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www.connectedhealthcities.org

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NHS-HE Forum, November 2016

33%

1.   Valderas JM, et al. Defining comorbidity: implications for understanding health and health services. Annals of family medicine; 7(4):357–63.
2.   Fortin M, et al. Randomized controlled trials: do they have external validity for patients with multiple comorbidities? Annals of family medicine 2006 Jan
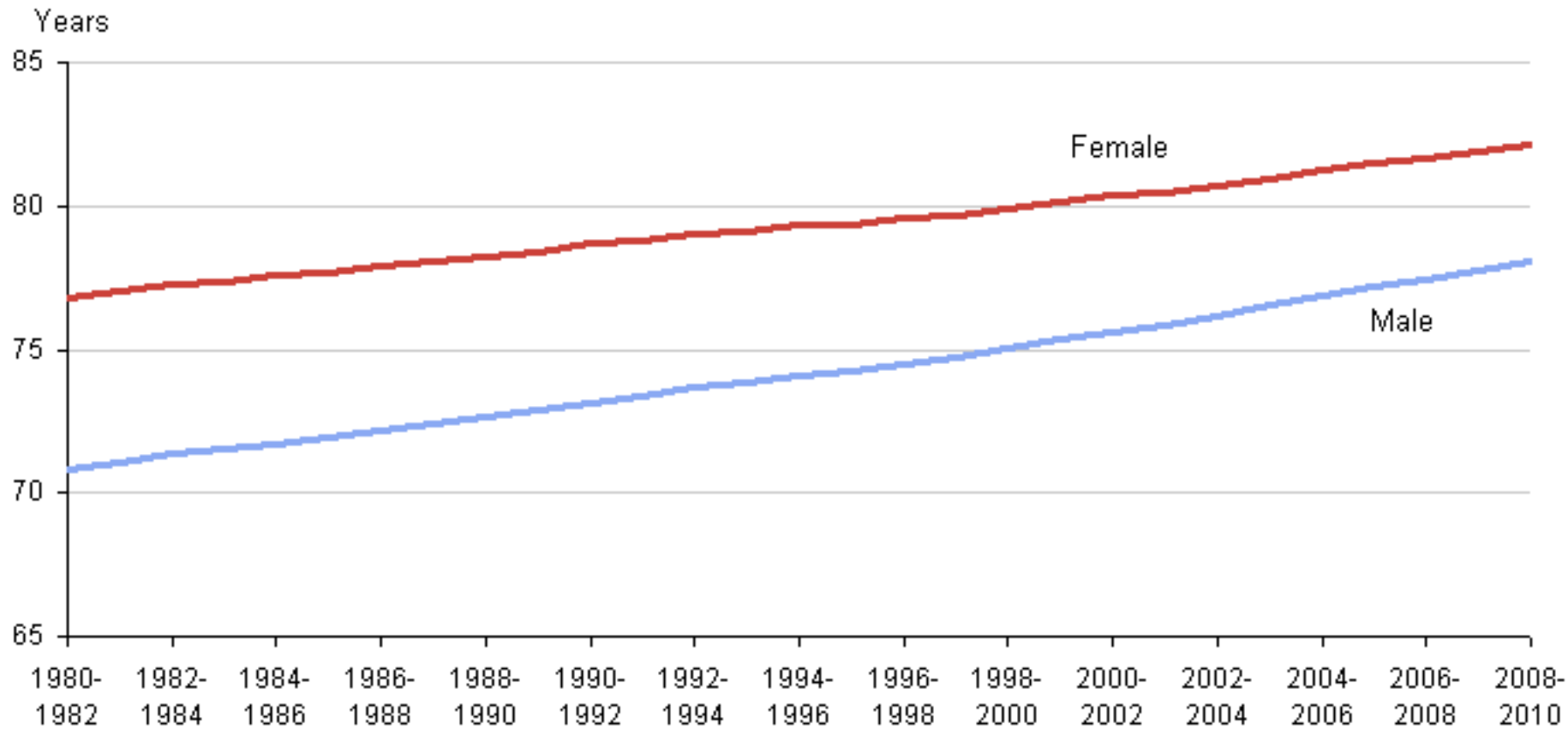
17

11

8

- Palm Tungsten
  - Discontinued!
  - 2nd hand from e-Bay?

Life expectancy at birth, UK, 1980-82 to 2008-2010
from period life tables
Source: ONS

Life on the tram? Differences in life expectancy across Greater Manchester

Female life expectancy at birth (years) ●   **Male life expectancy at birth (years)** ●   **IMD Decile (1 most deprived; 10 least deprived)** ●

Langworthy — 74 / 69 (1)
Eccles — 78 / 71 (2), Ladywell, Weaste
Broadway, Harbour City, MediaCityUK
Anchorage — 74 / 69 (1), Salford Quays, Exchange Quay
Pomona — 80 / — (3)

Whitefield — 82 / 78 (7), Besses o' th' Barn, Radcliffe
Prestwich — 79 / 75 (1)
Bury — 78 / 72 (2)
Heaton Park — 80 / 75 (4)
Milnrow — 82 / 75 (4), Shaw and Crompton, Newhey, Newbold
Rochdale — 74 / 66 (1), Kingsway Business Park, Rochdale Railway Station
Crumpsall — 80 / 74 (1), Abraham Moss, Queens Road
Oldham Mumps — 78 / 71 (1), Derker, Oldham Central

Manchester Airport — 76 / 72 (1), Shadowmoss, Peel Hall
Altrincham — 81 / 75 (7), Navigation Road
Timperley — 81 / 78 (10), Brooklands
Sale — 82 / 74 (4), Dane Road
Stretford — 79 / 76 (4), Old Trafford
Cornbrook — 79 / 72 (1), Trafford Bar, Firswood, Deansgate-Castlefield
St Peter's Square, Exchange Square, Victoria, Market Street, Shudehill
Monsall — 75 / 67 (1), Newton Heath and Moston, Central Park
Failsworth — 79 / 73 (2), Hollinwood
South Chadderton — 79 / 73 (2), Freehold
Westwood — 77 / 72 (1)

Wythenshawe Park — 81 / 75 (1), Northern Moor, Sale Water Park, Barlow Moor Road
Chorlton — 80 / 74 (4)
Withington — 80 / 74 (4), Burton Road
East Didsbury — 81 / 79 (7), West Didsbury, Didsbury Village

Robinswood Road — 76 / 71 (1), Crossacres
Wythenshawe Town Centre — 76 / 71 (4), Roundthorn, Moor Road, Martinscroft
Benchill
Baguley — 77 / 72 (1)

Piccadilly Gardens, Piccadilly, New Islington
Holt Town — 77 / 68 (1), Etihad Campus
Clayton Hall — 73 / 67 (1), Velopark, Edge Lane
Audenshaw — 79 / 73 (3), Cemetery Road, Droylsden
Ashton Moss — 78 / 69 (1), Ashton West
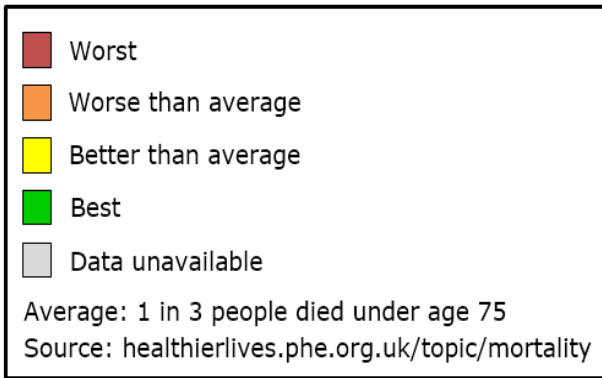**Ashton-under-Lyne** — 78 / 69 (1)

Tram Network: The Metrolink tram network across Greater Manchester includes nearly 100 kilometres of track and 93 stops. In 2015 there were around 33.4 million journeys (Metrolink 2015). The average journey time between tram stops is 2 minutes, but some stops are further apart.
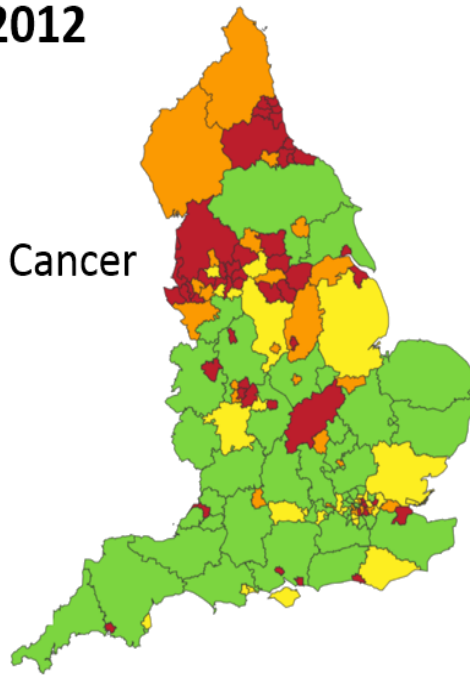
Data Sources: Office for National Statistics experimental ward level life expectancy and health living life expectancy estimates (ONS 2006) linked to selected Greater Manchester Metrolink tram stops. The selection highlights some of the biggest differences between tram stops. We also include information on socio-economic deprivation at ward level from the Index of Multiple Deprivation.

The life expectancy data is based on mortality among those living in the particular ward in 1999-2003. The estimates are not the exact number of years a baby born in the ward could actually expect to live, both because the death rates of the area are likely to change in the future, as is health care provision and because many of those people born in the ward will live elsewhere for at least some part of their lives.
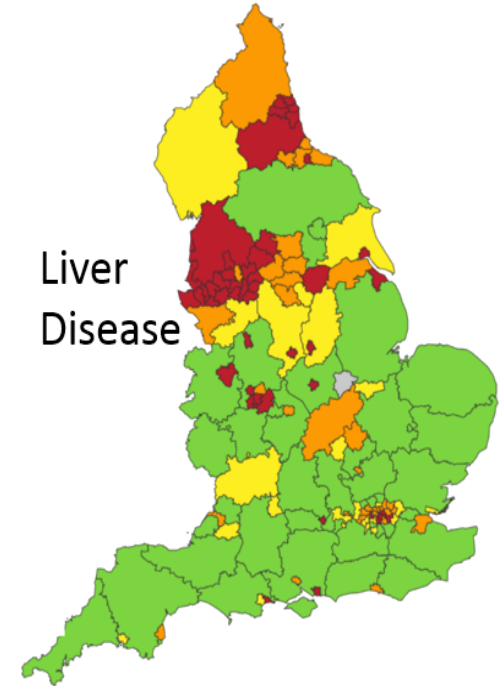
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English Deaths Under Age 75 in 2012

■	Worst
■	Worse than average
■	Better than average
■	Best
■	Data unavailable

Average: 1 in 3 people died under age 75
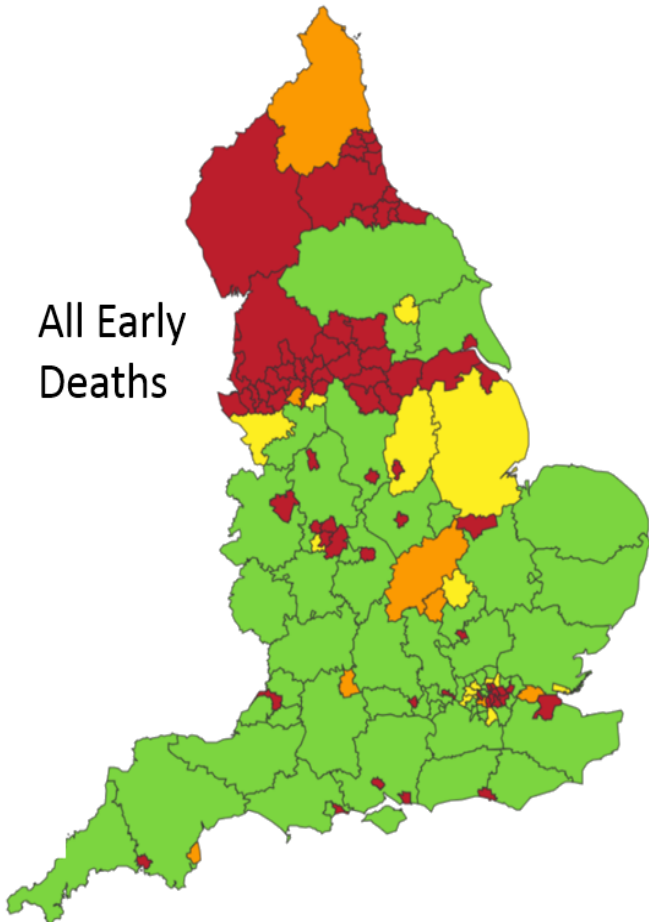Source: healthierlives.phe.org.uk/topic/mortality

Cancer

Liver Disease
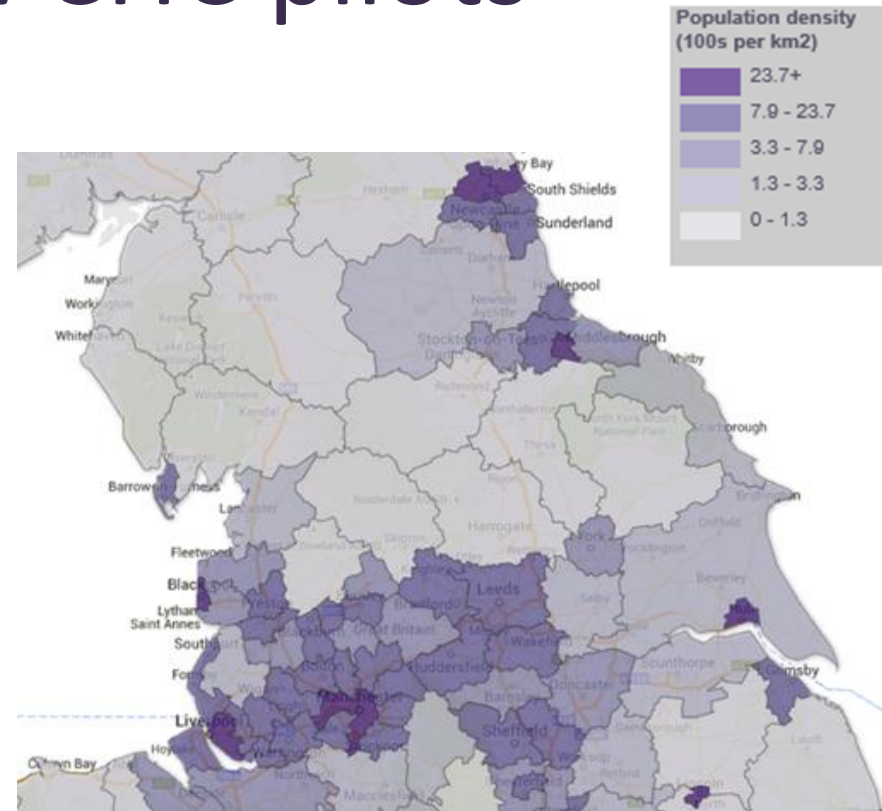
All Early Deaths

Heart Disease & Stroke

Lung Disease

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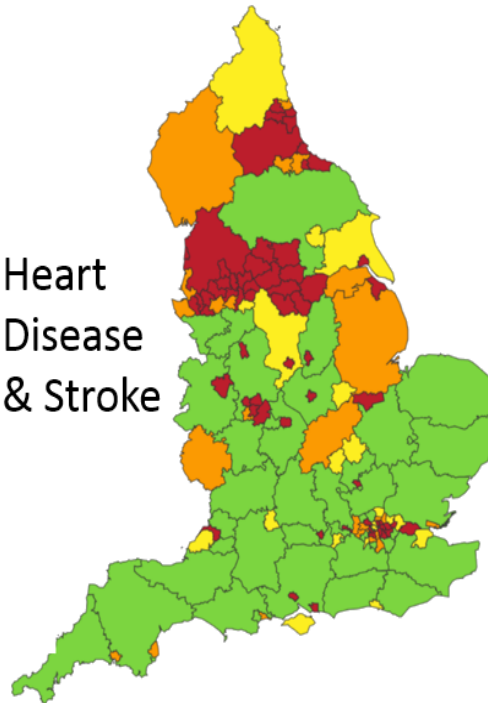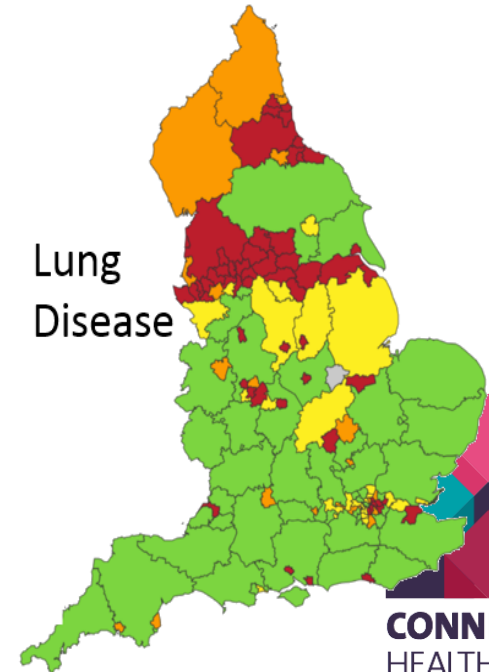
Health North: CHC pilots

- Hub and Spoke Model

- Four city regions
  - Greater Manchester
  - North West Coast
  - Yorkshire & Humber
  - North East and North Cumbria

- One hub (GM)

- ~2 pathways per region

- Start Jan 2016 - 3 years

Population densities: North England 2012

Population density (100s per km2)

- 23.7+
- 7.9 - 23.7
- 3.3 - 7.9
- 1.3 - 3.3
- 0 - 1.3

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Three aims

1. To continually improve and optimise the health and social care system to deliver better care, more efficiently, by providing actionable information to inform decision making at all levels.
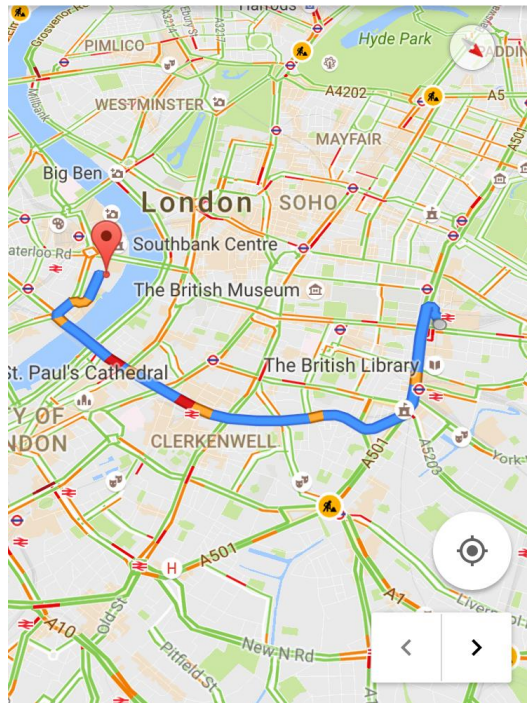
Health(care) Evidence History

Evidence	Evidence	Evidence
Debate	**Translation** ↓	↑ **System** ↓
Practice	Practice	Co-Practice

Evidence into practice (400 years):
One way translation

Tipping point:
Two-way translation
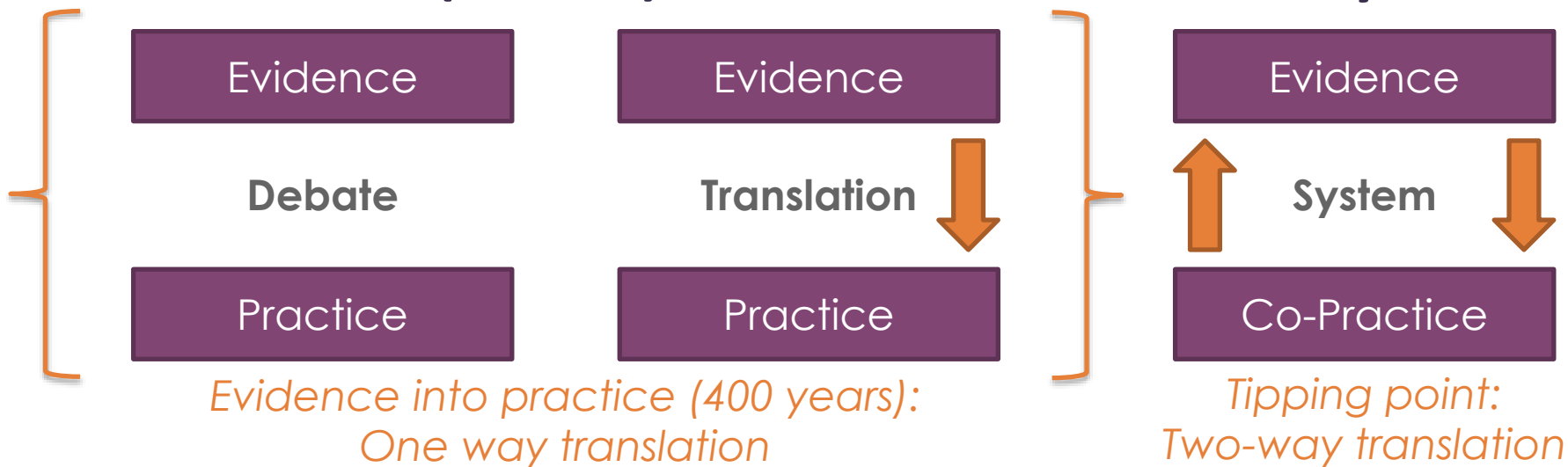
Scientific basis of medicine →

Evidence based care →

Learning health systems →

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Systems that learn: an analogy
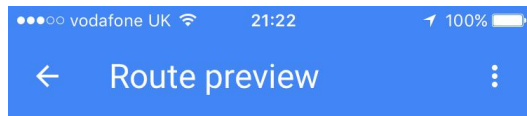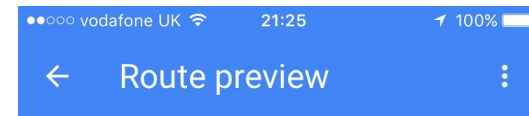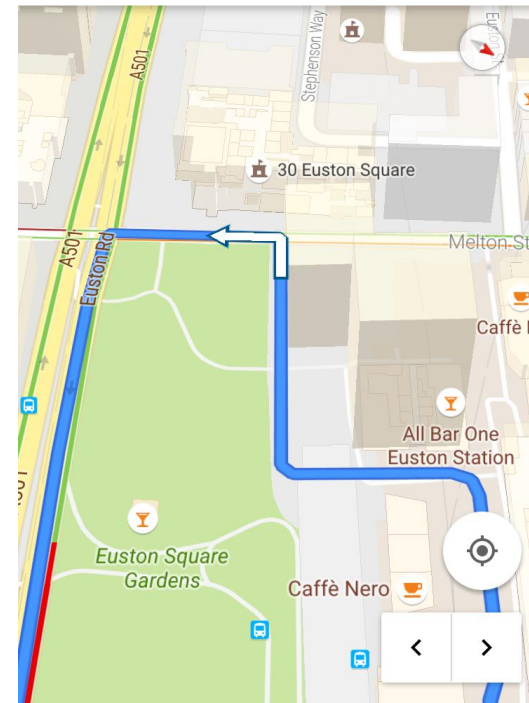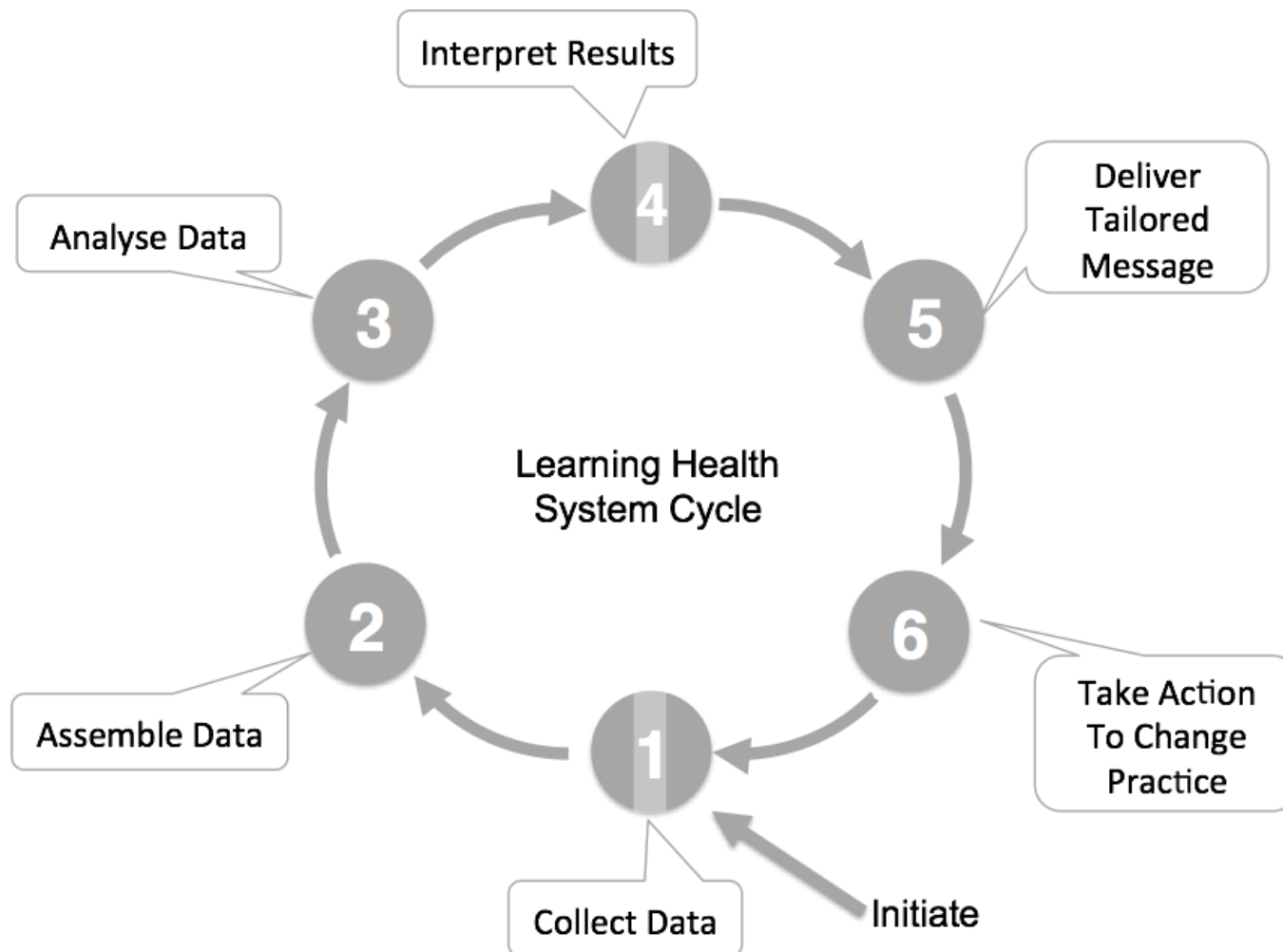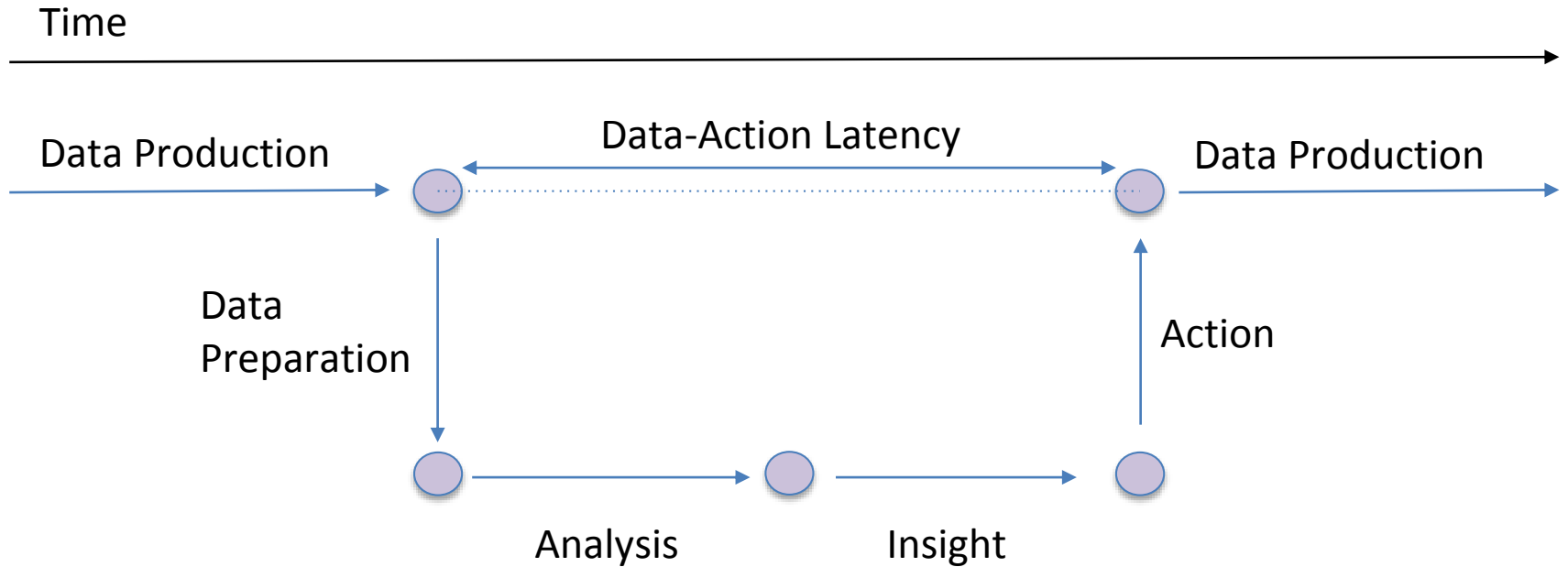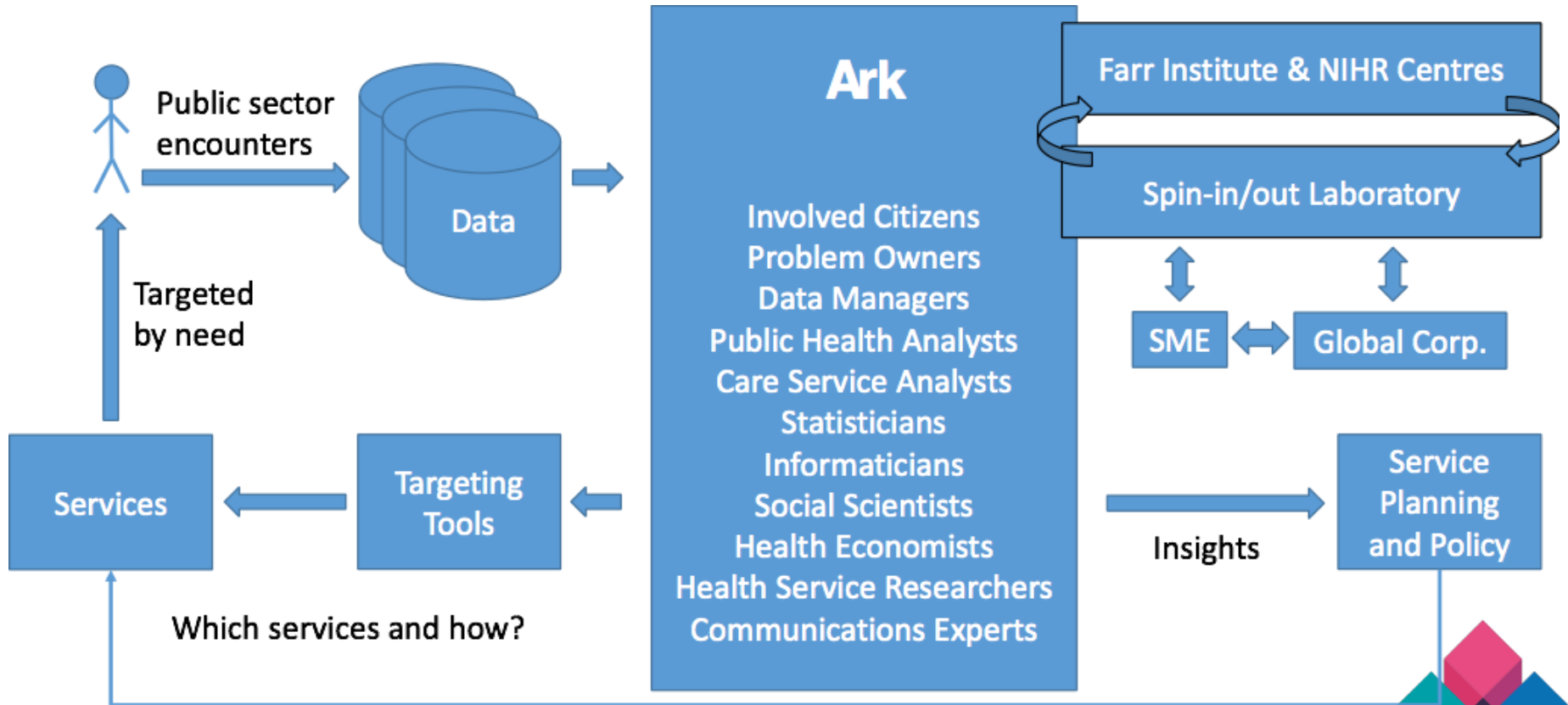
A health system organised to optimise the delivery of care based on the evidence produced through delivering care.
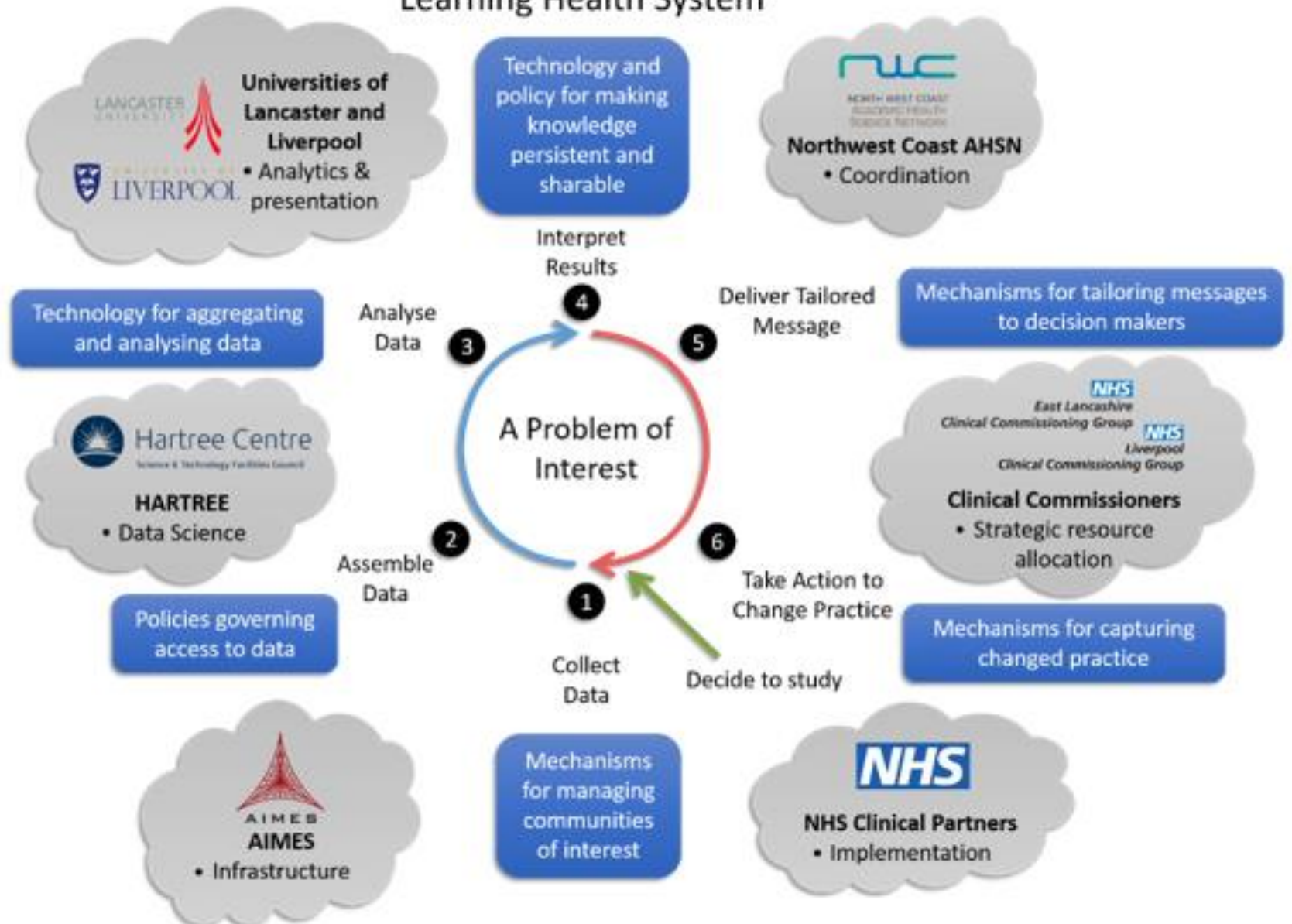
Data-Action Latency

Connected Health City: Ark-enhanced Information Flows

North West Coast Learning Health System

Three aims

1. To continually improve and optimise the health and social care system to deliver better care, more efficiently, by providing actionable information to inform decision making at all levels. This is known as a Learning Health System (LHS).

2. To establish a social contract with the population that gives license to use healthcare data for the public good.

The social licence for research: why *care.data* ran into trouble

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ABSTRACT

In this article we draw on the concept of a social licence to explain public concern at the introduction of *care. data*, a recent English initiative designed to extract data from primary care medical records for commissioning and other purposes, including research. The concept of a social licence describes how the expectations of society regarding some activities may go beyond compliance with the requirements of formal regulation; those who do not fulfil the conditions for the social licence (even if formally compliant) may experience ongoing challenge and contestation. Previous work suggests that people's cooperation with specific research studies depends on their perceptions that their participation is voluntary and is governed by values of reciprocity, non-exploitation and service of the public good. When these conditions are not seen to obtain, threats to the social licence for research may emerge. We propose that *care.data* failed to adequately secure a social licence because of:
(i) defects in the warrants of trust provided for *care.data*,
(ii) the implied rupture in the traditional role,

Although *care.data* has numerous aims (box 1), we focus specifically on its research purposes. We begin by offering some brief background on the use and regulation of routine medical data before introducing the concept of a social licence.

THE USE AND REGULATION OF MEDICAL RECORDS FOR RESEARCH

Researchers have long relied on access to personal medical information routinely collected during the course of patient care in order to conduct studies, including clinical trials and epidemiological research. However, the repurposing of routinely collected data for research is not without risk to relevant values,[8] and measures such as anonymisation (even when possible) do not solve all ethical, legal and technical problems; people may, for example, have religious or moral objections to particular studies[5] or concerns about stigma and breaches of privacy.

Accordingly, researchers' access to, and use of,

Data Sharing: Diameter of Trust

Large enough for economy of scale

Small enough for a conversation with the citizenry about data sharing

Actionable information for health **system** optimisation

#data saves lives

Population Audits/Registers/Monit

Payer evidence, quality management, public health intelligence and research share data, infrastructure

Excellence provider benchmarking e.g. strokeaudit.org but no learning across disease areas and not integrated with

THE TIMES

NHS chiefs in climbdown over sharing patient data

GMCA GREATER MANCHESTER COMBINED AUTHORITY

PIONEERING DATA SERVICE TO CONNECT GREATER MANCHESTER TO IMPROVED SERVICES

www.herc.ac.uk/get-involved/citizens-jury/

Public Engagement

- Citizens Juries

- http://www.herc.ac.uk/get-involved/citizens-jury/

- Nov 2016

- #datasaveslives

Three aims

1. To continually improve and optimise the health and social care system to deliver better care, more efficiently, by providing actionable information to inform decision making at all levels.

2. To establish a social contract with the population that gives license to use healthcare data for the public good.

3. To accelerate business growth in the digital health sector for the benefit of the North of England.

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How will we drive economic growth

- Open innovation partnership with established IT companies to advance core infrastructure

- Spin-in laboratory to accelerate development of digital health technologies by SMEs

- Platform for delivering real-world evidence studies

- Scale to 15m population of North; internationally competitive

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Technology

- Data Access, Information Governance and Citizens Control

    ➡ Distributed Ledger Technology, Digital Economy

- Ark Design and Reference Architecture

    ➡ Real-time multimodal data analytics

- Knowledge Exchange and Reuse

    ➡ Digital asset: publication, discovery and reuse

- Data Federation, Virtualisation and Distributed Data Analysis

    ➡ Security: Trust, Identity; Semantics & Discovery

Spin-in/out Laboratory
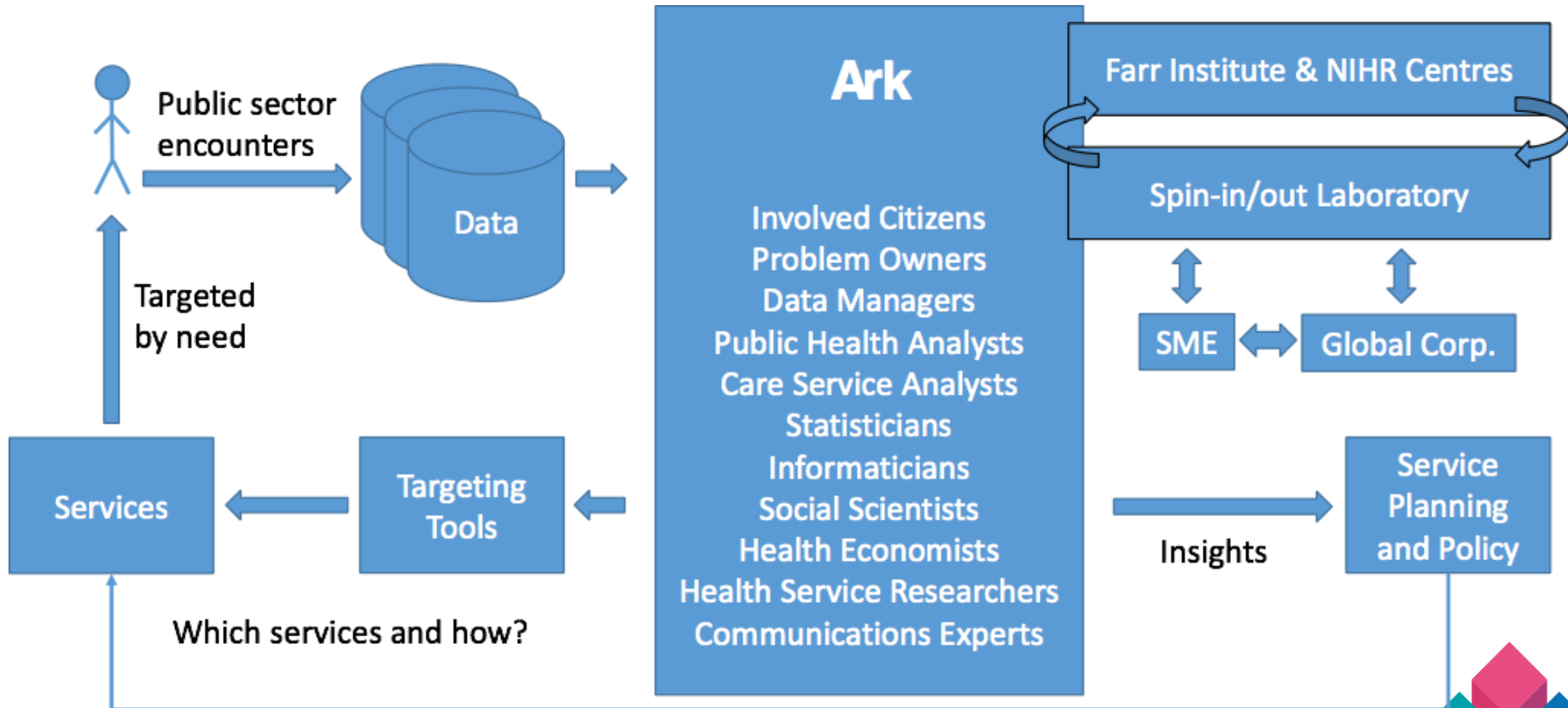
CHC Outcomes

- Civic partnerships
  - Effective model for patient and public involvement
- Four pilot CHCs
  - Blueprints and plans
- Federation of CHCs
  - Exchanging and reusing knowledge
- Test learning health system methodology
  - Understand data needs
- Model for driving economic growth
  - Responsive to the needs of industry

Summary

1. To continually improve and optimise the health and social care system to deliver better care, more efficiently, by providing actionable information to inform decision making at all levels.

2. To establish a social contract with the population that gives license to use healthcare data for the public good.

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