

FOREWORD FROM OUR GROUP CEO

PROFESSOR PHILIP CHOO, GROUP CHIEF EXECUTIVE OFFICER, NATIONAL HEALTHCARE GROUP



In 1948, the Constitution of the World Health Organization (WHO) defined health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” This holistic conceptualisation necessarily implies that we at the National Healthcare Group (NHG) need to transform the way we care for the health of our population of over two million. Particularly, as Singapore is ageing rapidly, an increase in the proportion of elderly in our population brings many challenges, including a greater demand for healthcare services, manpower constraints, and escalating costs. We have identified that these challenges will come in the form of “Three Waves”:

Frailty – Nationally, we have seen a steady increase in the prevalence of Frailty conditions; between 5.3 per cent and 6.2 per cent of community-dwelling older adults in Singapore are Frail. Frail people face higher risks of adverse events, such as falls and delirium, which can often lead to functional decline, and many years lost due to disability.

Chronic Diseases – The growing numbers of those living with chronic conditions, such as diabetes, hypertension, and high cholesterol need to be effectively managed in the community. If left to progress unchecked, this cohort could develop complications, such as heart disease and stroke, and compound the Frailty wave.

Poor Lifestyle Habits – As Singapore has grown in affluence, there has been a rising trend in the adoption of poor lifestyle habits, which have long-reaching consequences. For example, among children, the rate of overweight is rising. In 2017, 13 per cent of children in mainstream schools were found to be overweight, an increase from 11 per cent in 2011. This could have big implications for health and well-being in later years – being overweight increases the risk of diabetes by 1.8 times, compared to people with a normal Body Mass Index (BMI).

This has been the great impetus for our care transformation. We recognised that healthcare could no longer be fragmented, facility-centric, doctor-based, and illness-centred. A systemic reform was needed to shift to integrated, patient-centric, relationship-based, and wellness-centred care. As the Accountable Care Organisation (ACO) for the Central Region, NHG has embarked on this journey with our “River of Life”

framework, which focuses on *prevention as a care action* and helping everyone live well, at every stage of life, from beginning to end – from *Living to Leaving*. This “blueprint” is being implemented in our three zones in the Central Region: Central Zone, Yishun Zone, and Woodlands Zone – led by the respective Integrated Care Organisations (ICOs) – Central Health, Yishun Health, and Woodlands Health. While each zone organises its operating model of care differently to improve the health of its distinctive sub-populations, each is synchronised to “flow” in the same direction, unified by a common ideal – to enable our population to live well across the Five Segments of Care: *Living Well, Living with Illness, Crisis and Complex Care, Living with Frailty, and Leaving Well*. **Collectively, we seek to foster meaningful relationships between our population and our healthcare system, and to activate our community to take greater ownership of health and care for each other in the “Kampung Spirit”.**

River of Life – NHG’s Perspectives on Population Health is a documentation of this on-going care transformation journey. It is structured into three sections: **Part 1** gives the context and overview of the framework, and explains the key drivers of change. **Part 2** highlights how we are supporting our population to meet these health challenges and achieve long-term sustainability of healthcare. Readers will gain some insight into the key tenets of the River of Life framework:

- Identifying and addressing the key drivers of health and healthcare, such as ageing, Frailty, and mental health
- Building resilience in self-care and tackling the various determinants of health
- Emphasising better care principles where they are derived through better people, ownership, trust, and value
- Integrating social services and healthcare with timely interventions
- Enabling preventive care in schools, workplaces, and the community to inculcate good lifestyle habits early

This section includes a chapter on the **Five Segments of Care** and shows how they are operationalised from the ground to systems-level, and how NHG engages multiple stakeholders across multi-faceted settings to provide appropriate, affordable, and quality care for our

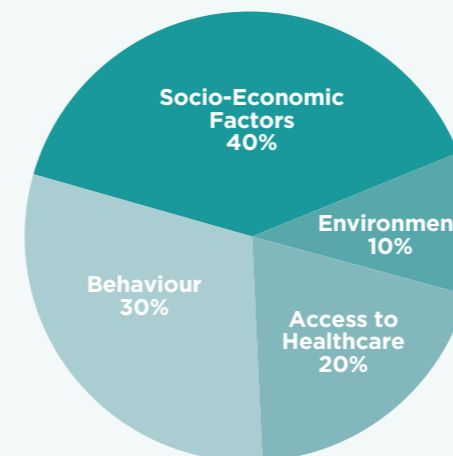
population. The Three Zones – a chapter on its own – reveals how NHG deep-dives, senses, and maps out the specific needs of each zone down to the housing block-level, thus allowing us to design targeted community programmes suited to these needs. It is an approach that allows partnerships to be built with local health- and social care providers to enable place-based and relationship-centred care within the communities we serve with **compassion**. Together, we build **integrity** and **trust** with one another in NHG, with the people and population we serve, and with stakeholders, with our commitment to be good **stewards** of our resources, to optimise, prioritise wisely, and build up progressively stronger community capabilities. **Part 3** covers the transformation of key enablers that support this vision, including finance, human resource and culture building, Community Nursing, and leadership development.



IT TAKES A NATION

While our on-going efforts with the River of Life are beginning to bear fruit, we understand that health is *multi-factorial* – influenced and dependent on a wide range of factors that act in combination with various *relative weightages*. Rigorous research, within and across populations, has led to the recognition that social and economic factors, such as education, social networks and social support, socio-economic status, work conditions, job security – the so-called “social determinants of health” – have a much greater impact on health than previously thought. While there is no “universal” or “correct” weighting distribution for the determinants of health, a 2010 University of Wisconsin study drew on a number of estimates and perspectives to arrive at the following: **A population’s health is shaped 10 per cent by the physical environment, 20 per cent by access to and the quality of healthcare, 30 per cent by health behaviours, and 40 per cent by social and economic factors**¹.

DETERMINANTS OF HEALTH



This understanding of the determinants of health means that we need to marshal our resources to go upstream into the community – **schools, workplaces, and neighbourhoods** – to influence behaviours early and consistently, and compound our efforts in providing affordable and quality care so that we can improve population health in an efficient and sustainable manner.

We cannot do this alone. The multi-dimensionality of health, with its physical, mental, and social aspects, means that our ultimate objective of a healthy population can only be realised when we work with our various partners in multiple domains, including the social care sector, through wider and deeper partnerships that tackle the many determinants of health in concert. This is no easy task. It will take a “Whole of Government” and “Whole of Nation” approach to help our population fulfil their highest health potential. As we continue to streamline, spread, and scale-up effective integration initiatives in collaboration with the Ministry of Health (MOH), we will also reach out to stakeholders across communities, organisations, and ministries so that we can “Add Years of Healthy Life” for the population we serve.

¹Booske et Al., Different Perspectives for Assigning Weights to Determinants of Health

QUOTES FROM OUR DEPUTY GROUP CEOS



If we really want to foster a healthy population, we cannot work in silos because good health involves physical, mental, and social dimensions. The hospital alone cannot do this. What we are doing is to move beyond the walls of our Institutions, and out into the community to integrate the whole system that addresses prevention, early detection, illness care, as well as coordination across settings. To produce the maximum impact from our investments in healthcare, we are moving upstream, and working to maintain population health through self-empowerment and self-management initiatives, rather than waiting for people to fall ill and then treating them. This is not only helpful in keeping healthcare sustainable, it leads to better health outcomes and quality of life for the people we serve.

Professor Chua Hong Choon
Deputy Group Chief Executive Officer (Clinical)
National Healthcare Group



For a long time in Singapore, we have focused on hospital and specialist care – this was necessary when our population was younger and acute illnesses were the norm. However, we need to go beyond that – from illness management to anticipatory care. We aim to meet the current and future challenges of population ageing, increased chronic disease burden, a surge in Frailty, and rising demand for healthcare through our River of Life framework, which provides the blueprint for our population health endeavours. We are moving towards proactive and preventive care, strengthening the capabilities of our community to enable independent living, and boosting Primary Care services to maintain our population well in the community. This will enable us to sustainably care for our population in an effective and efficient way.

Professor Pang Weng Sun
Deputy Group Chief Executive Officer (Population Health)
National Healthcare Group



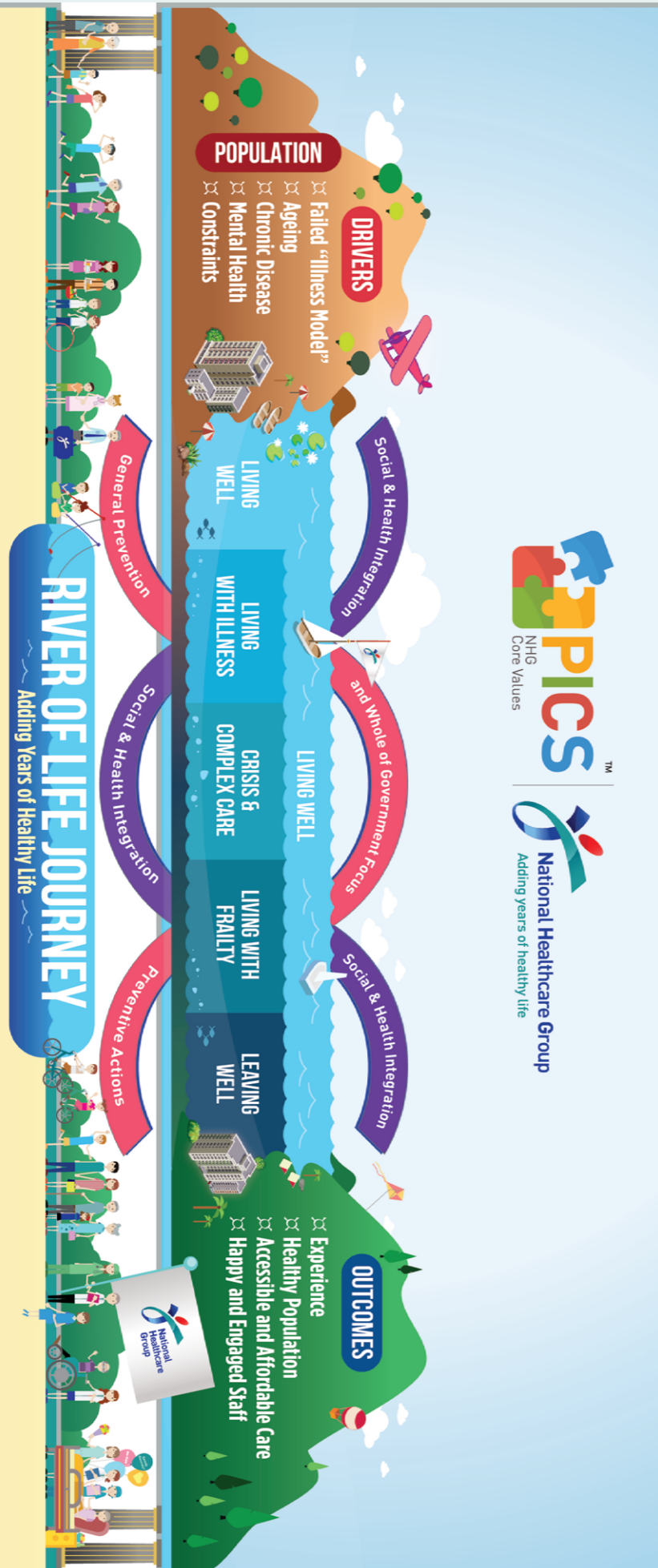
To improve health and healthcare and to transform the way we care for our patients, research is hugely important, particularly prevention research. Traditionally, much of research has focused on treatment and mitigating the manifestations of disease, but we are increasingly thinking “out of the box”. Through large population cohort studies, we are determining the baseline risk factors, predictors, and causes of chronic disease that will enable us to devise interventions to prevent them. By systematising prevention, we can help maintain people in good health.

Professor Lim Tock Han
Deputy Group Chief Executive Officer (Education and Research)
National Healthcare Group



Our vision of transformative care is to provide a seamless journey for patients from hospital to home. We will apply SMART technology solutions in practical ways to deliver medicine that is sustainable and meaningful for patients, their families, staff, and the wider community. Our future ecosystem will be built on long-lasting relationships with our community stakeholders, predicated on a mutual understanding of their needs and requirements, to empower the community for effective care.

Dr Jason Cheah
Deputy Group Chief Executive Officer (Transformation)
National Healthcare Group



✓ Guiding Principles

1. Public Health: River of Life: Building Resilience in Self-Care and Managing Crisis
2. Determinants of Health: Some have Higher Risks
3. Current ills of Healthcare: Cottage, Episodic, Reactive, Limited, and Variable

✓ Better Care Principles

1. Care and Grow our People: Better People, Better Care
2. Activate and Involve our Population and Patients: Better Ownership, Better Care
3. Relationship-Based Healthcare: Better Trust, Better Care
4. More Goods in the Basket: Better Value, Better Care

✓ Key Enablers

1. Organisation Development Transformation
2. Finance & HR Transformation
3. Information & System Transformation
4. Execution & Actualisation Excellence
5. Vision, Values & Collective Leadership
6. Mindset Transformation