

# Integrated Care Whoa!

How do we get there from here?

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September 2018

# The Challenges of Integrated Care

## Rethink the problem

- Not so that we will solve the problem
- But, to determine where we should begin.

# What if the major challenge is to think differently?

What is being integrated (and Why)?

- Integrated care:
  - Response to recognition we have a problem.
- The tragedy:
  - We may seek not only to solve the problem using methods that created it
  - We may also attempt to solve the wrong problem.
- Linear reductionist disease-focused thinking:
  - Worked well to get us here
  - May not work so well when confronted with emergent complex problems this success has created

# What if we have to think beyond Integrated Care?

- Integrated Care as a holistic response
  - Delivering value to the individual in local communities
  - Focus on operational mutual gains
  - Not just a technical solution
- Working through a theoretical framework at the systems, organizational, professional and clinical levels.
- Invent a new language to enable us to reinvent organisations

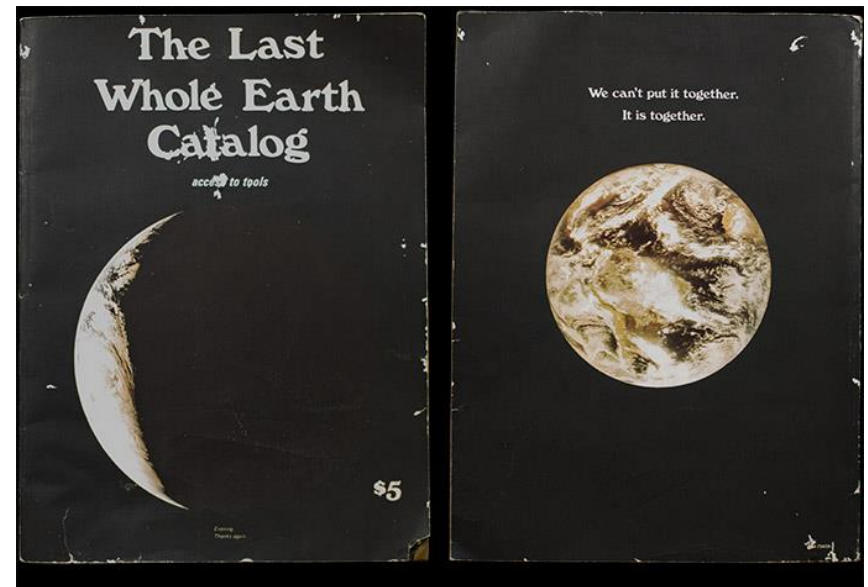
# The key issue in facing the future

How to assume the most advantageous orientation towards innovation?

Traditionally

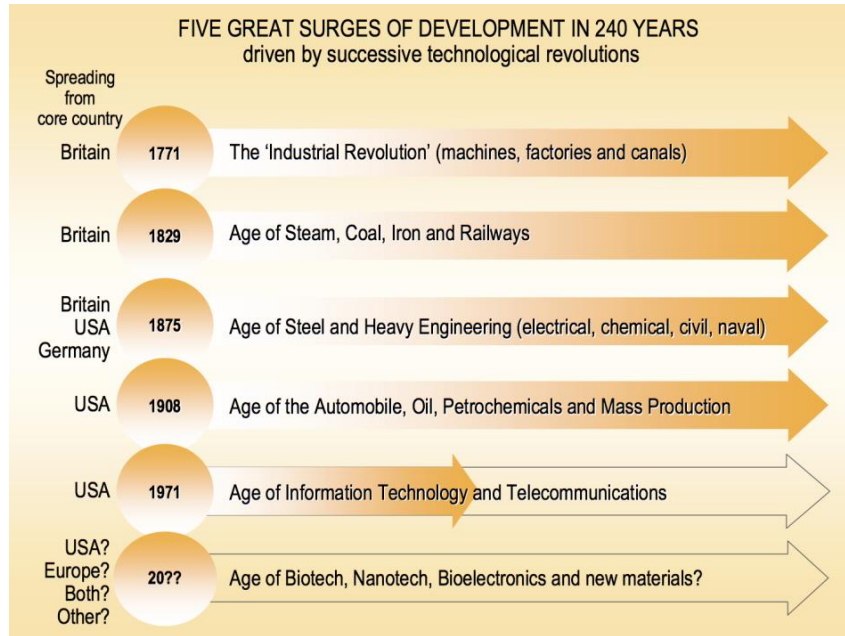
\* Science + Technology + Creativity = Innovation

Is there a different way to orient ourselves towards the future?





# Carlota Perez



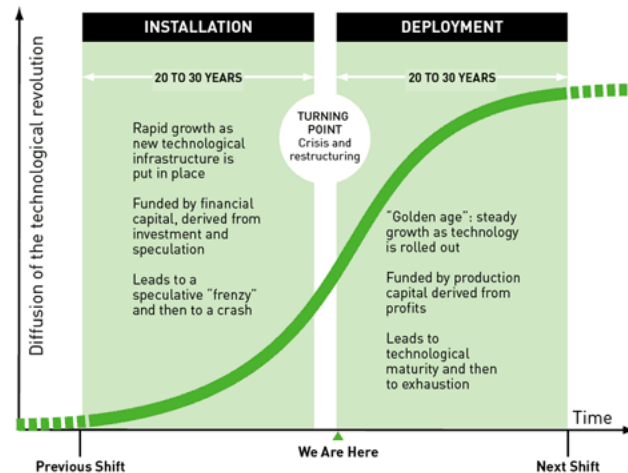
**Table 1. Five successive technological revolutions, 1770s to 2000s**

<i>Technological revolution</i>	<i>Popular name for the period</i>	<i>Core country or countries</i>	<i>Big-bang initiating the revolution</i>	<i>Year</i>
FIRST	The 'Industrial Revolution'	Britain	Arkwright's mill opens in Cromford	1771
SECOND	Age of Steam and Railways	Britain (spreading to Continent and USA)	Test of the 'Rocket' steam engine for the Liverpool-Manchester railway	1829
THIRD	Age of Steel, Electricity and Heavy Engineering	USA and Germany forging ahead and overtaking Britain	The Carnegie Bessemer steel plant opens in Pittsburgh, Pennsylvania	1875
FOURTH	Age of Oil, the Automobile and Mass Production	USA (with Germany at first vying for world leadership), later spreading to Europe	First Model-T comes out of the Ford plant in Detroit, Michigan	1908
FIFTH	Age of Information and Telecommunications	USA (spreading to Europe and Asia)	The Intel microprocessor is announced in Santa Clara, California	1971

# According to Perez

Exhibit 1: A 60-year Cycle of Capital

This pattern of investment and technological development has taken place five times since the early Industrial Revolution, according to historian Carlota Perez. The green arrow at the bottom shows our position in 2010: moving into a "golden age" of steady growth.



Source: Adapted from Carlota Perez, *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages* (Edward Elgar Publications, 2003)

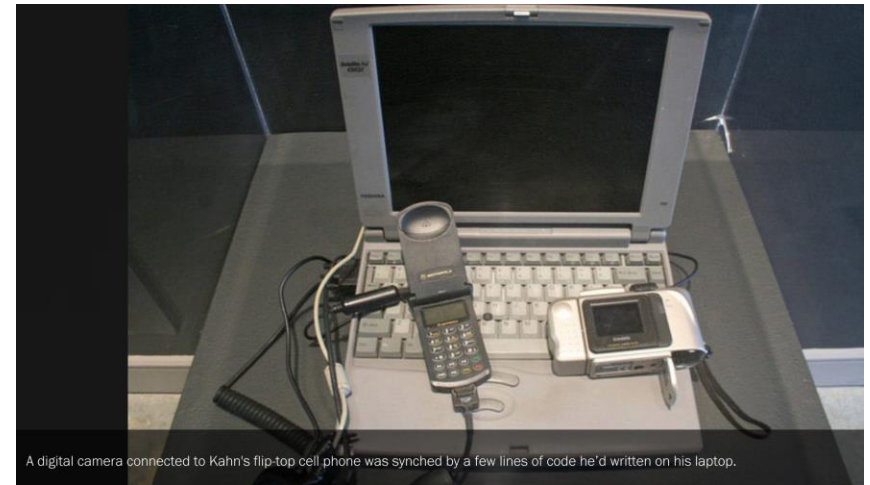
- First phase: Financial capital investment
- Financial crisis
- Second phase: Productive capital investment
  - Characterised by novel combination of existing technologies

# We shape our tools : Thereafter our tools shape us.

- All change in the era of the enlightenment has come about because of the fusion of ideas with new technology
- Lets look at how “they” put the digital camera in the iPhone

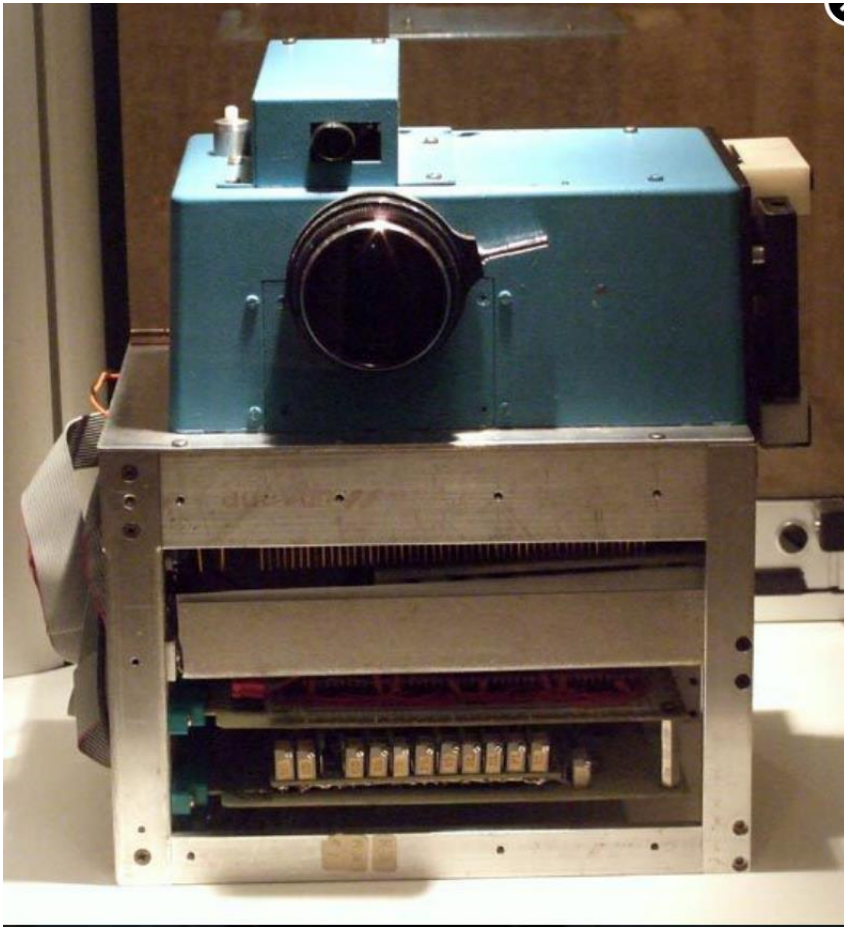


# Phillipe Kahn transmitted the first digital image via mobile phone 1997



"I wanted to create a 21st century version of a Polaroid picture'  
On June 11, 1997, an image of Kahn's new baby Sophie was transmitted.  
He attributes his inspiration to Claude Debussy.

# Steve Sasson invented the digital camera 1975



Kodak 1975:

“no one would ever want to look at their pictures on a television set,”

# Russell Kirsch 1957



- \* NBS 1957
- \* First digital scanner
  - \* “I wanted to take pictures of the moon as the space ship went past”
  - \* Photo of his baby son
  - \* 176X176 pixels
- \* Life Magazine 2003
  - \* One of the 100 most influential pictures that changed the world

# The digital camera in the first iPhone



“I’d like you to meet Raj. Raj Mehta.  
Raj put the digital camera in the iPhone”

Novel combination of existing technology

# We are in the middle of a revolution

- Radically redesigning our services in combination with technology
- Capitalising on the ITC revolution
- What are the possibilities for healthcare
- What will drive it?



# What is the Future?

- \* “An open horizon that resists the illusion of predictability....
- \* Has no purpose or meaning other than the one we construct for it.”

“The biggest challenge is to develop new ways of thinking about the present and having a different disposition towards the future than we had (in the 1970’s).”



Fernando Flores

# A Framework for Health

with all the factors that would go into an ideal taxonomy for high-need patients



## Medical System Determinants

- » Non-elderly disabled
- » Advancing illness
- » Frail elderly
- » Major complex chronic
- » Multiple chronic
- » Children w/ complex needs

Health

## Social Determinants

- » Low SES
- » Social isolation
- » Community deprivation
- » Housing insecurity

## Individual Behavioral Determinants

- » Substance abuse
- » Serious mental illness
- » Cognitive decline
- » Chronic toxic stress

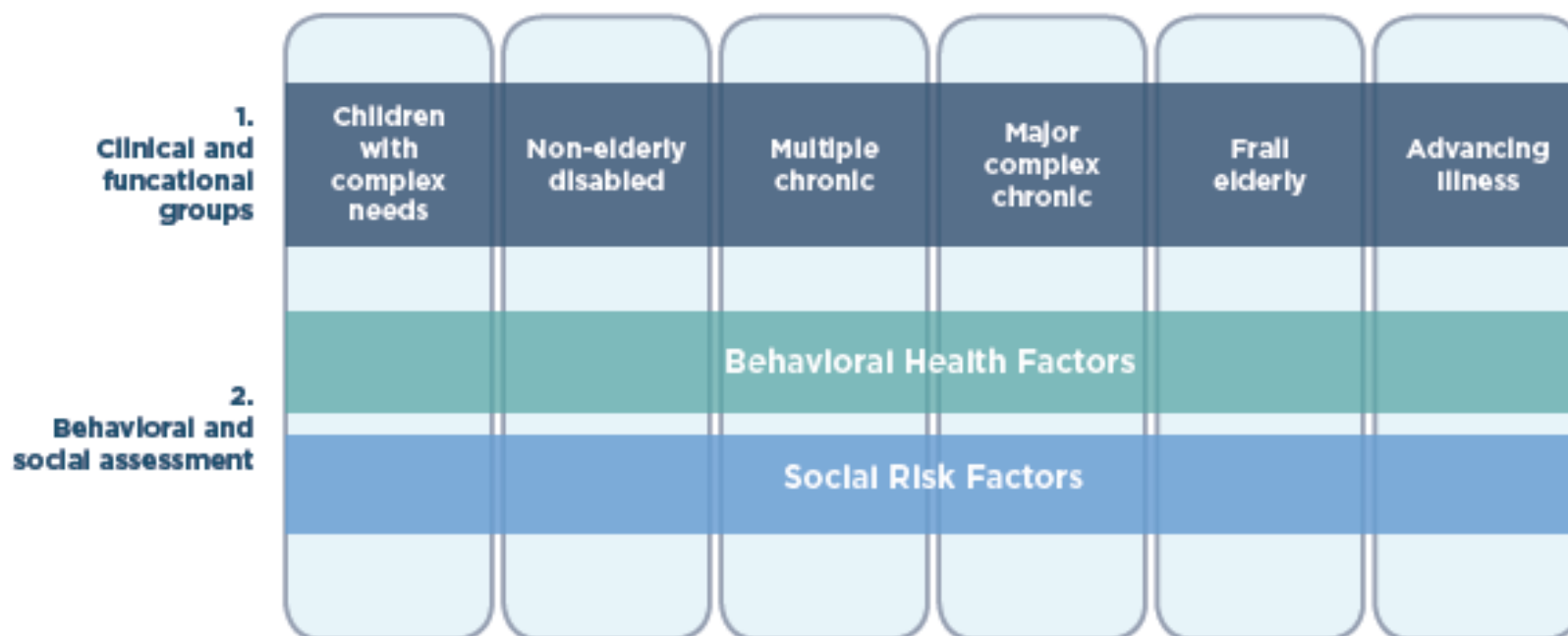
# The Patient Taxonomy and Implications for Care Delivery

- A taxonomy that segments high-need individuals in a health system's population based on the care they need and how often they might need it can help determine how to serve that population more effectively.
- An expert taxonomy working group developed a new conceptual starter taxonomy that incorporates functional, social, and behavioral factors into a medically oriented taxonomy

[nam.edu/HighNeeds](http://nam.edu/HighNeeds)

# Conceptual Model of a Starter Taxonomy for High-Need Patients

from Effective Care for High-Need Patients: Opportunities for Improving Outcomes, Value, and Health



Note: For this taxonomy, functional impairments are intrinsically tied to the clinical segments.

# Operationalize taxonomy

- Patients first assigned to a clinical segment
  - Follow-on assessment of behavioral health issues and social services needs to determine specific type of services required.
- Refine the taxonomy and develop framework:
  - How care and finite resources should be targeted and delivered to improve outcomes and reduce costs for high-need patients.
  - Achieving this requires health IT systems that support integrated data collection.

# Successful Care Models

Should foster effectiveness across three domains:

- Health and well-being
- Care utilization
- Costs.

Share four common dimensions-Focus on:

- Service setting
- Care attributes
- Delivery features
- Organizational culture.

# Organizational Culture of Successful Care Models



Leadership across levels



Customization to context



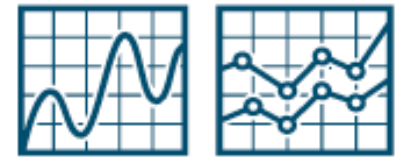
Strong relationships



Training appropriate to circumstances



Continuous assessment with effective metrics



Use of multiple sources of data

# Epidemiology of multimorbidity and implications for healthcare

Barnett K, et al Lancet 2012;380:37

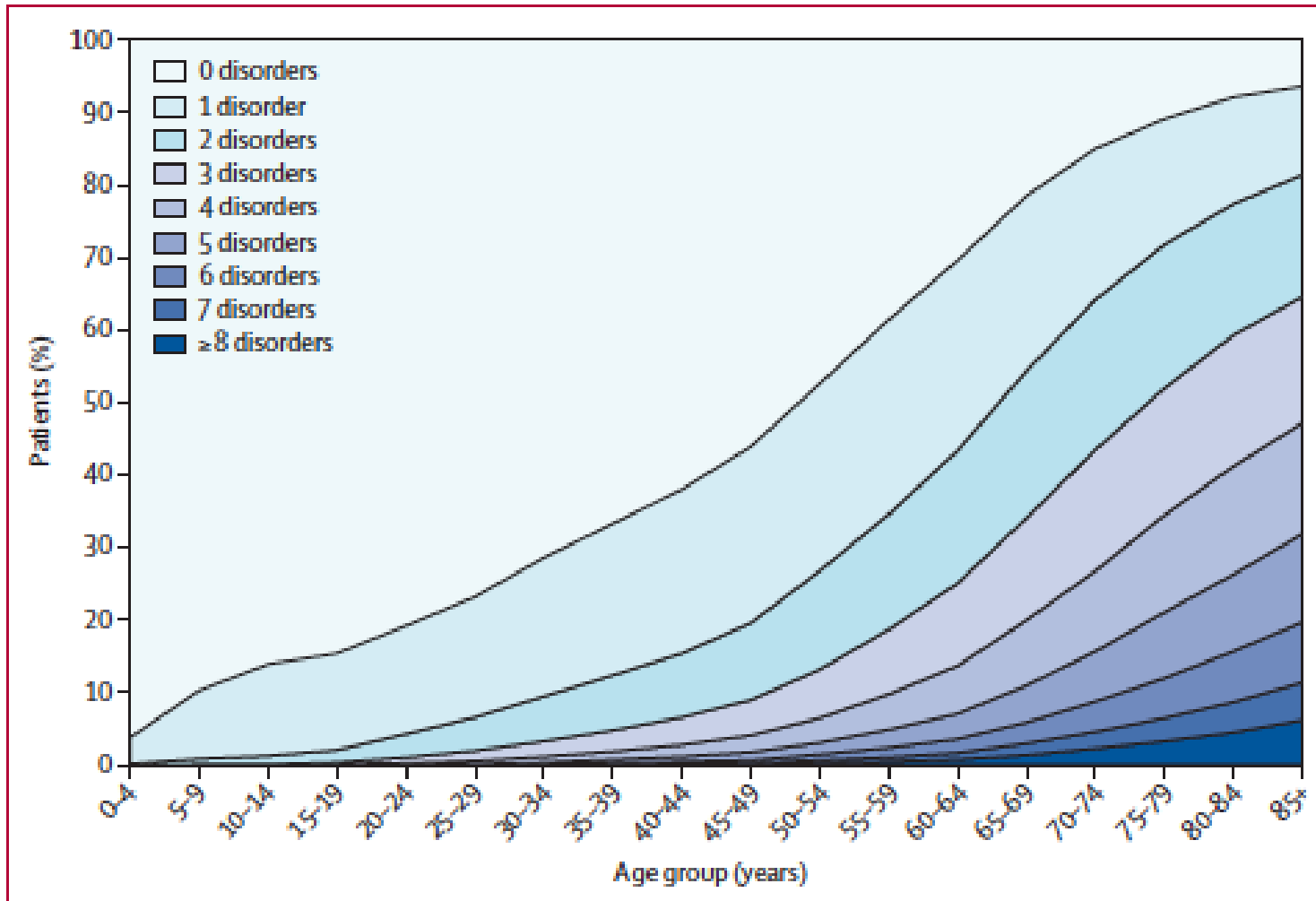
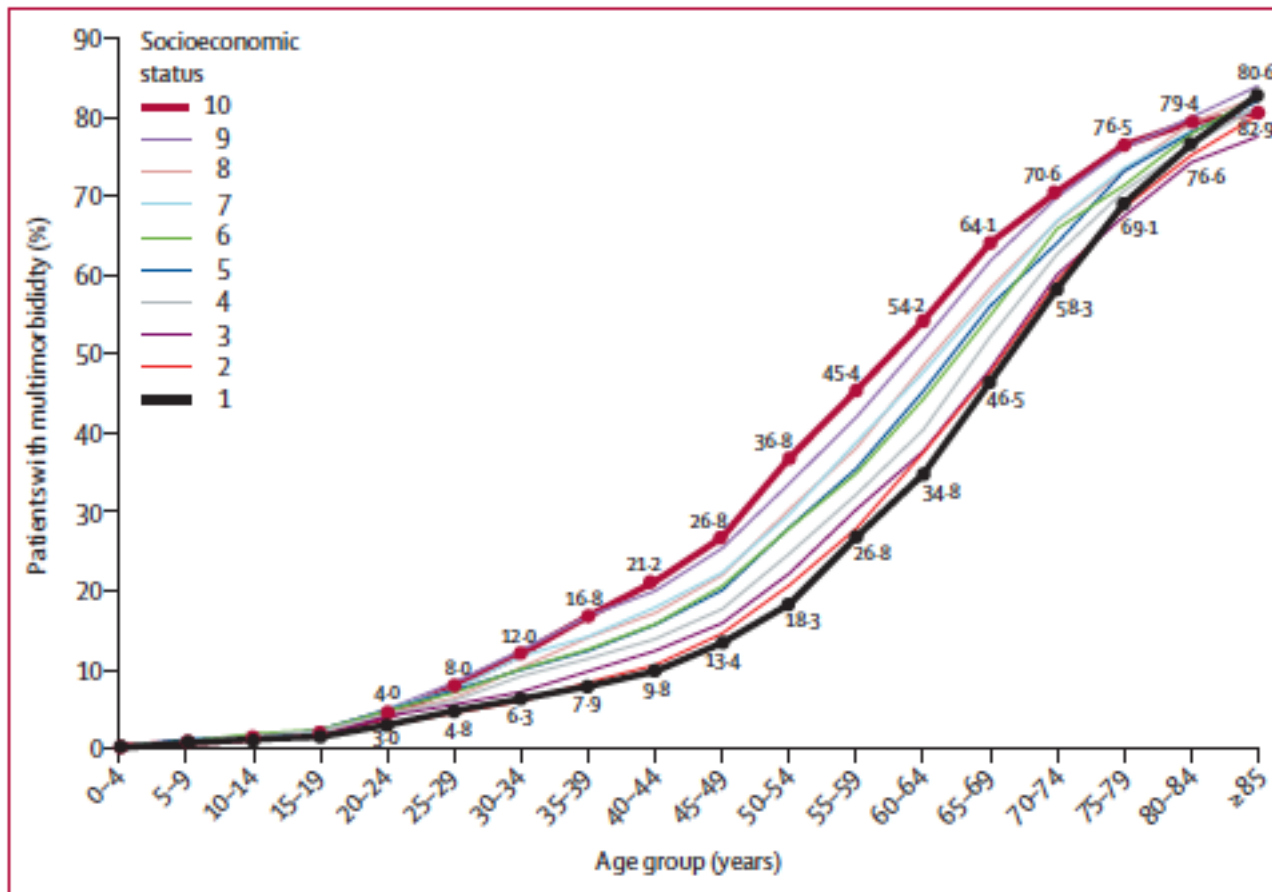
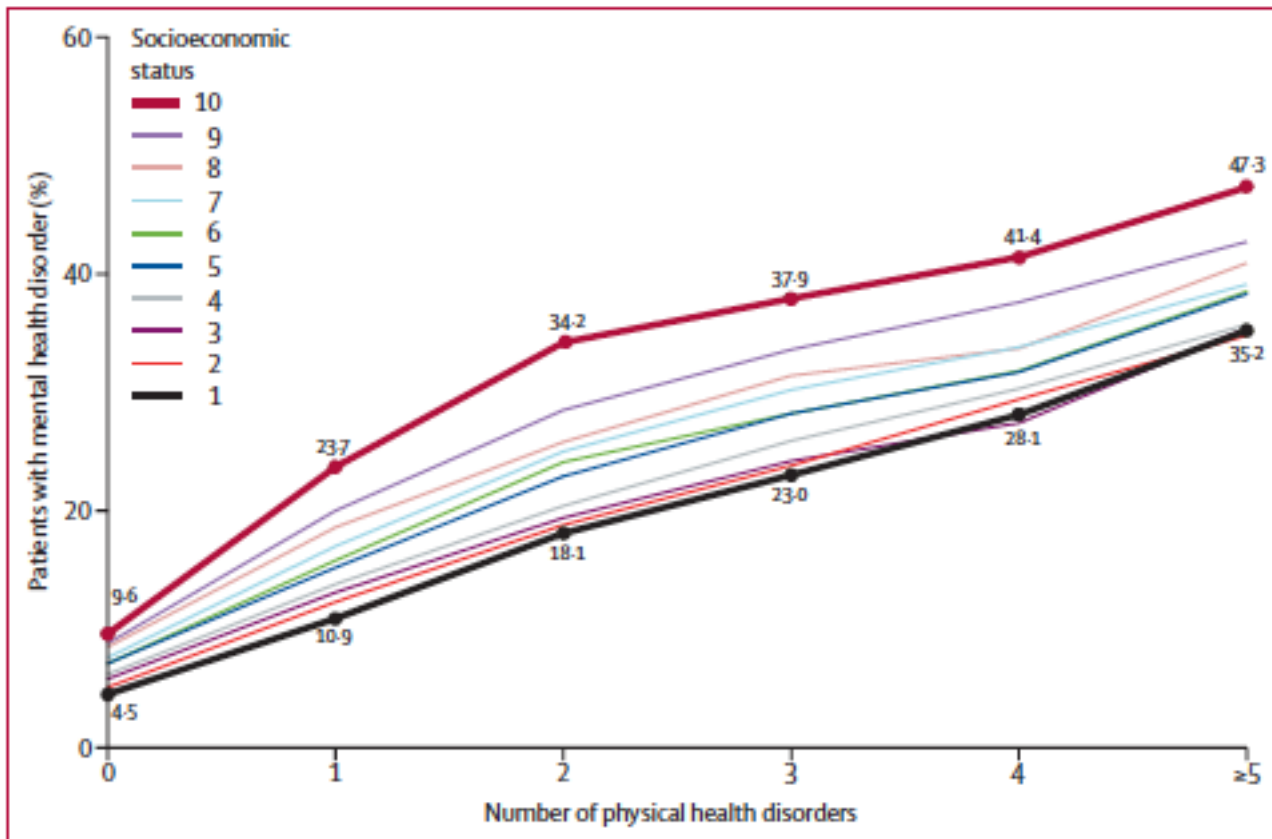


Figure 1: Number of chronic disorders by age-group



**Figure 2: Prevalence of multimorbidity by age and socioeconomic status**  
 On socioeconomic status scale, 1=most affluent and 10=most deprived.



**Figure 3: Physical and mental health comorbidity and the association with socioeconomic status**  
 On socioeconomic status scale, 1=most affluent and 10=most deprived.

# Conclusions

- **Findings challenge the single-disease framework by which most health care, medical research, and medical education is configured.**
- **A complementary strategy is needed, supporting generalist clinicians to provide personalised, comprehensive continuity of care, especially in socioeconomically deprived areas.**

# Multimorbidity, Mental Health and Poverty

## ***Multimorbidity***

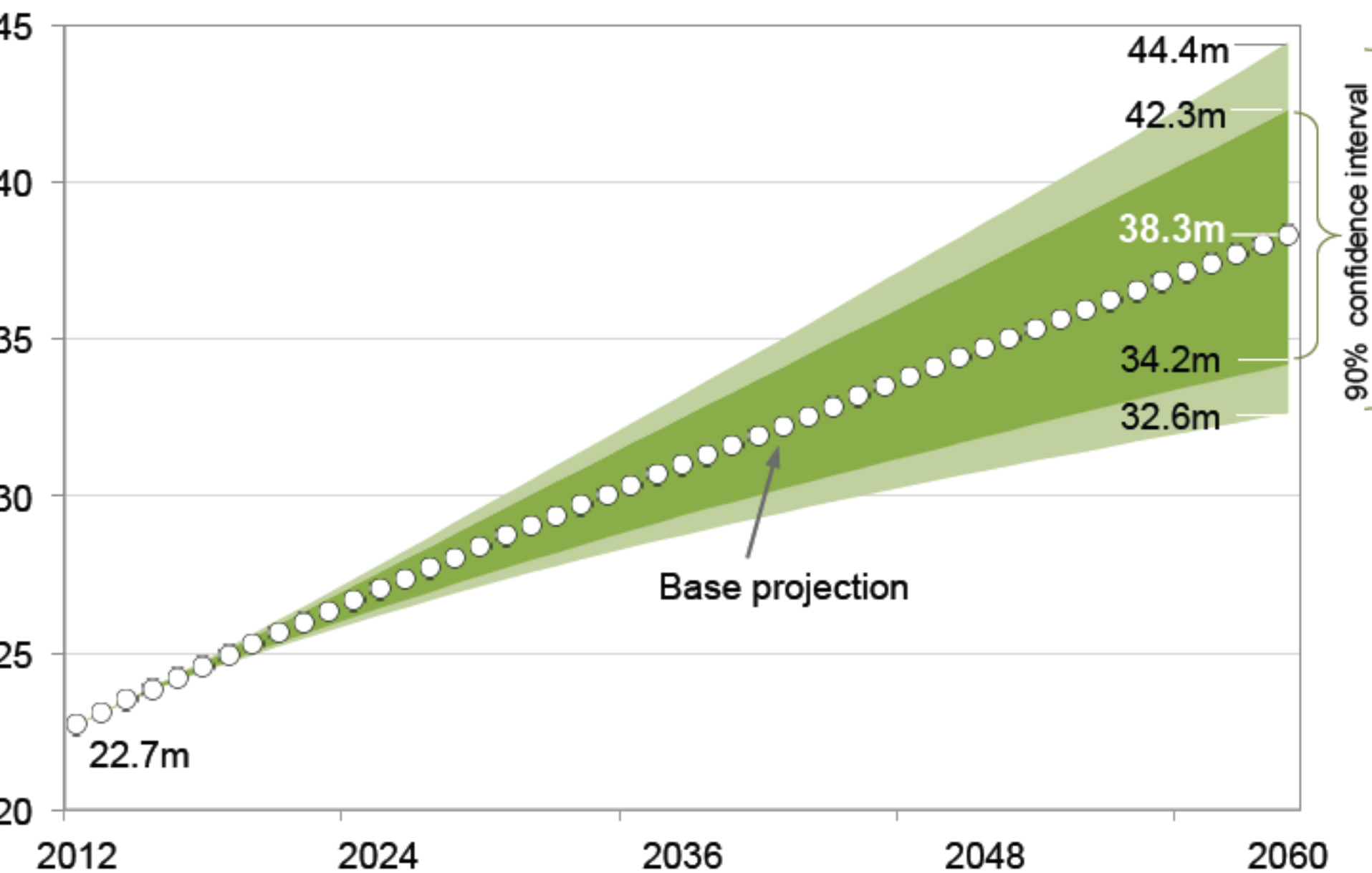
- ***Occurs 10–15 years earlier in people living in the most deprived areas compared with the most affluent***
- ***Prevalence of both physical and mental health disorder 11% in most deprived area vs 5% in least deprived).***

## ***Presence of a mental health disorder***

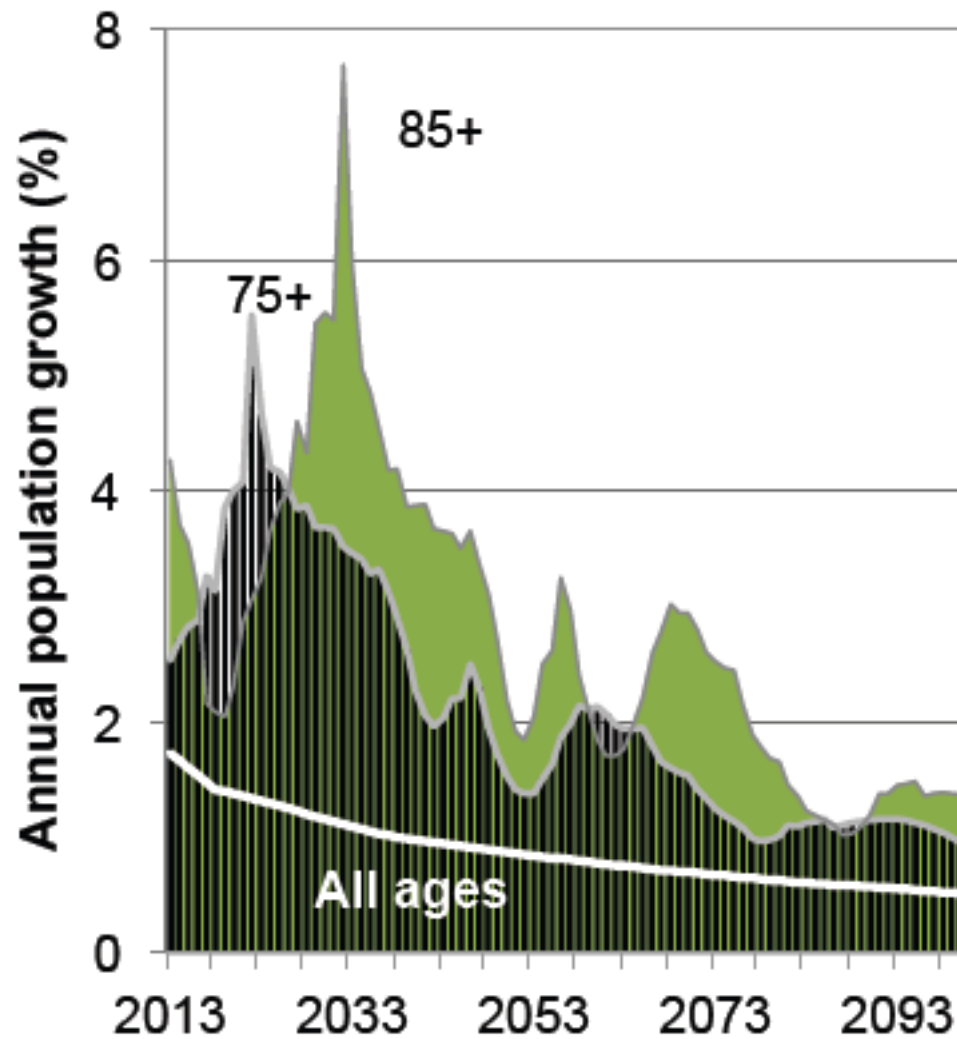
- ***Increased as number of physical morbidities increased***
  - ***(OR 6.74, 95% CI 6.59–6.90 for five or more disorders vs 1.95, 95% CI 1.93–1.98 for one disorder)***
- ***Much greater in more deprived than in less deprived people***
  - ***(OR 2.28, 2.21–2.32 vs 1.08, 1.05–1.11).***

# 15 million over the next 50 years

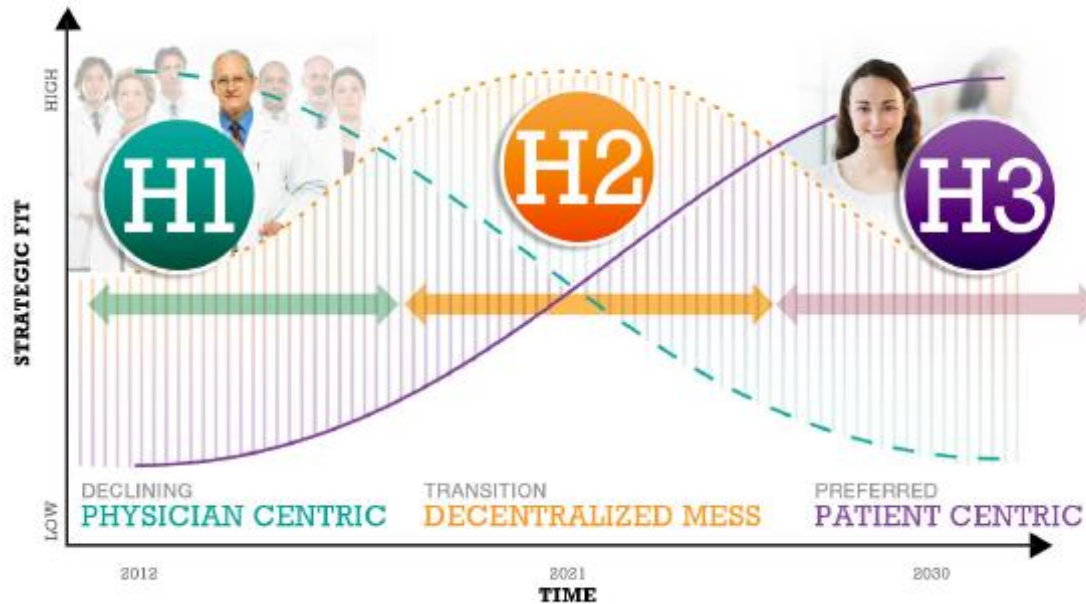
End June 2011-12 to 2059-60

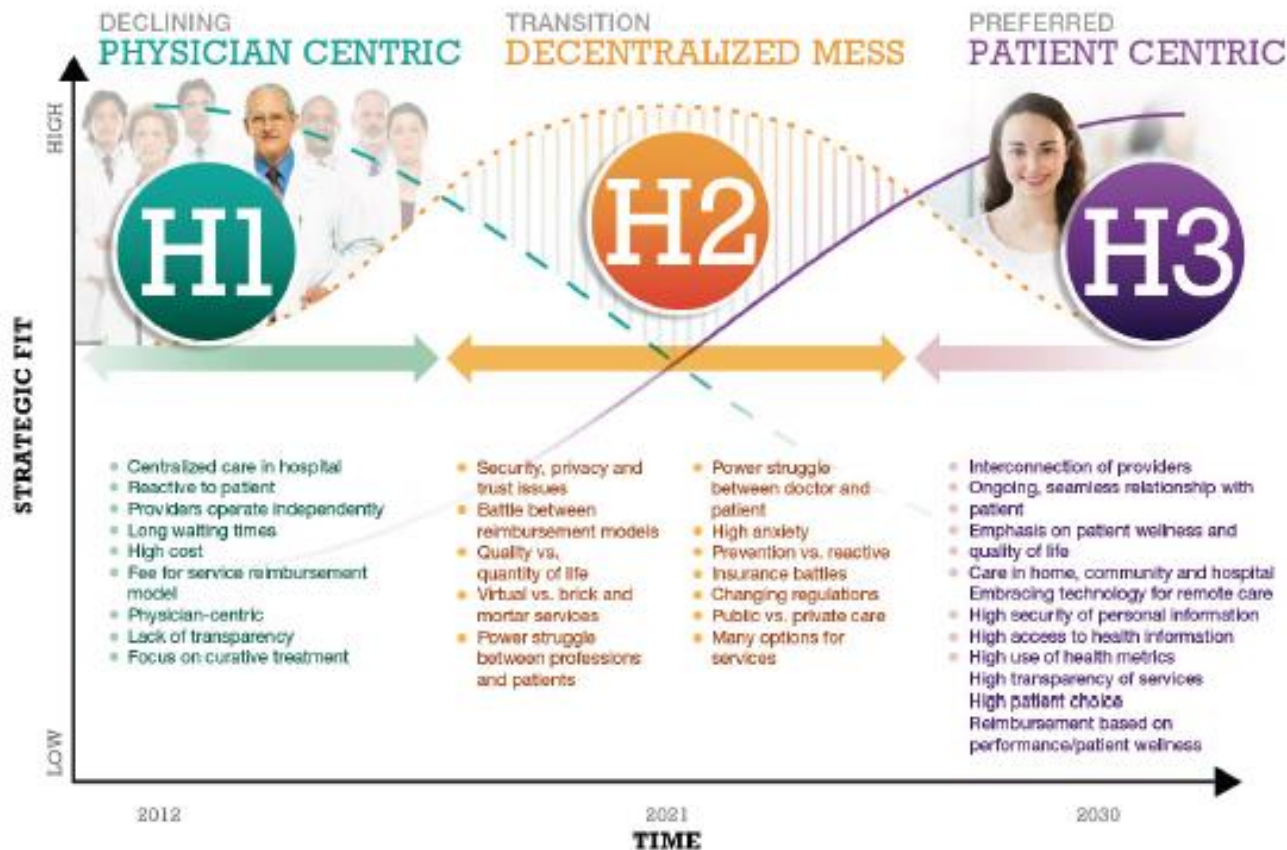


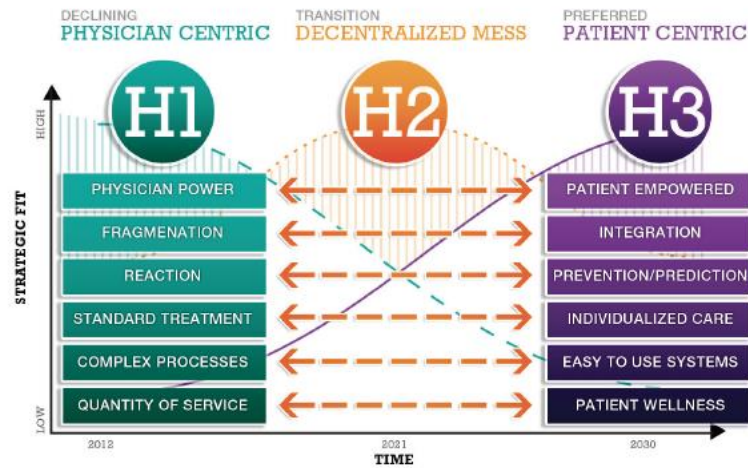
## Growth rates of the oldest is set to dramatically increase over the next 20 years



# Three Horizons Model







### Horizon 1: Improve Existing Services



#### Incremental Improvements

- Train practitioners
- Enhance communication
- Expand consultation
- Family involvement

### Horizon 2: Extend Service and Delivery Options



#### New Related Activities

- Pilot new wellness services
- Test new supporting roles
- Improve scheduling flexibility
- Increase communication options

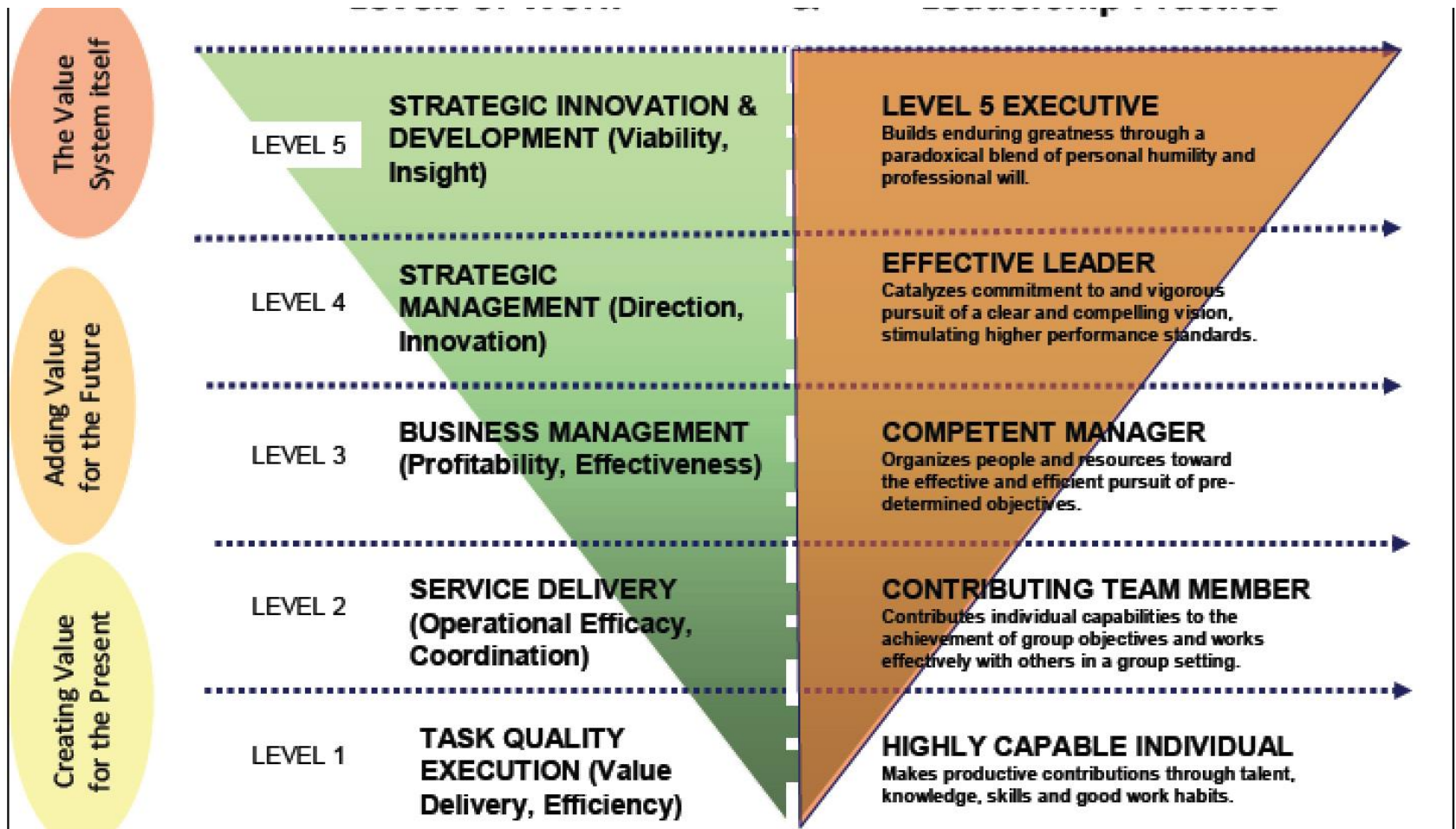
### Horizon 3: Establish A Truly Integrated Delivery System



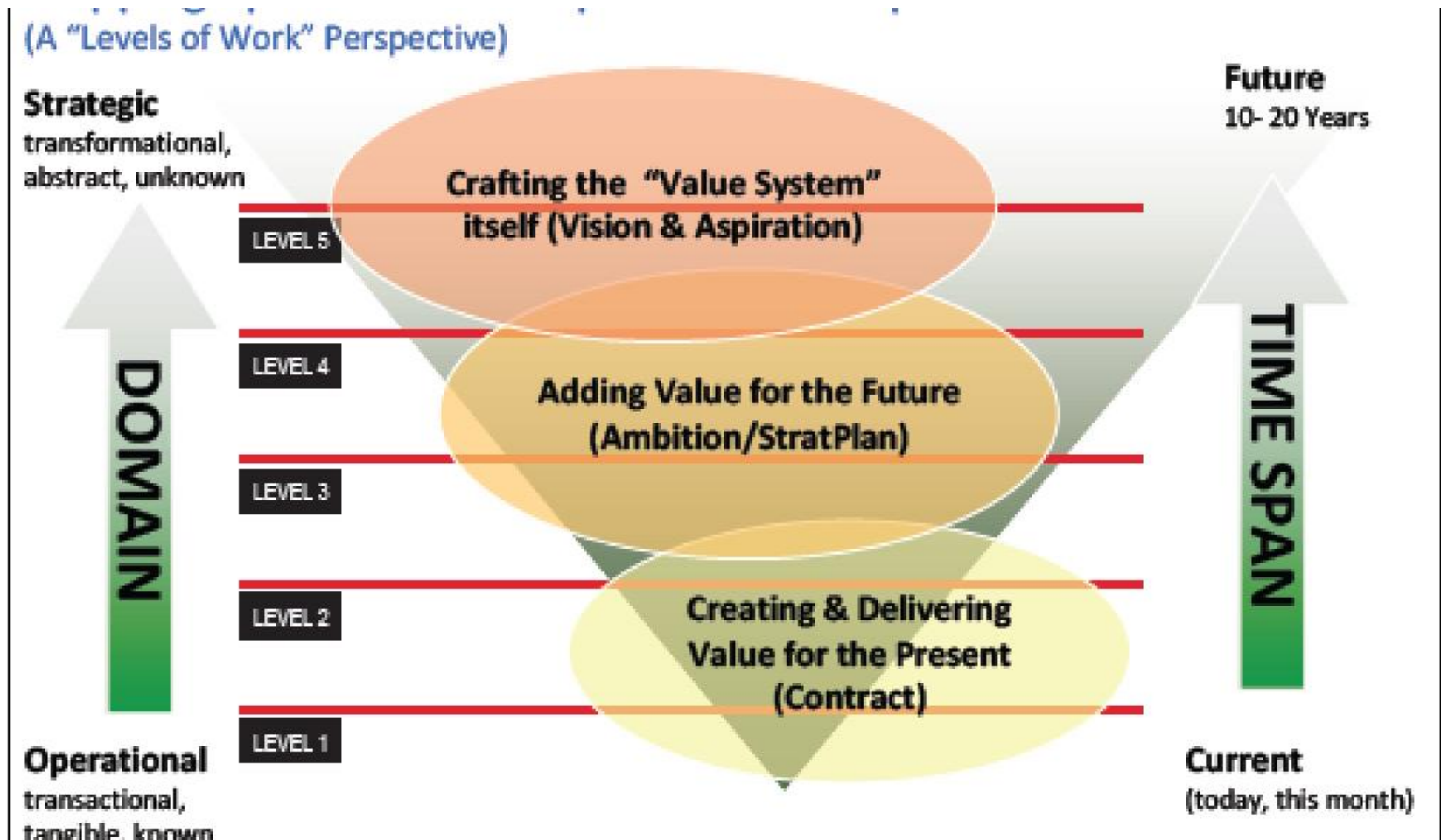
#### System Changes

- Shared e-health records
- Co-location
- Collective governance
- Team-based care
- Pooled funding

# Levels of Work



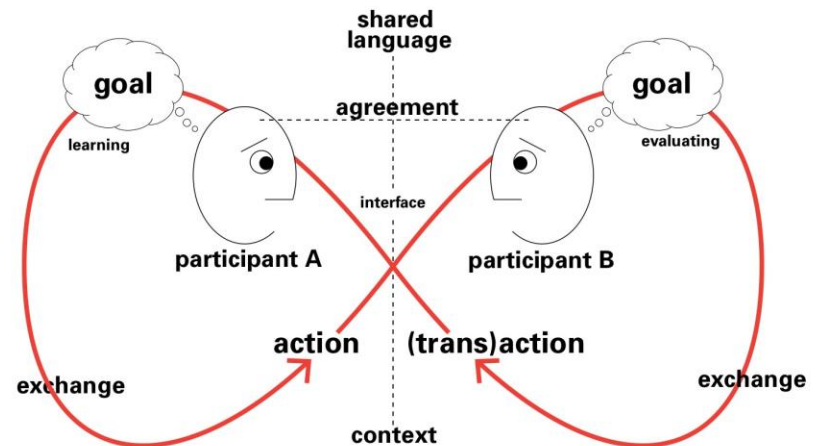
# Levels of Work



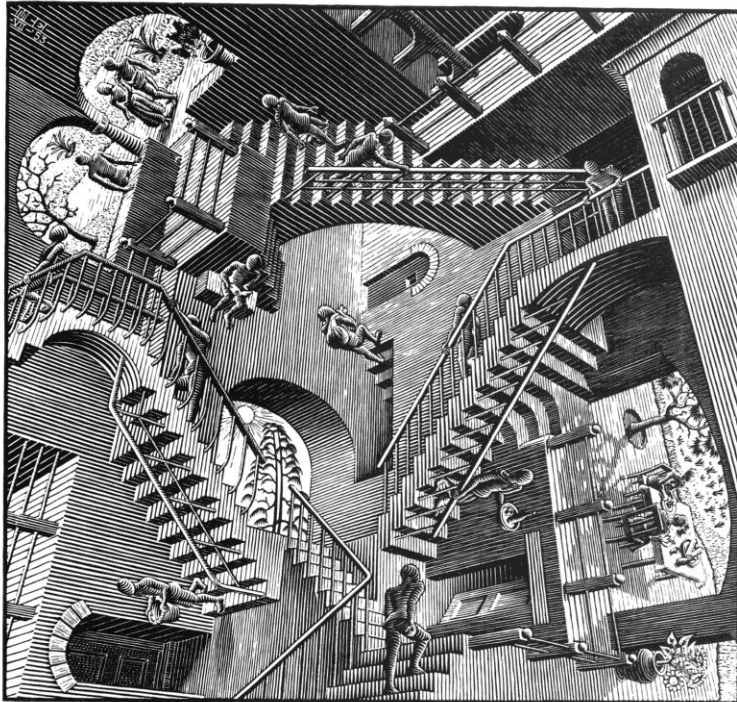
# Join the conversations that shape the future

“Great conversations that invent the worlds we inhabit don’t arise from problem solving.

Our connections in the world allow us to see new and different ways of dealing with our concerns.”



# Complexity and Connection



...in the midst of an in- offering that would value the most \$430 million. million share offer to clients and a "chairman's hat" Rajaratnam closed on Friday report to have attracted r. y Solar has fallen 10 per 206 million initial public offering in December. The fund, which invests in renewable energy projects in the US, said it would likely generate \$13.9 million of cash flows in 2018, of which \$5.5 million will be paid in fees and expenses and \$8.4 million accrued to investors. New Energy Solar distributed \$19 million to investors, exceeding the behalf of a... per cent... The fund accounted for 67... The... in m... in m... in m... high... which... ac... to... w... r...

**block**  
the deal

operational and asset issues. Deal will exclude le

**management**  
Australia's largest retail with funds under \$1 billion and the largest financial provider

include demerger for a trade sale

end of 2019 market

Number of advisers: **1,200** (proprietary and aligned)

Number of staff: **300**

**MLC**

**The wealth needs of clients are very important to us but we do need to reshape how those needs are met.**  
Andrew Thorburn  
NAB CEO

multiple of value the \$3 billion

findings are price as it eluding ration duty", assist-

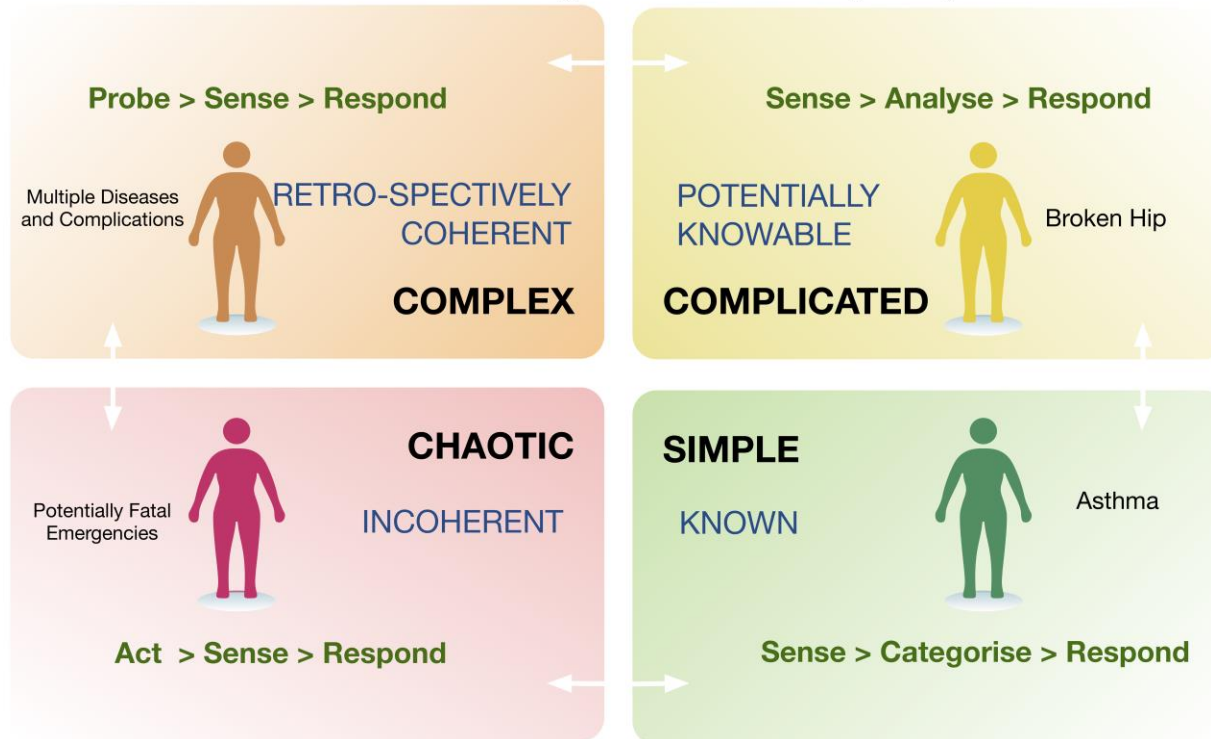
**We need to simplify the bank. Complexity in the bank is just killing us.**  
Andrew Thorburn, NAB CEO

operations including business, corporate and consumer banking to improve returns for shareholders.

cial planning business, and the questions about how much businesses are going to be worth, but what business they can do as they will need to charge.  
"Australians were reluctant for advice before the royal commission and I suspect they will be reluctant to pay for it now, but the damage inflicted on the financial planning, and that the value of these businesses

# Complexity in Healthcare

## Chronic Ill-Health Management via Complexity Science



# A Theoretical Framework: Pim Velentijn

## **What is integrated care in the context of primary care?**

Integrated care plays an interconnected role:

- Micro level of clinical integration
- Meso level of professional and organisational integration
- Macro level of system integration.

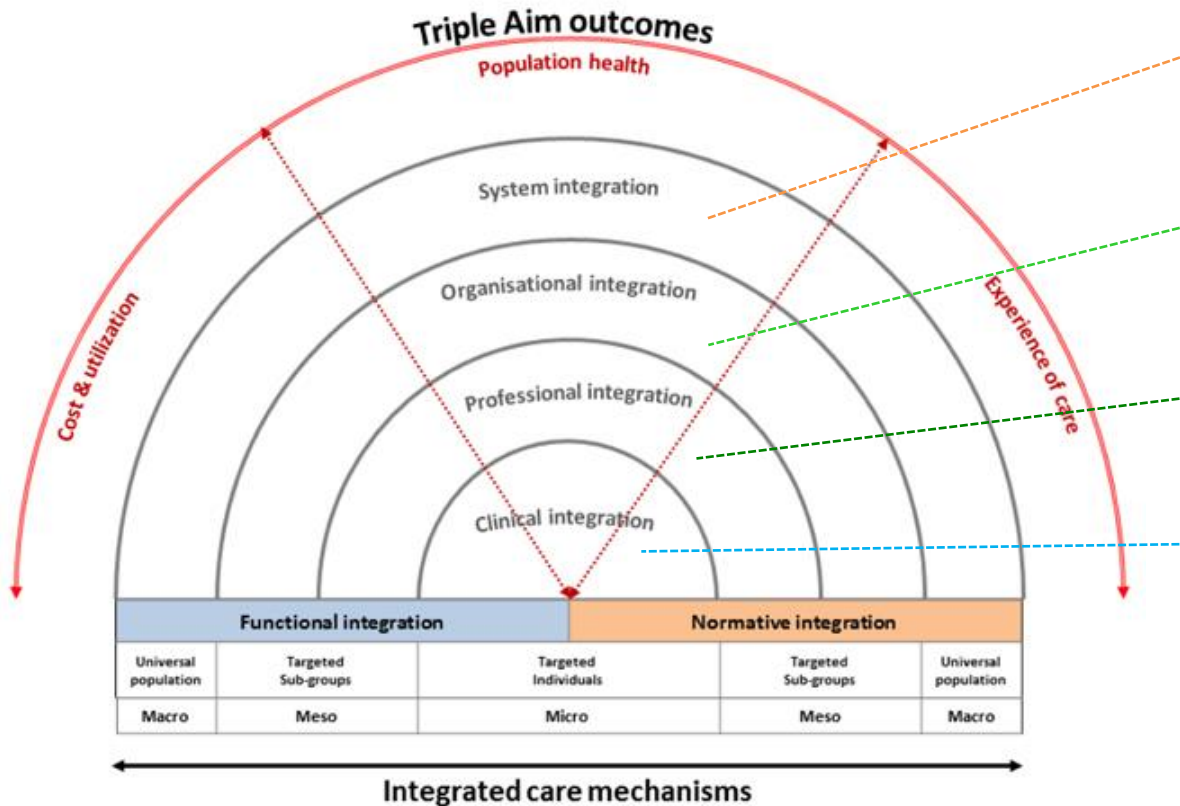
# Integration

- Functional and normative integration are conceptualized as enablers for linking the various levels.
- Integrated care can be pursued at different levels within a system to facilitate the continuous, comprehensive, and coordinated delivery of services for individuals and populations.

## Questions:

- Which target populations should integrated care focus on?
- What job should this model of care try to achieve?
- What approaches are taken?

# Rainbow Model of Integrated Care



**System integration**  
Coherent set of (informal and formal) political arrangements to facilitate professionals and organisations to deliver a comprehensive continuum of care .



**Organisational integration**  
Inter-organisational partnerships based on collaborative accountability and shared governance mechanisms, to deliver care to a defined population.



**Professional integration**  
Inter-professional partnerships based on a shared accountability to deliver care to a defined population.



**Clinical integration**  
Coordination of care for a complex need at stake in a single process across time, place and discipline.



Valentijn (2016)

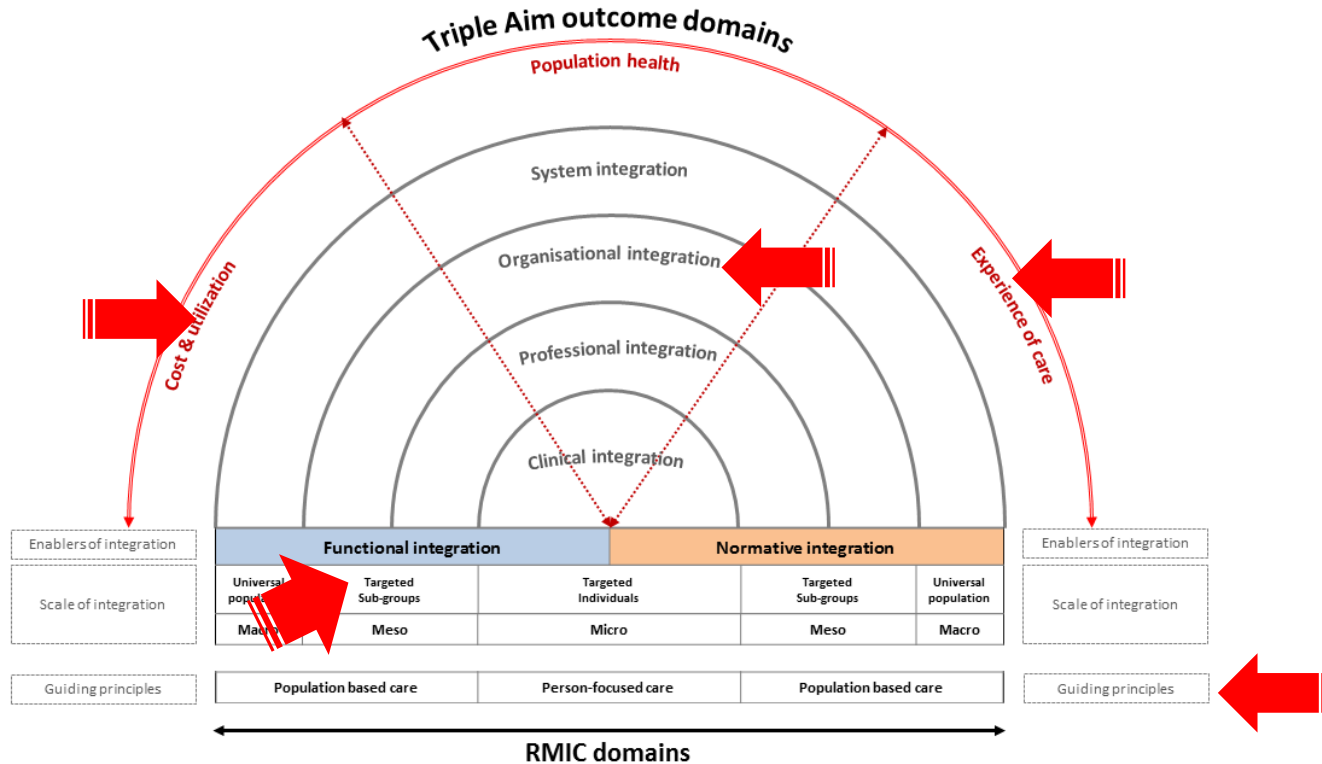
- Most approaches to date:
- Focused on features that are part of the clinical, professional and organisational domains of integration
- Features that are part of the 'macro' system integration domain were generally neglected.

# Barriers and enablers to different ways of being and thinking

Approaches must:

- Address different types of barriers and enablers
- Utilize different time frames of thinking across three levels:
  - Micro Clinical encounters
  - Meso Service delivery organization and information management
  - Macro Funding and policy settings
- Command and control wont work
- Collaboration and learning in local contexts is key

# Gaps identified



Valentijn (2016)

# Functional Integration

## Supports and links

- Clinical (micro-level)
- Professional & organisational integration (meso level) dimensions within a system (macro-level).

## Definition:

- Key support functions and activities (i.e., financial, management and information systems)
- Structured around the primary process of service delivery,
- To coordinate and support accountability and decision-making between organisations and professionals

*To add overall value to the system.*

# Normative Integration

Informal coordination mechanisms:

- Based on shared values, culture, and goals across individuals, professionals and organisations.

Mutual shared goals and an integrative culture are necessary at all levels of an integrated system

- Leadership plays an important role in propagating an integrated approach
- Clashing of cultures (e.g., between medical and nonmedical professionals) is one of the reasons why many integration efforts fail.

*“Culture is defined by the way we talk with each other about each other”.*

# Normative integration

“The development and maintenance of a common frame of reference (i.e., shared mission, vision, values and culture) between organisations, professional groups and individuals to deliver integrated, person-focused, and population-based care, vertical- and horizontal integration through inter-sectorial partnerships across the health and social service system”

- Multiple dimensions of integration play complementary roles on the micro (clinical), meso (professional- and organizational) and macro (system) level to deliver comprehensive services that address the needs of people and populations.

# The role of language

To create a new culture and a new way of being means we have to reinvent our language

**Perhaps the key is to look at potential enablers as well as barriers to conversations?**

- To engender trust at each of these four levels of integration
- As a first step to delivering person-focused population-based care by fostering connectivity at a regional level.

# References

- Notes on the Role of **Leadership and Language** in Regenerating Organizations
  - <http://www.pangaro.com/littlegreybook.pdf>
- The Rainbow Model of Integrated Care
  - <https://integratedtreatmentblog.wordpress.com/integrated-treatment-models/conceptual-models/the-rainbow-model-of-integrated-care/>