

1st SYMPOSIUM ON HEALTH AS AN INVESTMENT

Sustainability of Health Care Systems: Challenges and Options

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THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE ■

Agenda



- Challenges to health care financial sustainability
- Population health and critical components
- Options for the future



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Disruption-prone characteristics rendering our care ineffective, inefficient



Treat **too late**



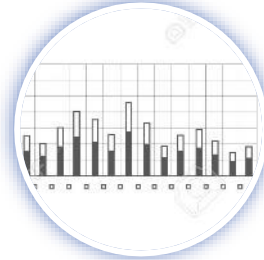
Proactive

Treat all **the same**



Personalized

Variable care quality



Decision support

Make patients **arrive at our silos**



Integrated care

Unsure what does **work**



Real world assessment

Err often, unnoticed



Safe (monitored)

Non-sensible workflows



Integrated Care

Patients **ignoring** our advice



Engaging





Key Health System Issues Posing Sustainability Risks

- Rigidity in health spending
- Avoidable hospitalisations
- Adverse drug events and preventable drug interactions
- Disruption-prone characteristics rendering our care ineffective and inefficient

More challenges



Human resource, skill-mix shifts and workforce planning:

HR represent the majority of health expenditures.

Organisational functioning of hospitals:

Expenditure is concentrated in hospitals but existing evidence is almost exclusively on payment methods and financial incentives at the organisational level.

Patient safety:

Of 421 million hospitalizations globally each year, about 1 in 10 results in harm to the patient

Hospital infections and avoidable hospitalisations:

Health care-associated infections are the most frequent adverse events in care delivery (5-10% prevalence in developed countries) . Some types of hospitalisations may be amenable to increased accessibility of primary care.

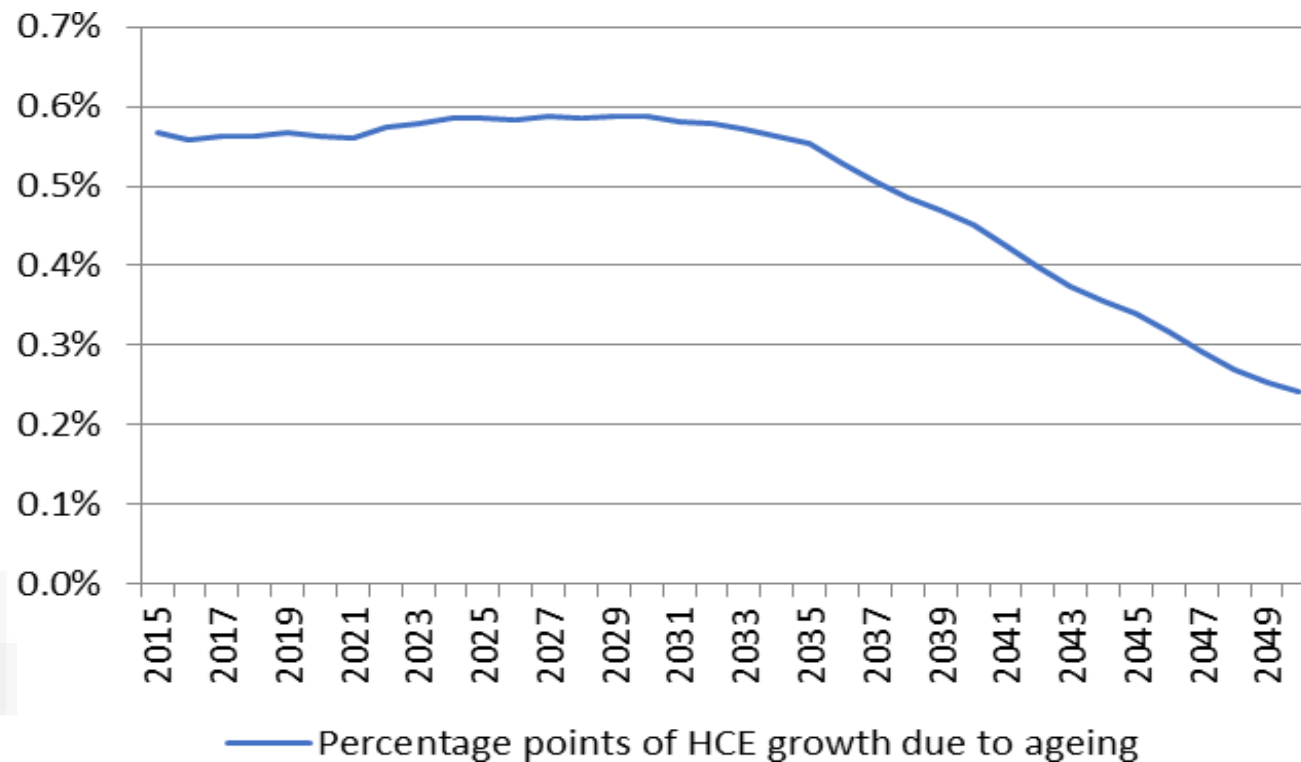
Adverse drug events and preventable drug interactions:

Up to 70% of hospitalisations due to adverse drug reactions may be avoidable . Adverse reactions are likely to increase with prevalence of multi-morbidity and complex regimens.

Aging – is it as much of a threat as we think?

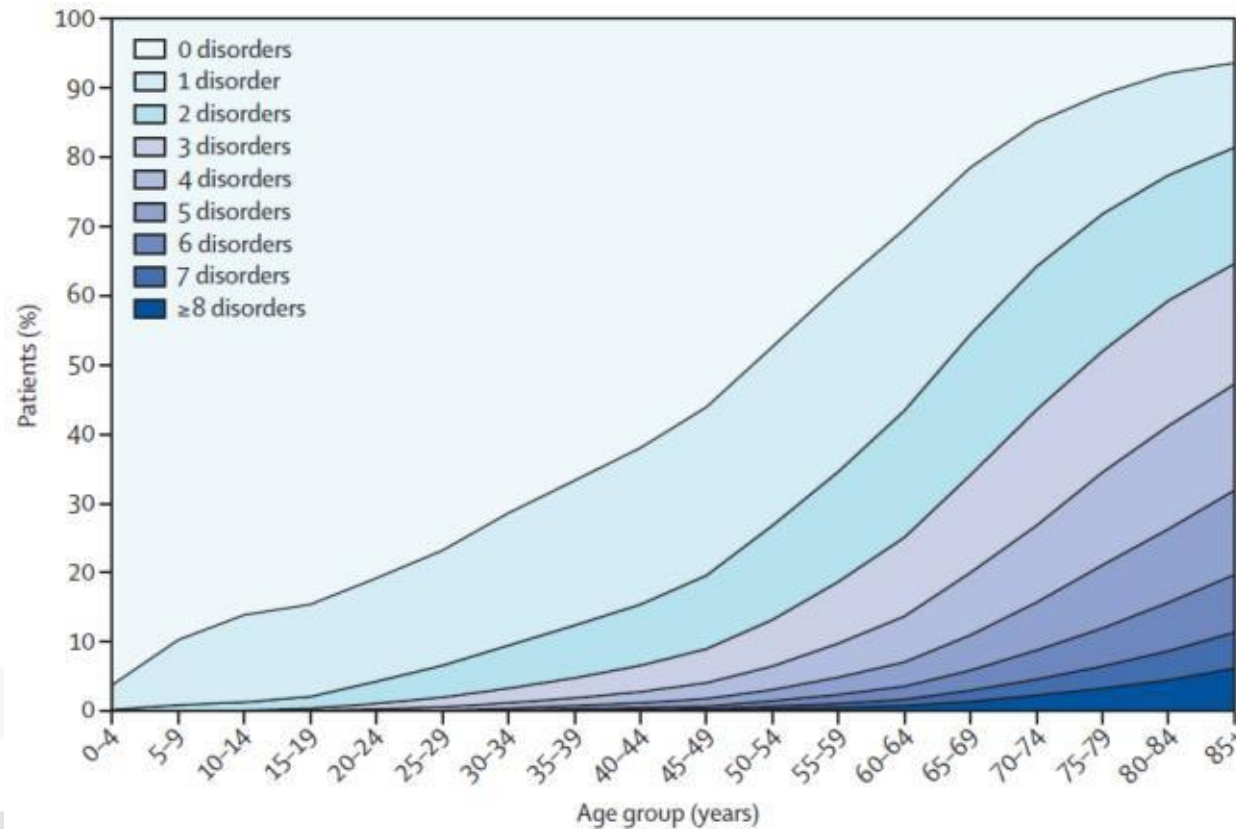


Contribution of changing-age mix to per person health care expenditure growth, 2015-2050, EU countries



Multimorbidity is most common among older people

Distribution of multimorbidity across age groups (Scotland, 2007)



Setting the scene



Multimorbidity (two or more distinct conditions) presents complex challenges to all healthcare systems and is associated with:

Increased mortality

Healthcare utilization

Reduced quality of life

The **absolute number of people with multimorbidity** is **higher** in people of **working-age**, which has implications for economic productivity

% Prevalence of multimorbid patients <65 years: 52%-59%

% Prevalence of multimorbid patients >65 years: 41%-48%

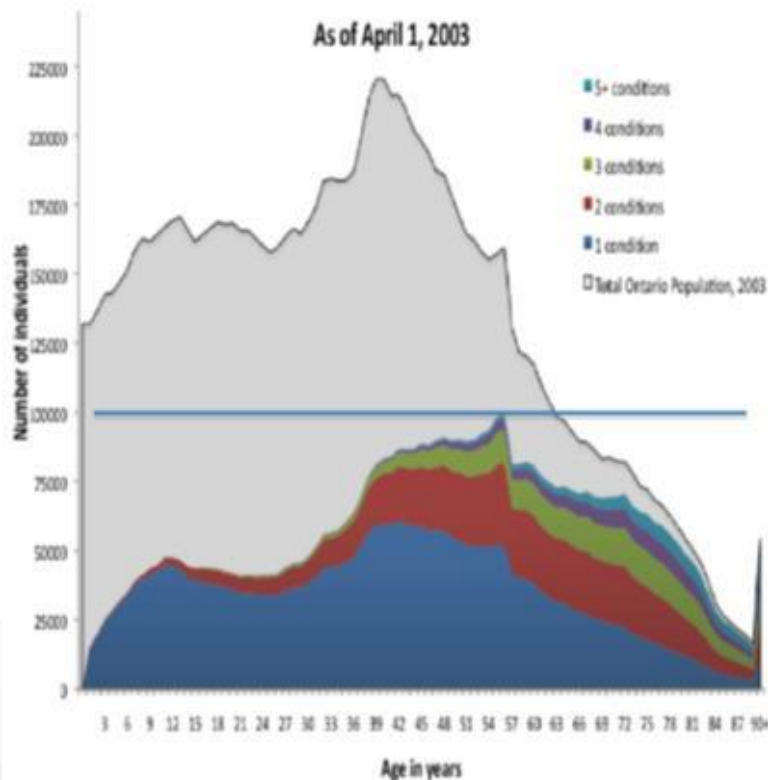
It is a global issue, with rates in LMICs approaching those in HICs.

Source: Koné Pefoyo AJ, Bronskill SE, Gruneir A, Calzavara A, Thavorn K, Petrosyan Y, et al. 2015 2. Barnett K, Mercer SW, Norbury M, Watt G, WykeS, Guthrie B. 2012

While the prevalence of multimorbidity increases with age, the actual number of people with multimorbidity is higher at younger ages



As of April 1, 2003



As of April 1, 2009

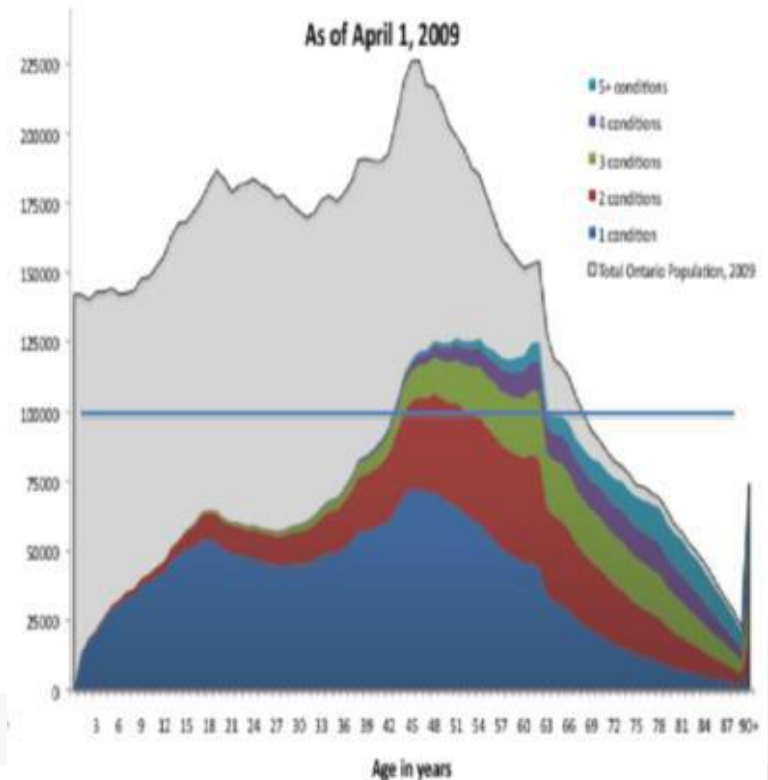


Figure 1: Distribution of the number of individuals with multimorbidity in Ontario across ages, by number of common chronic conditions and year

Source: Koné Pefoyo et al. (2015)

Challenge: High-need / high-cost patients



In developed countries, as much as 2/3 of health expenditure is spent on 5 - 10% of patients, a high-need and high-cost group characterised by high prevalence of chronic disease, multi-morbidity and complicating factors.

Challenge: High need/high cost patients For Efficiencies, go where the money is



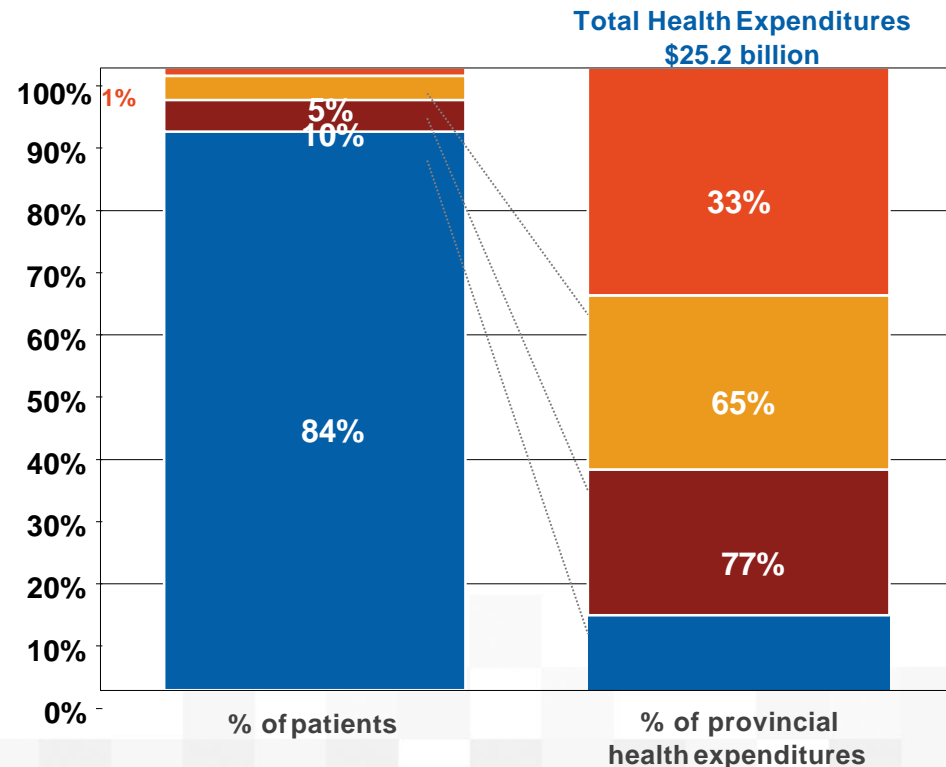
Ontario has recognized the need to better coordinate care for the most complex patients to improve health outcomes and drive health system efficiencies.

Health Links have initially focused on complex, high cost users who:

receive treatment from multiple health care sectors; and/or

Have long lengths of stay in inpatient settings.

75% of complex patients see 6 or more physicians, with 25% of those seeing more than 16



Coordinated and integrated care is the heart of Health Links. Since Dec. 2012, Health Links have brought local providers together voluntarily to integrate clinical care for patients.

Over time, better access and care for patients will result in improvements such as:

- Reduced unnecessary hospital admissions and re-admissions within 30-days of discharge.
- Reduced avoidable Emergency Department visits for patients with conditions best managed elsewhere.
- Same/next day access to primary care and reduced time from a primary care referral to specialist consultation for complex patients.
- An enhanced experience with the health care system for patients with the greatest health care needs

Agenda



- Challenges to health care financial sustainability
- **Population health and critical components**
- Options for the future



What is population health and population health management?



Population Health...

... is an approach aimed at **improving the health of an entire population.**

It is about **improving the physical and mental health outcomes** and wellbeing of people, whilst **reducing health inequalities** within and across a defined population. It includes action to reduce the occurrence of ill-health, including **addressing wider determinants of health**, and requires working with communities and partner agencies.



Population Health Management...

...improves population health by **data-driven planning and delivery of proactive care to achieve maximum impact.**

It includes segmentation, stratification and impactability modelling to identify local 'at risk' cohorts - and, in turn, designing and targeting interventions to prevent ill-health and to improve care and support for people with ongoing health conditions and reducing unwarranted variations in outcomes.

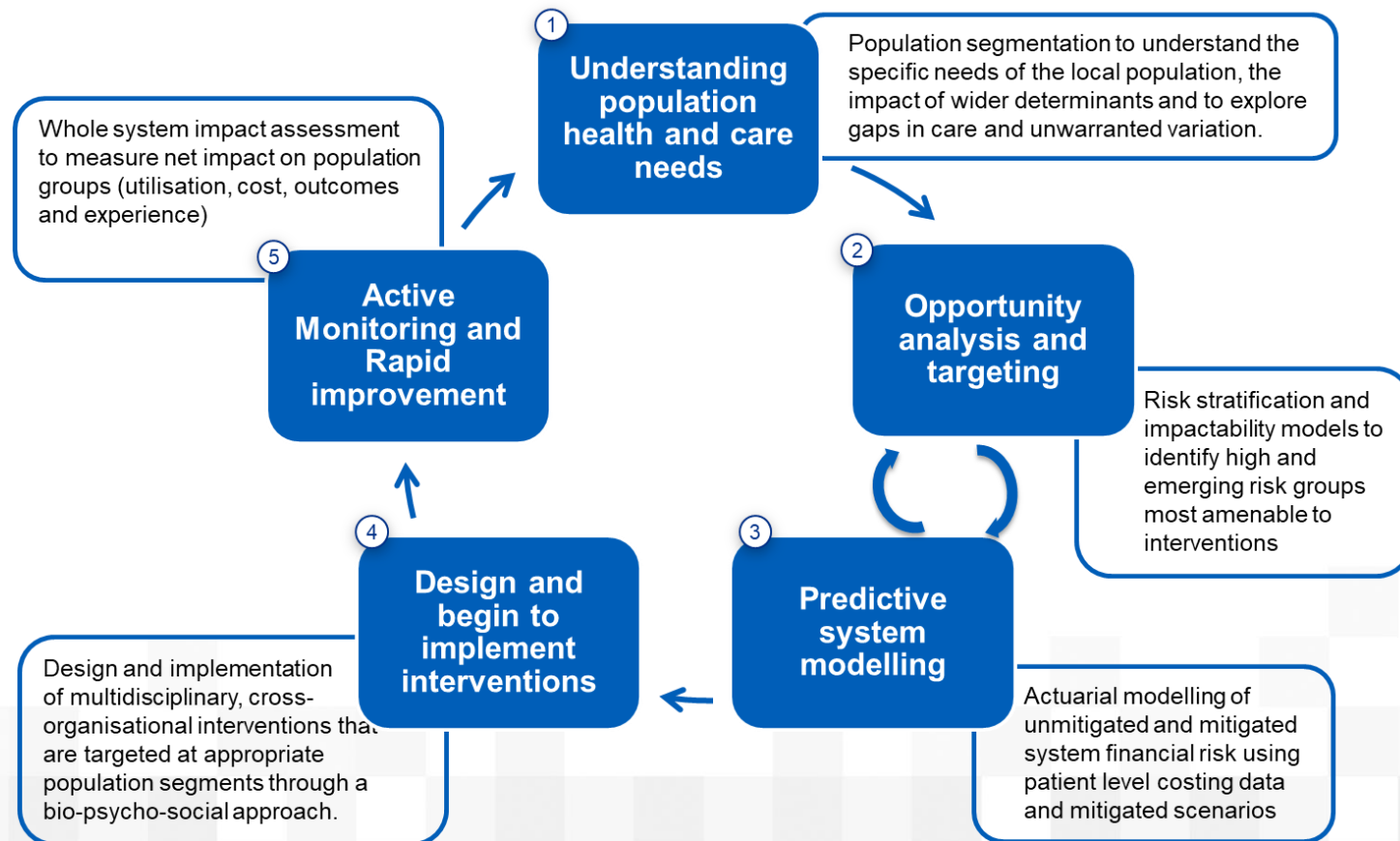
The 6 Critical Components of Population Health



- **Data Aggregation**
 - *Data warehouse approach bringing together sources*
- **Patient Stratification**
 - *Identify needs of different patient groups*
- **Care Coordination**
 - *Both 'outlier' and 'inlier' focus*
- **Patient Engagement**
 - *Providers and community partners to create personal relationships with patients*
- **Performance Reporting**
 - *Focus on data analytics to showcase benefit*
- **Administrative/Business**



PH and PHM can be illustrated as an ongoing cycle of intelligence-led care design



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Overall... five observations on the direction of travel for health systems



1 Systems and populations not just organisations

- Organisations to be held “jointly” accountable
- Underpinned by place-based budgets

2 Triply integrated provision

- Between hospital and general practice/family doctors and pharmacies; between mental and physical health; between health and social care/older people care

3 The first role of a payer/insurer: allocate resources wisely

- Technical or operational efficiencies won't close the funding gap
- We must invest seriously in prevention, bending the future curve of demand
- We must also ensure that we get maximum return on investment

4 The second role: catalysing new models of provision

- To work alongside local areas to redesign how healthcare is delivered, deploying new technology and workforce models, and using dedicated transformation resources
- Higher value models: better patient and population outcomes and the same or lower cost
- New funding models for specific intervention, e.g. health or/and social impact bonds
- Wider partnerships, including PPPs

5 Leading to a new way of doing, making and implementing national policy

- Traditional way: develop an intellectual framework at the Ministry of Health and then ask the NHS/providers to implement it
- New way: work together from the beginning with local areas and providers helping them to design and implement change – and learn lessons that can be spread elsewhere

1. Managing Population Health: There are three core capabilities for Population Health Management



Infrastructure

- Integrated **data architecture** – primary, secondary and social care
- System wide **Information Governance** arrangements
- Digitised health & care providers and **common health and care record**



Intelligence

- Advanced **analytical tools** and multi-disciplinary analytical teams
- **Actionable insights** supporting providers focus on population health

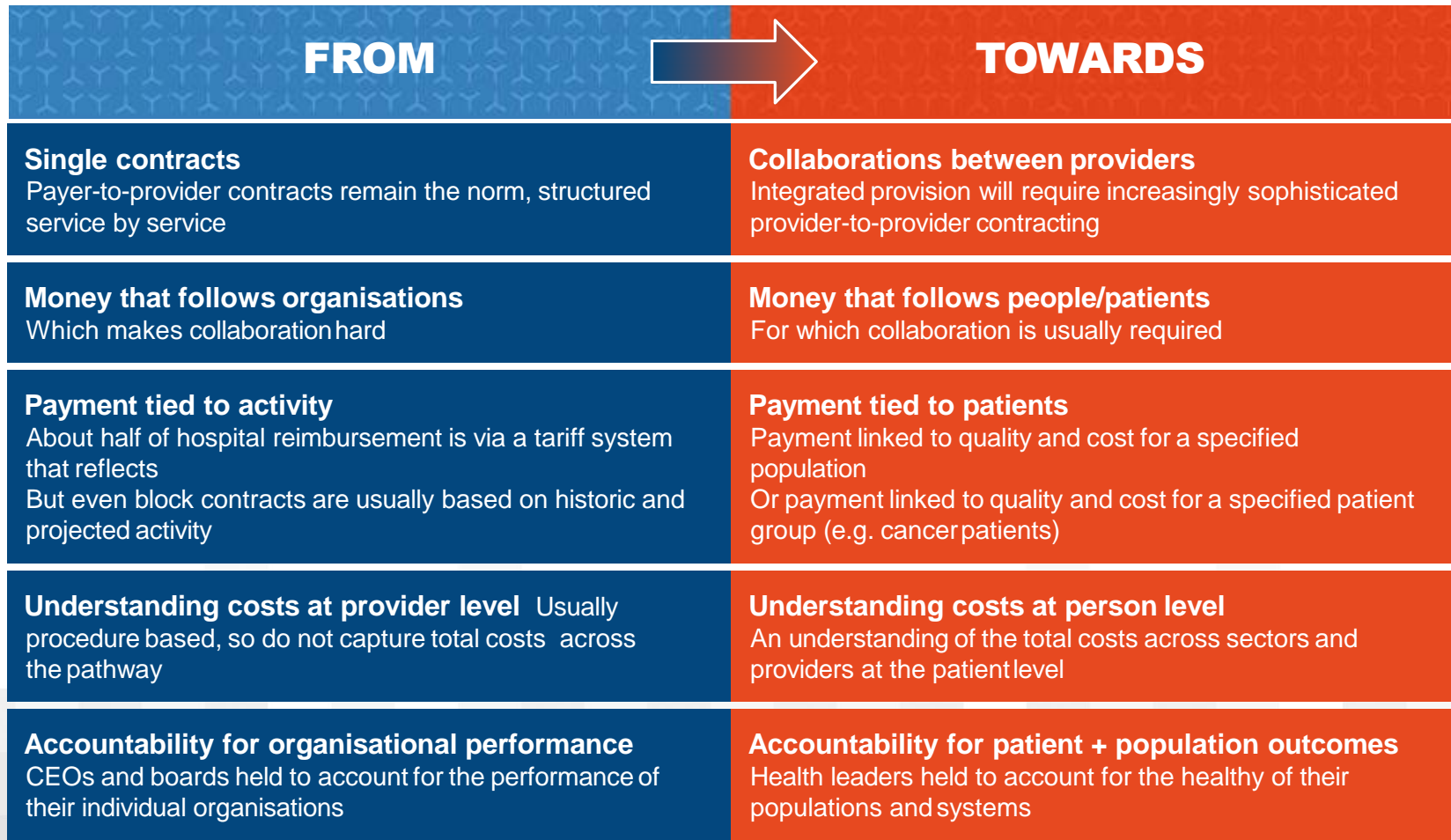


Interventions

- Design and delivery of **new care models** and **anticipatory care interventions** which support an integrated approach to physical, mental and social care for target patient groups.
- Building and utilising strong partnerships with the voluntary and community sector, with a specific focus on **reducing health inequalities**
- **Workforce and incentives** development based on population health analysis.

Underpinning it all is the cultural shift required to put data at the heart of decision making across an ICS

2. Strategic shift: A focus on whole population health models



Example: UK strategic commitments on PH & PHM



Office for
Life Sciences



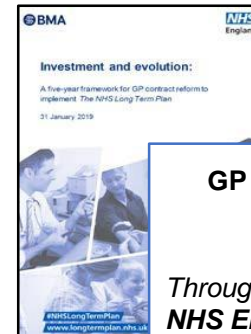
Long Term Plan

ICSs will cover all of the country making shared decisions with providers on how to use resources, design services and improve population health. Each ICS will be required to **implement integral services that prevent avoidable hospitalisation and tackle the wider determinants of mental and physical ill-health**

Primary care networks will from 2020/21 **assess their local population by risk of unwarranted health outcomes and working with local community services make support available to people where it is most needed.....using a proactive population health approaches to enable earlier detection and intervention to treat undiagnosed disorders.**

During 2019 we will **deploy population health management solutions to support ICSs to understand areas of greatest health need and match NHS services to meet them. These solutions will become increasingly more sophisticated in identifying groups of people at risk of adverse health outcomes and predict which individuals are most likely to benefit from different interventions.** We will be able to routinely identify missed elements of pathways of care for individuals. In 2021/22 we will have systems that support population health management in every ICS.

- **Genome UK: The future of healthcare (26 Sept 2020)**
- **£10 million boost to improve patient care with new technologies (20 Feb 2020)**
- **UK government tackles heart disease with new partnership (14 Jan 2020)**



GP Contract 5 year Framework

Through their Integrated Care Systems, **NHS England will also ensure that predictive analytical tools are available to Primary Care Networks.**

These will help them identify those groups of people who are most at risk of adverse health outcomes and increasingly **predict which individuals are most likely to benefit from different health and care interventions.** This is an important enabler for the **new Anticipatory Care requirements**

3. Population Health Management – potential for efficiency gains in health care



Inform care approaches with evidence

	Prevention	Early intervention	Care Management
	<p>Educate and engage to modify behaviours to reduce health risks</p>	<p>Promote routine screening and healthy lifestyles to defer disease onset and manage risk, early intervention, secondary prevention of high risk populations</p>	<p>Deliver the right care services in a coordinated way to maintain quality of life and optimise resources</p>
Examples	<ul style="list-style-type: none">Run effective public health programmesIncrease health literacy and self-awarenessEncourage individuals to manage health risks	<ul style="list-style-type: none">Predict disease onset to intervene earlierSupport for smoking cessation, alcohol dependency, increased activity, dietary advice, but also cardiovascular disease secondary prevention, diabetes monitoring	<ul style="list-style-type: none">Prevent admissions and readmissions through alternative care pathwaysProvide proactive support for rehabilitationEnsure effective and compassionate end of life care for elderly with frailty and dementia

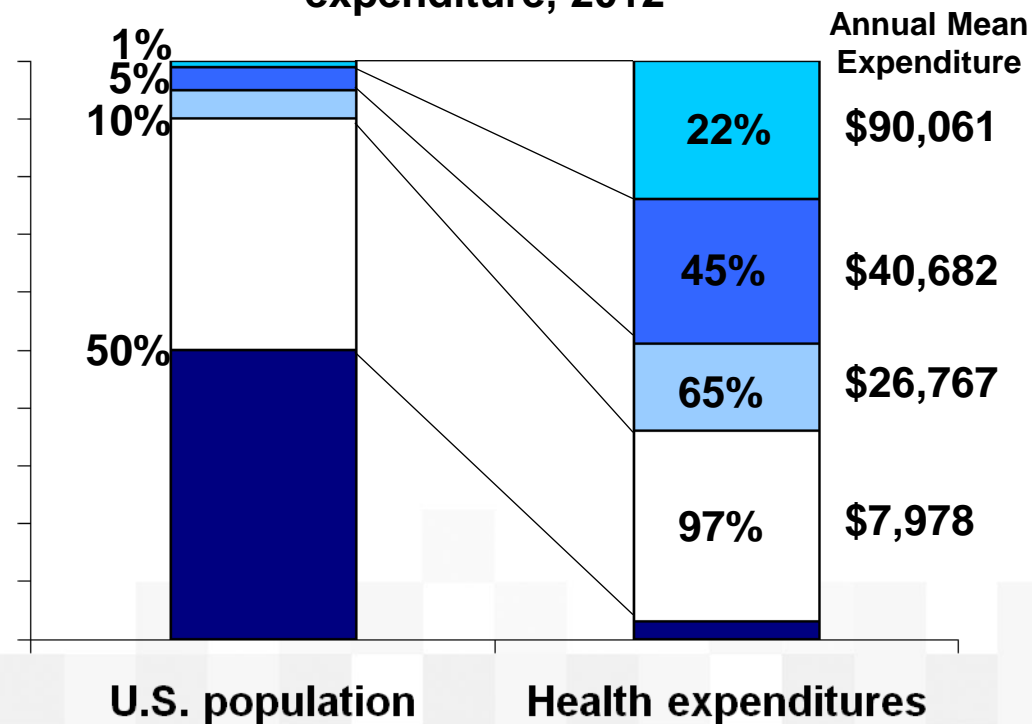
3. High need/high cost patients

For Savings, Go Where the Money Is



- **USA: 10% of patients account for 65% of costs**
- **Similar data from France, Germany, and, likely, other countries**
- **Focus efforts on patients with highest costs**
- **Integrated care systems**
- **Three part strategy:**
 - **Primary care/delivery system reform**
 - **Payment reform**
 - **Health information technology**

Distribution of health expenditures for the U.S. population, by magnitude of expenditure, 2012



3. Who Are the High-Need, High-Cost Patients? US data

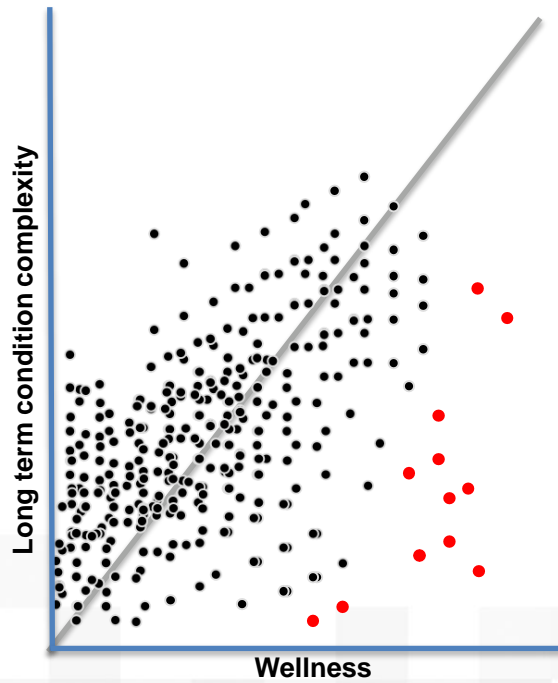
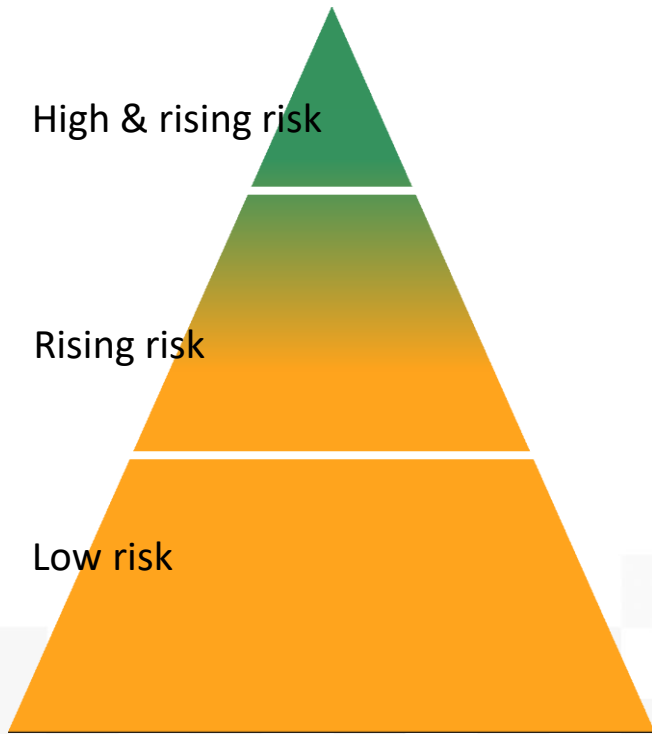


	Population (size; cost/year)	Total Cost per Year	Delivery System Needs
1	Healthy (~160m people)	\$130 billion	Prevention, primary care, public health
2	Maternal and infant health (~10m people)	\$60 billion	Prevention, primary care, public health
3	Acutely ill but mostly curable (~12m people)	\$300 billion	Acute care services, primary care, specialty care, medicines
4	Chronic conditions w/ generally “normal” function (~110m people)	\$800 billion	Self-management; Primary and specialty care in doctors offices; ER/acute care services, medicines
5	Significant disability but stable (~7m people)	\$290 billion	Home-based services (primary care, specialty); LTSS; environmental adaptation; caregiver support, rehab
6	“Dying” with short decline (~1m people)	\$50 billion	Home-based services and personal care services; Palliative care/hospice; caregiver training and support
7	Multiple chronic conditions w/ serious exacerbations, “advanced illness” (~2m people)	\$100 billion	Self-care support; at home services; 24/7 on-call access to medical guidance; caregiver support, medicines
8	Long course of decline from dementia and/or frailty (~6m people)	\$270 billion	Home-based services; LTSS; palliative care; DME; caregiver training and support;

4. Exploring more advanced ways to target and tailor clinical and non-clinical interventions – a wider/societal perspective



Segmentation and stratification → Impactability → Tailored interventions



High risk

- Complex care management programmes, intensive case management and supported and

Emerging risk

- Proactive risk based case finding and management
- Prevention programmes, social prescribing and community initiatives
- Improving access to extended MDTs/ primary care teams

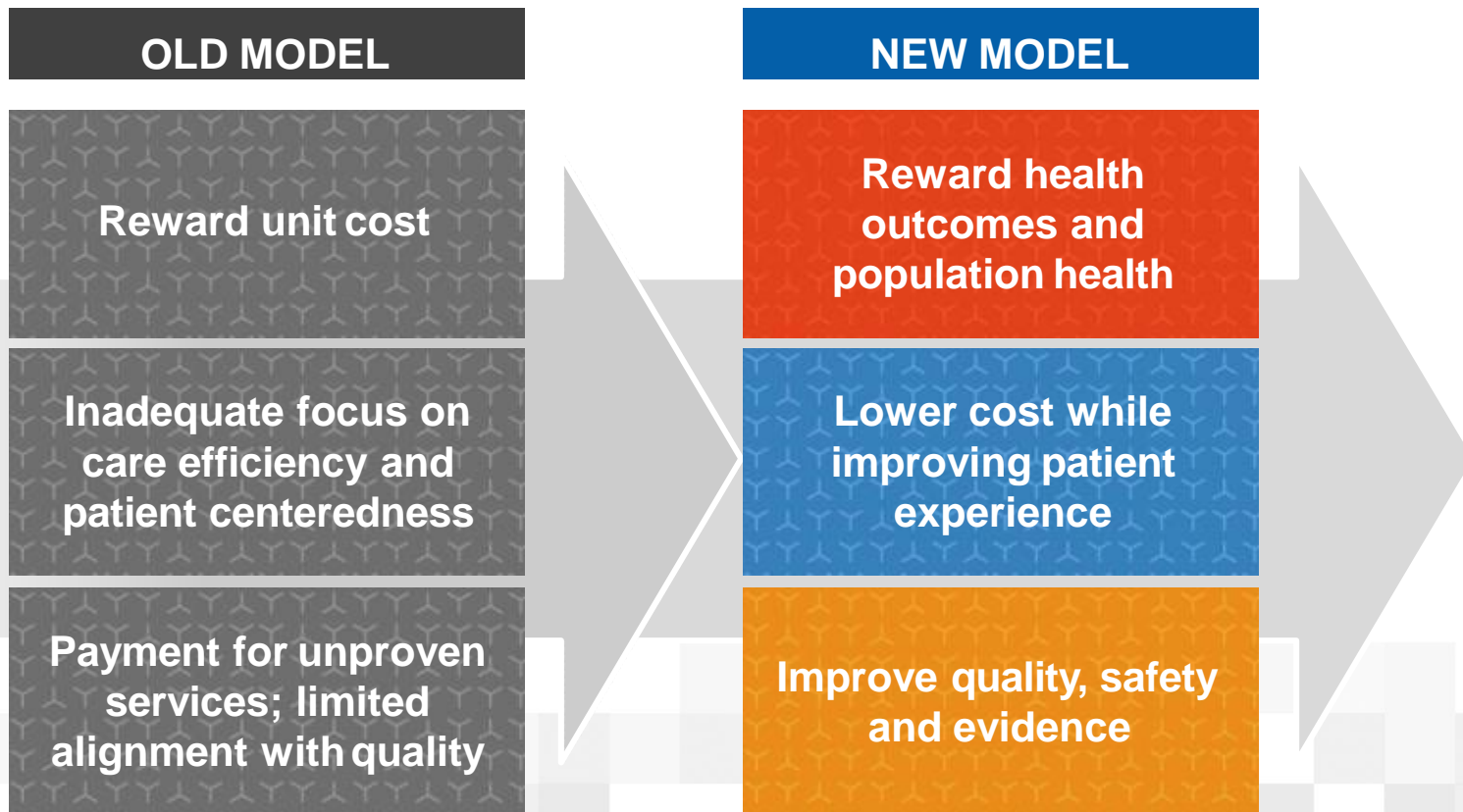
Low risk

- Wellness and self care programmes
- More convenient access and digital tools

Data supplemented with information on social determinants and wider influences →

- Lifestyle factors (diet / exercise)
- Social and community networks
- Genetics
- Money
- Education
- Housing
- Work / unemployment
- Pollution

5. Payment Innovation: Improving Value And Affordability



6. Options for the sustainable financial of innovative therapies: HEALTHCARE PROGRAMMES

Healthcare Programmes

Financial Support Programmes

Examples

- AbbVie Patient Assistance Foundation (USA)
- Gilead U.S. Advancing Access (USA)
- NORD medication specific financial support programs (USA)
- ACCU-Chek Patient Assistance programme (USA)

Patient Education/Integrated Care

Examples

- Expert Patients Programme (UK)
- Care Transition Programme (USA)
- Transitional Care Model (USA)

Special Population Programmes

Examples

- WHO Health in Prison Population Programme
- Fraser Health Aboriginal Health Programme (BC, Canada)

National & Regional Plans

Examples

- Hepatitis C Action plan (Scotland)
- National Action Plan for Combating Antibiotic-Resistant Bacteria (USA)

Disease Management Programmes

Examples

- Congestive Heart Failure Program (USA)
- Diabetes Management Program (USA)
- Chiesi Asthma Management Support Programme (UK)

Source: LSE, 2016.



6. Options for the sustainable financial of innovative therapies: PRICING & FUNDING MODELS

Pricing and Funding Models

Managed Entry Agreements (MEAs)

Examples

Finance-based MEAs

- Discounts
- Price-volume agreements
- Price/dose cap
- Price match

Health Outcome-based MEAs

- Pay-for-performance
- Conditional treatment continuation
- Eligible patient only
- Coverage with evidence development

Special Funding Arrangement

Examples

Earmarked Drug Funds

- UK Cancer Drugs Fund
- Scotland Rare Orphan Medicines Fund

Individual Patient Treatment Requests

- Scotland & Czech Republic

Early Access Schemes

- ATU - France

Special Treatment Pathways

- Highly Innovative Medicines Treatment Pathway – Czech Republic

Priority Funds

- Belgian Fund for RDs & Ods

Central Purchasing

- Strategic Fund (LatAm)
- Revolving Fund (LatAm)
- Joint procurement (EU)

Social Financing

Examples

Social Impact Bonds

- Peterborough Prison SIB - UK
- New South Wales Foster Care Social Benefit Bond - Australia

Health Impact Bonds

- Fresno, CA – Pediatric Asthma HIB – USA

High-Cost Drug Mortgage

Examples

Proposed model only



Final remarks



- Population health approaches as a means of meeting key health policy objectives
- PH can take different forms (asset- vs. platform-based), but can contribute to sustainability
- Shift towards different/new models of provision
- Enhanced role for public-private partnerships
- May offer opportunities for efficiency gains
- Require payment innovation to improve both efficiency and affordability