Wolverhampton predictive analytics for health and social care demand

IMPLEMENTED 2016-2021 · GOVERNMENT AND PUBLIC SERVICES · UNITED KINGDOM · BAND E · CLAIMED ONLY
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The council worked with PredictX and an NHS commissioning support unit to combine health and social care data and build machine learning models of demand. It won national grants to scale the work in 2020; no later results or service changes are reported.

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 combined, pseudonymised health and social care data, with dashboards.

Implemented: 2016-2021. Grade: band E, No measurable effect, Claimed only.

Headline result, as reported: Council said its prototype predicted people's journeys through health and social care with a high level of accuracy, February 2020; no later results reported

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

City of Wolverhampton Council. Metropolitan borough council in the West Midlands of England, responsible for adult social care. The work ran with NHS partners and was funded by NHS Digital grants. Canvas block: 6. Data and technology. Also 4. Operations and process.

Business challenge

The challenge. The council said it faced rising demand for health and social care. It wanted to understand how the support people received affected their outcomes and future needs, and to predict demand so it could plan services, reduce hospital admissions and delayed transfers of care, and reduce demand for long-term care.

How it was addressed. From 2016 the council worked with PredictX, the Midlands and Lancashire CSU and Wolverhampton CCG to combine pseudonymised hospital data with adult social care data. A £32,000 NHS Digital grant in 2018 funded predictive modelling. In February 2020 the council received further Pathfinder funding to scale the work across the West Midlands. By November 2020 the partners reported dashboards, a machine learning model predicting how many A&E patients are admitted and what happens on discharge, and seven profiles built from data on 3,000 users of domiciliary care. [1] [2] [3] [4] [5] [6]

Who implemented it

PredictX (Software vendor): Built the predictive models and dashboards.
NHS Midlands and Lancashire Commissioning Support Unit (Industry partner): NHS data partner that contracted the supplier for the 2020 phase.
Wolverhampton Clinical Commissioning Group was a partner from 2016, per NHS England Digital.

Technology (SEAM pillar E)

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

Where it was built in: Pseudonymised NHS hospital data combined with adult social care assessment and service data in shared dashboards and models for the council and its NHS partners.

What changed

Before: health and social care data held separately. After: shared dashboards and models, by the partners' account. Whether any service, care package or commissioning decision changed as a result: Not reported. In November 2020 the partners said the next step was to see whether the insights could inform the way they deliver services. [1] [2] [3] [4] [5] [6]

What it cost

Grants of £32,000 in 2018 and £340,000 in 2020 by the council's release, given as £344,000 in the June 2020 decision notice, with £168,000 committed to the CSU and its supplier. Full cost: Not reported.

What it saved

Not reported [1] [2] [3] [4] [5] [6]

Governance and control

Delegated authority sat with the Cabinet Member for Adults and the Director of Adult Services, with an Accountable Body overseeing the grant and an equalities impact assessment in the programme, by the council's account. Model validation and use in decisions: Not reported.

S2 · Accountable owner · Claimed
The Cabinet Member for Adults, with the Director of Adult Services, held delegated authority over the grant, and an Accountable Body oversaw delivery, by the council's decision notice. [3]

A1 · Safe use · Claimed
The council says the work used anonymised records and that the programme included an equalities impact assessment. [2] [3]

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

A3 · Monitoring and assurance · Claimed
The council said the impact of the programme would be analysed and regularly reported to a Programme Executive; no model performance results are published. [3]

A4 · Vendor AI · Claimed
A single commercial agreement with the CSU covered its sub-contracted supplier, with funds released only on evidence that the agreed services had been delivered, by the council's account. [3]

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

– Combining hospital and social care data into shared dashboards, by the partners' account.

– Winning national funding to scale the work after what the council called a successful test and learn phase.

DID NOT

– The early regional project proved hard to coordinate and was cut back from 14 councils, per the Local Government Association case study.

– Covid-19 delayed the 2020 agreement, and the supplier worked for several months without payment, per the council's decision notice.

UNPROVEN

– The council's statement that the tool predicted journeys with a high level of accuracy: no accuracy figures are published.

– Whether the models were used in commissioning or care decisions after 2020.

– Any effect on admissions, delayed transfers of care or long-term care demand.

Timeline

2016 Council begins working with PredictX, the Midlands and Lancashire CSU and Wolverhampton CCG on joined-up demand analysis [6]

Apr 2018 Local Government Association case study: regional data project with PredictX scaled back from 14 councils [5]

Oct 2018 Council receives a £32,000 NHS Digital grant for a predictive modelling project [1]

Feb 2020 Council receives £340,000 from the Social Care Digital Pathfinders programme to scale the AI project [2]

Jun 2020 Decision notice approves a £168,000 agreement with the CSU after Covid-19 delays [3]

Nov 2020 Partners report dashboards, an A&E admissions model and seven user profiles; next step is to test the insights in practice [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. The work produced dashboards and models, but no source reports a change in a service or a decision.

Graded E, no results reported. The council and its partners built dashboards, a machine learning model of hospital admissions from A&E and user profiles, and won funding to scale them. No source reports the tool changing a service, a decision or a cost after 2020.

The SEAM view and lessons learnt

What the sources show is a data partnership: the hard part was joining health and social care records, and the money came in small national grants. The AI's part cannot be separated from the data sharing, because no result of either is published. Before copying this, a leadership team should decide who will act on a prediction and how, and how model accuracy will be checked independently.

1. Name the decision a prediction will change before building the model.
2. Publish accuracy figures and have them checked independently before claiming success.
3. Budget for the step from prototype to everyday use, not just the pilot.

Evidence

Score 1 of 4. Self-reported: council releases and decision papers, a write-up by the regional health innovation network, and a Local Government Association evaluation case study of the early phase.

Evaluation method. Self-reported: council statements and partner write-ups. A Local Government Association evaluation case study covers only the early regional data project. No outcome evaluation found.

Sources disagree. The council's February 2020 release gives the Pathfinder grant as £340,000; its June 2020 decision notice gives £344,000.

Status. Unclear: no report of the tool in use after November 2020 was found. A later Wolverhampton technology enabled care trial, started in September 2024, is a separate project.

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/wolverhampton-predictx-social-care-demand

[1] City of Wolverhampton Council: Project to help better predict demand for social care services (October 2018)
https://wolverhampton.gov.uk/news/project-help-better-predict-demand-social-care-services

[2] City of Wolverhampton Council: Council receives funding to extend pioneering AI project (February 2020)
https://wolverhampton.gov.uk/news/council-receives-funding-extend-pioneering-ai-project

[3] City of Wolverhampton Council: Individual Executive Decision Notice, NHS Digital Social Care Programme grant agreement (June 2020)
https://wolverhampton.moderngov.co.uk/documents/s147391/NHS%20Digital%20Social%20Care%20Programme%20-%20Grant%20Agreement.pdf

[4] Health Innovation West Midlands: NHS Social Care Digital Programme (November 2020)
https://www.healthinnovationwestmidlands.org/nhs-social-care-digital-programme/

[5] Local Government Association: Wolverhampton City Council Local Investment Programme case study (April 2018)
https://www2.local.gov.uk/sites/default/files/documents/Wolverhampton%20LIP%20Case%20Study.pdf

[6] 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

City of Wolverhampton Council website: https://www.wolverhampton.gov.uk

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