digitalhealth

AI + DATA

Deep dive: ICS/ICB use of data for population health

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PRIMARY CARE ANALYTICS

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Primary Care Analytics

Making PHM Real: Identification to Intervention

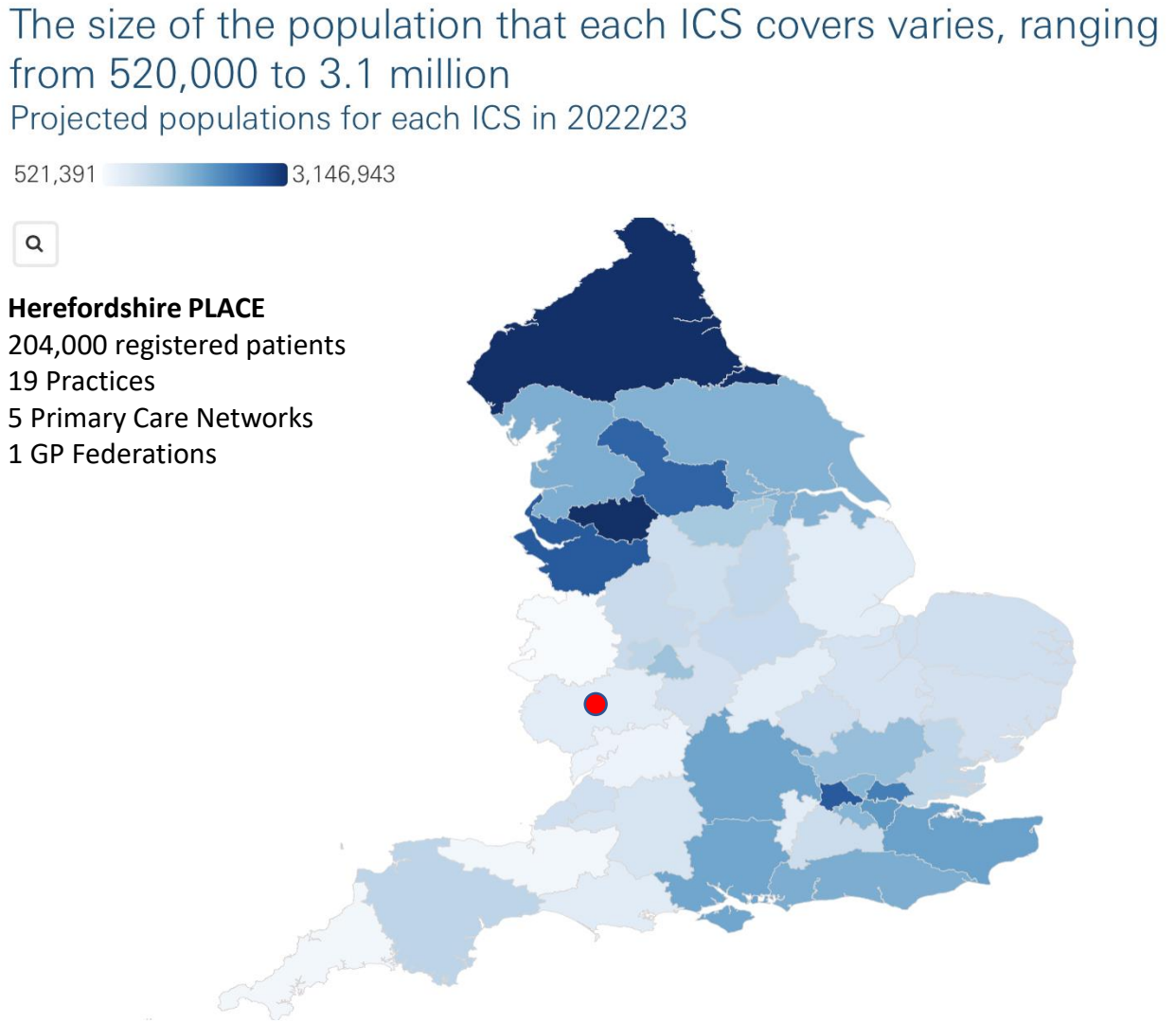
PRIMARY CARE ANALYTICS

Population Health Management isn't always about focusing on the mass, it can range from supporting a population of one million to one single patient.

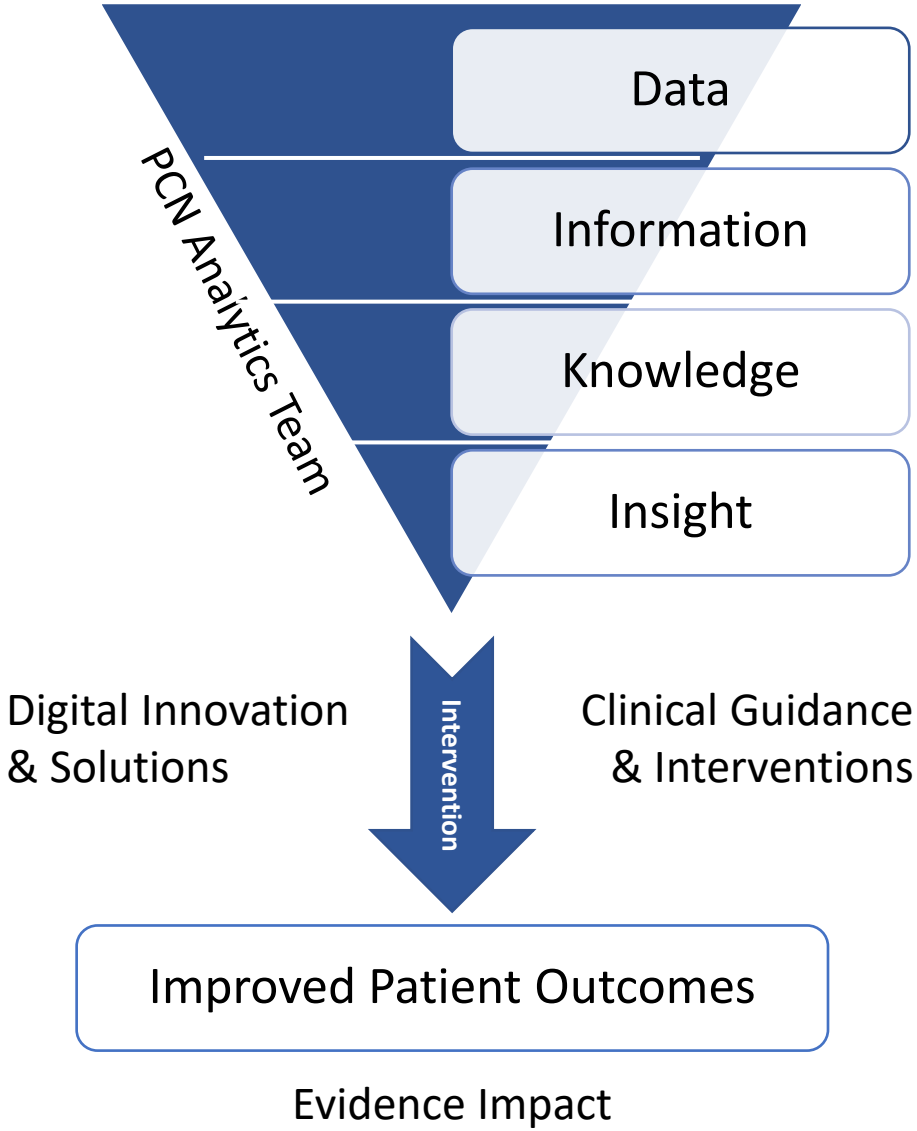
We started at ICS level, using General Practice data as a primary source.

In our PHM intervention, we went from 204,000 patients to a more manageable cohort utilising a dataset consisting of 54million data points.

Having a dedicated team focused on data and analytics has provided essential insight to enable PHM projects.

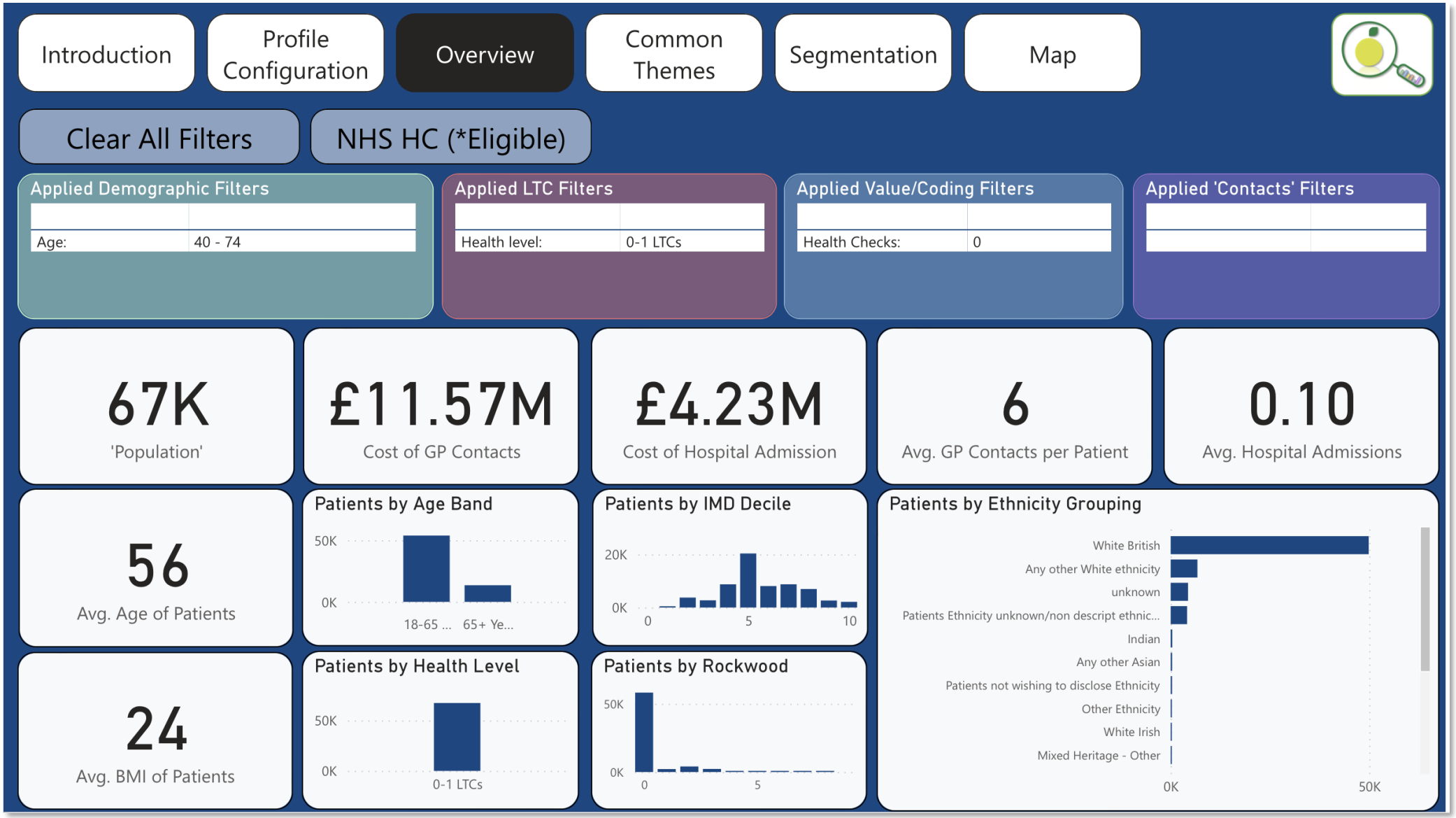


PHM Made Simple-ish

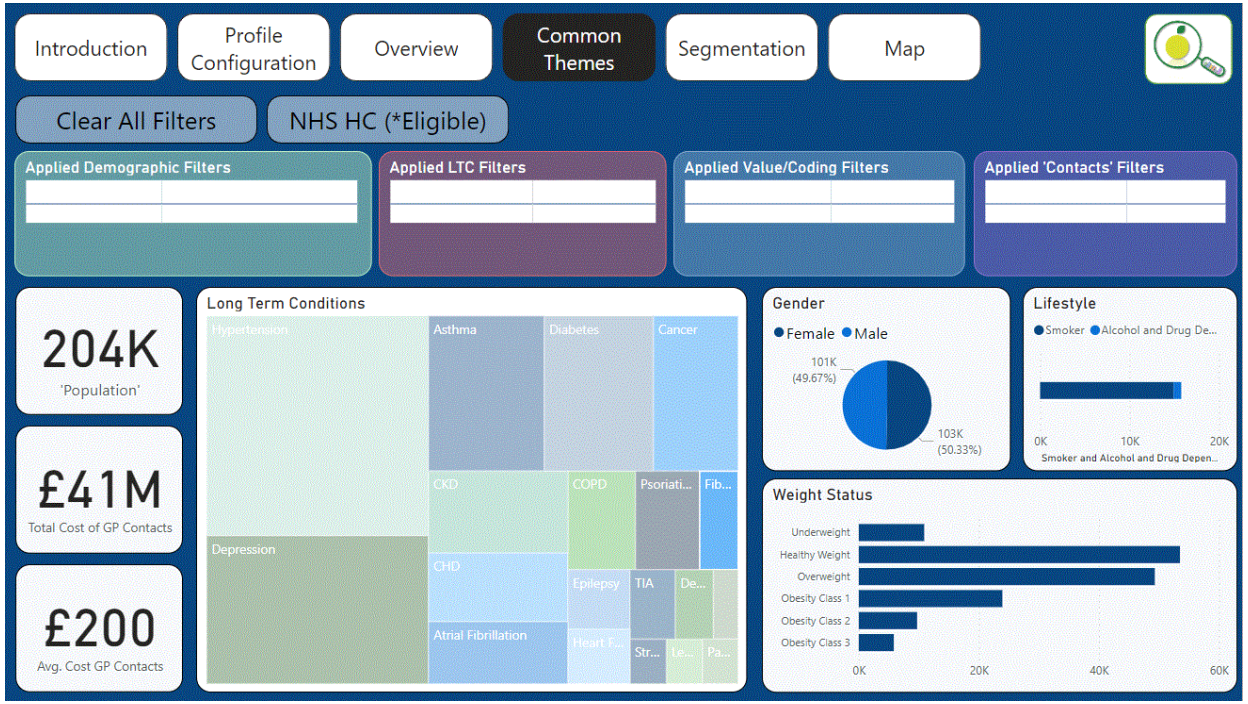


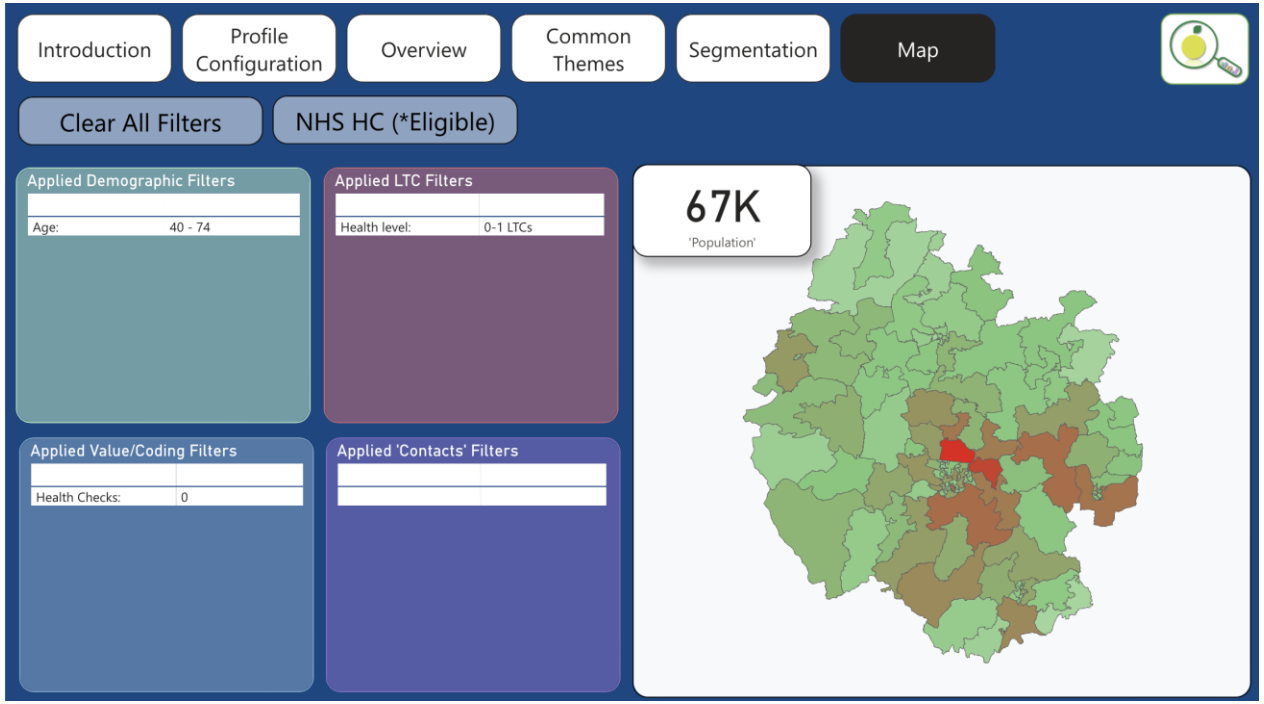
Making PHM Real

- Analyzed a data set consisting of 54 million data points
- Turned data into an interactive PHM Tool
- Worked with a General Practice Service to identify a cohort patients who were eligible for a Health Check and were facing inequalities
- The service team determined how they would communicate and provide health checks to the patient cohort
- The team took the care to the community and provided health checks from a roving bus
- Evaluation and benefit realization in the form of patient feedback and data
- As a result, patients received health checks and follow ups in a place and time convenient for them



Using data from General Practice we developed a PHM Tool that can easily identify patient cohorts requiring interventions. In this case we were asked to find cohorts who were eligible and needed a Health Check. The tool shows us a summary of those who haven't had a Health check, helping us delve into a more manageable cohort and focus on those who are facing inequalities.





Moving through the Tool we can start to understand more about this chosen cohort of patients, including shared themes and characteristics, we can segment the population further, we can look at other inequalities that may be faced, all helping us to prioritise where finite resource needs to go.

To the right we can see the LSOAs that the patients reside in, allowing us to determine different methods of communication or approach. In this case we knew that a mobile ‘health check’ bus was going to be out in the community so, we needed to ensure the teams knew the areas they were likely to achieve most impact.

PHM in Action

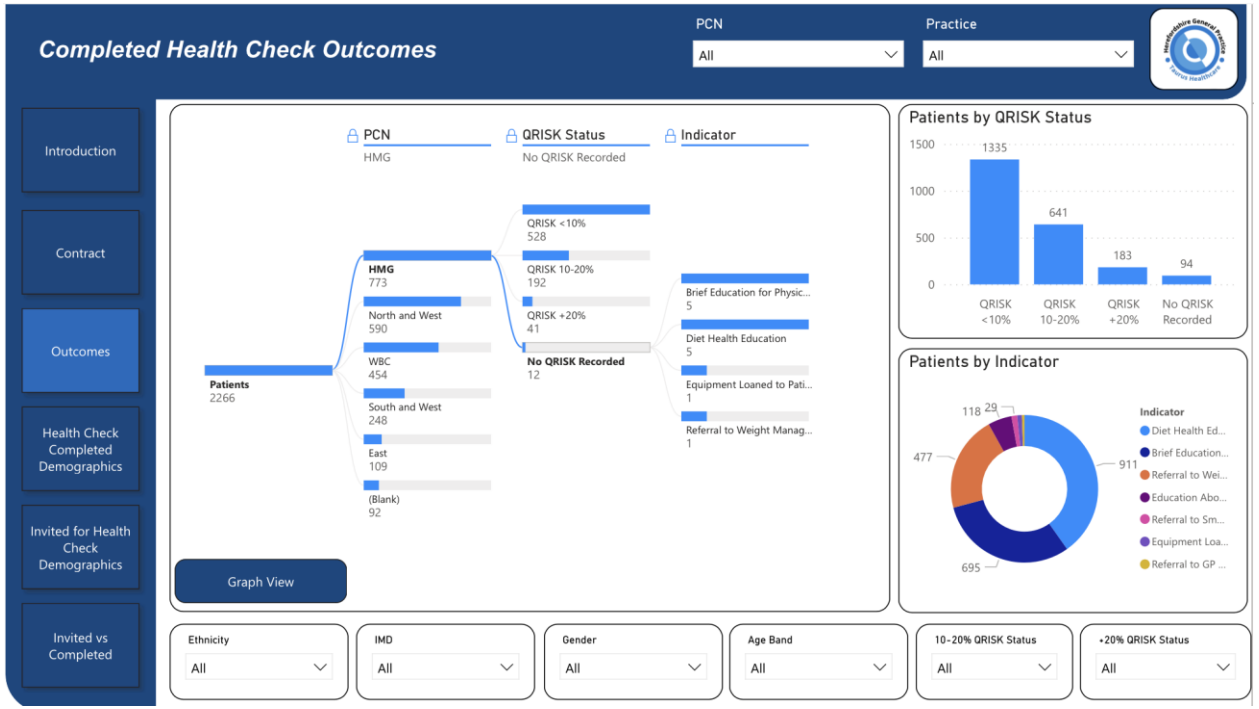
Getting the right people involved is key but to do this you need to be clear on the problem and the outcome you are trying to achieve.

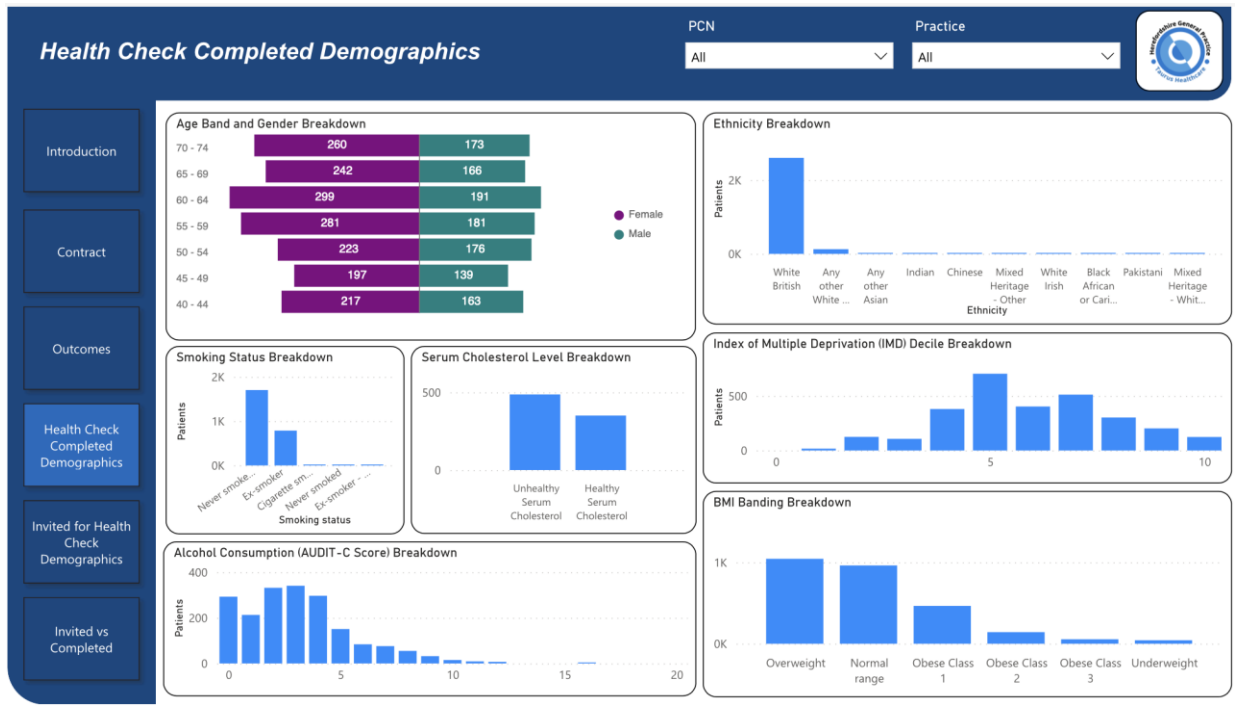
Change teams will make your intervention run smoothly and effectively. Built up of vital roles that will make the difference between a rough and ready process to a well formed, thought out and impactful outcome for patients.

A data analyst plays an important part of this team, making it more data driven and intelligence led to determine an initial cohort, success measures and evaluation to understand effectiveness.

In this case identifying cohorts of patients and areas to prioritise, allowed the team to focus the roving bus on specific LSOAs that had the highest levels of patients that required Health Checks and meant care could be taken to the patient, which resulted in higher levels of uptake.

PRIMARY CARE ANALYTICS





Following identification and intervention, we built a dashboard to be able to provide oversight, progress monitoring and impact analysis by reviewing results from patients and establishing where patients need to be referred to based on findings.

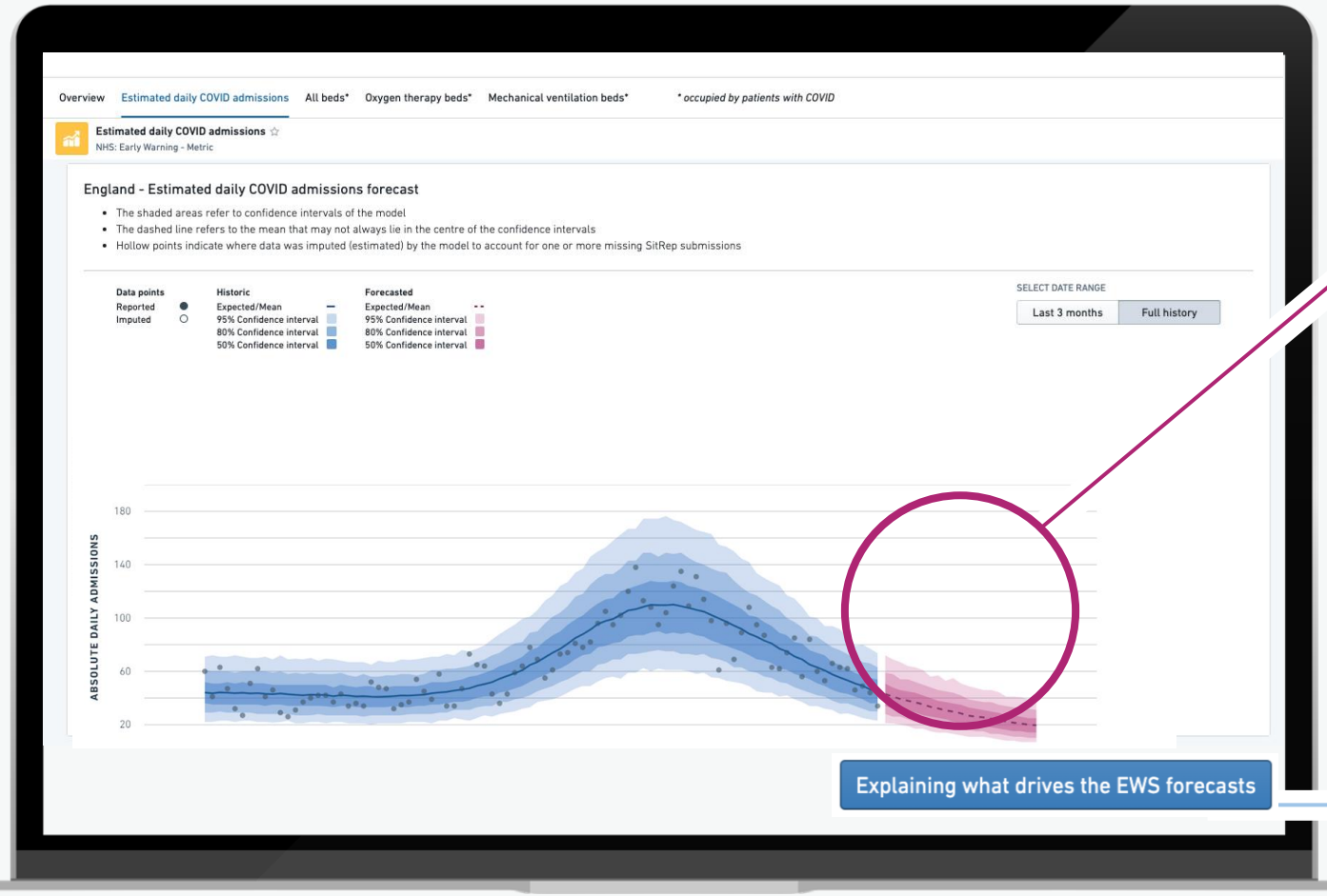
Forecasting emergency department admissions

Presented by:
Achut Manandhar

Background

Forecast Covid-19 Admissions & Bed Occupancy

The Early Warning System tool provides an explorable interface for users

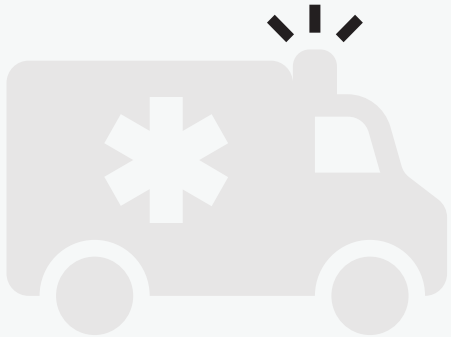


3 week predictions
Trust, ICS, region, national

Forecast explanations

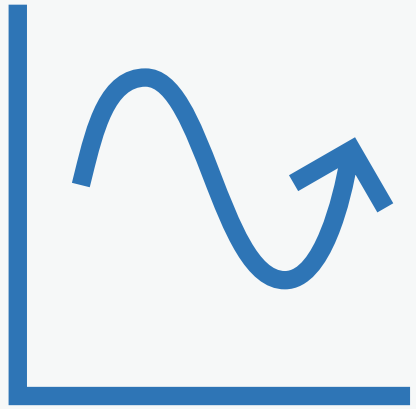
Motivation & Requirements

Motivation



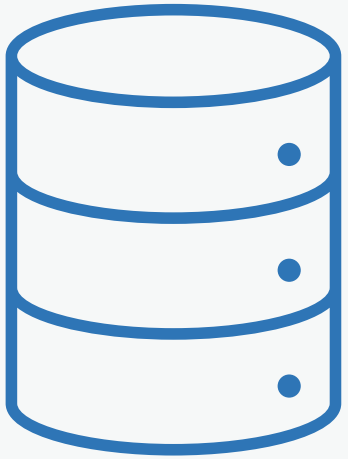
- People admitted to hospital through emergency departments are **unplanned admissions**.
- Providing intelligence on this helps **planning resource allocation, staffing and beds**.

Outputs



Daily, 21 day ahead forecasts

National, regional, system, trust, and site level breakdown

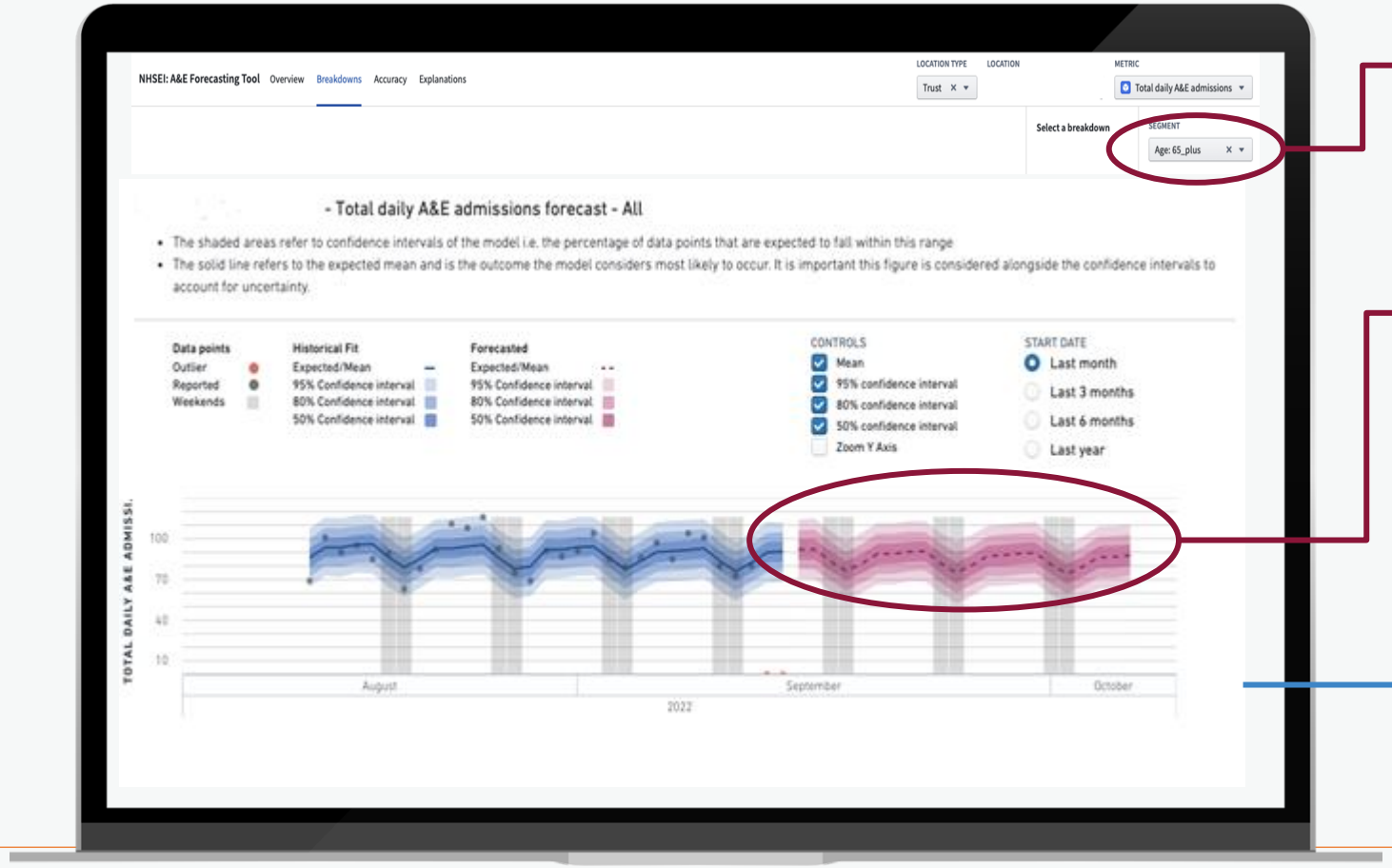


Uses Live Emergency Care Dataset Data

Outcome & Impact

Forecast A&E Admissions

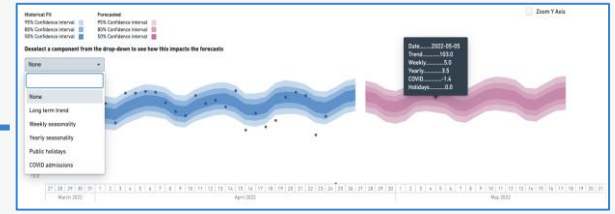
The tool has over 1,200 users, bringing the value of advanced AI to the front-door of every hospital in England



Breakdowns
of demand metric into operationally useful categories (e.g. age groups)

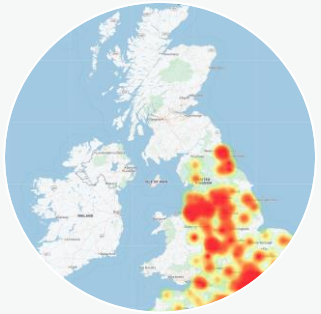
3 week predictions
for each day from hospital site up to national level

Forecast explanations



To understand drivers of forecasts e.g. weekly / yearly seasonality, public holidays etc.

Impact

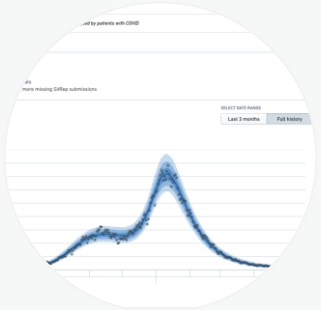


121 NHS trusts

supported across 7 regions

1200+ users

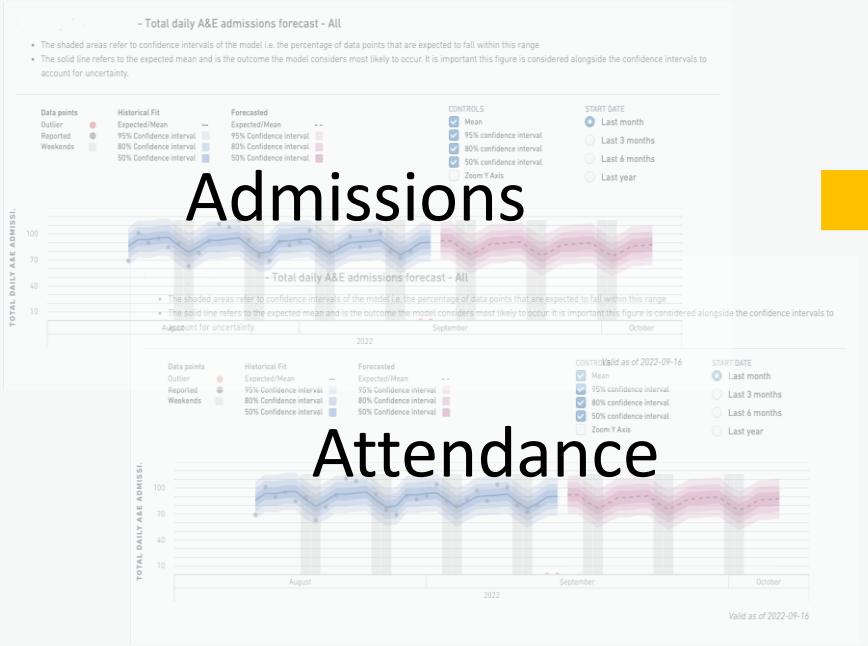
across operational, clinical and strategic user groups



Incentives to improve data quality

for NHS trusts to improve ECDS data quality

Evaluation and Future



- Staffing
- Capacity & Operational planning

Better

- Workforce, workflows, ambulance,
- Demand for mental health services
- Local data…

- More granularity
- Operational metrics
- Longer forecast horizon
- Improve precision…

Access and Contact

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