

THE NEW AGE

From personalised health dashboard to body servicing: Inside S'pore's massive healthy ageing experiment



Joyce Teo
Senior Health Correspondent

Imagine reaching your 70s and beyond with the strength to get up from the floor without using your hands, or the stamina to hike mountain trails across China or the Andes.

In super-aged Singapore, where seniors aged 65 and above will constitute one in four residents by 2030 and centenarians are more common than ever, this vision represents the future of ageing.

The country is shifting from sick care to preventive care, aiming to add more healthy years to life and to shorten the years spent in poor health, disability and dependence. The strategy is being propelled by a massive research push that aims to convert the nation into a test bed for extending healthspan – the number of years someone lives in good health – enabling Singaporeans to start managing their health early.

The \$350 million longevity bet

is largely limited to tracking standard health screenings like blood pressure, cholesterol, mammograms, and stool tests to rule out diseases, and recommending simple lifestyle habits such as exercise or community activities.

Within several years, however, things could look different. Residents could potentially visit a GP to test for early cognitive decline, receive a biological age assessment to find out if they are ageing faster or slower than expected, followed by a precision plan to target physiological decline before illness or frailty sets in.

Chong Yap Seng, the executive director of the Grand Challenge on Maximising Healthy and Successful Longevity compares this proactive prevention approach to routine vehicle maintenance. “You don’t bring your car in only when you have an accident or (when) it stops working; you advise people (to send it) for regular servicing. We need that for humans as well,” he said.

DEMOCRATISING LONGEVITY

Over the next five years, the health longevity grand challenge, which is led by the National Research Foundation, in partnership with the Ministry of Health, will establish baseline data on how Singapore’s population ages at a biological level.

This means looking beyond chronological age to see how cells, tissues, and molecular systems gradually deteriorate over time. For example, scientists can track chemical changes in DNA (epigenetic clocks) to evaluate cellular health or measure inflammatory proteins released by lingering, damaged cells that wear down the body over time.

The goal is to validate new biomarkers and screening tools for brain health and physical function, and interventions that can be effectively deployed across the broader population, said Chong. “This means that for the average Singaporean, instead of getting diagnosed with dementia or sarcopenia (loss of muscle mass) when it is already quite advanced, your GPs might potentially be able to detect and intercept these conditions much earlier,” he said.

“Overall, we are also likely to have more evidence, based on our biology, genetics, environment and lifestyle patterns, on healthy longevity interventions that actually work for Singaporeans.”

These interventions can range from lifestyle modifications, such as social or digital innovations to the use of supplements or prescription medications, he added.

For example, if physical function tests show early signs of muscle loss, doctors could possibly prescribe a targeted plan using specific exercise regimens and supplements to slow the biological decline.

In contrast to expensive longevity clinics around the world that target affluent clients with costly packages, unvalidated therapies, and high-tech options such as hyperbaric oxygen chambers or red



light treatment, the Singapore Government is pursuing an approach focused on democratising healthcare – making it available to all.

Brian Kennedy, director of the Centre for Healthy Longevity at the National University Health System (NUHS), said: “We’re not studying \$100,000 interventions at the university. We’re doing things we can scale, like repurposed drugs and supplements... and biomarker (tests) that cost \$200 or less.”

Chong said that while global scientists can easily publish promising longevity research in academic papers, most nations fail to move the needle because they lack a way to scale these discoveries to the general public.

Here, the network of active ageing centres (AACs), which are community hubs that keep seniors socially and physically engaged, are a “wonderful platform for the distribution of public goods,” he said.

These centres form a core pillar of Age Well SG, a \$3.5 billion national programme aimed at helping Singaporeans age well in the community over the next decade.

While Age Well SG serves as an operational and infrastructural

barrier oxygen chambers or red light treatment, the Singapore Government is pursuing an approach focused on democratising healthcare – making it available to all.

Brian Kennedy, director of the Centre for Healthy Longevity at the National University Health System (NUHS), said: “We’re not studying \$100,000 interventions at the university. We’re doing things we can scale, like repurposed drugs and supplements... and biomarker (tests) that cost \$200 or less.”

Chong said that while global scientists can easily publish promising longevity research in academic papers, most nations fail to move the needle because they lack a way to scale these discoveries to the general public.

Here, the network of active ageing centres (AACs), which are community hubs that keep seniors socially and physically engaged, are a “wonderful platform for the distribution of public goods,” he said.

These centres form a core pillar of Age Well SG, a \$3.5 billion national programme aimed at helping Singaporeans age well in the community over the next decade.

While Age Well SG serves as an operational and infrastructural

dependent research institutions dedicated entirely to geroscience. “When I came (to Singapore) nine years ago, they were already talking about what we can do about ageing... My goal is to help the population of Singapore have a longer healthspan, and I think this is an ideal place to be a role model for how to age in a healthy and happy way.”

Kennedy, who is chief scientist of the healthy longevity grand challenge, highlighted Singapore’s unprecedented financial and strategic commitment.

“I would say Singapore is becoming a leader in Asia, and one of the unique things we do is we have the whole system. We have mechanistic studies (lab research exploring the cellular drivers of ageing), we have preclinical studies (testing therapies on cells and lab models), and then we have clinical approaches too. And so we can run the whole spectrum,” he said.

An expert in the biology of ageing, Kennedy is Distinguished Professor in Biochemistry and Physiology at NUS Medicine. Before coming to Singapore, he was president and CEO of the Buck Institute for Research on Ageing in California, one of the world’s premier independent research institutions dedicated entirely to geroscience.

“When I came (to Singapore) nine years ago, they were already talking about what we can do about ageing... My goal is to help the population of Singapore have a longer healthspan, and I think this is an ideal place to be a role model for how to age in a healthy and happy way.”

Kennedy, who is chief scientist of the healthy longevity grand challenge, highlighted Singapore’s unprecedented financial and strategic commitment.

“I would say Singapore is becoming a leader in Asia, and one of the unique things we do is we have the whole system. We have mechanistic studies (lab research exploring the cellular drivers of ageing), we have preclinical studies (testing therapies on cells and lab models), and then we have clinical approaches too. And so we can run the whole spectrum,” he said.

An expert in the biology of ageing, Kennedy is Distinguished Professor in Biochemistry and Physiology at NUS Medicine. Before coming to Singapore, he was president and CEO of the Buck Institute for Research on Ageing in California, one of the world’s premier independent research institutions dedicated entirely to geroscience.

“When I came (to Singapore) nine years ago, they were already talking about what we can do about ageing... My goal is to help the population of Singapore have a longer healthspan, and I think this is an ideal place to be a role model for how to age in a healthy and happy way.”

Kennedy, who is chief scientist of the healthy longevity grand challenge, highlighted Singapore’s unprecedented financial and strategic commitment.

“I would say Singapore is becoming a leader in Asia, and one of the unique things we do is we have the whole system. We have mechanistic studies (lab research exploring the cellular drivers of ageing), we have preclinical studies (testing therapies on cells and lab models), and then we have clinical approaches too. And so we can run the whole spectrum,” he said.

An expert in the biology of ageing, Kennedy is Distinguished Professor in Biochemistry and Physiology at NUS Medicine. Before coming to Singapore, he was president and CEO of the Buck Institute for Research on Ageing in California, one of the world’s premier independent research institutions dedicated entirely to geroscience.

“When I came (to Singapore) nine years ago, they were already talking about what we can do about ageing... My goal is to help the population of Singapore have a longer healthspan, and I think this is an ideal place to be a role model for how to age in a healthy and happy way.”

Kennedy, who is chief scientist of the healthy longevity grand challenge, highlighted Singapore’s unprecedented financial and strategic commitment.

“I would say Singapore is becoming a leader in Asia, and one of the unique things we do is we have the whole system. We have mechanistic studies (lab research exploring the cellular drivers of ageing), we have preclinical studies (testing therapies on cells and lab models), and then we have clinical approaches too. And so we can run the whole spectrum,” he said.

An expert in the biology of ageing, Kennedy is Distinguished Professor in Biochemistry and Physiology at NUS Medicine. Before coming to Singapore, he was president and CEO of the Buck Institute for Research on Ageing in California, one of the world’s premier independent research institutions dedicated entirely to geroscience.

“When I came (to Singapore) nine years ago, they were already talking about what we can do about ageing... My goal is to help the population of Singapore have a longer healthspan, and I think this is an ideal place to be a role model for how to age in a healthy and happy way.”

Kennedy, who is chief scientist of the healthy longevity grand challenge, highlighted Singapore’s unprecedented financial and strategic commitment.

“I would say Singapore is becoming a leader in Asia, and one of the unique things we do is we have the whole system. We have mechanistic studies (lab research exploring the cellular drivers of ageing), we have preclinical studies (testing therapies on cells and lab models), and then we have clinical approaches too. And so we can run the whole spectrum,” he said.

An expert in the biology of ageing, Kennedy is Distinguished Professor in Biochemistry and Physiology at NUS Medicine. Before coming to Singapore, he was president and CEO of the Buck Institute for Research on Ageing in California, one of the world’s premier independent research institutions dedicated entirely to geroscience.

“When I came (to Singapore) nine years ago, they were already talking about what we can do about ageing... My goal is to help the population of Singapore have a longer healthspan, and I think this is an ideal place to be a role model for how to age in a healthy and happy way.”

doctors catch silent physiological decline early.

When combined with wearable tracking, body composition analysis, and simple tests like handgrip strength, these metrics can detect muscle loss, assess cellular resilience, and predict overall mortality risk years before clinical symptoms appear, and in time for the person to do something about it.

This proactive philosophy is already taking shape on the ground. At Alexandra Hospital’s Healthy Longevity Research Clinic, Lauren Wang and her team have demonstrated that they can identify cardiometabolic risk before overt disease sets in, and improve health risk factors.

Rather than relying on high-tech quick fixes, much of this progress comes down to driving sustainable behaviour changes such as optimising sleep, nutrition, and exercise, and increasing patient engagement.

“This in turn has helped to improve the physical function, biomarkers, gut health and ‘biological age’ of some of the participants,” said Wang, a consultant cardiologist who heads the clinic.

“Whether this translates to additional healthy years requires much longer follow-up data but we measure for now what we can measure.”

Wang said the clinic’s goal isn’t unique to longevity clinics. “It is the goal of every good preventive medicine practice where we are identifying risk early, modifying it, and trying to compress the period of disease or reduce the harm it causes and disability at the end of life.”

The vocabulary has changed to “gero-diagnostics,” “gero-therapeutics,” “healthspan” but the underlying game plan is older than the branding.

The healthy longevity grand challenge will validate a set of health measures that primary care doctors would be able to use to track whether a person is ageing faster or slower than expected, allowing doctors to spot those at higher risk of early cognitive or physical decline, before major problems appear.

It is not clear what these tests are yet, but they could include things like biological age clocks, the use of wearable data to track someone’s lifestyle habits that contribute to



A V02 Max assessment at Raffles HealthyLongevity clinic measures the maximum amount of oxygen the body can use per minute. ST PHOTO: LIM YAOHUI

metric given that higher aerobic fitness directly predicts a longer lifespan.

Similarly, the Dexa scan, which assesses bone density and body composition, helps to identify hidden visceral fat and conditions like early bone loss or osteoporosis.

Longevity screening can cost around \$108 for an AgeQ test, or as much as \$20,000 or more for comprehensive evaluations.

GOING BEYOND THE HYPE

As commercial interest grows, so does the hype. Although certain dedicated wellness centres and longevity clinics offer non-medical interventions, such as infrared light and hyperbaric oxygen therapies – which claim to slow or reverse cellular ageing, experts said that using them for anti-ageing purposes lacks robust proof.

Beyond unproven therapies, doctors also said that supplements

longer follow-up data but we measure for now what we can measure.”

Wang said the clinic’s goal isn’t unique to longevity clinics. “It is the goal of every good preventive medicine practice where we are identifying risk early, modifying it, and trying to compress the period of disease or reduce the harm it causes and disability at the end of life.”

The vocabulary has changed to “gero-diagnostics,” “gero-therapeutics,” “healthspan” but the underlying game plan is older than the branding.

TRACKING BIOLOGICAL AGE

The healthy longevity grand challenge will validate a set of health measures that primary care doctors would be able to use to track whether a person is ageing faster or slower than expected, allowing doctors to spot those at higher risk of early cognitive or physical decline, before major problems appear.

It is not clear what these tests are yet, but they could include things like biological age clocks, the use of wearable data to track someone’s lifestyle habits that contribute to

than he should be, said Chong. This prompted a heart scan that detected early, hidden arterial blockage, allowing his doctor to prescribe statins to stave off a potential heart attack before symptoms ever appeared.

Unlike chronological age, biological age is adaptable and can potentially be reversed through healthy lifestyle habits and targeted wellness interventions.

Andrea Maier, the co-founder and director of the NUS Academy for Healthy Longevity at the National University of Singapore and a world-renowned researcher in precision geromedicine, said biological age is rarely a single, static figure.

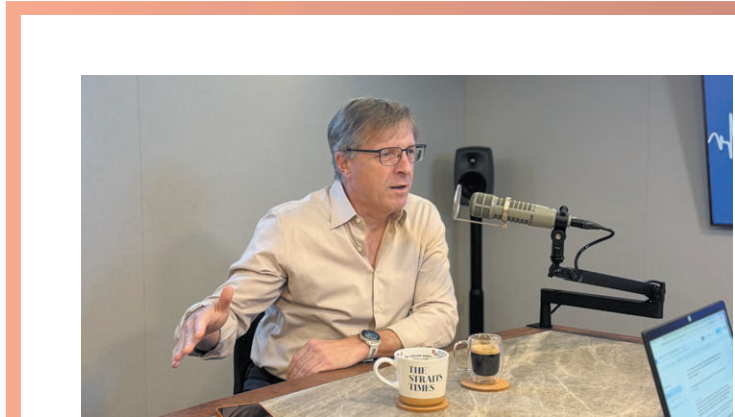
Because different organs age at varying paces, diverse biological clocks, ranging from DNA and blood protein tests to standard clinical blood panels, evaluate distinct biological processes inside the body and can yield different numbers for the same person.

“We cannot rely on a single metric for age. In electric vehicles, for instance, the battery and the engine age separately,” she explained.

“We have to create a body dashboard where you get the different signals, and then it’s up to you if

The team members at Alexandra Hospital’s Healthy Longevity Research Clinic (HLRC) with some participants (from left), research assistant He Dian, exercise physiologist Saiful Anwar, Michelle Liao, a doctor; participant Ivan Low; Lauren Wang, head of HLRC; participant Lee Siu Yin; Grace Chiang, a family medicine consultant with HLRC; senior staff nurse Eswari Sundarasagan; and health coach Cheryl Tan. ST PHOTO: JASON QUAH

One-size-fits-all medical advice is rarely effective in preventing decline because everyone ages differently. Crucially, localising healthy ageing research is essential because Western longevity metrics do not always fit Asian populations.



How old are you biologically?

In this Health Check podcast, we explore the emerging field of healthy longevity medicine in Singapore with Brian Kennedy, director of the Centre for Healthy Longevity at the National University Health System, and the chief scientist of Singapore’s Grand Challenge on Maximising Healthy and Successful Longevity.



SCAN THIS QR CODE TO LISTEN TO THE EPISODE
str.sg/JWaN

you’re going to intervene or not.”

TESTING THE ANTI-AGEING PIPELINE

To move beyond general health advice, local institutions are testing targeted clinical interventions that target biological decline.

While lab studies show that inflammation, metabolic dysregulation, and physiological stress drive unhealthy ageing, therapies that ameliorated these effects in pre-clinical models are now being tested on humans.

At the NUS Academy of Healthy Longevity’s PROMETHEUS (Precision geromedicine: Tailored healthy ageing with lifestyle, supplements and drugs) study, for instance, researchers test precision geromedicine interventions tailored to adults aged 50 to 80, to measure whether specific lifestyle protocols and certain supplements actively slow down the ageing trajectory.

The project is competing in XPRIZE Healthspan, a US\$100 million (\$128 million) global contest to restore muscle, brain, and immune function by 10 to 20 years, by measuring outcomes in participants aged 65 to 80.

The NUS academy is also conducting a one-year trial to evaluate whether daily multivitamins reduce biological age in adults aged 40 to 60 whose biological markers outpace their chronological years. “Supplements can play a huge role in ageing... but they should be given to individuals who need them. We need to measure this,” said Maier.

In addition to supplements, Maier has designed a trial for low-dose rapamycin, a leading longevity candidate, to determine if the immunosuppressant can delay biological ageing.

“We built a framework to be one of the global leaders in the field of geroscience and geromedicine, and especially, globally, we are leading in the implementation into clinical practice.”

As part of this effort, the healthy longevity grand challenge is tasked with developing a Singapore Healthy and Successful Longevity Index, which will comprise a large suite of indicators – including measures of physical function – that show, at a population level, whether the country as a whole is ageing healthily and successfully.

By uniting cutting-edge geroscience with low-cost, accessible primary care checks, Singapore is building an inclusive public health framework that proves living better for longer can be made available to everyone.

“We are very well positioned to be the regional test bed for scaleable, data-driven, culturally adapted models for global longevity care,” said Chong.

“Not just in theory, but in real life.”

If Singapore succeeds, reaching old age will not be measured by the number of chronic conditions managed, but by the next mountain waiting to be climbed, or the next adventure that’s calling.

joyceteeo@sph.com.sg

Investing in the future of health: Singapore’s growing longevity sector

At 72, Ivan Low boasts a grip strength of 47kg, a physical milestone that outperforms many men decades younger.

But when he first joined Alexandra Hospital’s (AH) one-year healthy longevity programme at age 71, the home gym enthusiast was surprised to learn that lifting weights wasn’t enough to safeguard his health.

Low then added spinning, or indoor cycling, to his exercise routine. A food lover, he also started to watch his diet more closely. He now eats more vegetables and fruits, and has cut down on desserts and snacking on potato chips in front of the TV.

Having entered the trial at 71 with a biological age of 67, Low managed to shave off another two years to reach 65 by the time his chronological age hit 72.

Biological age looks at how much damage has happened to the body’s cells over the years. This damage occurs naturally with age, and is affected by a person’s genes, habits and physical environment.

More than chronological age, biological age reflects a person’s overall health and potential longevity, with an older biological age linked to earlier development of chronic diseases from dementia to diabetes.

Low’s experience reflects a paradigm shift anchored by AH’s clinical trials: healthy longevity med-

icine grounded in geroscience – the interdisciplinary field that studies the biological mechanisms of ageing. This emerging discipline treats ageing as a manageable condition.

Clinicians aim to delay age-related decline by using advanced diagnostics such as biological age monitoring, microbiome analysis – which evaluates the gut’s microorganisms to assess metabolic health, immunity, and inflammation, functional measures such as cardiorespiratory fitness tests, and more. This is coupled with personalised lifestyle interventions such as targeted exercise regimens.

Private Healthcare Players ENTER LONGEVITY SPACE

What began as a public research initiative at AH, which opened its clinic in 2023, has expanded into a broader healthcare boom across Singapore.

Driven by the nation’s shift from sick care to preventive care and backed by rising affluence, private healthcare groups and commercial players are racing to offer biological age testing, precision diagnostics, and personalised lifestyle interventions.

In early 2026, Raffles Medical Group, for one, launched a healthy longevity clinic, led by a resident family physician, and supported by a psychologist and a Traditional

Chinese medicine (TCM) physician.

In July, IHH Healthcare introduced Healthspan, offering biological age testing across its Parkway Shenton clinics and advanced longevity evaluations at its executive screening centres.

Other non-medical players also entered the fray. Morrow Medical, part of wellness venture Morrow, founded by entrepreneur Allen Law opened officially in August, offering preventative screenings, while premium fitness outfit Tsquared Lab opened a longevity clinic Tsquared Health at the start of the year.

Some existing GP clinics have also started to offer biological age testing and longevity programmes on top of their traditional off-tye interventions.

For some Singaporeans, the appeal of such testing lies in knowing themselves better, inside and out. Lee Siu Yin, 73, a senior nurse mentor at AH who already exer-



Senior staff nurse Eswari Sundarasagan preparing Ivan Low for a bioelectrical impedance analysis test at Alexandra Hospital. ST PHOTO: JASON QUAH

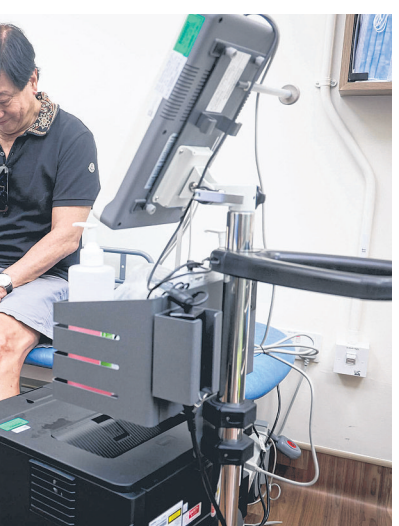
cised regularly and ate well, paid for the hospital’s longevity programme to see if her efforts were paying off.

“I would rather have quality of life than to live longer (in poor health)” Lee said. “I wanted to know: Am I ageing faster or slower?”

HOW LONGEVITY TESTING WORKS

Unlike standard screening tests like mammograms and stool tests which are done to exclude diseases, longevity diagnostics focus on biological ageing, organ system health, and functional resilience (the body’s ability to withstand, adapt to, and recover from physical stress or illness). Their primary purpose is not to rule out medical conditions but to guide preventive interventions.

The main draw for clients is an old biological age testing, which estimates how fast their cells and organ systems are ageing com-



Morrow’s longevity clinic offers the Dexa scan test, the gold standard for measuring bone mineral density and body composition. ST PHOTO: NG SOR LUAN

pared with their calendar (chronological age).

IHH Healthcare offers AgeQ, an advanced test developed by precision health company Lucence alongside the National University of Singapore (NUS) and A*STAR.

With it, researchers have condensed a massive library of ageing data into a streamlined panel of seven key blood biomarkers, which gives clients a fast, affordable, and easy-to-understand lifestyle score. This makes it popular with GP clinics.

The seven blood biomarkers measure core body functions, including inflammation, metabolic health, kidney and liver health and lipid profiles, to estimate how fast you’re ageing, without needing a long list of tests.

Raffles Medical Group, meanwhile, targets clients looking for a deep-dive data audit. They utilise a test built on the LinAge2 biological age clock from NUS researchers, which analyses 60 param-

eters, including blood and urine tests, physical measurements and questionnaire data to highlight body systems which are at risk of ageing faster than expected.

This guides the physician on the next step, be it advanced assessments or personalised lifestyle interventions.

Not all clinics offer biological age testing. Indeed, there is no standard way of measuring it yet.

Depending on budget and which clinic you go to, longevity packages may include advanced metabolic evaluations, physical function tests such as the V02 max and the Dexa scan to assess bone strength, genomic testing or cognitive screening and more, to build a more detailed health profile.

Assessments like the HOMA-IR test can detect early insulin resistance before blood sugar levels rise while V02 max testing evaluates your body’s capacity to deliver and utilise oxygen during high-intensity effort and is a key



Morrow’s longevity clinic offers the Dexa scan test, the gold standard for measuring bone mineral density and body composition. ST PHOTO: NG SOR LUAN

ters, including blood and urine tests, physical measurements and questionnaire data to highlight body systems which are at risk of ageing faster than expected.

This guides the physician on the next step, be it advanced assessments or personalised lifestyle interventions.

Not all clinics offer biological age testing. Indeed, there is no standard way of measuring it yet.

Depending on budget and which clinic you go to, longevity packages may include advanced metabolic evaluations, physical function tests such as the V02 max and the Dexa scan to assess bone strength, genomic testing or cognitive screening and more, to build a more detailed health profile.

Assessments like the HOMA-IR test can detect early insulin resistance before blood sugar levels rise while V02 max testing evaluates your body’s capacity to deliver and utilise oxygen during high-intensity effort and is a key

metric given that higher aerobic fitness directly predicts a longer lifespan.

Similarly, the Dexa scan, which assesses bone density and body composition, helps to identify hidden visceral fat and conditions like early bone loss or osteoporosis.

Longevity screening can cost around \$108 for an AgeQ test, or as much as \$20,000 or more for comprehensive evaluations.

GOING BEYOND THE HYPE

As commercial interest grows, so does the hype. Although certain dedicated wellness centres and longevity clinics offer non-medical interventions, such as infrared light and hyperbaric oxygen therapies – which claim to slow or reverse cellular ageing, experts said that using them for anti-ageing purposes lacks robust proof.

Beyond unproven therapies, doctors also said that supplements



A V02 Max assessment at Raffles HealthyLongevity clinic measures the maximum amount of oxygen the body can use per minute. ST PHOTO: LIM YAOHUI

metric given that higher aerobic fitness directly predicts a longer lifespan.

Similarly, the Dexa scan, which assesses bone density and body composition, helps to identify hidden visceral fat and conditions like early bone loss or osteoporosis.

Longevity screening can cost around \$108 for an AgeQ test, or as much as \$20,000 or more for comprehensive evaluations.

GOING BEYOND THE HYPE

As commercial interest grows, so does the hype. Although certain dedicated wellness centres and longevity clinics offer non-medical interventions, such as infrared light and hyperbaric oxygen therapies – which claim to slow or reverse cellular ageing, experts said that using them for anti-ageing purposes lacks robust proof.

Beyond unproven therapies, doctors also said that supplements

should be used only when there is a deficiency. Dr Samuel Choudhury from Raffles Medical Group said he regularly sees patients blindly taking 10 to 20 supplements at a time.

“We counsel them to stop taking these supplements because they are either unnecessary, not evidence-based, or leading to over-supplementation,” he said.

“If you don’t sleep well, you don’t exercise and you drink and smoke, taking supplements will not offset the damage.”