust on the application. These seniors influenced how the AI speaks, responds and engages in conversation, ensuring that interactions felt familiar rather than transactional.

But our work on NANA did not stop with its initial deployment. We continued to refine and expand its capabilities through partnerships that make the technology more inclusive and responsive to the needs of seniors. In its current phase, Lions Befrienders has partnered A*STAR Institute to use MERaLiON, Singapore's multilingual and empathetic large language model, and enable NANA to understand and converse in English, Mandarin, Malay and Tamil, while also recognising Singlish and local dialects commonly spoken by older Singaporeans. This reflects an important principle that has guided our work from the beginning: AI should adapt to the people it serves. By communicating in languages and expressions that feel natural and familiar, NANA becomes more than a digital assistant—it becomes a trusted companion that seniors can engage with comfortably and confidently.

More importantly, it reinforced a lesson that has shaped every digital initiative we have undertaken: technology succeeds only when people feel respected enough to embrace it. This philosophy became the foundation of our AI strategy that continues to guide my approach to digital leadership today.

Moving From Reactive Care to Preventive Care

As our confidence in AI grew, so did my conviction that its greatest contribution to community care lay not in efficiency, but in prevention.

Too often, emotional distress among older persons remains invisible until it becomes a crisis. Depression, loneliness and anxiety are frequently hidden behind polite smiles or brief conversations, while traditional screening methods depend heavily on observation and self-reporting. By the time concerns become apparent, valuable opportunities for early intervention may already have been lost.

I began asking a different question.

Could artificial intelligence help us notice what people sometimes struggle to express?

That question led to the development of the Facial Analysis Correlation of Emotions (FACE) programme, pioneered by Lions Befrienders in collaboration with Opsiis Emotion AI and supported by Temasek Foundation.

Using artificial intelligence to analyse facial expressions and emotional cues during video interactions, FACE provides counsellors and care professionals with additional insights into a senior's emotional wellbeing. Importantly, the technology does not replace professional judgement. Instead, it offers another layer of understanding that can help practitioners identify subtle warning signs which may otherwise go unnoticed.

But the significance of FACE extends beyond the technology itself.

It demonstrated that AI could support one of the most deeply human aspects of care: understanding how someone is truly feeling.

One practitioner involved in the programme reflected that the technology enabled conversations that might never otherwise have taken place. It helped uncover struggles that seniors themselves often found difficult to articulate.

That experience reinforced an important belief.

The greatest promise of artificial intelligence is not simply that it helps us work faster. It is that it helps us understand people better.

Pioneering the Future of Cognitive Health

The same philosophy also shaped our work in cognitive health.

Dementia is one of the defining public health challenges of ageing societies worldwide. Yet many people seek help only after symptoms have become significant, limiting opportunities for early intervention.

I believed there had to be another way.

In 2022, Lions Befrienders partnered with industry leaders to pilot **CognICA**, an AI-powered cognitive assessment platform developed by Cognetivity, becoming one of the first community care organisations in Asia to introduce the technology.

The initial pilot assessed 250 seniors over a three-month period using CognICA's five-minute digital assessment.

The encouraging outcomes led to a second phase, expanding deployment to 1,250 seniors across the Lions Befrienders network.

By enabling individuals to self-administer cognitive screening for mild cognitive impairment and early dementia through a simple digital assessment, CognICA lowers barriers to screening while encouraging earlier diagnosis and intervention.

To me, CognICA represents far more than another digital innovation.

It reflects a shift in thinking, from treating decline after it occurs to identifying risk before it becomes irreversible.

Bringing sophisticated cognitive assessment into community settings allows older persons to receive timely referrals, appropriate support and earlier interventions, helping them maintain independence and quality of life for longer.

Ultimately, it reflects my broader vision for AI in eldercare: using technology not merely to respond to problems, but to anticipate them, empower individuals and build a more preventive, person-centred model of healthy ageing.

Recognition for Technology and Innovation Leadership

Recognition has never been the goal of this journey.

The greatest reward has always been seeing older persons live with greater confidence, independence and connection. Nevertheless, the recognition that Lions Befrienders has received over the past few years has been deeply meaningful because it affirms that compassionate, technology-enabled community care can create impact well beyond our own organisation.

When I first began advocating for digital transformation within eldercare, my aspiration was not simply to introduce new technologies. It was to ensure that older adults could benefit from the same opportunities, services and connections that technology creates for the rest of society.

Under our team's leadership, Lions Befrienders has received multiple Asia Pacific Eldercare Innovation Awards, including Operator of the Year, Innovation of the Year and Facility of the Year.

Each recognition reflects the collective efforts of colleagues, volunteers, researchers, technology partners and, most importantly, the seniors who were willing to embrace

new possibilities alongside us. Together, they have demonstrated that community eldercare can be both deeply compassionate and boldly innovative.

On a personal level, I was humbled to receive the Trailblazer Award, recognising leadership in driving innovation and shaping the future of eldercare across the Asia-Pacific region.

I have always regarded this award as recognition of a shared journey rather than an individual accomplishment. Every meaningful innovation we have introduced has been built through collaboration, mutual trust and a willingness to learn together.

Our commitment to healthy longevity and preventive care was also recognised through the HAPI Healthy Ageing Innovation Prize, reinforcing my belief that innovation in ageing should focus not simply on managing decline, but on expanding opportunities for older adults to remain healthy, active and purposeful.

Among the milestones that remain especially meaningful to me was Lions Befrienders becoming the first charity in Singapore to be recognised as a Digital for Life Champion under the Infocomm Media Development Authority's Digital for Life movement.

We were also the only social service agency recognised alongside leading technology companies and financial institutions.

To me, this recognition represented something much larger than an organisational achievement. It signalled that digital inclusion is not peripheral to community care, it is fundamental to building an inclusive society where older persons are not left behind as technology continues to reshape everyday life.

Today, Lions Befrienders also leads four Integrated Community Care Provider (ICCP) initiatives and participates in three additional ICCPs alongside healthcare providers, community organisations and government agencies.

I see this as the next stage of our journey.

Innovation should not remain within individual organisations. It should strengthen entire systems, enabling communities, healthcare providers and governments to work together in building more integrated and resilient models of care for ageing populations.

Collectively, these milestones remind me that technology has its greatest impact when it is guided by empathy, purpose and collaboration.

Leading with Trust, Purpose and Courage

Technology alone does not transform lives.

People do.

Throughout my career, I have believed that every technological advancement must be accompanied by trust. In the social sector, innovation carries a particular responsibility. It must be ethical, transparent, inclusive and firmly grounded in respect for human dignity.

Introducing artificial intelligence into eldercare required far more than implementing new technologies.

It required addressing questions around privacy, consent, accessibility and digital literacy. It meant building confidence among staff, volunteers, caregivers and seniors alike. Above all, it required demonstrating, consistently, that innovation and compassion are not competing priorities.

Looking back, I believe the most important lesson from this journey is that artificial intelligence should never be viewed as a substitute for human relationships.

Its greatest value lies in enabling those relationships to flourish.

When technology reduces administrative burdens, caregivers have more time to listen.

When AI identifies risks earlier, interventions become more timely and more personal.

When digital platforms connect isolated seniors with their communities, technology becomes a bridge rather than a barrier.

Every innovation we have introduced has been guided by the same conviction: technology should amplify humanity, not diminish it.

When I first asked how we could continue caring for more seniors without losing the human connection at the heart of community care, I could not have imagined that the journey would lead us into artificial intelligence, predictive analytics, robotics and digital ecosystems.

Yet every step has reaffirmed the same belief.

The future of ageing is not about building smarter technologies alone. It is about building kinder systems of care.

As societies around the world continue to age, the challenge before us is not simply one of capacity, but of imagination. We must rethink how technology, communities and compassion can come together to support people in living longer, healthier and more connected lives.

I hope our experience demonstrates that digital innovation and human empathy are not opposing forces. When guided by trust, purpose and inclusion, they become powerful partners in creating communities where every older person can age with dignity, independence and a continued sense of belonging.

Karen Wee Siew Lin
Executive Director
Lions Befrienders Service Association (Singapore)

Appendix 1

A. Physical – health, mobility, exercise, nutrition, sleep

1. DRBA

- [Singapore develops world's first robotic chaperone to support seniors - CNA](#)
- [南大等机构推出复健机器人 预防年长者锻炼时跌倒 - 8world](#)
- [AI-driven robot helps seniors stay active, prevent falls at active ageing centres in Tampines - Yahoo News Singapore](#)

2. IM-Healthy, IM-OK, IM-Happy

- [Ep 22 - mewatch](#)

B. Psychological/Emotional – mental health, resilience, coping, self-esteem

1. IM-Happy

- [晨光|善方保健：迈入超老龄社会 年长看护者趋增 - 8world](#)
- [HAPI Award](#)

2. FACE

- [New AI program could help screen seniors for depression and anxiety through video calls | The Straits Times](#)
- [Lonely Seniors in Singapore: Who cares for them when they're alone? - Yahoo News Singapore](#)
- [AI-powered emotion analysis technology to help diagnose mental health conditions in seniors in Singapore | MobiHealthNews](#)
- [Opsis Emotion AI : Winner of the SilverEco & Ageing Well International Awards](#)

3. Safe Pod

- [Befrienders-on-wheels service rolls out in new mental wellness initiative in Queenstown _ The Straits Times.pdf](#)

C. **Cognitive/Intellectual – learning, memory, problem-solving, lifelong education**

1. IM-Alert

- [通过人工智能应用 年长者可自行检测是否失智 | 联合早报](#)

2. SUTD – Bilingual App (Ami)

- [SUTD Launches World’s First Bilingual Game App Aimed at Staving Off Dementia - Singapore University of Technology and Design \(SUTD\)](#)
- [新科大研究员开发游戏应用 助年长者延缓失智症 | 联合早报](#)

D. **Social – relationships, social networks, community connections**

1. AI Chatbot – Joy

- [This New AI Chatbot Aims To Curb Loneliness, Identify Distress In Lonely Seniors - SilverStreak](#)

2. NANA

- [sg0032161901_20270503.pdf](#)
- [‘Excuse me, are you S’porean?’: Lions Befrienders’ upgraded AI agent calls seniors in familiar voice | The Straits Times](#)
- [狮子乐龄之友协会推AI语音系统 代致电关怀1.3万长者 | 联合早报](#)

3. Our Kampung App

- [本地首个专为乐龄人士而设“Our Kampung”生活应用程序 - 8world](#)

E. **Environmental – safe, supportive, accessible living environments**

1. IM-OK Tablet

- [Lions Befrienders' customised tablet helps charity keep tabs on seniors remotely | The Straits Times](#)

- [每天按一下“我很好” 科技助独居年长者报平安 | 联合早报](#)

2. IM-AIDEN

- [Robot ‘butler’ trial launched at HDB rental block to deliver meals to homebound seniors | The Straits Times](#)
- [Lions Befrienders Launch AIDEN, A Robot That Delivers Food To The Elderly - SilverStreak](#)
- [台達電機器人落地新加坡 搶攻實體AI商機 - 自由財經](#)
- [送货机器人上岗 为组屋年长居民运物资送温暖 | 联合早报](#)
- [AI Got Me - mewatch](#)

F. **Occupational/Productive – work, volunteering, caregiving, meaningful roles**

1. Kanamic x LB

- [カナミックネットワーク、シンガポールの高齢者ケア事業者とのMOU締結を発表A.. \(株式会社カナミックネットワーク プレスリリース\)](#)
- [日本AI医疗运营方案落户新加坡 减轻行政负担提升病患照护 | 联合早报](#)