

Frequently Asked Questions: Combined Intelligence for Population Health Action (CIPHA): Population Health

What is the project?

In 2020 the Combined Intelligence for Population Health Action (CIPHA) programme was established. The project has set up a near real-time person level linked dataset across Cheshire and Merseyside and produced a set of combined population health intelligence that supports actions to manage the pandemic. A Data Sharing Agreement was put in place that enabled data sharing for purposes related to COVID. As we move towards recovery, the CIPHA programme wishes to broaden the purpose of this sharing agreement to include using the data for more general population health intelligence. What this actually means and the Information Governance framework for this is explained more clearly in this FAQ document.

What has been delivered to date as part of the CIPHA programme?

The following automated COVID related dashboards have been stepped up across C&M:-

- COVID Case rates, mortality, hospital admissions and summary dashboards
- COVID Hospital admissions prediction tool
- COVID epidemiology reporting
- COVID testing, tracking and tracing reporting
- COVID Case finding for vulnerable patients
- COVID Vaccination rates, epidemiology, admissions and insight reporting
- Clinical Outcome radar showing trend and insight on outcomes and how they have been adversely affected
- Capacity and Demand Modelling, showing system capacity

These reports have been deployed across Cheshire and Merseyside and are to both inform population level planning and also the targeting of direct care. The intelligence is made available to appropriate users across the system in the form of a set of dashboards within an intelligence platform called Power BI.

Who are the data controllers and who are the data processors for the Data Sharing Agreement?

The **Data Controllers** are the GP Practices; Local Authorities; and 20 NHS Providers from where the data is sourced.

The **Data Processors** are the Cheshire and Merseyside Health and Care Partnership Combined Intelligence for Population Health Action (CIPHA) Intelligence Team, together with the system supplier Graphnet using System C; Arden and Greater East Midlands CSU and Midlands and Lancashire CSU.

What data usage purposes will the new Data Sharing Agreement for Population Health cover?

It is proposed that the linked dataset will be used in four **broad** areas relating to population health:-

Use Case 1: Epidemiology Reporting: Understanding health needs of populations, wider determinants of health and inequality for the improvement of outcomes: The data would be used to create intelligence, with the aim of understanding and improving physical and mental health outcomes, promote wellbeing and reducing health inequalities across an entire population. Specific types of analysis that may be undertaken include: Health needs analysis understanding population's health outcomes and deficits; Demographic forecasting, disease prevalence and relationships to wider determinants of health; Geographic analysis and mapping, socio-demographic analysis and insight into inequalities.

Use Case 2: Predicting outcomes and population stratification of vulnerable populations: The data will be used to predict the risk of outcomes for individuals in order that services can be targeted proactively to those most vulnerable. Data will be re-identified for the purposes of direct care.

Use Case 3: For planning current services and understanding future service provision: The data would be used to create intelligence on service provision to understand current service capacity and demand and forecasting future service demand to ensure enough provision is available for populations in need. This may include forecasting disease and prevalence and understanding how it impacts on service provision.

Use Case 4: For evaluation and understanding causality: The data would be used to evaluate causality between determinants of health and outcomes. Also, used to understand effectiveness of certain models of care across the health and care system

Are there examples of specific use cases that the data will be used for?

There are a set of more specific use cases that fall under the above broader categories that will be stood up in 21/22. The work programme will need to be developed with all stakeholders and in line with ICS and place-based strategy on Population Health Management.

Examples of more specific use cases include:-

Complex Lives: Stratification of the population who have physical, mental and social issues such as homeless, substance misuse, criminal justice involvement, domestic abuse and/or and a history of Adverse Childhood Events. A breakdown of the epidemiological makeup of this population, understanding how they use services and a stratification of the factors that lead to poor outcomes. Re-identification of these cohort's people for the purposes of proactive management and direct care.

Self Care: Including Oximetry@ Home: Blood Pressure Management: A suite of reporting allowing proactive identification and routine management of patients who may

benefit from self-care interventions such as remote monitoring services and technology. Allowing re-identification of people for direct care

Stratification of waiting lists for protected characteristics and inequality: A set of reports that stratify the waiting list for deprivation, BAME and other protected characteristics to understand the effects of the pandemic on vulnerable populations. Consideration of how this intelligence can be integrated into clinical decision making. Re-identification of individuals for the purposes of waiting list management and direct care

Frailty and Care Homes: Proactive identification and re-identification for direct care purposes of the frail elderly population inclusive of care homes residents to support management of patients in primary and community care. This could include social care complexity prediction and stratification, to focus on slowing progression of frailty and management of social care resource.

What are the benefits for patients?

Population stratification enables vulnerable individuals and their needs to be proactively identified and a more targeted individual response to be delivered from services that are available, to improve both their health and socio-economic outcomes.

What are the benefits for GP Practices, PCN's and Community Providers?

The Population Stratification reporting will bring various data sources together to identify vulnerable groups, which will give practices and PCN's a better understanding of vulnerable populations and their needs. Services can then be planned and targeted more appropriately.

Epidemiology reporting will allow PCN's to have insight into their populations and inequalities that drive outcomes and then target service accordingly. Projects that understand causality between service models and outcomes will enable PCN's to understand what is most effective for their population.

What are the benefits for Local Authorities?

The Population Stratification reporting will bring various data sources together to predict social care complexity so social care resources can be targeted at populations to slow the progression of frailty, allowing a more proactive management approach of this population.

Data Mart Access: Access to the pseudonymised patient level linked datasets for place based and ICS intelligence teams, inclusive of CCG's, Local Authorities and those with honorary contracts to undertake work on their behalf will allow local analytical functions to support their local place based agendas with richer population health data.

What are the benefits for Acute Providers?

Stratification of waiting lists for protected characteristics and inequality: A set of reports that stratify the waiting list for deprivation, BAME and other protected characteristics to understand the effects of the pandemic on vulnerable populations. Consideration of how this intelligence can be integrated into clinical decision making. Re-identification of individuals for the purposes of waiting list management and direct care

Access to pseudonymised datasets for further projects can be considered by the Data Access and Asset Group.

What are the benefits for the Cheshire and Mersey Region and the ICS?

Cheshire and Mersey region are responsible for planning services, managing the budget and improving quality and outcomes across the C&M population. Planning intelligence, such as demand and capacity reporting will enable C&M and the sub-regional geographies to be sighted on system demand to respond with capacity planning accordingly. Understanding variation in outcomes and epidemiology across the ICS system and down at place-based level will enable services to be designed and targeted appropriately at a place-based level.

Who are System C/Graphnet?

System C/Graphnet are a third-party supplier of data services. They offer a service that automates the near real time collection of data from NHS and Local Authority systems into one central warehouse/data store. The data can then be either pushed back to clinical systems to support a shared care record, or it can be used to create Business Intelligence about populations to inform planning and targeting of direct care.

Graphnet have been the delivery partner for the current CIPHA system focussed on COVID for Cheshire and Merseyside. They also cover a population of 16 million with their services outside of C&M, and are also the provider of data services to Bath and North East Somerset, Berkshire, Buckinghamshire, Greater Manchester, Kent, Northamptonshire, Staffordshire, St Helens, Whittington, Wolverhampton, Walsall

The following link provides more information about Graphnet/System C
<https://www.systemc.com/about-us/>

What data will flow to System C/Graphnet from systems and how?

The data being flowed via Graphnet from systems will include patient identifiable data of names, address, date of birth and post code. It will also include other demographic and health information, test results and medications. It will *not* include free text.

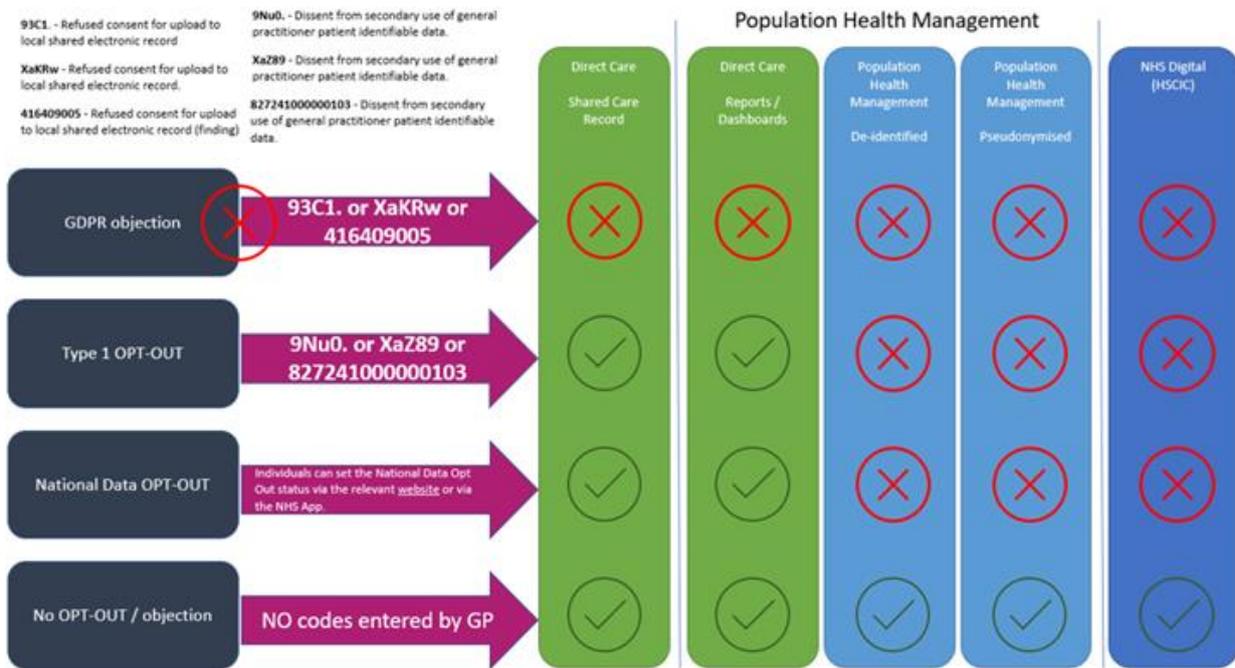
Once the data flow has been switched on the data will be taken automatically, once daily. For a full data specification of what data is flowing from each organisation please see ANNEX B – Data to be shared in the Data Sharing Agreement (Tier Two) Workstream: Population Health.

The data content extracted will not change from that which is already flowing from your organisation under the current CIPHA programme, just the purposes and uses of the data are changing.

Will people who opt out of data sharing be excluded appropriately?

Yes. People who opted out of data sharing for purposes other than direct care (Type 1 objections) will be excluded from the flow of data from the GP system into the Graphnet solution.

Opt Outs and Objections and how they work with the Graphnet Systems



Where will the data be stored when it flows to Graphnet/System C?

Data will be stored on 'Azure cloud', which is compliant with Information Governance standards and is safe and secure. Azure is assessed to ISO 27001, ISO 27017, ISO 27018, and many other internationally recognized standards. The scope and proof of certification and assessment reports are published on the Azure Trust Centre section for ISO certification here: <https://www.microsoft.com/en-us/trustcenter/compliance/iso-iec27001>. The ISO 27001 assessment was performed by the BSI.

How will access to the data be governed?

Role Based Access Controls (RBAC) will be implemented which means the data will be split into three different categories and only those with the appropriate Information Governance approval will be able to access the data in each category. The three categories of data are explained below.

Identifiable: Data will be wholly identifiable to the end user.

Pseudonymised: This data will still be at person-level, but the identifiable fields will be removed from the data. This includes removal of names and addresses. Date of Birth will be formatted to age; post code will be shortened to the first 4 digits and the NHS number will be encrypted into an alpha-numeric. Pseudonyms will be linkable across datasets. Re-identification will be possible via a set of controlled processes.

Anonymised-aggregate Data: Access to individuals employed by organisations listed in Section 3 'Parties to the Agreement' of the DSA will be granted access to all anonymised-aggregate data.

The table below explains who will have access to each category of data and how this will be governed:

Data Type	Reporting Examples	Who has access?	For what Purpose?	How is Access Granted?
Identifiable	Drill down patient lists in the Epidemiology and Patient Stratification reports on the portal	Those with a legitimate direct care relationship i.e. GP and PCN staff Graphnet for the purposes of data processing	Direct Care	Via individual GP practices for the populations they serve

Pseudonymised:	The data is made available in a secure warehouse to place-based intelligence teams to run bespoke analysis	<p>Placed Based intelligence teams including CCG and Local Authorities and teams supporting regional analytics, including those with honorary contracts and those analysts employed by place based teams but supporting the emerging ICS agenda</p> <p>Provider analytical teams who are listed as data controllers within the DSA who wish to undertake population health work where they have received DAAG approval that it is inline with the DSA</p>	Population Health (please see specific use cases earlier in this document)	<p>Place based intelligence teams will have access to pseudonymised data</p> <p>A Project Matrix will be published to data controllers monthly from CCG's and LA's</p> <p>Organisations can opt out of specific projects at any time</p> <p>Provider analytical teams who are listed as data controllers within the DSA who wish to undertake population health work where they have received DAAG approval that it is inline with the DSA</p>
Anonymised-Aggregate:	Aggregate views of all reporting	<p>Cheshire and Merseyside Providers, Commissioners and Local Authorities</p> <p>Outside agencies such as NHSE//DHSC and other third parties as granted by the Data Asset and Access Group (DAAG)</p>		<p>People from the organisations listed will be granted access</p> <p>Outside agencies such as NHSE//DHSC and other third parties as granted by the Data Asset and Access Group (DAAG) via the Data Access Request Form process</p>

How will the Governance work?

The programme will maintain and strictly enforce a Data Access and Data Asset matrix to ensure requests to use the CIPHA regional data sources ensure full compliance to the COVID-19 purposes as outlined in the sharing agreement.

This process will be governed through a regional group that will draw its membership from: the regional Clinical Informatics Advisory Group (CIAG); GP and Local Medical Committees;

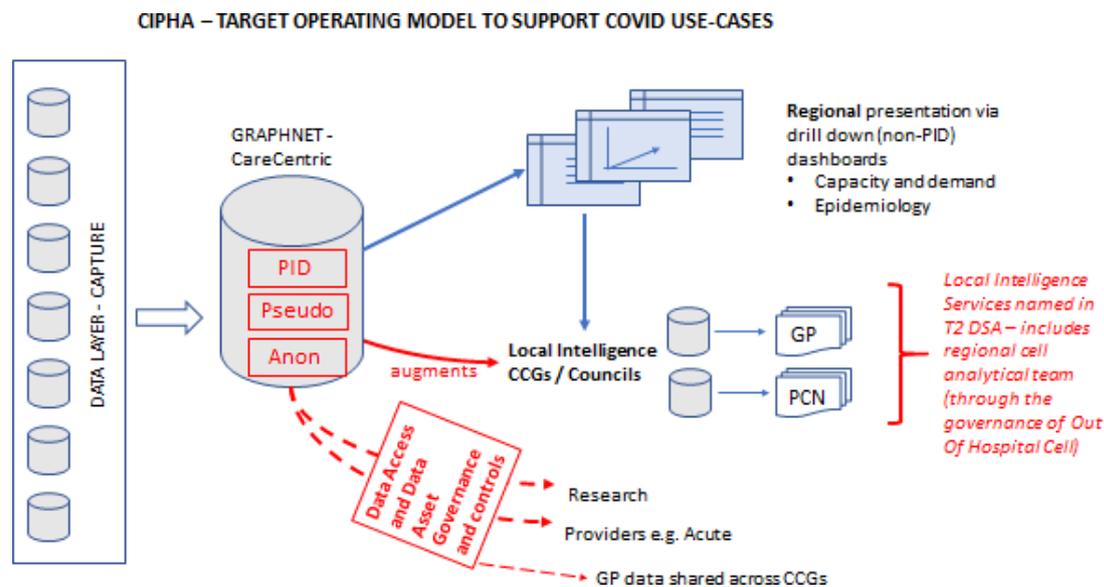
Information Governance specialists; and the regional Data Services for Commissioners Regional Offices (DSCRO) service.

This matrix will detail projects undertaken with the pseudonymised data by the CCG and Local Authority staff i.e. place-based intelligence teams and be made available to parties within this sharing agreement on a monthly basis, so they are informed of the specific uses of the data.

Other parties to the Data Sharing Agreement that wish to have access to the pseudonymised data will be required to submit a Data Access Request Form on a project by project basis to the Data Asset and Access Group (DAAG) for an assessment that:-

- Purpose aligns with the purpose of this agreement;
- A Data Protection Impact assessment (DPIA) is completed, if not covered by an existing DPIA;
- A separate Data Sharing Agreement (Tier Two) is completed for signature by all data controllers, if not covered by the Tier Two DSA;
- Ensures that individual data controllers are also informed of the Data Access Request, and can lodge a concern regarding data sharing with the CIPHA team for discussion, and/or withdraw their service user data from any project at any time.

The schematic below describes the model to support the COVID-19



What is the Legal Basis under GDPR?

For Population Health the legal basis under GDPR is:

6 (1) (e) Necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller

9(2)(h) Necessary for the reasons of preventative or occupational medicine, for assessing the working capacity of the employee, medical diagnosis, the provision of health or social

care or treatment or management of health or social care systems and services on the basis of Union or Member State law or a contract with a health professional

9(2)(i) Necessary for the reason of public interest in the area of public health, such as protecting against serious cross border threats to health or ensuring high standards of healthcare and of medicinal products or medical devices

9(2)(j) Necessary for archiving purposes in the public interest, or scientific and historical research purposes or statistical purposes in accordance with Article 89 (1)

What is the Common Law Duty of Confidentiality and how is this being satisfied?

For Population Health the Common Law Duty of Confidentiality requires that there should be no use or disclosure of any confidential patient information for any purpose other than the direct clinical care of the patient to whom it relates, unless:

- The person explicitly consents to the use or disclosure;
- The disclosure is required by law (the disclosure is permitted under a statutory process that sets aside the duty of confidentiality);
- There is an overriding public interest (to safeguard you and/or another person)

Appropriately pseudonymised or aggregated data is not owed a duty of confidentiality. Under this Data Sharing Agreement the Common Law Duty of Confidentiality does not apply, to data which is pseudonymised, and presented as aggregate data.

For patient identifiable data used for direct patient care the Common Law Duty of Confidentiality is addressed by implied consent. “Section 251B [of the Health and Social Care Act 2012 (as amended by the Health and Social Care (Safety and Quality) Act 2015)] and implied consent under CLDC will together provide the lawful basis to share in most cases of direct care. In these cases, and any cases of direct care based on explicit consent, the national data opt-out will not apply.” <https://digital.nhs.uk/services/national-data-opt-out/operational-policy-guidance-document/appendix-2-definitions>

The right to object under S21 of the General Data Protection Regulation 2016, as enacted, is also relevant. Patients and service users have a right to object to their medical information being used in order to provide safe and effective care, and have the right to register this objection in writing, or verbally, to the clinician concerned.

Do I need to update my Privacy Notice?

You will already have a Privacy Notice that explains to patients how their data is used. You should update your Privacy Notice to make reference to the sharing of the data in pseudonymised form for the purposes of population health and note the organisations that the data is being shared with. A suggested wording can be found below.

Locally across Cheshire and Merseyside, data is being shared securely with a data processor called System C for the purposes of protecting public health, providing healthcare services to the public, planning health care services and monitoring and managing Covid

outbreaks. No data that identifies a person will be used for purposes other than direct care. If you have previously opted out of data sharing your data will not be used.

The overarching purpose for data sharing is to support a set of Population Health analytics for population level planning and improvement of outcomes and also the targeting of direct care to vulnerable populations in need.