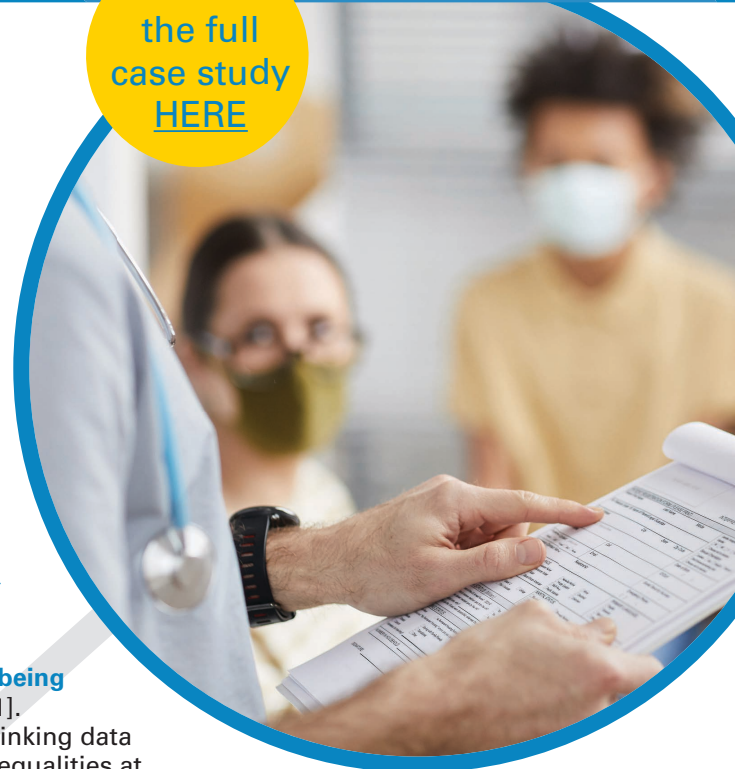


CASE STUDY

SEPTEMBER 2024

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How population health management can help to combat health inequalities through data linkage



Population health is defined as “...an approach that aims to **improve physical and mental health outcomes, promote wellbeing and reduce health inequalities across an entire population**” [1].

Accordingly, population health management (PHM) involves linking data to facilitate coordinated activities that aim to reduce health inequalities at the local, regional, and national levels [2].

Prior to the covid-19 pandemic, the [Suffolk and North East Essex \(SNEE\) Integrated Care System \(ICS\)](#) initiated a PHM Strategy to link data across the local ICS population. This initiative involved members of the local health and care system across leadership, information governance and analytics workforces (Figure 1) [3]. The ICS’s aim is to reduce inequalities by involving members of the NHS, local authorities and the public to aid targeting interventions within the region, which has a population of approximately one million people.

A critical focus of the PHM plan was and continues to be improving completion of ethnicity data within any centralised dataset in the system. One specific project involved linking existing data across datasets using the currently accepted 16 ethnicity codes used within the NHS.

Working with a private healthcare consultancy focused on population health — Optum — the ICS linked data (such as demographic data, from multiple sources, such as Trusts and General Practitioner services) from across the region to develop models that allowed for the effective focus of analytics projects.

The project has now run for more than four years with recent analyses suggesting that while primary care recording of ethnicity is around 70% — with variance among practices — Optum’s project of linking data through a PHM framework has led to a 93.6% completion rate.

As well as a dashboard (available through Optum) allowing population-level analysis of the linked dataset comprising the ICS population, analytical teams have access to the underlying data at a pseudonymised level. Analysts are using advanced analytical techniques to explore the data in new ways, including via the creation of a population segmentation model to estimate future demand and for risk stratification.

Figure 1: The Suffolk and North East Essex Integrated Care System plan of action for integrating PHM at the regional level. Source: https://drive.google.com/file/d/1NVVj43WdtbatW66Kxc6_Xwaqt_LuW_E/view

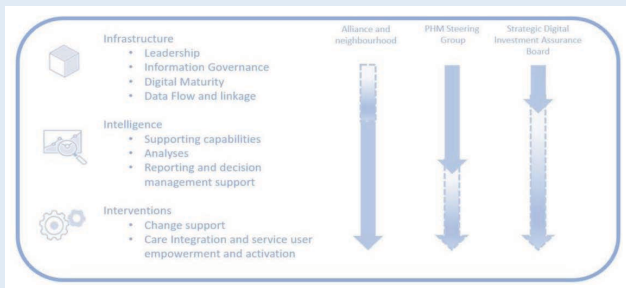


Table 1: Summary of best practices for improving data quality across the care pathway

Theme	Point in the Data Pathway	Actions
Distal factors	Upstream of data collection and analysis	Mandating data collection Legal safeguards to ensure nondiscrimination Legislation incentivising data collection Prioritisation in policy
		Achieving senior-level buy-in in organisations involved in data collection Engagement activities with citizens, patients, and communities
Wider actions to enable improvements in data collection	Preparing for data collection	Staff training programmes on purpose and mechanisms for data collection Developing guidance on how data can be used Demonstration of the value of data collection and analysis for organisations
Data collection instruments, systems, and standardisation	Data collection	Using multidisciplinary groups to inform data collection instruments, systems, and standardisation Creating standardised definitions and coding practices across organisations Improving granularity of data fields Developing standardised processes for collecting and recording data
		Developing audit processes to monitor data quality aspects Creating IT systems to facilitate data collection Periodic revision of definitions and categories
Methodological approaches to improve data quality and accuracy	Data analysis	Linking with other data sources Use of proxy variables Imputation

The broader context: alignment with our research

Our recent scoping review highlights local initiatives likely to be helpful for improving data quality related to health inequalities (Table 1) [4].

The Suffolk and North East Essex ICS's experience builds effectively on the recommendations on the table, specifically:

- The ICS's PHM project is supported by a strategy at the senior level [3];
- Training and engagement plans to reach all areas of the ICS, from strategic leaders, to front line teams (this includes the OneTeam programme);
- The aim to link datasets required interdisciplinary involvement from team members within the ICS and from Optum.

This case study suggests that not only will data completion be improved, but there are likely to be feedback loops through which researchers with access to health data can help to inform local Trusts and primary care services about changes they can make to improve their own data collection processes.

References

1. David Buck, et al., A vision for population health: towards a healthier future. 2018, King's Fund. <https://www.kingsfund.org.uk/insight-and-analysis/reports/vision-population-health>.
2. Population Health Management. NHS England. <https://www.england.nhs.uk/integratedcare/phm/>.
3. Suffolk & North East Essex ICS Population Health Management Strategy. 2022. https://drive.google.com/file/d/1NVVj43WdtbatW66Kxc6_Xwaqt_LuW_E/view.
4. Moorthie, S., et al., A Scoping Review of Approaches to Improving Quality of Data Relating to Health Inequalities. *Int J Environ Res Public Health*, 2022. 19(23).



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