CONNECTED
HEALTH CITIES
A nhsa project

iNNOVATION AGENCY
Academic Health Science Network
for the North West Coast

DEVELOPING A LEARNING HEALTH SYSTEM TO REDUCE EMERGENCY ADMISSIONS

SUMMARY...

The North West Coast is one of four Northern regions engaged in the Connected Health Cities programme piloting the development of a learning healthcare system.

We are exploring ways to improve how data is used to enhance patient care and our focus is on patients admitted to hospital for emergency care in three pathways:

• Alcohol related illness

• Chronic Obstructive Pulmonary Disease

• Epilepsy (seizures)

We will demonstrate how better use of data improves outcomes for patients and leads to more efficient health services.

Using health data to improve patient care #datasaveslives

WHY IS THIS IMPORTANT?

Our population is putting increasing strain on health and social care services which may be unsustainable in the future, so we need to keep people healthy for longer and target resources so they receive the right care, at the right time, in the right place.

Unplanned admissions are a huge economic burden to our NHS and health policy is focused on reducing them. Connected Health Cities gives us a better understanding of why they occur and how to reduce them by improving care pathways.

THE CHALLENGE

Currently, the data generated by health and social care systems sits in silos, but if used in intelligent ways, it holds vast potential for helping us understand our population's health needs.

New approaches to the way information is linked, analysed and shared across multiple stakeholders helps us to understand factors associated with good or poor outcomes, including characteristics of patients, their location and services available to them.

European Union
European Regional
Development Fund

NHS

ACTIONS TAKEN

Working closely with clinical teams, we have developed algorithms to drive data extraction and generation of analytical reports, combining three commissioning datasets from hospitals to construct complete patient journeys and track patients' progress.

We have developed chronotypes - new ways to classify patient contacts with the healthcare system. This helps us to see patterns of how people are using healthcare services, so we can identify successful and unsuccessful pathways. We can segment types of patient contact into categories such as high impact, long stays and end of life.

We have mapped services, conducted surveys and collated and shared feedback with clinical teams to identify what works and also to highlight variation, both good and bad. This gives us better information to help improve services and allocate resources.

We are using demographic data to map local, social and environmental factors. This identifies patients from 'hotspots' and we can then cross-reference them with the provision of services in their locality, such as a community alcohol clinic or voluntary sector support

BENEFITS

• **For front-line hospital teams**: Improved use of patient data at the point-of-care enables hospital teams to identify staff priorities, reduce repetitive data entry and share ideas for capturing key information between professionals and agencies.

• **For patients**: High risk patients are identified to create opportunities for targeting interventions at community & hospital levels.

• **Clinical decision makers**: Improved information on patients combined with insights into environmental factors and availability of community services, helps hospital decision making about admission and discharge in acute settings.

• **Commissioners**: Improved insights into the impact of ineffective or effective data flows on patients' experience of care.

PLANS FOR THE FUTURE...

We will map variation in key services to identify system factors linked to good or poor outcomes – informing service design and commissioning.

We will continue to develop smarter algorithms, pathway analytics and data visualisations to better reflect the diversity of case-mix, patient journeys and key milestones of disease progression – allowing more precise targeting of patient sub-groups or localities for co-ordinated intervention.

Which national clinical or policy priorities does this address?

It supports the reduction of unplanned emergency admissions with better service planning, improving population health and understanding patients' needs so we can target resources in the right areas.

Key partners

Connected Health Cities in the North West Coast is delivered by a partnership of the Innovation Agency, University of Liverpool, Lancaster University and AIMES Grid Services.

More information at: www.connectedhealthcities.org

Contact: Dr Julia Reynolds, Associate Director for Connected Health Cities North West Coast

Julia.reynolds@innovationagencynwc.nhs.uk

INNOVATION AGENCY
Academic Health Science Network
for the North West Coast

UNIVERSITY OF LIVERPOOL

Lancaster University

AIMES