

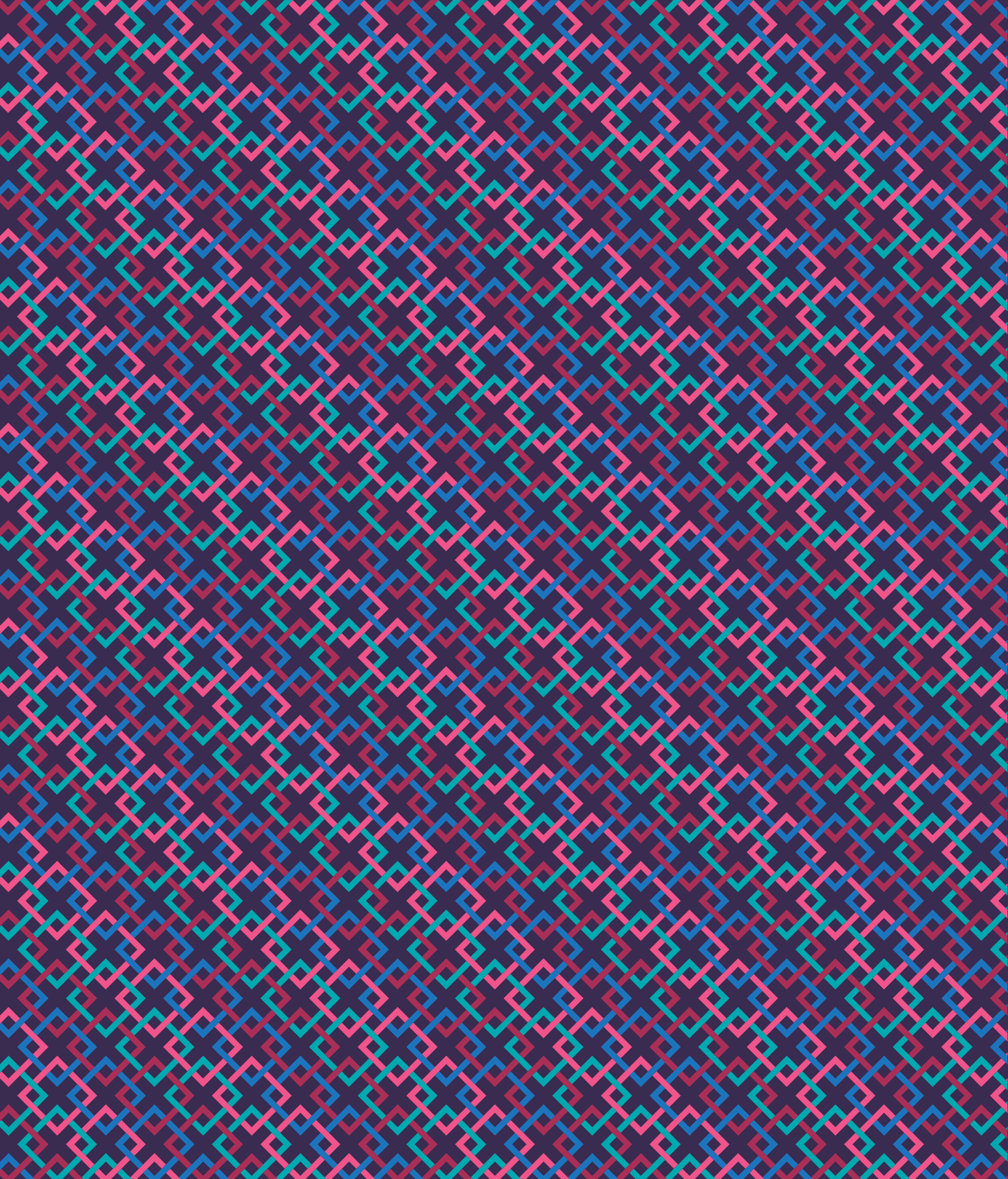


Connected Health Cities

IMPACT SUMMARY

2016-2020

Connected Health Cities was a Government funded programme that used information and technology to improve health and social care services for patients across the North of England.



Connected Health Cities Impact Summary

DELIVERING TRUSTWORTHY DATA
DRIVEN IMPROVEMENTS IN CARE
FOR OUR PATIENT POPULATION.

An Introduction by Northern Health Science Alliance	07
Connected Health Cities Programme in Numbers	10
Connected Health Cities Directors' Statement	15
Putting Connected Health Cities in Context	16
◆ Building System Change	18
◆ Meeting National Priorities	20
◆ Connected Health Cities International	21

“Connected Health Cities really set the bar for public and patient engagement in health data use. The programme showed not just that it was possible to talk to patients about complex health data topics, but also how vitally important that engagement is for building a trustworthy system for data. CHC’s ethos of really listening to communities and working with them to create models of data use will continue to resonate through the patient data community for years to come.”

Dr Natalie Banner,
Lead for Understanding Patient Data

“I commend Connected Health Cities for its commitment to public engagement and its dedication to understanding what patients and the public truly think about the use of their health and care data. Such meaningful engagement is vital if we are to gain people’s trust and win their support for the use of their information in initiatives that may see data being used in new and innovative ways.”

Dame Fiona Caldicott DBE,
National Data Guardian for Health and Social Care



An Introduction by Northern Health Science Alliance

by Dr Séamus O'Neill



THE CONNECTED HEALTH CITIES (CHC) PILOT PROGRAMME WAS DEVISED AND DELIVERED BY THE NORTHERN HEALTH SCIENCE ALLIANCE (NHSA).

The programme demonstrated the NHS's ability to mobilise, across our population of 15m people:

- Our world-class academic expertise in health data.
- Our population through a sustained and meaningful discussion with our citizens.
- Our outstanding health and care system, to deploy the findings of the programme and create impact for the health and wealth of the region.

The £20m pilot which became Connected Health Cities was funded by the Department of Health in 2015. It recognised the potential value of health data, with appropriate care system and citizen engagement, to both drive improvement in the provision of care and to create an economic asset across the North that was understood and supported by citizens.

The North of England is a vibrant life sciences cluster. The cluster includes leading academic and hospital expertise in digital health, some of the best care providers in the UK, engaged citizens, and innovative companies. Conversely, our region also has some of the worst health outcomes and a vast and widening gap in healthy life expectancy compared to the rest of the country.

CHC's ground-breaking LHS was created to put informed consensual use of citizen's health data at its heart. CHC developed, tested and implemented continuous improvement within the health and social care system of northern England with measurable benefits for patients, their families and their communities.

Achievements and impact

Connected Health Cities has:

- Put the citizen at the heart of this work and produced an exemplar of involvement and consultation, building trust amongst our patient population and developing a learning health systems approach that can be replicated.
- Co-created the programmes through innovative engagement projects, including citizen juries and the hugely successful social media campaign #DataSavesLives.
- Established Trustworthy Research Environments (TREs) within regional Data Arks to deliver a common governance and operational platform, allow data interrogation and research to meet all the required standards, and support data-driven innovation and improvement.
- Delivered 16 pathway projects which are continually improving care in the NHS - saving lives, money and capacity.

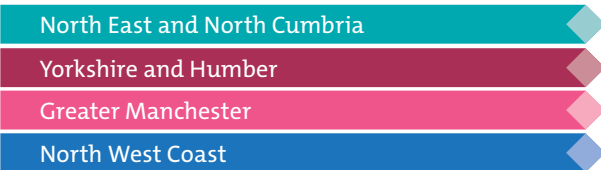
The impact of CHC includes:

- Over 10m people now have connected health and care records across the North of England.
- Over 40m consultations and episodes of care have been analysed: saving time, money and leading to better patient care and future care improvements.
- At least £30m of investment has been secured through CHC, new jobs created, small businesses and industrial partners supported to develop products and services with the NHS.
- Early indications show an estimated £150m could be saved across the care system.
- 20 Acute NHS Trusts, 550 GP Practices and 10 universities have been brought together to innovate and improve care through joint working.
- The Great North Care Record was accessed 1.5m times last year and is saving the North East's NHS at least £8m a year.

LEARNING TOGETHER AS A SYSTEM

Delivering a large-scale transformation and improvement programme across the whole of the North of England and a population of 15m was a challenge. The approach taken by the NHTA enabled local ownership of change, adoption and impact. This coupled a facilitating central coordinating hub with regional centres for innovation around health and social care. As a result, we now see thriving engagement within and between regions and in the data-driven improvement they work on.

We used the footprints of the northern Academic Health Science Networks (AHSNs) to deliver the programme within four health and care economies:



Having CHC programmes designed and delivered in each region resulted in the local context being taken into consideration including the needs, aspirations and priorities of the people delivering frontline care. This was crucial, particularly for professional and citizen engagement.

CITIZENS AND DATA

Citizen engagement and approval for working with health data has often been neglected in the health data space, and yet without the conscious and consistent building of citizen trust, the potential for health data to improve lives will not be realised. The Office for Life Sciences emphasises the role of transparency and the need to prioritise the benefits to the health and wellbeing of NHS patients of any use of data¹.

CHC worked throughout the project to build connections with citizens, gain informed consent on the use of data, provide full transparency on the use of data and prioritise improvements in the health and welfare of NHS patients in line with the principles. The work of CHC has been held up by Baroness Dido Harding, Chair of NHS Improvement, as an exemplar of citizen engagement and building trust to realise the potential of health data².

Across over 3000 conversations with citizens on principles that should apply to the use of their data, five clear expectations emerged³ around:

- Agency
- Reciprocity
- Fairness and lack of exploitation
- Privacy
- Transparency and trust

It is gratifying to see these principles becoming part of the national narrative⁴.

THE DIAMETER OF TRUST

A key piece of learning has been that working with a population size of 3-5m and then scaling up supra-regionally has, undoubtedly, been a success factor by demonstrating reciprocity to our citizens on how their data improves care within their communities. This size of target population is large enough for economy of scale and small enough for a conversation with professionals and citizens about data sharing and change. It is therefore possible to develop systems that are scalable to local need rather than isolated academic research, with embedded capability for managing quality, sharing expertise, and data structure infrastructure for research and innovation.

DELIVERING NEW LEARNING HEALTH SYSTEMS

CHC has shown through its achievements the talents and capabilities that are in place to keep delivering successful and impactful projects, truly changing lives and the way we bring the advantages of digital technologies to health and social care. Not just across the UK, but as a global leader too. There is much that can be shared with other UK programmes to ensure the success of those initiatives and retain the support of the public in mobilising their data.

The work and outcomes from CHC are reproducible and scalable; in fact, we have acquired considerable expertise and know-how on scaling within the project itself. **With future investment we will make the North of England a global player in ethical use of data in healthcare and create a new paradigm of how industry engages with citizens on access to data.**

CREDIT TO OUR SPONSORS DHSC

The innovation in this programme went beyond the programme delivery side. We are indebted to our funders, Department of Health and Social Care (DHSC), who led on the oversight, and to NHSX. Both were hugely constructive and supportive. The health data landscape is a very different place now thanks to both the investment received and the way in which we were supported to use the funds. DHSC/NHSX took an enlightened approach to partnership within, and management of, the programme. They created an environment where we had the freedom to try new approaches, trusting us to lead while ensuring accountability. As a consequence, we were able to mobilise and empower practitioners and citizens to deliver something that is unique and which will have lasting societal and economic benefits as well as a transformative effect on the health and care system.

Dr Séamus O'Neill
Chief Executive, Northern Health Science Alliance

¹ Office of Life Sciences 2019, 'Creating the right framework to realise the benefits of patients and the NHS where data underpins innovation'

² Baroness Dido Harding 2020, 'Realising patient and NHS benefits from health and care data: from policy to practice' HDRUK, AMS and CASMI event

³ Mulrine et al 2018, 'Great North Care Record Public Engagement Report'

⁴ Ghafur et al 2020, NHS data: Maximising its impact on the health and wealth of the United Kingdom

Connected Health Cities Programme in Numbers

In four years, **Connected Health Cities** has delivered outstanding results which have changed the North's health data landscape through driving trust in its patient population and using 'learning health systems' to improve care and save lives.

£20
MILLION
FUNDING

4
YEARS

4 GEOGRAPHICAL
BOUNDARIES
WITH
POPULATION
GROUPS
OF 3-5 MILLION



5
TEAMS
CHC Hub
GM CHC
NWC CHC
NENC CHC
CY CHC



200+
PEOPLE
worked on
CHC across
4 regions



20+
ACUTE NHS
Trusts were
involved in
CHC projects



550
GP PRACTICES
participating
or accessed
through
project



10+
UNIVERSITIES
participated
actively in
CHC projects

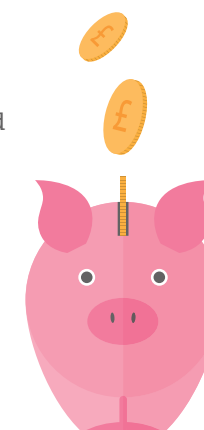


100+
MULTI-
DISCIPLINARY
PARTNERS
joined in
to support
delivery

CHC Programme Key Impacts

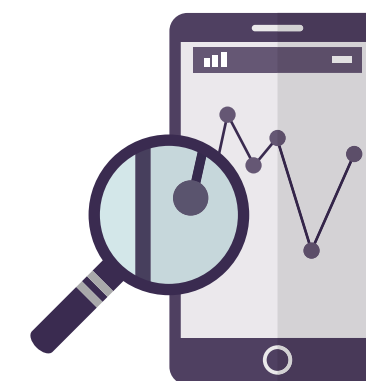
From early years to end of life care, 16 clinical pathway projects have been put in place using health data to improve patient care.

Early indications show an estimated
£150-200m
PER ANNUM
SAVING,
with multiple projects projecting
an average eight-fold return
on investment



**ANALYSIS OF
OVER 40M
CONSULTATIONS
AND EPISODES
OF CARE**

across the UK through the development
of apps and web-based platforms,
including real time access for
decision-support at point of care,
service improvement and planning



CHC has supported SMEs
in creating new jobs and
**HELPED SECURE
INVESTMENT,
INDUSTRY GROWTH
AND WEALTH
GENERATION IN THE
NORTH OF ENGLAND
OF OVER £30M**

**RECORDS FOR A
POPULATION OF 9.5M
CAN BE ACCESSED**

through three major linked datasets in the North of England.
These are now working across primary and emergency care
giving healthcare professionals and many patients direct
access to care records.



Patients, citizens and impact

◇ Over 30 million patient-level data and 20 million consultations from over 400 General Practices in England is used to reduce national and local burden of **ANTIMICROBIAL RESISTANCE (AMR)**.

◇ **THE GREAT NORTH CARE RECORD (GNCR)** now gives care records access to 100% of General Practices across the North East and North Cumbria, involving 400 practices, 25 NHS and Local Authorities, and 12 CCGs **saving at least £8m per year**.

◇ Working with schools to support children with potential **CHILDHOOD AUTISM SPECTRUM DISORDER (ASD)**, the initial project linked education and NHS data and used new algorithms to identify children requiring neurodevelopmental support. This resulted in new referrals for ASD diagnosis.



In the first 12 months, **313 bed days were saved** for **CHILDHOOD ASTHMA-RELATED SYMPTOMS** with 45 General Practices supporting the new home-based care pathway.

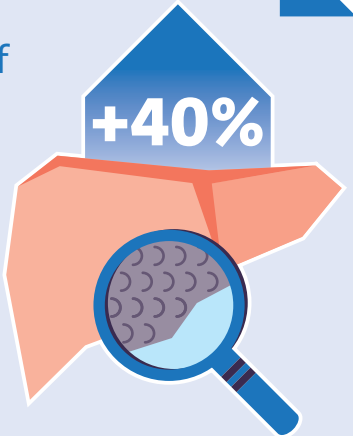


THE SMART INTERVENTIONS FOR LOCAL VULNERABLE RESIDENTS (SILVER) team created tailor-made, multi-partner data sharing agreements that met the needs of all stakeholders across **healthcare, social care, criminal justice, housing and education**. This ground breaking approach enables holistic, joined up support for vulnerable families.

◇ The newly developed algorithms identified an extra **66%** of **EPILEPSY-RELATED ADMISSIONS** when compared to just using the primary diagnosis code, now capturing more accurate average length of stay.

◇ New algorithms were developed to identify emergency admissions due to **CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)**. When compared with the national analysis, the NWC algorithm identified **45% more people with COPD** currently being provided with NHS care.

An extra **40%** of cases of **ALCOHOL-RELATED LIVER DISEASE** were detected using new algorithms when compared with standard approaches for capturing data on emergency admissions.



The Pre-Hospital Pathway Aid (PHPA) app resulted in ambulance staff being able **to take decisions within seconds** on the most appropriate and the nearest specialist care team for **PATIENTS WITH SUSPECTED STROKE**.



◇ Whilst using the ABC care bundle for **PATIENTS WITH INTRACEREBRAL (BRAIN) HAEMORRHAGE (ICH)**, one Hyper Acute Stroke Unit observed a **reduction of around 22%** in the number of patient deaths within 30 days.

◇ The **CYSTIC FIBROSIS (CF) HEALTH HUB** has reached more than 50% of adult UK's CF centres where direct patient care is being supported through real time access and analysis of data.

◇ Identified 1 in 5 **ACUTE HOSPITAL ADMISSIONS** in Yorkshire and Humber are unnecessary, **helping identify £700m** which could be redeployed into other areas of health and social care.

◇ **Twice as many PATIENTS IN THE END OF LIFE CARE PATHWAY** are benefitting from their Special Patient Notes being available to ambulance services in North Tyneside.

* Algorithms are ways of extracting codes from health records.



Connected Health Cities Directors' Statement

CONNECTED HEALTH CITIES WAS AN AMBITIOUS PROGRAMME THAT BROKE NEW GROUND.

Spanning the whole of North England and its population of fifteen million people, the aim was to address healthcare challenges that cross organisational boundaries where a collective and collaborative approach was required from disparate organisations. We set for ourselves three principal objectives: to test the learning health system methodology for data driven transformation of healthcare in the real world; to develop a social licence for the use of data driven transformation; and to develop new models of partnership with service providers, academia, industry and citizens.

The CHC programme was launched at a time when public trust in the reuse of healthcare data was at its lowest. CHC developed an innovative approach to public involvement that set a new benchmark and has been widely adopted. We have shown that data driven transformation of health services does not occur simply by making health data available for analytical purposes. It is essential that the people and organisations providing those services and generating the data, are integral to the analytic work. A deep understanding of the local context, its complexity and the perspectives of those involved is crucial for success. Therefore, a holistic approach is required bringing together all stakeholders including patients, public, practitioners, providers, industry and academia. We have piloted multiple successful care pathway transformation projects across the Northern footprint with each delivering significant knowhow and system impact. However, the lasting legacy of CHC goes beyond our service transformation work; the development of an open innovation culture has enabled the building of quality foundations, both physical and relational, to co-create and spread solutions across a wider community of practice. The very fact that this has been delivered with citizens as our central partner is what has made CHC truly transformational.

*Professor John Ainsworth, Dr Amanda Lamb,
Dr Liz Mear, Professor Niels Peek,
Professor John Wright, Professor Joe McDonald*



Prof John Ainsworth

Dr Amanda Lamb

Dr Liz Mear

Prof Niels Peek

Prof John Wright

Prof Joe MacDonald

Putting Connected Health Cities in Context

CONNECTED HEALTH CITIES
ESTABLISHED EFFECTIVE PARTNERSHIPS
LINKING UP NHS, SOCIAL CARE, PATIENT
GROUPS, LOCAL CITIZENS, ACADEMIA
AND INDUSTRY TO PUT IN PLACE
ITS LEARNING HEALTH SYSTEM
APPROACH TO IMPROVEMENT.

The approach taken by CHC enabled local ownership of change, adoption and impact coupled to a facilitatory central core that enabled the building and spread of good quality foundations for learning health systems.

At the heart of CHC is what's called a learning health system. A LHS uses "science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience."

Based on the footprint of the four northern AHSNs, CHC programmes took into consideration the context including the local priorities of the people delivering frontline care. However, it was the size of population that remained the main focus. To truly involve the public in a meaningful manner a 'diameter of trust' of up to 5m people was set as the upper boundary.

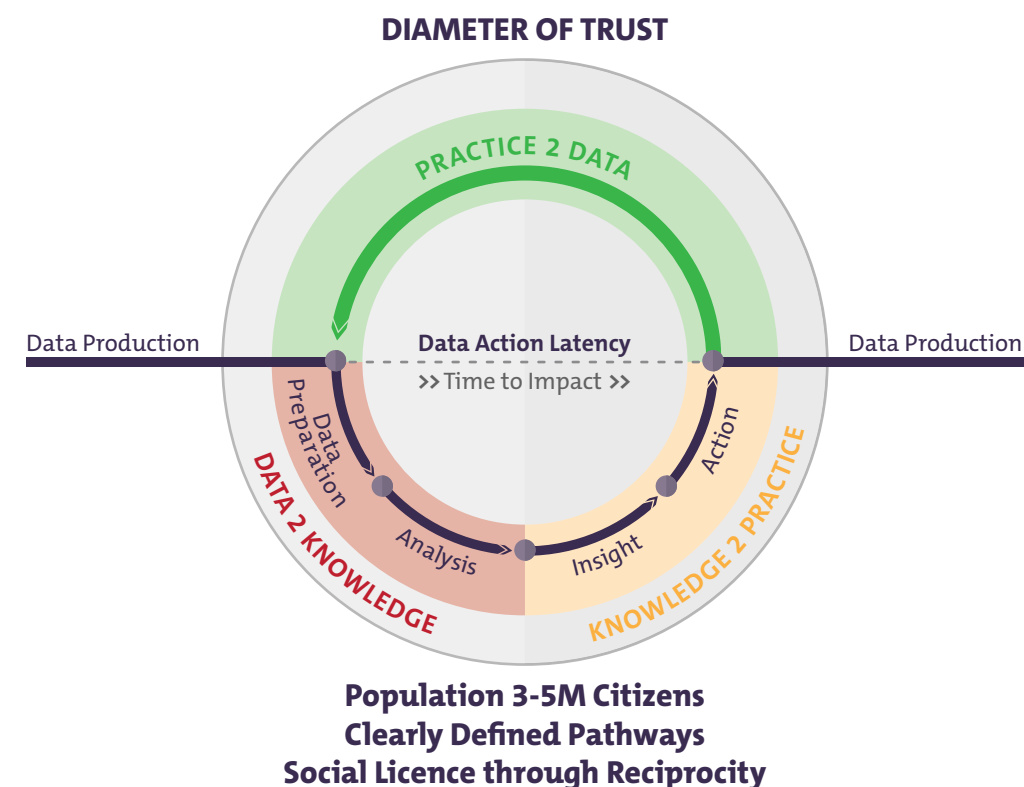
THE DIAMETER OF TRUST

Developing regional centres for sustainable impact and scalability to reinforce trustworthy use of data across a population of 3-5 million citizens

- ◆ Large enough for economy of scale and small enough for a conversation with the citizens about data sharing in a way that meets local needs and concerns.
- ◆ Designed to manage data quality, and share expertise and data infrastructure for research and innovation.
- ◆ Projects deliver reciprocity to the population providing the data, improving the health of their communities.

A huge barrier to innovation in health has historically been the time between data becoming available and it being used in an actionable way; this is termed data-action latency. In the learning health system data-action latency is a measure of maturity and therefore increasing the chances of successful delivery of outcomes.

CHC introduced data-action latency as a key metric for continuous data driven improvement. It achieved this through bringing together the right people with the right methods and right data; to deliver the best care for the right patients at the right time.



Each region focussed on health and social care issues which were relevant to their local area. Each had multiple supporting programmes which covered public involvement, workforce development and robust and secure data analytics platforms, industry engagement, information governance and work on consent or preferences. What has been achieved are reproducible and ready to scale, and already scaled solutions in partnership with patients, academia and industry. This will, with future investment, bring improvement in patient experience, clinical experience and more evidence-based decision making across health and social care.

Building System Change

Today in the North of England, mobilised teams of researchers, clinicians and partners are able to accelerate impact to patients and citizens through data driven improvement in a matter of months, where it would have previously taken years.

“I was just amazed by the quality and breadth and amount of work that’s been done across the different regions.” Clinical evaluator

PROGRAMME DELIVERABLES ACHIEVED

✓	Establishment of data sharing strategy and agreements for each region
✓	Establishment and delivery of governance arrangements for the sharing and usage of data for each region
✓	Workforce arrangements optimised and Continued Professional Development requirements identified
✓	Creation of Arks as analytical platforms
✓	Pathway analysis, variation assessment and improvements identification
✓	Data Frameworks and integration with R&D partners
✓	Production of suitable business models for scaling and sustainable for delivery in the NHS

DEMAND GENERATED USING REPLICABLE APPROACH

✓	Funded for 8 pathways and delivered 16 diverse pathways
✓	100% coverage of data sharing agreements in local areas
✓	Up-skilled local workforce, built critical mass of experts and transformed working from silos to team
✓	Four locally owned data Arks and six trusted research environments created
✓	Identified replicable approaches: what works, and where and the know-how to scale
✓	Connecting UK and global health systems & researchers
✓	Know-how commercialisation: immediate interest in “blueprint” & consultancy
✓	Future pathway project commercialisation potential for the benefit of NHS
✓	Export demand: interest from overseas health systems in 9 countries

“[when you think about] how long it takes to roll it out, and it’s something like 17 years from starting a project to rollout compared to 18 months on this [CHC] pathway.”

(CHC Evaluation Participant)

“It has been a real catalyst for change pulling Northern partners together. At a geopolitical level, it has been really crucial to have this investment”.

(CHC Evaluation Participant)

“Others have been there before with a top down approach but I feel CHC are doing this much better ...”

(CHC Evaluation Participant)

READY TO SCALE FOR INNOVATION AND IMPROVEMENT

✓	Enabled front-line innovators to improve care, reduce waste and unlock learning
✓	Shaped learning health systems to deliver policy objectives and influence policy
✓	Codified the knowledge and applied the know how to scale what works in different contexts
✓	Created online library and community for open sharing of applied resources and best practice
✓	Focussed on collaborative approach with existing projects as well as innovative new initiatives to achieve short-term gains with long-term impact in UK

Meeting National Priorities

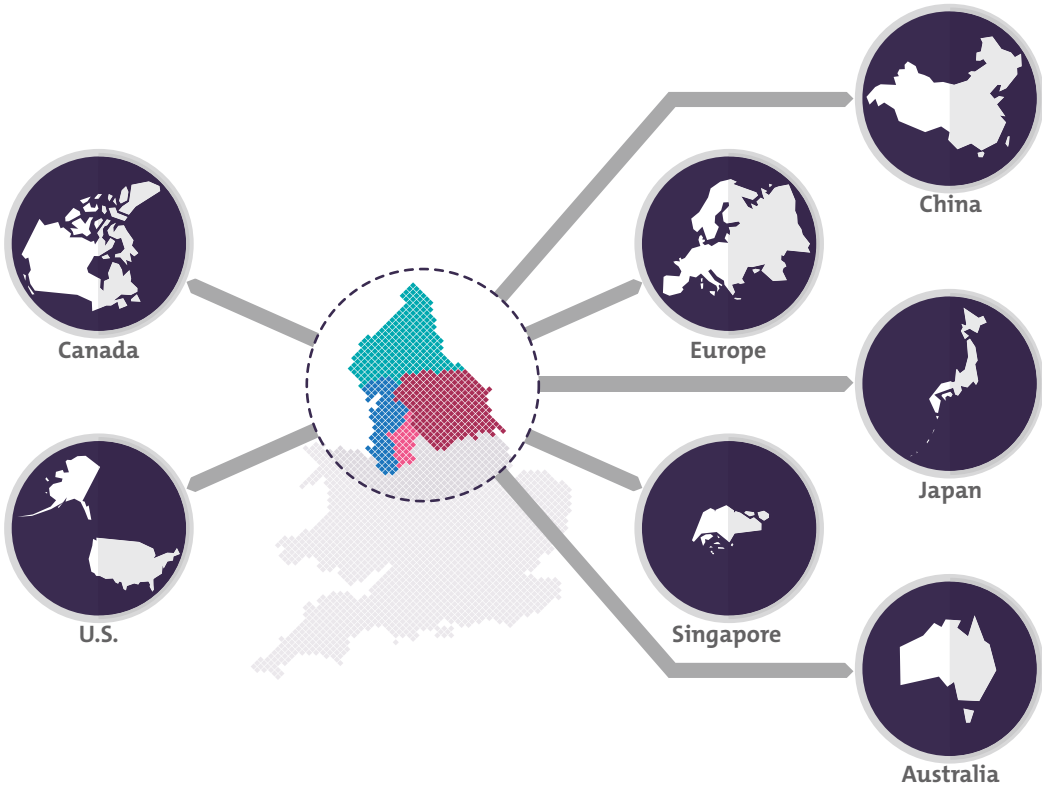
DHSC Priority	Added Value
Keep people healthy and support economic productivity and sustainable public services	Regional and care pathways are beginning to address health inequalities across the health and care system in the North of England to reduce unjustified variations in health outcomes. The creation of new algorithms and analytical platforms has the potential to be applied throughout the UK to assist DHSC in improving the health of the population.
Transform primary, community and social care to keep people living more independent, healthier lives for longer in their community	The CHC programme has established the foundational infrastructure across the North of England to improve health and care through better use of digital, data and technology. The knowledge and skills of CHC staff and partnerships could be leveraged as part of the wider DHSC digital revolution.
Support the NHS to deliver high quality, safe and sustainable hospital care and secure the right workforce	The collaborative and multidisciplinary approach of the CHC programme has allowed innovation in the creation and piloting of prediction models that can highlight resource and staffing gaps during periods of high demand, which could be applied across the U.K. Some care pathways have tested a more targeted approach to solving health inequalities, enabling clinicians to learn from and evolve patient pathways in a shorter period of time.
Support research and innovation to maximise health and economic productivity	CHC programme funding has contributed to the building of technology and health informatics infrastructure in NHS organisations across the North of England, allowing the flow of data to identify key health issues within local populations. Each region has developed its own infrastructure for clinical research and medical innovation through the creation of Arks and employment of skilled staff.
Ensure accountability of the health and care system to Parliament and the taxpayer; and create an efficient and effective DHSC	There are a number of areas where CHC programme outputs could be shared and applied across the U.K. For example, the creation of regional governance structures to facilitate the use of routinely collected patient data in research, data sharing agreements and creation of patient and public involvement groups.
Create value (reduced costs and growing income) by promoting better awareness and adoption of good commercial practice across the DHSC and our arm's length bodies	The CHC programme has created regional partnerships across the North of England between NHS Trusts, higher education institutions and industry with governance structures and commercialisation protocols in place that protect patient data confidentiality that could be utilised by the DHSC in driving innovation and digital change with NHS suppliers both nationally and internationally.

Connected Health Cities International

CHC has developed a pipeline of international routes for scale-up, sustainability and knowledge transfer.

This was supported by regular and repeated engagement with academic institutions, health organisations, government bodies and industry across the US, Canada, Australia, Singapore, China, Japan and Europe. Engagement was holistic: presenting the CHC programme at international conferences and symposia (e.g. Medical Informatics Europe, Hi.Tec Singapore 2019, BioJapan 2018), development of longer-term collaborations and replication of the methodology and projects, and meetings with senior leaders in governments and health authorities.

A wide range of health system leaders have explored collaboration including: the Singapore Ministry of Health; New South Wales Ministry of Health; South Australia Health and Medical Research Institute; Beijing University (PKU) National Institute for Health Data Science; China National Health Development Research Centre; Institute for Global Health Policy Research, and World Economic Forum (WEF) Centre for the Fourth Industrial Revolution, Japan. As a result of this successful international relations programme, a community of practice has been agreed to promote sharing and access to a suite of online tools and software.





The Connected Health Cities programme has been devised and delivered by the Northern Health Science Alliance in collaboration with over 50 organisations. We would like to take this opportunity to recognise the diverse network of NHS, academic and partner organisations who, working with industry, made this project happen. Here are some of the supporting organisations:

◆ Advancing Quality Network (AQuA)	◆ Healthier Lancashire & South Cumbria Integrated Care System	◆ North Tyneside Clinical Commissioning Group	◆ Teesside University
◆ AgeUK	◆ Healthwatch Darlington (working with other Healthwatch organisations in NENC)	◆ North Tyneside Community and Health Care Forum	◆ The Farr Institute of Health Informatics Research
◆ AHSN North East and North Cumbria	◆ Hull University Teaching Hospitals NHS Trust	◆ North Tyneside Council	◆ The Health Foundation
◆ Bradford Teaching Hospitals NHS Foundation Trust	◆ Innovation Agency, AHSN for the North West Coast	◆ North West Ambulance Service NHS Trust	◆ The Leeds Teaching Hospitals NHS Trust
◆ Champs Public Health Collaborative	◆ Lancashire and South Cumbria Clinical Commissioning Groups	◆ North West Coast CLAHRC	◆ The Newcastle upon Tyne Hospitals NHS Foundation Trust
◆ Clinical Commissioning Groups (CCGs) in Cheshire and Merseyside	◆ Lancashire Teaching Hospitals NHS Foundation Trust	◆ Northern Doctors Urgent Care	◆ The Newcastle Upon Tyne Hospitals NHS Foundation Trust
◆ County Durham and Darlington NHS Foundation Trust	◆ Lancaster University	◆ Northumberland County Council	◆ The Royal Liverpool and Broadgreen University Hospitals NHS Trust (now Liverpool University Hospitals NHS Foundation Trust)
◆ Cumbria, Northumberland, Tyne and Wear NHS Foundation Trust	◆ Manchester University NHS Foundation Trust	◆ Northumbria Healthcare NHS Foundation Trust	◆ The Royal Northern College of Music Centre for Practice & Research in Science & Music
◆ Cystic Fibrosis Health Hub	◆ National Data Guardian	◆ Northumbria University	◆ The University of Manchester
◆ D2Digital	◆ National Institute for Health and Care Excellence (NICE)	◆ Primary Healthcare Darlington	◆ The University of Sheffield
◆ Darlington Borough Council	◆ Newcastle City Council	◆ Public Health England	◆ Understanding Patient Data
◆ Durham University	◆ Newcastle University	◆ Salford Royal NHS Foundation Trust	◆ University of Cumbria
◆ Gateshead Council	◆ NHS 111	◆ Share2Care	◆ University of Leeds
◆ Gateshead Health NHS Foundation Trust	◆ NHS Digital	◆ Sheffield Teaching Hospitals NHS Foundation Trust	◆ University of Liverpool
◆ Getting It Right First Time (GIRFT)	◆ NHS England & NHS Improvement	◆ South Tees Hospitals NHS Foundation Trust	◆ University of York
◆ Greater Manchester NIHR CLAHRC	◆ NHS Health Call	◆ South Tyneside and Sunderland NHS Foundation Trust	◆ Vocare
◆ Greater Manchester NIHR Patient Safety Translational Research Centre	◆ NHS RightCare	◆ South Tyneside Council	◆ Yorkshire Ambulance Service NHS Trust
◆ Hartree Data Science Centre	◆ North East Ambulance Service NHS Foundation Trust	◆ St Benedict's Hospice and Centre for Specialist Palliative Care	◆ Yorkshire and Humber AHSN
◆ Health Innovation Manchester	◆ North of England Commissioning Support Unit (NECS)	◆ St Luke's Sheffield Hospice	



Thank you

This work uses data provided by patients and collected by the NHS as part of their care and support. Using patient data is vital to improve health and care for everyone. There is huge potential to make better use of information from people's patient records, to understand more about disease, develop new treatments, monitor safety, and plan NHS services. Patient data should be kept safe and secure, to protect everyone's privacy, and it's important that there are safeguards to make sure that it is stored and used responsibly. Everyone should be able to find out about how patient data is used.

The CHC programme is a Northern Health Science Alliance led programme. It was funded by the Department of Health and Social Care and delivered by a consortium of academics and NHS organisations across the North of England. We would like to extend our thanks to the team at DHSC, the Treasury and the Office of Life Sciences.

We are grateful to the CHC teams and close partners who have worked hard and shown commitment to make the programme a success with a high level of engagement and collaboration.



About the NHSA

The Northern Health Science Alliance is a pan regional health partnership established by the leading Universities, NHS Teaching Trusts and Northern Academic Health Science Networks.

The NHSA works across a population of 15m people bringing together research, health science innovation and commercialisation for the benefit of patients. The NHSA also led the £20m Department of Health funded Health North: Connected Health Cities programme.

Cite as: NHSA (2020) Connected Health Cities Impact Summary. Northern Health Sciences Alliance, Newcastle

thenhsa.co.uk

connectedhealthcities.org

[@CHCNorth](#) • [@The_NHSA](#) • [#DataSavesLives](#)

DISCLAIMER

The views expressed in this report are not necessarily those of the Department for Health and Social Care or any other government department or wider partner organisations taking part in Connected Health Cities.

Connected Health Cities

IMPACT SUMMARY

2016-2020

**Follow the ongoing work of the projects
created within CHC and resources/tools**

connectedhealthcities.org

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