
How We Use the Johns Hopkins ACG System to Understand and Improve Health and Care



Introduction

Across Gloucestershire, the **Johns Hopkins Adjusted Clinical Groups (ACG) system** is used to help us better understand the health needs of our population and plan services more effectively.

The ACG system is a **population health analytics tool** that brings together NHS data to identify patterns in health, predict future needs, and support better decision-making across the health and care system.

What the Johns Hopkins ACG System Does

The ACG system uses healthcare data to:

- Group people into **population segments** based on similar health needs
- Identify individuals or groups at **higher risk of future healthcare needs**
- Highlight patterns in **service use, long-term conditions, and demand**

This approach allows us to move beyond looking at individual conditions and instead understand **how different groups of people experience health and care as a whole**.

What Data the ACG System Uses

The system uses **existing NHS data collected during routine care**, including:

- GP (Primary Care) data
- Hospital (Secondary Care) data

This helps build a population-level picture of:

- Long-term conditions and multimorbidity
- Healthcare activity (e.g. hospital attendance)
- Overall levels of need across Gloucestershire

Important context:

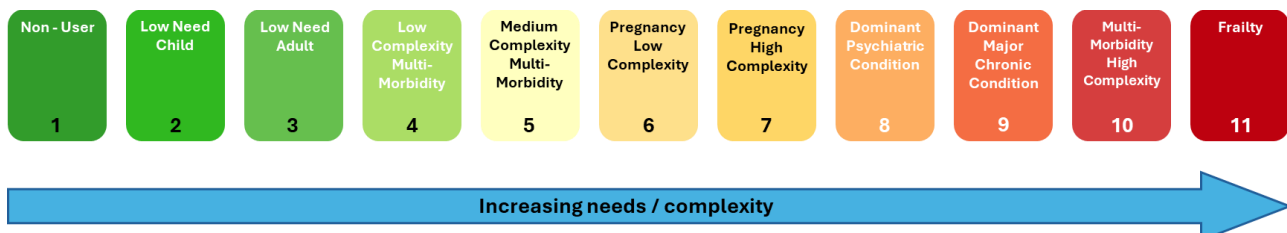
- The data relates to people **registered with GP practices in Gloucestershire**
 - Not all services (such as community services or social care) are currently included
 - The dataset is updated regularly to reflect changes in health needs over time
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How the ACG System Supports Planning

Understanding Population Health

The ACG system segments the population into groups with similar health characteristics. This helps us:

- Understand variation in health needs across different groups
- Identify areas of inequality
- Focus attention on populations with higher or more complex needs



Predicting Future Need

The system includes **risk stratification models** that estimate the likelihood of future events, such as:

- Hospital admission
- Increased healthcare use
- Higher treatment costs

These predictions typically look **6–12 months ahead**, helping services plan proactively rather than reactively.

Informing Service Design and Resource Allocation

Insights from the ACG system are used to:

- Plan services across the NHS and partner organisations
- Allocate resources where they are most needed
- Design prevention and early intervention approaches
- Support strategic priorities such as frailty and long-term condition management

This work forms part of our wider **Population Health Management (PHM)** approach in Gloucestershire.

What the ACG System Is (and Is Not) Used For

The ACG system is used to support **planning and decision-making at a population level**.

It is **not currently used for the following**:

- **✗ It is not used to make automated decisions about your individual care**
- **✗ It is not used to trigger interventions for individuals**
- **✗ It is not used within frontline clinical systems**

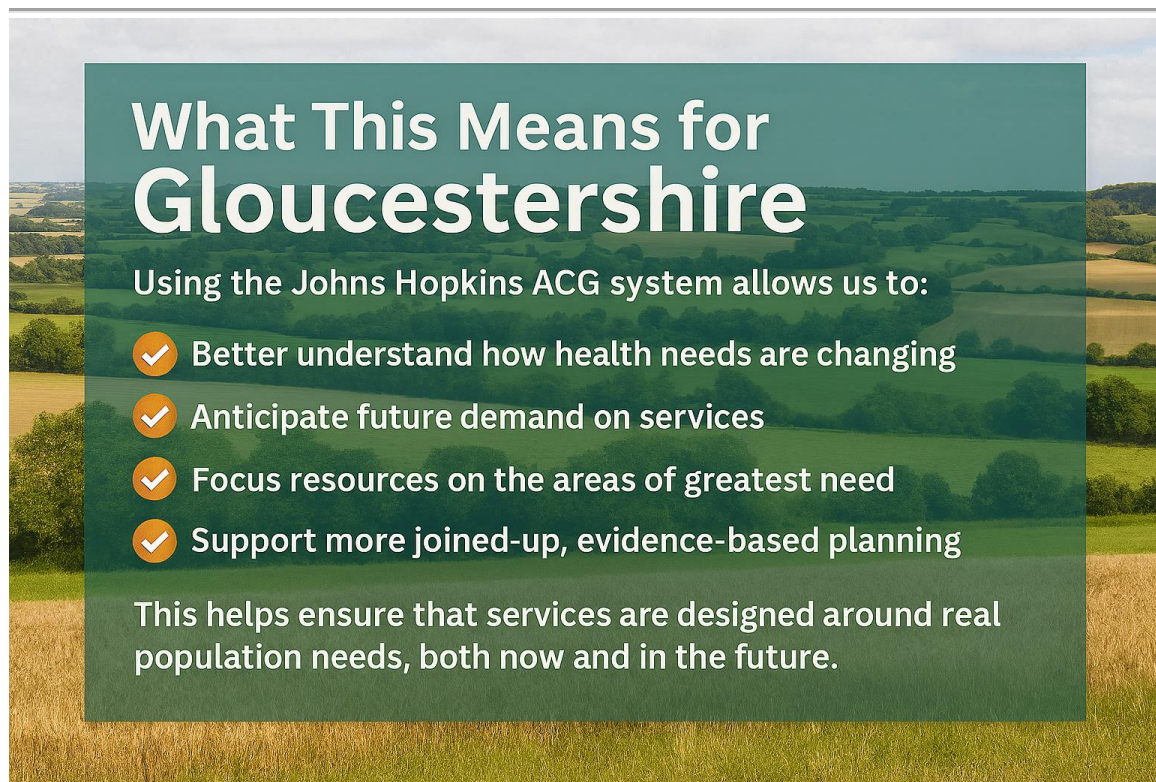
Its primary purpose is to provide **insight, not instruction**.

Data Coverage and Limitations

As with any analytical tool, there are some important limitations:

- It reflects the **GP registered population**, which may differ slightly from the resident population
- It does not yet include all sources of care (such as social care or some community services)
- Some insights will improve as **more historical data becomes available**

We continue to refine how the tool is used to ensure outputs are meaningful and support effective decision-making.



What This Means for Gloucestershire

Using the Johns Hopkins ACG system allows us to:

- ✓ Better understand how health needs are changing
- ✓ Anticipate future demand on services
- ✓ Focus resources on the areas of greatest need
- ✓ Support more joined-up, evidence-based planning

This helps ensure that services are designed around real population needs, both now and in the future.