Worcestershire predictive model from telecare and care data

IMPLEMENTED 2019-2021 · GOVERNMENT AND PUBLIC SERVICES · UNITED KINGDOM · BAND E · CLAIMED ONLY
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The council used machine learning with PredictX and an NHS commissioning support unit to join assistive technology, social care and hospital data, then won a 2020 grant to build a predictive tool. No results are reported, and its 2024 productivity plan described predictive analytics as something it was still exploring.

ABOUT THIS SYNOPSIS

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NOTICE WORDING LAST UPDATED 16 NOVEMBER 2026

AT A GLANCE

No measurable effect: no results reported.

AI used: Machine learning models on merged assistive technology, social care and hospital data.

Implemented: 2019-2021. Grade: band E, No measurable effect, Claimed only.

Headline result, as reported: Grant to extend AI and data modelling to telecare data, February 2020; by July 2024 the council said the data foundations for predictive analytics were likely to be prohibitively expensive

1 · The case

The facts, as reported by the 6 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

Worcestershire County Council. County council in the West Midlands of England, responsible for adult social care. Its 2024 productivity plan says adult social care and children's services together take about 56% of its net budget. Canvas block: 6. Data and technology. Also 4. Operations and process.

Business challenge

The challenge. The council was investing in assistive technology as part of its plan to ease pressures in adult social care, and wanted to know where that technology could prevent emergency admissions and longer-term care. It reported in 2019 that assistive technology cost about £7 a week and saved around £90 a week against home care.

How it was addressed. In 2019 the CSU's Strategy Unit and PredictX used machine learning to merge NHS, social care and assistive technology data and map the care pathways of people using A&E and emergency services, which produced a working hypothesis. In February 2020 the council was named a Social Care Digital Pathfinder to extend AI and data modelling to telecare and assistive technology data, with a 13 month implementation phase. A separate project matched household data by property reference number to flag households likely to need social care later. [1] [2] [3] [4] [5] [6]

Who implemented it

NHS Midlands and Lancashire Commissioning Support Unit (Strategy Unit) (Industry partner): NHS analytics partner in an innovation partnership with the technology provider.
PredictX (Software vendor): Technology provider for the machine learning system.
Who built the tool during the 2020 implementation phase is not confirmed in a source that opened for this check.

Technology (SEAM pillar E)

SEAM types: T8 Predictive / ML models. Deployment: Not reported. Vendors and products: PredictX.

Where it was built in: Assistive technology data merged with NHS and social care data to map the care pathways of people using A&E and emergency services, by the CSU's account.

What changed

Before: assistive technology, social care and hospital data held apart. After: a merged dataset and a working hypothesis, by the CSU's account. In July 2024 the council said it was exploring predictive analytics and artificial intelligence, and that master data management and data warehousing, likely prerequisites, were probably prohibitively expensive in the current climate. [1] [2] [3] [4] [5] [6]

What it cost

Not reported. The council's share of the £4.5 million Pathfinder fund is not reported.

What it saved

Not reported for the predictive model. The council reported in 2019 that assistive technology itself saved around £90 a week against home care, rising to £140 where it prevented residential care. [1] [2] [3] [4] [5] [6]

Governance and control

The CSU says data audits were run at each stage to ensure model accuracy. Owner, use in decisions and evaluation: Not reported.

S2 · Accountable owner · Not reported
Not reported.

A1 · Safe use · Not reported
Not reported.

A2 · Human in the loop · Not reported
Not reported.

A3 · Monitoring and assurance · Claimed
Data auditing procedures and quality checks were set up at each stage of the process to ensure model accuracy, by the CSU's account. [1]

A4 · Vendor AI · Not reported
Not reported.

A5 · Agent controls · Not reported
No agents described.

A6 · Standards and regulation · Not reported
Not reported.

What worked, what did not, what is unproven

WORKED

– Merging assistive technology data with NHS and social care data, by the CSU's account.

– The separate household matching project identified around 1,000 households not yet receiving social care for preventive work, per GeoPlace.

DID NOT

– No predictive tool in everyday use is reported; in July 2024 the council described predictive analytics as something it was exploring.

– In the household matching project some indicators were not good predictors of risk, per GeoPlace.

UNPROVEN

– Whether the Pathfinder tool was completed and used.

– Any effect on emergency admissions, care costs or assistive technology planning.

Timeline

Feb 2019 Council reports assistive technology savings and rolls its scheme out across the county [6]

Sept 2019 CSU Strategy Unit and PredictX describe machine learning on merged NHS, social care and assistive technology data [1]

Feb 2020 Named a Social Care Digital Pathfinder to extend AI and data modelling to telecare data [3]

May 2020 Separate household risk-matching project identifies around 1,000 households for preventive work [5]

Jul 2024 Productivity plan says the council is exploring predictive analytics and AI [4]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: Not applicable. Grade: E, No measurable effect. Proof: Claimed only. Level of change: Not graded.

No level assessed: band E, no results reported. A working hypothesis and a funded tool are described, but no use in services.

Graded E, no results reported. The partners describe a working hypothesis and a predictive tool in development. In July 2024 the council said it was exploring predictive analytics and that the data management it would need was likely to be prohibitively expensive.

The SEAM view and lessons learnt

The obstacle the council names is its own data: in 2024 it said the foundations for predictive analytics were likely too expensive for now. The AI's part cannot be separated from that, because no model results are published, and the reported savings come from the assistive technology itself rather than from any prediction. Before copying this, a leadership team should ask whether its data management can carry a model in daily use, and who funds the step from a grant-funded pilot to a running service.

1. Check data foundations and their running costs before funding a predictive model.
2. Agree how a pilot will be evaluated and reported before the grant ends.
3. Keep the savings from the technology itself separate from the value of the model.

Evidence

Score 1 of 4. Self-reported: a partner case study and a national award list, plus the council's own 2024 plan.

Evaluation method. Self-reported: a partner case study and a national award list; the council's 2024 productivity plan gives its later position. No outcome evaluation found.

Sources disagree. The CSU case study refers to Worcestershire City Council; the Pathfinder award was made to Worcestershire County Council.

Status. Unclear: no report of the predictive tool in use. In July 2024 the council said it was exploring predictive analytics and AI.

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/worcestershire-predictive-social-care-model

[1] NHS Midlands and Lancashire CSU: Using data from assistive technology to prevent hospital admissions in Worcestershire
https://www.midlandsandlancashirecsu.nhs.uk/case-studies/using-data-from-assistive-technology-to-prevent-hospital-admissions-in-worcestershire/

[2] NHS England Digital: AI in adult social care case studies
https://digital.nhs.uk/services/ai-knowledge-repository/case-studies/ai-in-adult-social-care

[3] HTN: 16 digital adult social care projects awarded share of £4.5m (February 2020)
https://htn.co.uk/2020/02/12/16-digital-adult-social-care-projects-awarded-share-of-4-5m/

[4] Worcestershire County Council: Productivity Plan, Cabinet 18 July 2024
https://worcestershire.gov.uk/sites/default/files/2024-07/WCC%20Productivity%20Plan%20Cabinet%2018%20July%202024.pdf

[5] GeoPlace: Predicting longer-term care needs using UPRNs
https://www.geoplace.co.uk/case-studies/predicting-longer-term-care-needs-using-uprns

[6] Evesham Observer: Technology to be used to aid independence (February 2019)
https://eveshamobserver.co.uk/?p=50480

Worcestershire County Council website: https://www.worcestershire.gov.uk

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