



The potential role of sensor technology and data intelligence in eliminating mould

It's undeniable that mould in the home creates an environment that is damaging to health. The tragic death of [two year old Awaab Ishak](#) due to prolonged exposure to mould in his home highlighted this starkly.

Some people spend as much as 90% of their day inside. Mould and damp are a very real challenge for those living in the home but also for housing associations, councils and health professionals. The long-term cost and health impacts for the housing sector, the NHS and most importantly for individuals is high.

However, detecting and responding to a poor indoor environment can be difficult, because the causes are often invisible and the effects on health are often cumulative and only identified retrospectively.

Technologies such as home sensors can offer valuable insights through the data gathered. In turn, this can support the management of housing and health issues before the point of crisis, although data alone is not the solution.

For six years the University of Exeter's Smartline project has worked with more than 300 social housing residents from Coastline Housing in Cornwall, installing sensors in their homes, carrying out regular questionnaires and researching potential intervention approaches.

The data gathered and research carried out, provides a unique and complex picture of the relationship between indoor environments and people's health and well-being.

Smartline has shown that when mediated by a responsible Social Housing Association, technology has a valuable role to play in monitoring internal environments, identifying and potentially preventing issues that can affect physical and mental health.

However, technology alone is not an answer and effective standards of governance are necessary to ensure tenants are empowered and protected.

Key insights from the project:

- A mouldy odour in the home is linked with a higher risk of asthma for residents
- Mould modelling devised within the Smartline project and using sensor data can identify risks of mould, and has future potential to predict and reduce the growth of mould
- Simple remote dashboard interpretation of humidity, temperature and other internal data can help Housing Associations to prioritise stock management and provide proactive customer support
- Sensor technology can highlight issues and reduce health costs, but it is not a complete solution - organisations need to have the capacity for in-person response
- Industry wide standards of governance are needed to ensure data collected by sensors in social housing is used in tenants' best interests and that tenants have access to their data
- Digital inclusion barriers and relationships with individuals and communities must be considered when introducing technology into people's homes
- There is significant potential to link up internal sensor data with health data in order to prioritise those who are most vulnerable but there is a need for organisations to be prepared to act on this intelligence.

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