The £22 billion question – how can data help Greater Manchester optimise the impact of public services on population health?

Jon Rouse, Chief Officer
Greater Manchester: a snapshot picture

- **£56 Billion GVA**: Fastest growing LEP in the country
- **2.7 Million People**: Growth of 170,000+ in the last decade
- **104,000 People Unemployed**: 7.8% (above UK average of 5.5%)
- **77.7 Male Life Expectancy**: England average: 79.3
- **81.3 Female Life Expectancy**: England average: 83.0
- **112,000**: People on long-term sick and inactive
- **12,000 Children**: Not school ready
Who we are

- Greater Manchester Health & Social Care Partnership
  - NHS organisations and councils
  - Primary care
  - NHS England
  - Voluntary, community and social enterprise sector
  - Healthwatch
  - Greater Manchester Combined Authority
  - Greater Manchester Police
  - Greater Manchester Fire and Rescue Service
What is Devolution?

• Decision making powers transferred to regional level – £6bn budget for health and social care

• More decisions about Greater Manchester made here

• Provides the means and the opportunity to do things differently to meet the needs of our residents

• Drives the integration of health and social care
The journey so far

Our vision

“To deliver the greatest and fastest possible improvement to the health and wellbeing of the 2.8m people of Greater Manchester.”
Four objectives...

- Transform the health and social care system to help more people stay well and take better care of those who are ill
- Align our health and social care system to wider public services such as education, skills, work and housing
- Create a financially balanced and sustainable system
- Make sure our services are clinically safe throughout
The journey so far

Devolution timeline

February 2015
£6bn devo deal signed

September 2015
Health Innovation Manchester launched

December 2015
£450m transformation funding agreed

April 2016
GM Devo goes live

October 2016
Primary care strategy launched

November 2016
GM stroke services come top nationally

January 2017
First transformation fund allocation to localities

February 2017
Cancer plan published

January 2017
MOU with VCSE sector

February 2017
Joint Partnership Board with pharma industry

January 2017
Population health plan published

March 2017
£230m+ surplus in first year

March 2017
Urgent & emergency care plan approved

May 2017
Mayor of GM elected

July 2017
Tobacco plan published

July 2017
£134m for mental health strategy

September 2017
Healthier Together business case approved

October 2017
Transformation funding allocated to all localities

Greater Manchester
Health and Social Care Partnership
The journey so far

What we want to achieve

More GM children will reach a good level of development cognitively, socially and emotionally

More GM families will be economically active and family incomes will increase

Fewer GM babies will have a low birth weight resulting in better outcomes for the baby and less cost to the health system

More people will be supported to stay well and live at home for as long as possible

Fewer will die early from cardio-vascular disease (CVD)
Fewer people will die early from cancer
Few people will die early from respiratory disease
The journey so far

The building blocks of transformation

• Local care organisations coordinate delivery of integrated care in each borough
• Boroughs are made up of smaller neighbourhoods - GP practices working with other health and care professionals
• Standardisation across hospital sites and more care in the community, closer to home
• A single local commissioning function in each borough plus a GM Commissioning Hub
Vision:
To deliver the greatest and fastest possible improvement to the health and wellbeing of the 2.8m people of Greater Manchester

We will do this by:
1. Creating a transformed health and social care system which helps more people stay well and takes better care of those who are ill
2. Aligning our health and social care system far more widely with education, skills, work and housing
3. Creating a financially balanced and sustainable system
4. Making sure the system remains clinically safe throughout.
Public Sector Expenditure in Greater Manchester

<table>
<thead>
<tr>
<th>Year</th>
<th>GM Expenditure (£bn, 2013/14 prices)</th>
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</thead>
<tbody>
<tr>
<td>08/09</td>
<td>£23.3bn</td>
</tr>
<tr>
<td>12/13</td>
<td>£23.0bn</td>
</tr>
<tr>
<td>13/14</td>
<td>£22.7bn</td>
</tr>
</tbody>
</table>

- **Benefits - pensions etc.***
- **Benefits - welfare**
- **Local authorities (non-DSG)**
- **Dedicated Schools Grant (DSG)**
- **Health**
- **Other**

LA public health £0.2bn
The journey so far

We’re Shifting the Balance of Spending, Focusing Resources on Early Intervention and Prevention

Working in collaboration → to support GM residents → and improve outcomes

- Thinking about cumulative impact rather than single service planning
- Identifying and addressing demand before it escalates
- Supporting individuals and families collaboratively, working across organisational boundaries
- Reducing demand on expensive, reactive services

Local Government
Health services
Police
Fire & Rescue
Housing
The journey so far

In a national context, a fifth (21%) of GM’s SOAs are within the 10% most deprived – a small improvement on the same analysis of the IMD2004 where just under a quarter (24%) of GM SOAs were within the 10% most deprived.

The overall improvement on the IMD seen in GM has largely been driven by Manchester, with a reduction from 72% of its neighbourhoods in the top fifth in 2004 to 59% in 2015.

However, Manchester still has more than four times as many neighbourhoods in the top 10% (41%) than would be expected if deprivation were evenly distributed. Salford (29%), Rochdale (28%) and Oldham (23%) also had high proportions - overall 585,000 people, more than a fifth of GM population, live in these highly deprived neighbourhoods.

Forty-one Lower Super Output Areas (out of 1673) in GM are classed as ‘very highly deprived’, ranking in the top 1% nationally.
Life on the line? Differences in life expectancy across Greater Manchester

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.

What makes your area different to other areas? Let us know. Email: life.expectancy@manchester.ac.uk

The life expectancy data is based on mortality among those living in each 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.
The journey so far

COPD over Air Pollution, against deprivation score.
Some of the biggest areas of inequality from national evidence

- **Life expectancy**: Men and women from the Other White ethnic group have the longest estimated life expectancy. Bangladeshi men and Pakistani women have the lowest estimated life expectancy.
- **Cancer**: There is evidence that BME groups have reduced awareness of cancer symptoms and report facing barriers to accessing care.
- **Elderly care**: Early-onset dementia is more common in BME groups. BME populations are also less likely to access palliative care.
- **Mental health**: Schizophrenia rates are highest in Black Caribbean and White Irish populations. Suicide rates are highest among the White Irish community. Mental health problems are common in asylum seeker and Gypsy / Traveller communities.
- **Cardiovascular disease**: Black populations have relatively high rates of stroke and hypertension but relatively low levels of coronary heart disease. South Asian populations are at increased risk of developing coronary heart disease.
- **Diabetes**: Prevalence is highest among Asian and Black Caribbean groups.
Our transformation themes

1. Radical Upgrade in Population Health Prevention
2. Transforming Community Based Care & Support
3. Standardising Acute Hospital Care
4. Standardising Clinical Support and Back Office Services
5. Enabling Better Care
The journey so far

Theme 1
Radical Upgrade in Population Health Prevention
What do we mean by population health?

- **Population health** = "the health outcomes of a group of individuals, including the distribution of such outcomes within the group“ – this definition speaks to issues of education, housing, employment, family/community, environmental health hazards, as well as improving services, clinical effectiveness, service planning etc

- However, across GM ‘population health’ is a phrase currently used to variously describe:
  - a system of NHS provision only; primary, secondary and tertiary services (*population health medicine?*)
  - the totality of NHS and social care provision (*population health management?*)
  - The defined health specific demands or needs of a population – the totality of individual health requirements (*omitting socio-economic and behavioural risk factor influence*)

- In order to reduce inequality and realise the maximum benefits that devolution offers we need to adopt the broadest definition of population health because the biggest health gains may arise from activity delivered outside the healthcare system (e.g. air pollution, housing)
Our strategic transformational objectives:

- Radically reforming the role of population health as part of a devolved system
- Not just doing more prevention but doing it differently by investing jointly
- Taking innovative approaches developed within localities and testing them at scale
- Aligning public health programmes with new transformed system architecture
- Developing a unified approach to commissioning public health
- Building the evidence base for the cost effectiveness of public health interventions
- Implementing and embedding evidence based approaches consistently at scale
Making the case for investment

Public health can be part of the solution
Investment in prevention reduces health costs and lowers welfare benefits. Promoting health and wellbeing enhances resilience, employment, and social outcomes.

What works
We need to understand Investment & return in ways which change the nature of demand

- **A**
  -介入以减少患有心血管疾病（CVD）、癌症、糖尿病等既存疾病的死亡风险

- **B**
  -通过生活方式和行为改变，如戒烟、减少与酒精相关的伤害和管理体重，以在中长期减少死亡

- **C**
  -通过社会决定因素的改变，如工作机会、住房、贫困和教育水平，以在长期影响死亡率

最大化的投资回报率（ROI）对于转移（devolution）
The journey so far

Tobacco free Greater Manchester: Reducing adult smoking prevalence by around a third, from the current 18.4% to 13% by the end of 2020, and to 5% by 2035.

How was data used to understand the issue?
Smoking prevalence reduction trend data mapped using existing smoking tool kit / adult population survey. Analysis then carried out by Professor West to set out key actions that will drive prevalence reduction.

Table 2: Key actions needed to achieve faster reduction in prevalence

<table>
<thead>
<tr>
<th>Increasing quitting and reducing uptake</th>
<th>Policy</th>
<th>Potential contribution to prevalence reduction</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Increase real cost of tobacco</td>
<td>↓0.2</td>
<td>Amplify tax increases via targeted localised communications, tackle illicit supply and demand</td>
</tr>
<tr>
<td></td>
<td>Run regional mass media campaigns</td>
<td>↓0.2%</td>
<td>Amplify national campaigns and run campaigns at Greater Manchester and targeted borough level.</td>
</tr>
<tr>
<td></td>
<td>Implement Very Brief Advice in Primary Care</td>
<td>↓0.2%</td>
<td>Offer support to 50% of smokers</td>
</tr>
<tr>
<td></td>
<td>Introduce Stop-Smoking+ model of support, and extend Secondary care provision</td>
<td>↓0.2%</td>
<td>Ensure that all smokers have access to appropriate support to stop smoking</td>
</tr>
<tr>
<td></td>
<td>Reduce access to tobacco</td>
<td>↓0.1</td>
<td>Restricting outlets, extending smoke-free, age of sale</td>
</tr>
</tbody>
</table>

1Over and above the existing 0.5%pa prevalence reduction
The journey so far

• Data allows us to identify target groups such as; low income households; people with mental health conditions; living in social isolation or in the criminal justice system; LAC and; LGBT groups

• In GM, for example, 27.5% of routine and manual (R&M) workers currently smoke compared to 26.5% in the country as a whole so R&M groups need particular focus.

How will data be used to further assist with delivery?

• Commissioned a monthly boosted GM sample for the Smoking Toolkit to support tracking of actual progress alongside other data sets

• Data from the Lifestyle and Wellness digital platform will also allow us to see how smokers are responding to social / digital media as 96% of people don’t touch specialist smoking services

• Development of an outcomes framework to support consideration of each localities contribution to achievement of the GM ambition
Get Greater Manchester Moving: Double the rate of past improvements, reaching the target of 75% of people active or fairly active by 2025

How was data used to understand the issue?

- Review of physical activity behaviour data to develop an understanding of trends, inequalities and comparisons to national and nearest neighbours, to help prioritise target audiences

- Development of slides and tools for the workforce to use, in order to become more evidence led and insight driven in their work.

- In Greater Manchester 6 out of its 10 areas are within the least active quartile (see diagram)
How will data be used to further assist with delivery?

- Need to close gaps in robust data
- Look at how we use real time data.
- Overlay physical activity data with assets and other data
- Place equal value on the data and the stories and voices of people via asset based community development approaches with priority audiences
# LTCs In Greater Manchester

<table>
<thead>
<tr>
<th>Long Term Condition</th>
<th>People in GM</th>
<th>Greater Manchester</th>
<th>GM Minimum</th>
<th>GM Maximum</th>
<th>North</th>
<th>England</th>
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</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>398,300</td>
<td>13.4%</td>
<td>10.3%</td>
<td>15.9%</td>
<td>14.6%</td>
<td>13.8%</td>
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<tr>
<td>Depression</td>
<td>218,500</td>
<td>9.4%</td>
<td>5.9%</td>
<td>13.0%</td>
<td>9.2%</td>
<td>8.3%</td>
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<tr>
<td>Asthma</td>
<td>187,900</td>
<td>6.3%</td>
<td>5.7%</td>
<td>6.9%</td>
<td>5.9%</td>
<td>6.3%</td>
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<tr>
<td>Diabetes</td>
<td>163,700</td>
<td>7.0%</td>
<td>6.2%</td>
<td>8.1%</td>
<td>6.5%</td>
<td>6.9%</td>
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<tr>
<td>Coronary Heart Disease</td>
<td>101,000</td>
<td>3.4%</td>
<td>2.5%</td>
<td>4.2%</td>
<td>3.8%</td>
<td>3.2%</td>
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<tr>
<td>Chronic Kidney Disease</td>
<td>89,900</td>
<td>3.9%</td>
<td>2.8%</td>
<td>5.8%</td>
<td>4.5%</td>
<td>4.1%</td>
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<tr>
<td>COPD</td>
<td>67,000</td>
<td>2.3%</td>
<td>1.9%</td>
<td>2.7%</td>
<td>2.4%</td>
<td>1.9%</td>
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<tr>
<td>Stoke &amp; TIA</td>
<td>51,800</td>
<td>1.7%</td>
<td>1.3%</td>
<td>2.0%</td>
<td>2.0%</td>
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<tr>
<td>Atrial Fibrillation</td>
<td>44,800</td>
<td>1.5%</td>
<td>1.0%</td>
<td>2.0%</td>
<td>1.8%</td>
<td>1.7%</td>
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<tr>
<td>Serious Mental Health</td>
<td>29,300</td>
<td>1.0%</td>
<td>0.8%</td>
<td>1.2%</td>
<td>0.9%</td>
<td>0.9%</td>
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<tr>
<td>Heart Failure</td>
<td>24,400</td>
<td>0.8%</td>
<td>0.6%</td>
<td>1.0%</td>
<td>0.9%</td>
<td>0.8%</td>
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<tr>
<td>Dementia</td>
<td>21,600</td>
<td>0.7%</td>
<td>0.5%</td>
<td>0.9%</td>
<td>0.8%</td>
<td>0.8%</td>
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<tr>
<td>Epilepsy</td>
<td>20,700</td>
<td>0.9%</td>
<td>0.8%</td>
<td>1.0%</td>
<td>0.9%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

- **GM**: Greater Manchester
- **North**: North England
- **England**: England
- **GM Min**: Greater Manchester Minimum
- **GM Max**: Greater Manchester Maximum
The journey so far

Wider Impact of LTCs

• The population is ageing and age is a major factor in the prevalence of Long Term Conditions, including multiple Long Term Conditions
  • 14% of people aged under 40 with a Long Term Condition
  • 58% of people aged 60 or over with a Long Term Condition
• Increase in the number of people with multiple Long Term Conditions
• Link with Long Term Conditions and Socio-economic status
• Financial pressures on Health and Social Care
  • People with LTCs are most intensive users of expensive services
• LTCs not just a health issue, they affect the ability to work or lead a full life
  • 63% of people aged 16-64 with a Long Term Condition are in employment (compared to 75% of the population as a whole)
The journey so far

LTC Prevalence across GM by GP Practice

Condition Heat Map

CCG
(All)

Condition
(Multiple values)

Map Type
Prevalence

GP Practice
(All)

Total Number of Practices 480
Total Population 2,966,954
Count of Registered Conditions 1,538,731
Avg. % Patients Treated 81.7%
Avg. Age Specific Prevalence 3.2%
Avg. Exclusion Rate 12.3%

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
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<tr>
<td>Heywood, Middleton And Rochdale</td>
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<tr>
<td>Grand Total</td>
<td>3.1</td>
<td>3.0</td>
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Asthma, Atrial Fibrillation, Cancer and 15 more – Prevalence %

Total Population Over Time
LTC % Treated across GM by GP Practice

Condition Heat Map

Total Number of Practices 480
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<td>Bury</td>
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Asthma, Atrial Fibrillation, Cancer and 15 more – QOF % Patients Treated

Total Population Over Time
Figure 2: Standardised rate of limiting long-term illness by BME group and gender
Theme 2
Transforming Community Based Care and Support
The journey so far

GM wide and local objectives

Service specialisation and standardisation

Co-ordinating locality response and co-ordinating all hubs

Single commissioning system

Hospital Clusters

Hospital Clusters

Hospital Clusters

LOCAL CARE ORGANISATION

Integrated all providers looking after pop’n

Pop’n Hub 30-50k

Pop’n Hub 30-50k

Pop’n Hub 30-50k

Individual delivery points

Individual providers
The journey so far

GM Programme for Primary Care Reform

GM Excellence Programme
- A single world class hub to support General Practice and act as a programme for improvement.
- Identify best practice and areas of excellence
- Offer a coherent and consistent offer in terms of rescue, resilience and improvement
- Develop our clinical leaders to enable them to offer peer support or more formal arrangements to support general practice

Delivering Improved Access
- Embedded within LCOs and rooted within the neighbourhood delivery model
- Investment of £6ph
- Delivered via a hub based model serving geographical neighbourhoods
- Help to alleviate pressures in core hours
- Manage patient flow and demand across 7 days, e.g. book more acute activity into 7 day hubs

GM Primary Care Estates
- Capital pipeline in place to improve primary care estate
- Virtual map to illustrate ‘neighbourhood hubs’ serving populations of 30k-50k
- Toolkit to inform local discussions with GP practices and Strategic Estate Groups to enable GPs to move to neighbourhood hubs where appropriate
- Committed to increased investment in primary care estates

Workforce
- Funding to support the recruitment of c100 additional clinical pharmacists in General Practice
- Roll out training programme for care navigators and medical assistants
- Learn from good practice already taking place
- Pilot group consultations in 50 practices
- Looking at tools to support General Practice in workforce planning
- Access to national programmes such as GP development and Practice Manager development programmes

Improving access

Estates

Greater
Manchester
Health and
Social Care
Partnership
Adult Social Care Transformation

WORKSTREAMS

Care at Home

Residential & Nursing Care

Learning Disabilities

Support for Carers

PRIORITIES

1. ‘New Deal’
2. Quality
3. Innovation

1. Quality
2. Access to Healthcare
3. Intermediate Tier

1. Strategy
2. Family-based Care
3. Employment

1. Identification
2. Assessment & Offer
3. Employment
Building our intelligence capacity across Greater Manchester
Doing it differently in GM

- USP of GM is ability to combine data & improve turnaround of data.
- Engagement is good across the GM footprint
- Early stages of implementation
- Iterative process due to different levels of digital maturity
- Collaboration resulting in symbiotic benefits
- Tableau as central dissemination tool
The journey so far

What do we mean by ‘Intelligence’

- **Data**: Raw form of data, many sources, needs "cleaning" and processing to be useful
- **Information**: Data is presented in an understandable way e.g. graphs, tables, but with no narrative or interpretation
- **Intelligence**: Analysis, interpretation and assessment of information to provide intelligence of trends, needs etc, and review of evidence
- **Decision (Insight)**: Combining intelligence, evidence base and qualitative data and presenting it to inform decision making

Population health intelligence
The journey so far

The re-emergence of strategic intelligence

**Strategic Intelligence**

**Goal**
- Improve local health (to a defined extent as measured by healthy life expectancy)
- Option 1: Self Management
- Option 2: Accessible and Effective Treatment
- Option 3: Marginal Gains – do the things that make a difference to the measure

**Strategic Approach**

**Tactics**
- Option 1: Self Management
  - 1.1 - Boost social prescribing options
  - 1.2 - Interventions aimed at keeping people in work
- Option 2: Accessible and Effective Treatment
  - 2.1 – Early diagnosis initiative
  - 2.2 - Hub and spoke treatment system redesign
- Option 3: Marginal Gains – do the things that make a difference to the measure
  - 3.1 - reduce deaths among under 40s (this disproportionate skews life expectancy)
  - 3.2 – Implement Lean or Six Sigma on all Hospital Services for the over 65s

**Activity**
- Partnership with local gym company
- Roll out workplace charter
- Introduce enhanced Healthcheck programme
- Reconfigure hospital/community services
- Audit overdose/self harm/accidents
- Employ/appoint improvement leads
- Initiate hospital audit schedule

Forms the basis for determining future goals

Population health intelligence

Greater Manchester Health and Social Care Partnership
The journey so far

Actionable data

Data → Information → Intelligence → Decisions

- **Generalist Knowledge:** System, Politics, Comms
- **Specialist Knowledge:** Epidemiology, economics

Choices
- Analyse
- Interpret
- Aggregate
- Organise
- Collect
- Create

Population health intelligence
The journey so far

GM Data & Intelligence Landscape

<table>
<thead>
<tr>
<th>Research</th>
<th>FARSITE</th>
<th>Linked Database system</th>
<th>COCPIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decisions</td>
<td>GM HSCP 37</td>
<td>ADASS</td>
<td>GM Combined Authority</td>
</tr>
<tr>
<td>Intelligence</td>
<td>Public Health England</td>
<td>NHS England</td>
<td>10 GM LA PH intelligence teams</td>
</tr>
<tr>
<td>Information</td>
<td>DataWell</td>
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<tr>
<td>Data linkage, storage &amp; platforms</td>
<td>Primary &amp; secondary care data</td>
<td>Hospital Episode Statistics</td>
<td>Secondary Uses Service</td>
</tr>
</tbody>
</table>

Population health intelligence
The journey so far

Good intel ≠ good decisions

“Quick, let’s make the decision between us before everyone else shows up…”

“After careful consideration of all 437 charts, graphs, and metrics, I’ve decided to throw up my hands, hit the liquor store, and get snookered. Who’s with me?!”

Population health intelligence
The journey so far

Connecting the dots...

Non-health system development

GMCA
GREATER MANCHESTER COMBINED AUTHORITY

inc. GM Mayoral Office, GM Resilience etc.

Devo health data request

Academia

Health system development

Wider determinants and social care data request
Aligned Interoperability and Innovation Hubs

GM Interoperability Hub

Data Services
(IHE Transactions; Messaging - Routing, Validation, Transformation, Queuing, Orchestration; Web Services; WADO; API; FHIR; etc)

Clinical Data Repositories
Vendor Neutral Archive
Acute Providers
Local Authorities
Special Health Trust
DSCRO

Security Layer
Information Sharing Gateway/Common Data Model/Consent/Anonymisation

Lancashire and South Cumbria
Cheshire and Merseyside
Derbyshire
West Yorkshire
NHS Digital Spine Services

GM Innovation Hub

Data Services
(Messaging; Web Services; Transform/Load; API; FHIR; etc)

Clinical Data Research Repositories

Spin Out
Spin In

Academia
Industry

External Partnerships

Health Intelligence Strategy/HInM Strategy
Taking Charge/Population Health Strategy/Pharma MOU/Locality strategies
National Public Sector/Health & Social Care/Research and Industrial Strategies
The journey so far

Connected Health City: Ark-enhanced Information Flows

Public sector encounters → Data → Targeting Tools

Targeted by need

Which services and how?

Farr Institute & NIHR Centres
Spin-in/out Laboratory
SME → Global Corp.

Ark

- Involved Citizens
- Problem Owners
- Data Managers
- Public Health Analysts
- Care Service Analysts
- Statisticians
- Informaticians
- Social Scientists
- Health Economists
- Health Service Researchers
- Communications Experts

Service Planning and Policy

Insights
The journey so far

GM Wide Understanding

Heart Failure

Heart Disease
The journey so far

Driving targeted interventions with BI Strategic View
The journey so far

Driving targeted interventions with BI Tactical View
Areas of exploration

- Expansion of Urgent Care dataset
- Predictive models for Urgent Care
- Machine learning with the Universities
- Manchester CCG Pilot looking at whole system joined up data
- GM Elective Care Tool
- Mental Health Inpatients (almost live)
- Hive working to produce single GM views
The journey so far

Action without intelligence is a form of insanity, but intelligence without action is the greatest form of stupidity in the world.

— Charles Kettering —

Our challenge is to build a unified intelligence function that is neither insane nor stupid!
The journey so far
For further detail go to:
www.gmhsc.org.uk
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