



EVENT REPORT: Greater Manchester Connected Health City (GM CHC) Showcase event

Tuesday 17th April 2018

The Studio, 51 Lever Street, Manchester, M1 1FN

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Purpose of the event

The purpose of this event was to demonstrate the achievements of the Greater Manchester Connected Health City (GM CHC) programme across the different clinical care pathways including plans for further development, rollout and evaluation.

Introduction to GM CHC

Prof Niels Peek – Director GM CHC

Niels provided a progress update and emphasised how GM CHC is embedded with the key principles of the learning health systems methodology. This brings together routine care practice, health research, and digital innovation to harness rapidly developing opportunities presented by informatics and feed actionable insights back into the health system to drive continuous improvements. All underpinned by the development of a social licence to re-use health and social care data for service redesign; as well as through partnerships with the digital health economy to accelerate the pace of digital innovation in the NHS. GM CHC provides the data engine to better analyse data, enabling a transformation in healthcare through experiments in stroke services, antibiotic stewardship, community wound care and patient safety.

Health Innovation Manchester

Prof Ben Bridgewater – Director GM CHC

Ben described Health Innovation Manchester (HInM) as an organisation that brings together basic and translational research, clinical demand and industry know-how under a single umbrella. This has enabled the creation of a unique infrastructure, which seeks out and brings forward a constant flow of innovations, offering a faster, lower risk, and assured journey from concept to adoption at scale. Through speedier decision-making and more certain routes to adoption, HInM leverages the exceptional academic and clinical assets of Greater Manchester to transform the health and well being of the population in the region.

GM CHC Clinical Care Pathways

1) Developing a learning health system for stroke

Chris Ashton – GM Stroke Operational Delivery Network

Dr Adrian Parry-Jones – Stroke Consultant, Salford Royal Foundation Trust

The project, “using technology and data to improve the diagnosis and treatment of strokes” aims to improve outcomes for stroke patients by delivering workstreams, which collectively span the stroke patient pathway, from emergency response through to long term care.

Stroke mimics

This workstream aims to improve the recognition of stroke by ambulance service staff to reduce the number of ‘stroke mimics’ (i.e. patients with stroke-like symptoms but a clinical diagnosis other than stroke) entering the stroke pathway.



In Greater Manchester (GM), specialist stroke units or HASUs (Hyper Acute Stroke Units) are located in three hospitals across the region, providing clot-busting treatments and teams of specialist staff. This centralised pathway means that patients with a suspected stroke should be taken by ambulance to a HASU, rather than their local hospital, for treatment.

Currently, paramedics determine whether patients have a suspected stroke and therefore whether or not they need to be transported to a HASU. They do this assessment using the Face-Arm-Speech-Time (FAST) test. However, in a recent GM study, around half of the patients being taken to a HASU were found to be stroke mimics. Mimics have a direct impact on workload and use of resources in the HASUs, diverting them away from acute stroke patients. This workstream is employing digital interventions to ensure that the right patients go to the right place at the right time to receive the right care from the right specialists.

Intracerebral Haemorrhage

This workstream aims to reduce death and disability from strokes caused by intracerebral haemorrhage (ICH) by implementing a hyperacute care bundle across the three-hyperacute stroke units in Greater Manchester.

A number of measures are considered critical in the acute phase for patients that experience an acute intracerebral haemorrhage. These include rapid reversal of anticoagulation and the lowering of blood pressure, together with neurosurgical treatment, which may be indicated for a small number of carefully selected people. Quality improvement work at Salford Royal NHS Foundation Trust (SRFT) using a 'care bundle' approach has led to the reliable delivery of these interventions and has been associated with a 9.2% reduction in 30-day case fatality. However, a recent audit covering a 7-month period showed that only 25% of the 374 referred to the neurosurgical department initially presented to SRFT, with the remaining 75% of referrals coming from the other 11 Acute Trusts in Greater Manchester. To improve GM-wide ICH outcomes, we aim to implement our care bundle at all acute trusts and ensure equitable access to neurosurgery across Greater Manchester.

2) Reduction of antimicrobial resistance and over-prescribing of antibiotics (BRIT)

Dr Emily Griffiths – GM CHC Information Governance Manager

Chirag Mistry – BRIT Software Developer

The BRIT project aims to develop and implement at scale the infrastructure for collecting and analysing data on antibiotic prescribing, clinical interventions and demographics of patients and linking these data to resistance profiles from laboratories in order to better understand the public drivers for antibiotic prescribing. This will enable the project team to develop and test simple interventions to refine antibiotic prescribing in locations, facilities or sub-groups (of patients and/or clinicians).

The primary outcome of interest will be a clinically important (and statistically significant) reduction in antimicrobial prescribing over time, including the implementation of a data and team-science infrastructure within the NHS that is acceptable, timely and supported by users meeting scientific conditions and can be re-applied easily and efficiently at low cost for other prescribing areas.



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GM CHC Pathfinder projects

1) Automation of Clinical Coding

Prof Goran Nenadic – Principal Investigator

This project brings together Intelligent Medical Objects (IMO), SRFT and GM CHC to support advances in the automation of coding diagnoses from digital unstructured clinical texts. The main objective is to develop a pilot application to identify and code clinical diagnoses from semi-structured historical outpatient letters in SRFT Rheumatology focusing on mapping individual diagnosis descriptions to a standardised vocabulary (SNOMED CT).

2) Evaluate the safety of opioid medication used for pain management in secondary care

Dr Meghna Jani – Clinical research Fellow

This project assesses the comparative safety of opioid medications for non-cancer pain. The most serious opioid-related adverse event is respiratory depression: however, there are few data on its incidence outside of the post-operative setting and no information on comparative safety between drugs within this class. This analysis is being done using de-identified data from the EPR system at SRFT, one of the most digitally advanced trusts in the country.

Projects related to GM CHC

Dr Ben Brown – Research Fellow and General Practitioner

1) Smart MedicAtion Safety dashboard (SMASH)

The smart medication safety dashboard (SMASH) identifies patients who are potentially at risk of developing complications due to their prescribed medications. The dashboard presents a list of affected patients to practice users, such as GPs and pharmacists, to prompt appropriate action. SMASH has been successfully rolled out across several practices in Greater Manchester as part of a trial to determine whether the availability of a web based dashboard, together with pharmacist support, actually reduces the number of patients at risk due to incorrect prescribing.

2) Performance Improvement plaN Generator (PINGR)

PINGR is an electronic audit and feedback (e-A&F) tool for improving the quality of long-term condition management in primary care (e.g. hypertension, chronic kidney disease and atrial fibrillation). The PINGR design is based on evidence and theory derived from e-A&F systems, and has been through extensive usability testing. It is accessed as a web site and uses coded EHR data to calculate proportions of patients meeting standards recommended in clinical guidelines (quality indicators).

Workshop Discussion and Outputs

1) What is the best way to build trust with the public for the use of health data in research & innovation?

Audience	Channels	Purpose
Craft the story	Differentiate	Can feed back to individuals on how data used
Informed consent	Assure patient or carer is mature enough to act themselves, give patient access to own records from clinical settings and diagnosis	Ensure patient understanding
Better outcomes	Relay to patient compliance with adherence. Better outcomes for patients if patient interaction is built on. N.B. – patient engagement = way of interacting	Idiots Guide – simple storylines
Conflicting medications?	Patient education from Health Care facilities. Joining up EPR.	Build trust and know who can be called to account if trust broken
30 million record access	Use schools to set principles	Help Diabetes
Clarity @ point of consent on what type of their data will be provided – full / pseudonymised	Want a simple guide for what data will be used for & where & why.	
Explicit use of data	Encourage understanding of why its beneficial	
Audit trail not enough – why was data accessed initially? Breach protection	Primary School	
What was end use of data?		
Can patient review access?		
Who can access / levels of permission		

Summary:

The discussion was based around the need for clear and transparent communications with the public on the use and re-use of health data for research and innovation. Where appropriate, informed consent should be sought with an explicit description on the use of the data. Patient education and public involvement were seen to be key enablers for the trustworthy use of health data. Early education is essential to provide citizens with the necessary controls that enable informed decisions on the use of their data.



2) How can GM CHC further support data driven innovation in Health and Social Care within Greater Manchester?

Opportunities	Challenges	Resources
Use Real World Evidence (RWE) to develop NICE guidelines	How to incorporate RWE	Trustworthy Research Environment
Devolution (NHS / total decisions)	Where to collect RWE from	Health Information Exchange
List of ideas - Sandpit	Organisations working in silos	Metadata catalogue (FAIR)
£ Visibility	Clarity over decision making	Information Sharing Gateway
Data & methodologies & expertise	Simplification of the decision making process	Motivated talent pool
Commercial need	Public trust (civic license)	
Source of funding		

Summary:

A significant opportunity persists for GM CHC to build on its existing work and support data driven innovation in Greater Manchester. A sandpit environment with a steady stream of ideas / projects underpinned by a mixed funding portfolio would greatly enhance this aim. This is of course dependent on the need to build trust with the public on the use and re-use of data accompanied by transparent decision making and supported with state of the art infrastructure and resources that can sustain transformative change within Health and Social Care in Greater Manchester.

3) What are the opportunities for applying the LHS methodology across other clinical pathways in Greater Manchester?

Clinical need	Data Available	Expertise Required
Asthma	Correct & accurate across clinical area	Care co-ordination – system wide approach
Not just clinical need – patient need too	Sandpit Environment	Cross clinical pathway approach – awareness & understanding of co-morbidities
Care integration & co-ordination across GM	Cost of treatment by pathway	Cultural change / organisational buy in
Frailty – ‘cost’ of cohort not just clinical problem	Interoperability of system	UI / UX challenge
Cost burden – acute or primary care?	Clinical Data replicability	Increasing patient Understanding

Summary:

The need for a whole systems approach to understand patient requirement through an entire care pathway including the impact of co-morbidities was discussed. There was recognition for the need to ‘label’ so as to ensure the activation of a patients journey through the pathway, but that systems (and the related information governance) need to be interoperable. There has to be cultural change at the organisational level to encourage innovation, enhanced by exemplary UI/UX to encourage use and diffusion. Data can solve data based problems, but not cultural ones; the difference needs to be identified early.

Greater Manchester Connected Health City: sharing progress & best practice



The Studio at Hive, 51 Lever Street, Manchester M1 1FN
Tuesday 17th April 2018
11.45 - 16.00

11.45	Networking Lunch	
12.30	Welcome and opening remarks	Dan Morley (Manchester Ecosystem)
12.35	GM Connected Health City @ 2	Prof Niels Peek (GM Connected Health City)
12.45	Using technology and data to improve the diagnosis and treatment of stroke	Chris Ashton (GM Stroke ODN) & Dr Adrian Parry-Jones (Salford Royal NHS FT)
13.10	BRiT – Using data to tackle antibiotic resistance	Dr Chirag Mistry & Dr Emily Griffiths (GM Connected Health City)
13.35	Engaging with Industry: Automation of clinical coding with IMO	Prof Goran Nenadic (The University of Manchester)
13.50	Greater Manchester Health Intelligence Strategy	Prof Ben Bridgewater (Health Innovation Manchester)
14.00	Coffee Break	
14.15	Dashboard interventions for Primary Care PINGR & SMASH	Dr Ben Brown & Richard Williams (The University of Manchester)
14.45	Assessing the safety of opioid medications for non-cancer pain	Dr Meghna Jani (The University of Manchester)
15.00	Parallel discussion groups	
	1. What is the best way to build trust with the public for the use of health data in research and innovation?	
	2. What are the opportunities for applying the Learning Health Systems methodology across other clinical pathways in GM?	
15.40	3. How can the GM CHC further support innovation in health and social care in GM?	
	Recap & closing remarks	Mia Belfield (GM Connected Health City)
16.00	Networking drinks	

This event is organised in collaboration with the Greater Manchester Connected Health Ecosystem who bring together academia, industry, health professionals, patients and representative organisations, to deliver connected health solutions across the region.

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