

Tackling Fuel Poverty to Improve Respiratory Health

A data-driven neighbourhood approach in Cheshire & Merseyside

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Background

Fuel poverty is a powerful but often hidden driver of poor respiratory health, contributing to increased exacerbations, avoidable primary care use and unplanned hospital admissions. Cold, damp and poorly insulated homes disproportionately affect people with long-term respiratory conditions, particularly those living in deprived communities. In 2022, an estimated 450,000 households across Cheshire & Merseyside were living in fuel poverty. Addressing this as part of routine respiratory care presents a significant opportunity to reduce health inequalities and improve outcomes at both patient and system level.

Aim

To use linked population health data to proactively identify respiratory patients most at risk from fuel poverty and deliver integrated, place-based interventions by aligning clinical care with existing housing, energy and welfare support.

Programme Overview

This work initially began as part of the NHS England Innovations for Healthcare Inequalities Programme (InHIP), using the Core20PLUS5 approach to focus on locally defined inequality priorities. In Cheshire & Merseyside, fuel poverty was decided as the focus for the work. Rather than creating new services, the programme focused on:

- Putting existing data into action
- Connecting existing clinical and non-clinical offers
- Supporting delivery through local, neighbourhood-based pathways

Integrated, Place-Based Delivery

Using facilitated multi-agency workshops, local teams spanning:

- Primary care
- Community and secondary care based respiratory teams
- Local authority housing and welfare teams

Voluntary and community sector organisations worked together to:

- Interpret local data
- Co-design neighbourhood pathways
- Agree practical, deliverable interventions

Pathways typically included clinical review and medicines optimisation, followed by referral into existing fuel poverty and wider support services, such as those delivered by Energy Projects Plus and local authority schemes.

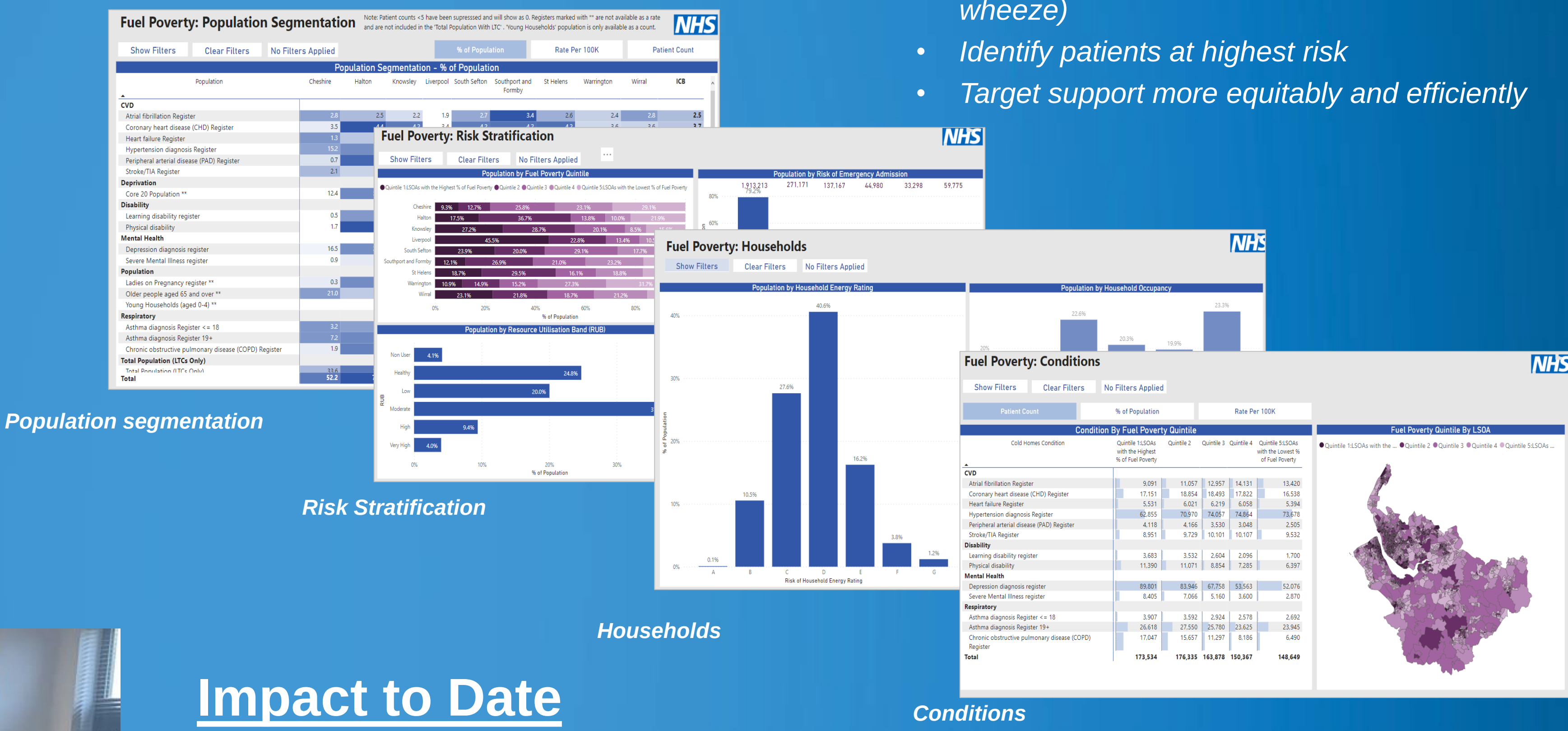
Data-Driven Identification

A fuel poverty dashboard was developed within the Combined Intelligence for Public Health Action (CIPHA) platform, bringing together:

- Primary care patient-level data
- Secondary care activity data
- Deprivation indices (IMD)
- Housing and energy efficiency datasets

This enabled Place-based teams to:

- Define locally relevant priority cohorts (e.g. severe COPD, children with pre-school wheeze)
- Identify patients at highest risk
- Target support more equitably and efficiently



Impact to Date

Across all participating areas (including Knowsley, St Helens, Warrington, Liverpool and Wirral):

- 1,600+ patients identified and supported through integrated pathways
- 1,200+ patients received medicines optimisation
- £482,000+ facilitated via local authority household support funding
- 880+ referrals to specialist fuel poverty services
- 400+ households added to Priority Services Registers

This demonstrates that addressing wider determinants can be successfully integrated within respiratory pathways while reaching large numbers of patients at risk

Supporting Spread: Tiered Participation Model

To support spread across neighbourhoods with different levels of readiness and capacity, a tiered participation model was developed, enabling organisations to start small and scale up over time.

Level 1 – Awareness & Self-Referral

- Posters and leaflets in patient-facing settings
- Signposting to fuel poverty support
- No data access or clinical capacity required

Level 2 – Proactive Digital Outreach

- Population health data used to identify priority cohorts
- NHS-sent SMS messages enabling trusted self-referral
- Minimal clinical workload

Level 3 – Fully Integrated Place-Based Pathway

- Structured cohort identification
- Clinical review and medicines optimisation
- Referral into holistic support
- Multi-agency workshops and evaluation
- This approach allows neighbourhoods to start small and scale up, reducing barriers to entry while protecting fidelity of the core model.



Digital Innovation: SMS Warmer Homes Direct

To reach larger populations with minimal impact on clinical capacity, a proactive SMS-based intervention was piloted in Knowsley.

SMS Warmer Homes Direct:

- Used population health data to identify COPD patients living in IMD Quintile 1
- Delivered NHS-branded SMS messages via GP practices
- Enabled direct self-referral into voluntary sector fuel poverty support
- Messaging was co-designed with patient and public representatives

Pilot outcomes:

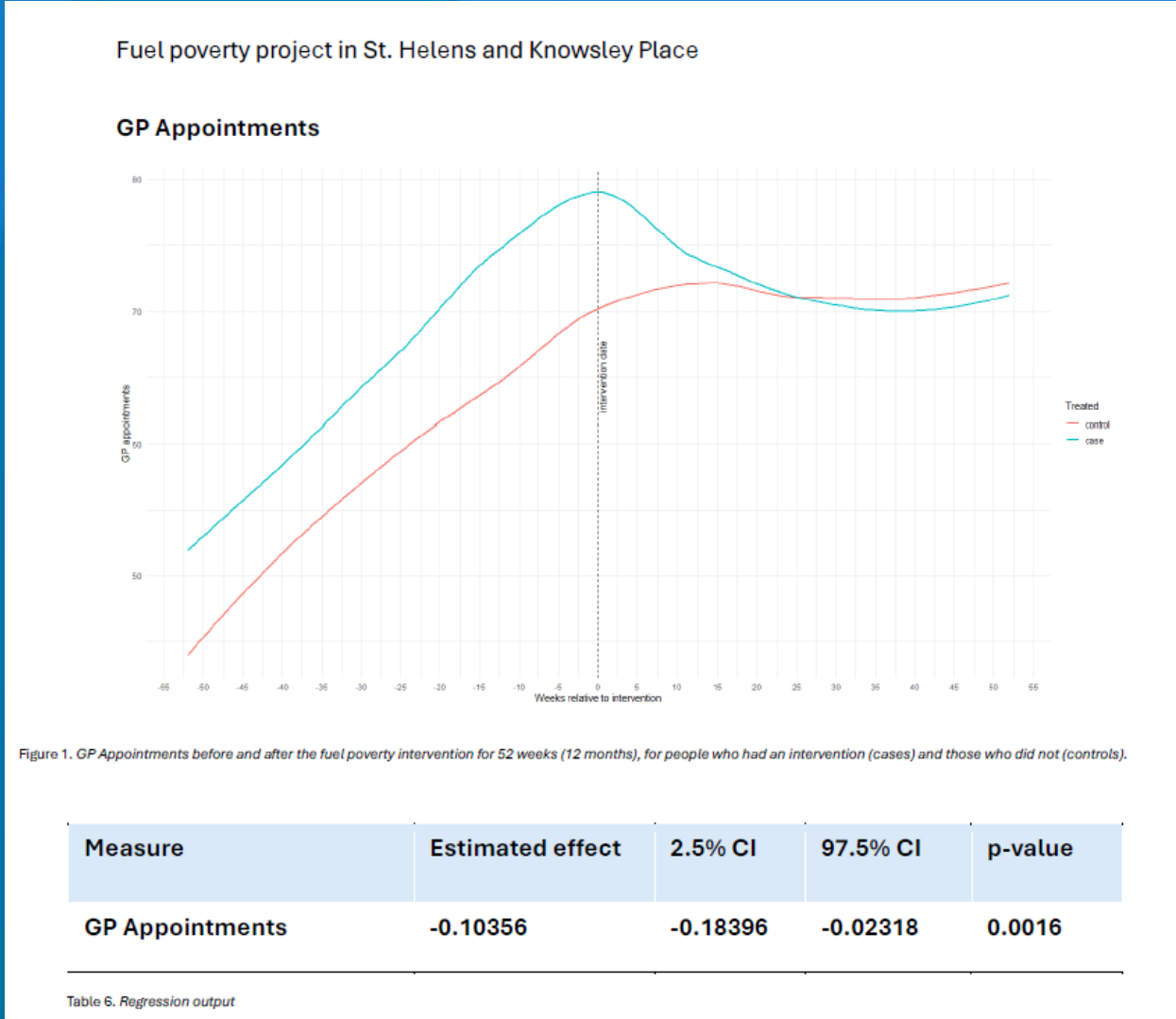
- 15–17% conversion rate from contact to self-referral (3060 people contacted, 510 referrals)
- Substantially higher than expected engagement from standard outreach campaigns (1-2%)
- Demonstrated as a low-cost, scalable intervention in its own right

Evaluation

An evaluation of the early adopter sites has been conducted in partnership with the ICB Business Intelligence team and the University of Liverpool, using a matched control cohort approach. Findings indicate:

- An approximate 10% reduction in GP appointments among patients receiving intervention compared to matched controls (~400 GP appointments avoided, 3,667 vs 4,065 expected)

QR code links to the full evaluation:



Conclusion

By combining shared data with local partnerships, this programme enables a more holistic response to respiratory health inequalities, embedding wider support alongside routine clinical care. Integrating fuel poverty interventions into respiratory pathways improves outcomes for patients while reducing pressure on health services. This neighbourhood-based approach demonstrates a practical, sustainable way to deliver preventative care at scale.

For further information please contact Rhiannon.Clarke@healthinnovationnwc.nhs.uk
Implementation toolkit, resources and evaluation available via this QR code
<https://www.healthinnovationnwc.nhs.uk/tackling-fuel-poverty-toolkit>

