

Sreenivasan Oration

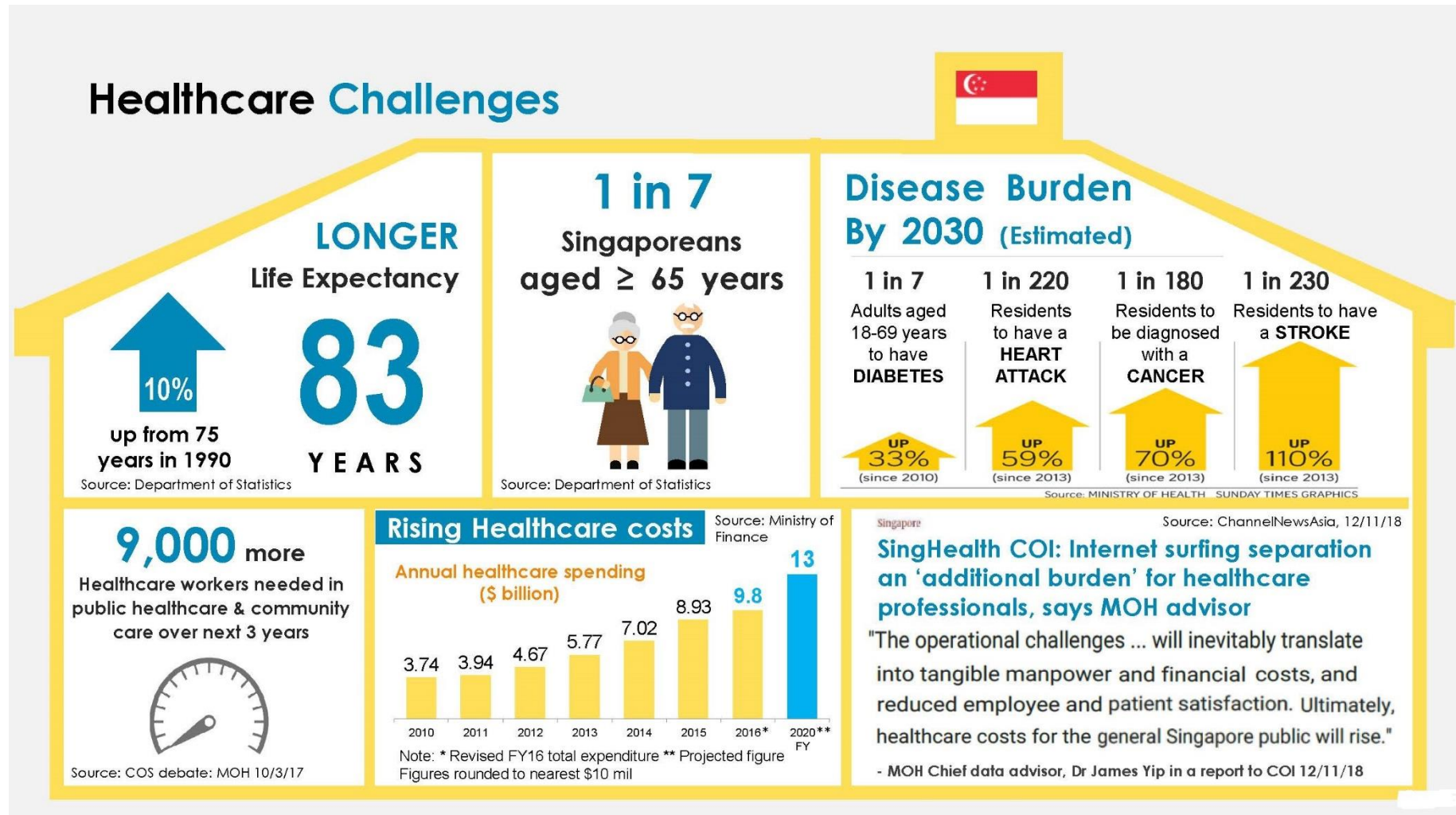
Population Health: An Opportunity for Family Medicine

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Dean, Duke-NUS Medical School

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- **Dedicated general practitioner who spent >40 years in clinical practice**
- **First President of the College of General Practitioners Singapore**
- **Founding President of Singapore Medical Association**
- **First Singaporean Vice-Chancellor of University of Singapore**
- **Founding member of Singapore Anti-Tuberculosis Association**

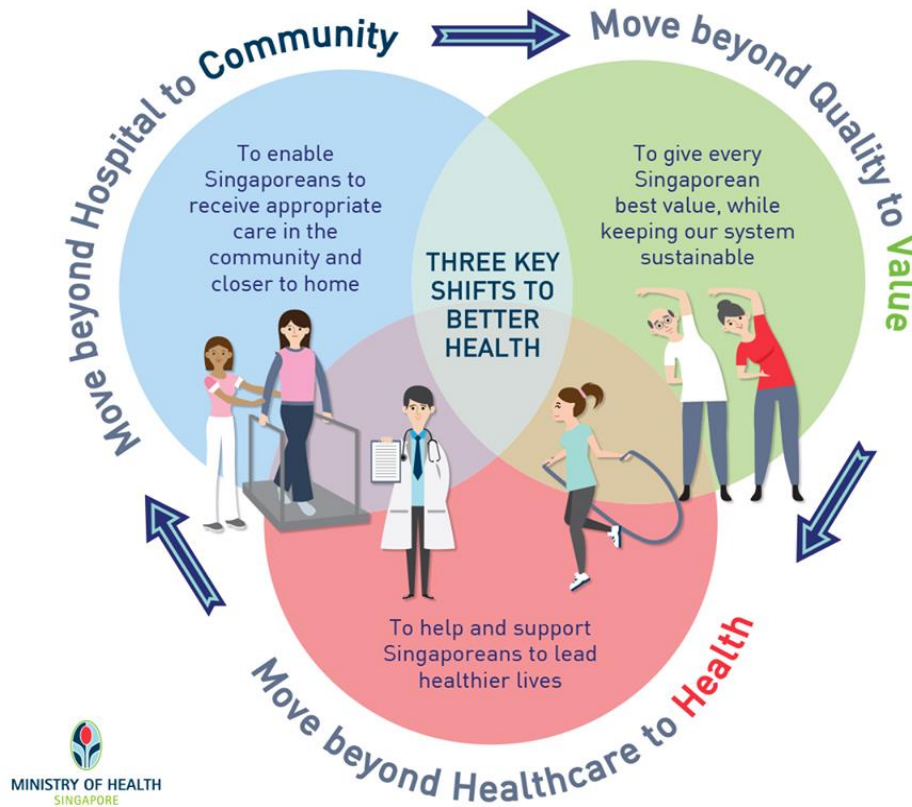






Ministry of Health's 3 Beyonds

MOH BUDGET 2018 INITIATIVES



- **Beyond HOSPITAL to COMMUNITY**
- **Beyond QUALITY to VALUE**
- **Beyond HEALTHCARE to HEALTH**

Definitions

Population Health

The **health outcomes of a group of individuals**¹ in a defined population.

Underpinned by 3 foundational concepts:

- **Health and well-being** develop over a lifetime
- **Social determinants** drive health and well-being outcomes throughout the life course
- **Place** (i.e., where they live, learn, play, work and pray) is a determinant of health, well-being and equity



It is geared towards **equal health care delivery** to an anticipated group of people in a particular geographical location.

It entails effective and efficient running of a **population health management system** to cater for the health needs of the people.

Population health is an **art, process, science** and a **product** of enhancing the health condition of a specific number of people within a given geographical area . *Akarowhe (2018)*

Health is directed toward **overall health performance** of people through health satisfaction within the said geographical area.

It adopts **scientific approach of preventive, therapeutic, and diagnostic service** in proffering medical treatment to the health problem of people.

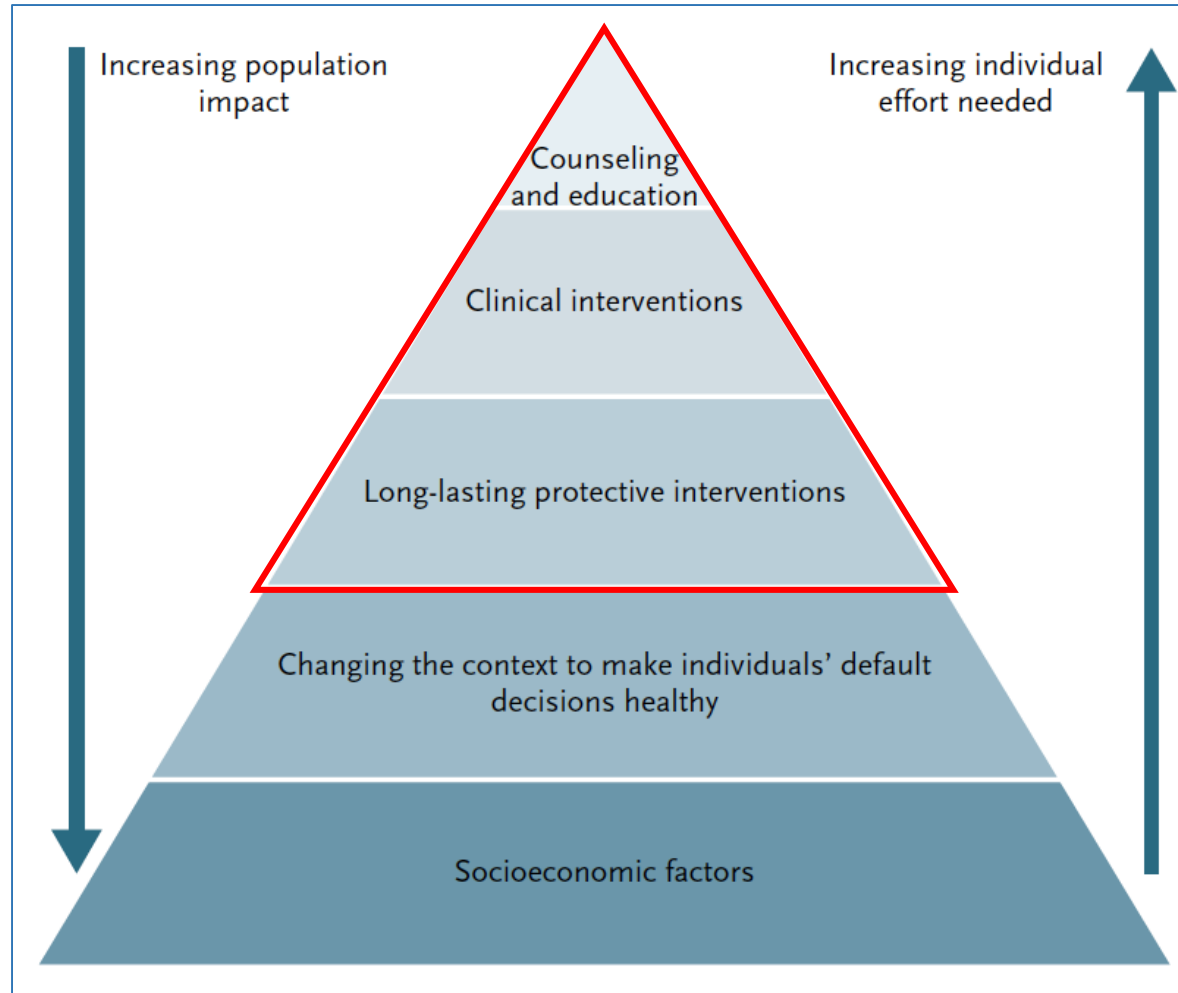
¹Kindig D, Stoddart G. Am J Public Health. 2003 March; 93(3): 380–383



**“The good physician treats the disease;
the great physician treats the patient who
has the disease.”**

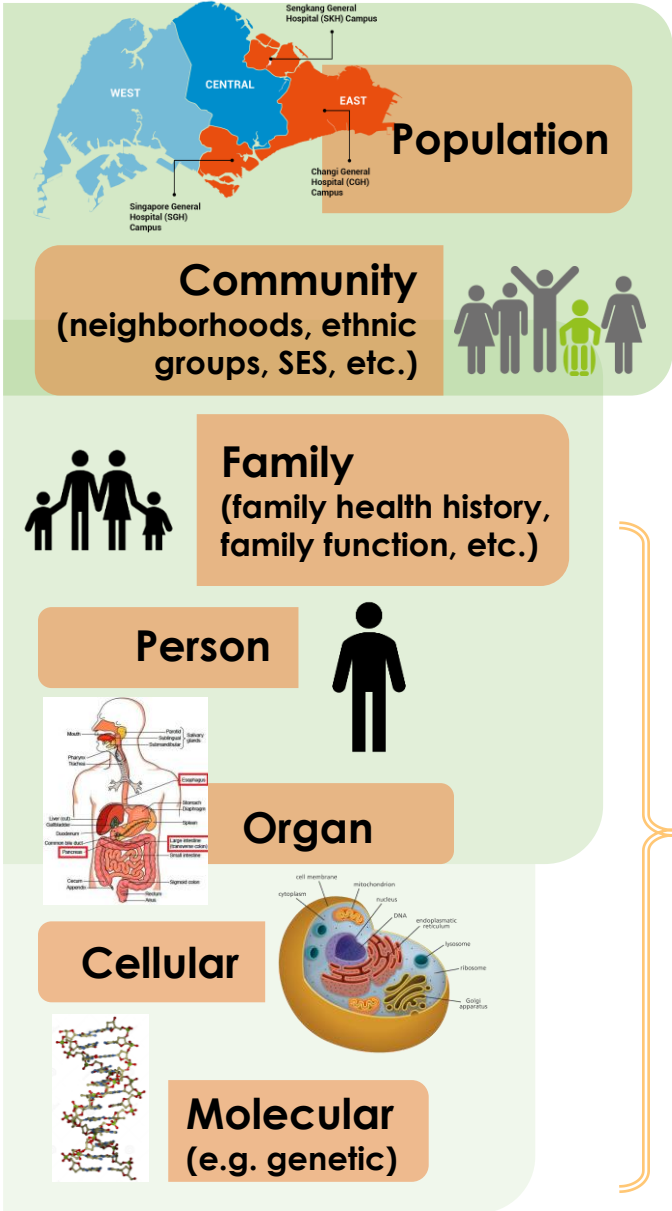
- William Osler

The Health Impact Triangle



Frieden TR; *New England Journal of Medicine* 373: 1748

From Individual to Family as the Unit of Health

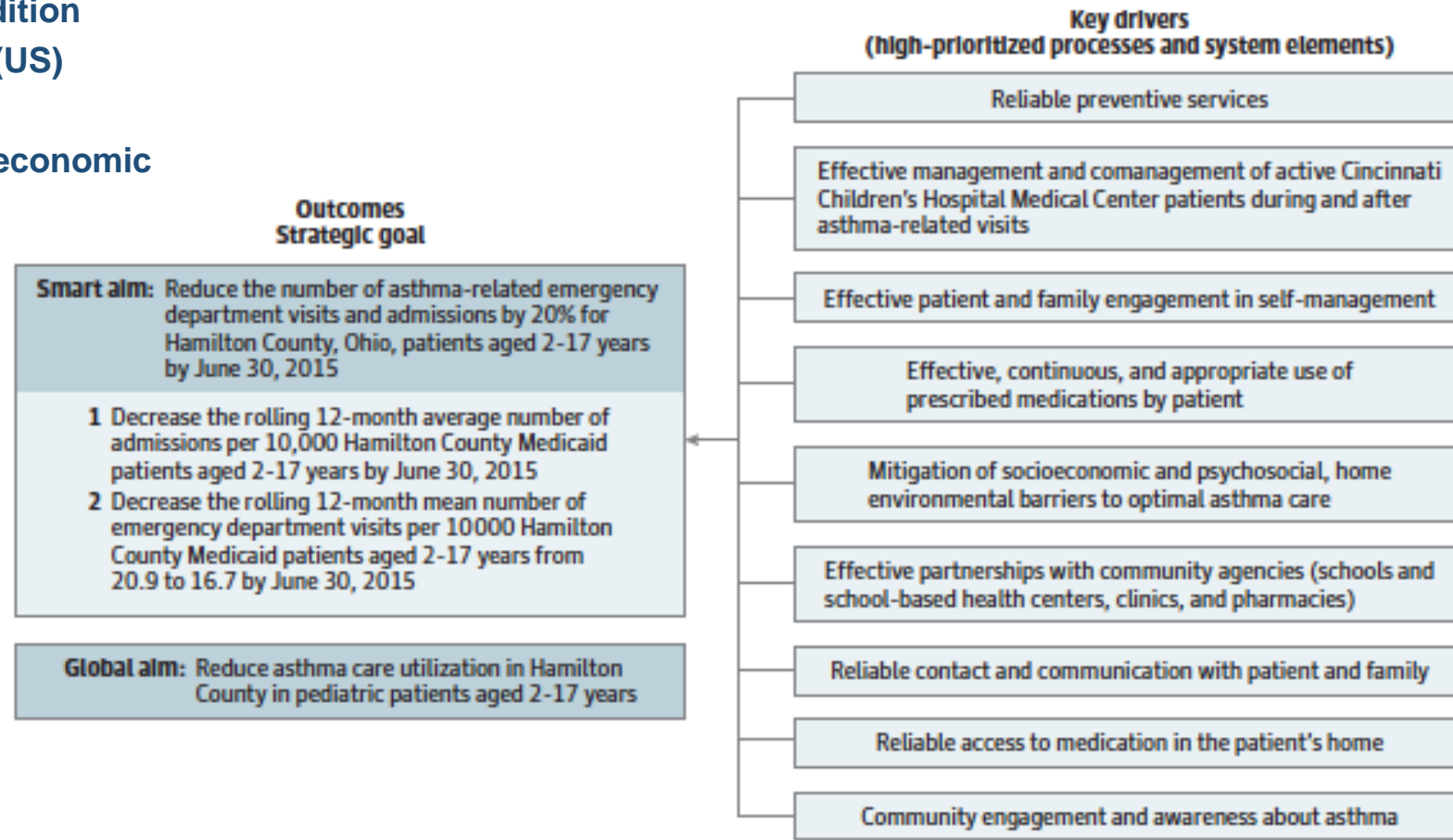


Medical Specialties

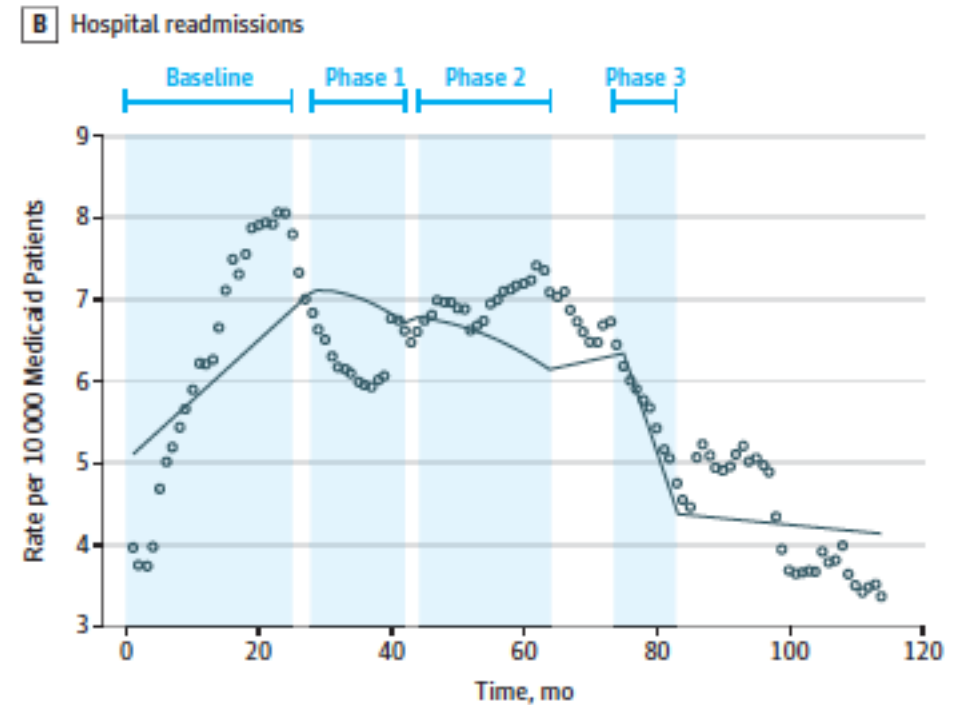
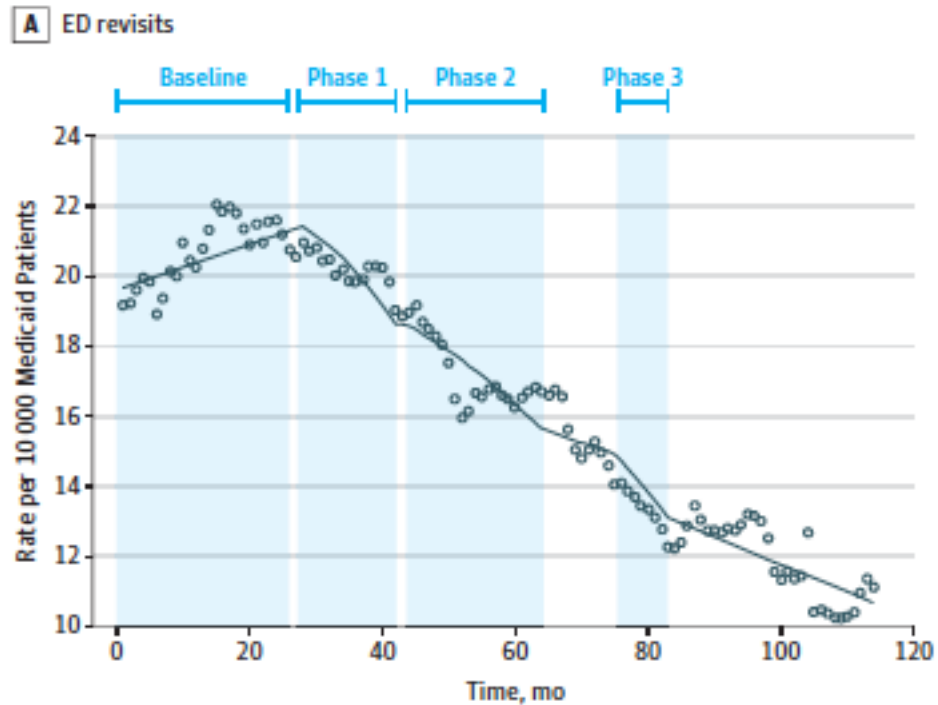
Family Medicine & General Practice

Population Health

- **Pediatric Asthma**
 - **Complex chronic condition**
 - **14.2 M office visits/yr (US)**
 - **\$USD50B/yr (US)**
 - **Major impact of socioeconomic factors**



Integrated, multi-level approach using quality improvement methods improved asthma outcomes and reduced costs



Phase I: Inpatient processes

Phase II: Outpatient care processes

Phase III: Community-based social determinants of health

SingHealth's Whole of Life Approach

to preventative health care for different life stages

Earlier intervention on women's and children's health

Maternal and Child Health Clinic
Pilot @ Punggol Polyclinic



Newborns

Empowering the young as health ambassadors

Millennia Kids Programme



Primary schools

10 – 12 years

Detection and management of gestational diabetes

Gestational Diabetes Screening



Expectant mothers

Early detection of chronic disease conditions for early intervention

Community Health Screening



≥ 40 years old

Falls Prevention/Frailty Screening



≥ 55 years old

Identification and proactive management of frailty syndromes through systematic screening

Functional Screening (Level 1 & 2)



≥ 60 years old

Early detection of functional impairment in the community to provide timely follow-up and affordable assistive devices

Example of How Primary Care Providers Play an Important Role in Population Health Research

A Mobile Lifestyle Management Program (GlycoLeap) for People with Type 2 Diabetes

Objective

Assess the potential effectiveness and feasibility of GlycoLeap, a mobile lifestyle management program for people with T2DM, as an add-on to standard care.

Study subject

100 patients with T2DM and HbA1c levels of $\geq 7.5\%$ from one of the SingHealth Polyclinics

Intervention

- Single arm feasibility study
- 6-month mobile lifestyle management program, GlycoLeap, comprising online lessons and the Glyco mobile phone app with a health coaching feature

Evaluation using RE-AIM Framework

REACH

- **13.2%** consented to participate out of 785 patients approached

EFFECTIVENESS

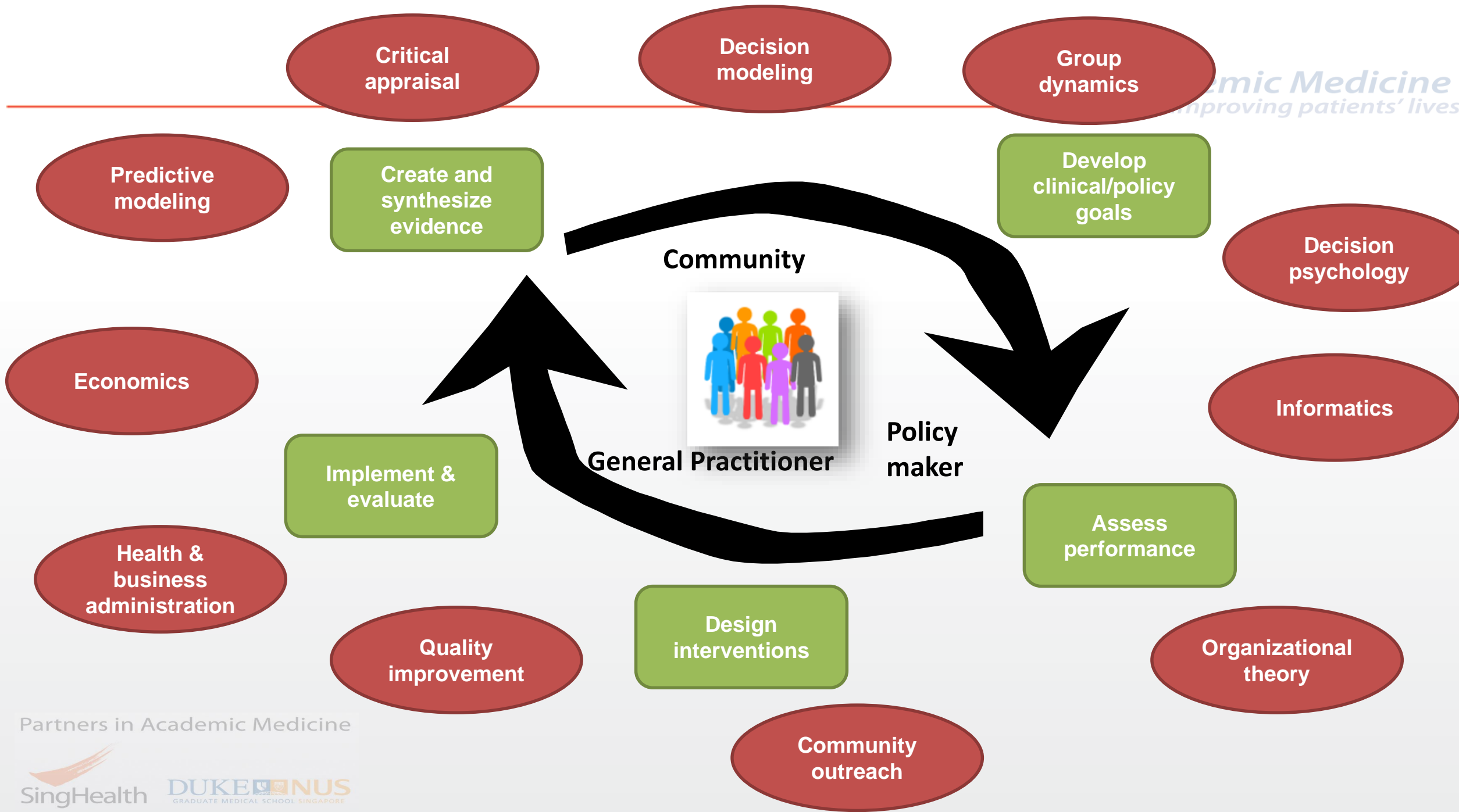
- **Statistically significant improvement** in HbA1c
- **2.3% reduction** in baseline weight

IMPLEMENTATION

- **High participant engagement** in all intervention components for the 1st week
- **Decreased gradually** over time

MAINTANENCE

- **High user satisfaction** – over 70% rated the app good or very good



**“It is better to ask some of the questions
than to know all of the answers”**

James Thurber

Thank you!