



Offering home sensors to families of children with high-risk respiratory conditions: a feasibility study to connect NHS and housing

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This study is currently in progress and is part of a wider programme of research called Data Sharing for Health and Housing, DASHH. It builds on learnings from a national interview study which sought to understand the factors that enable data sharing across Housing and Health

Background

- Poor housing conditions are linked to increased respiratory symptoms¹, with children among those most at risk.
- Damp and mould increases risk of childhood asthma by 15–53%².
- Causes of damp and mould include building related factors (inadequate ventilation, poor insulation, inefficient heating systems etc) and household factors (homes that are difficult or expensive to heat, overcrowding).³
- Indoor sensors that measure humidity, temperature and air quality and share real-time data may lead to change by
 - Prompting behaviour change in residents (e.g. to improve ventilation) by residents
 - Sending alerts to housing teams who can then identify and respond to issues.
- Sensors offered by landlords are not always acceptable to tenants.

Objectives & progress so far

- Agree a process to support residents in North Central London at increased risk from damp and mould due to health vulnerabilities.
- Identify a service and eligible cohort.
- Agree and develop data flows from housing to NHS and NHS to housing. *[completed so far]*
- Develop patient-facing materials for delivering and evaluating the intervention with community researchers *[in progress]*

Informed by the above:

- Pre-pilot & pilot NHS offer of sensors to families with children that have high-risk asthma to test acceptability to families and feasibility of data sharing for delivery and evaluation. *[in progress]*

Translating learnings from a national interview study on data sharing



Develop relationships

- Small-group discussions** (n=5) in North Central London held first to explore each sector's priorities and constraints.
- Cross sector workshop** held with input from **NHS** healthcare professionals working with children with asthma, NHS West & North London ICB, Local Authority Environment Officers, **Housing** partners, **Public Health**, **data** scientists & **researchers**.
- Evidence Islington (NIHR Islington HDRC) **involving resident researchers** in delivery and evaluation



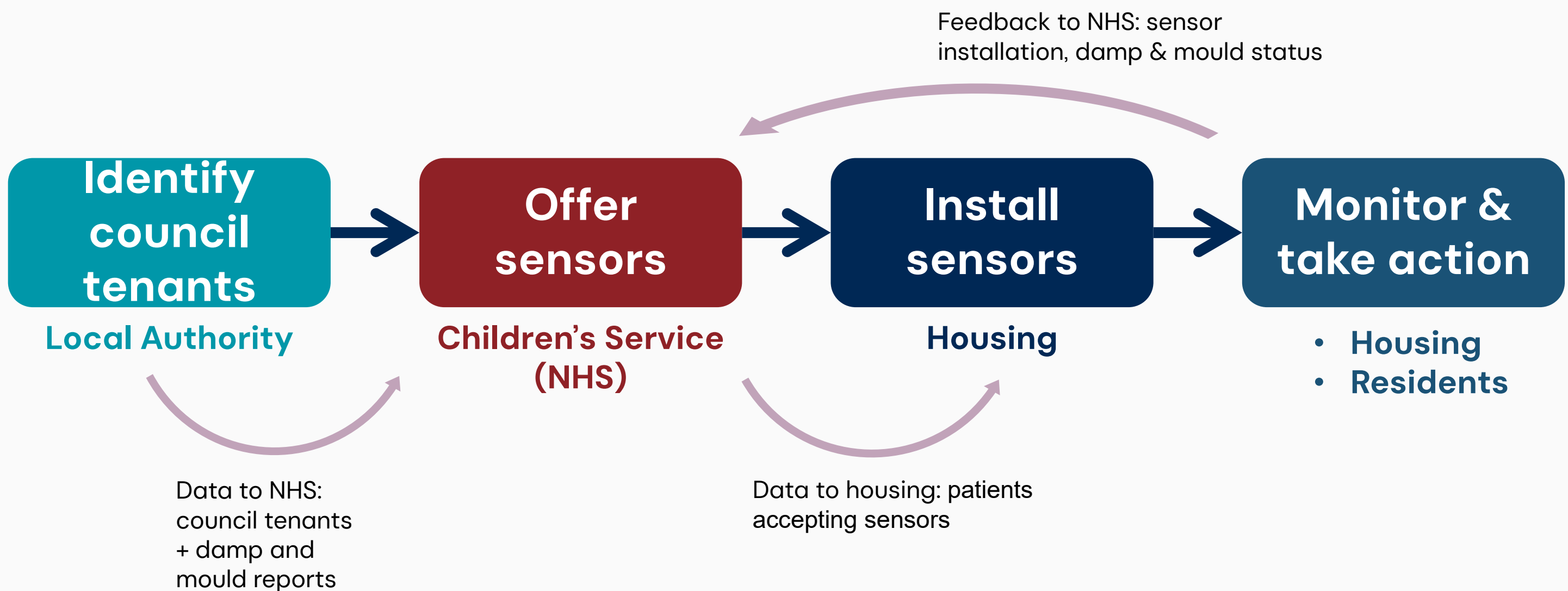
Identify reason to share

- Childhood respiratory health** identified from DASHH 1 and aligned with priorities across North Central London.
- Childhood asthma is a priority for NHS partners and **aligns with Core20+5 national inequalities strategy**, but interest to scale up to adults
- 'Awaab's Law'** – key deliverable for social housing providers, requires knowledge of health vulnerabilities to respond to damp and mould in timeframes



Start small and iterate

- Pilot in **one geographical area** (Islington).
- Islington Paediatric Service selected:** high-risk asthma patients referred across the borough.
- Start with council tenants**
- Get simple data flows right with one provider on one variable (tenure), add more if working.
- Set up **feedback loops** as early as possible for continuous learning, course correction, following the patient/resident journey & to strengthen cross-sectoral relationships



Learnings so far

All sectors' inputs needed to devise a suitable pathway

More steps and complexity identified in sensor selection and data flow

Pre-pilot required to get data flows and resident acceptability right

Develop proof of concept before wider piloting

References:
1. Fisk WJ, et al. Meta-analyses of the associations of respiratory health effects with dampness and mold in homes. *Indoor Air*. 2007;17. doi: 10.1111/j.1600-0668.2007.00475.x.
2. Varga MK, et al. *Childhood asthma and mould in homes – A meta-analysis*. *Wiener klinische Wochenschrift*. doi: 10.1007/s00508-024-02396-4.
3. Ministry of Housing, Communities & Local Government, Department of Health & Social Care and UK Health Security Agency, *Understanding and addressing the health risks of damp and mould in the home*. 2026 www.gov.uk/government/publications/damp-and-mould-understanding-and-addressing-the-health-risks-for-rented-housing-providers/understanding-and-addressing-the-health-risks-of-damp-and-mould-in-the-home--2

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