



# Rolling out innovative pain management technology to social care services

**An AI-powered pain assessment app is giving a voice to residents in care homes who can't verbalise their pain**

- 1,000 care home residents to benefit from the first evaluation project, which was instigated by Life Sciences Hub Wales.
- One third of care homes across Gwent taking part, with further projects already lined up in other parts of Wales.
- An AI-powered tool allows caregivers to complete evidence-based pain assessments for non-verbal residents, potentially identifying pain that was previously unaddressed, and improving resident safety and satisfaction.

## Pain assessment: the challenge in social care

In social care, assessing pain for residents who are unable to communicate is a major challenge. For patients with dementia, inadequate pain relief can lead to behavioural changes which, in turn, results in increased use of antipsychotic drugs. Similar challenges occur for residents with learning difficulties. And, even where patients are verbal (such as those with mental health conditions) care providers would benefit from more evidence-based decision-making on pain relief.



## A UK-leading evaluation project for an AI-powered tool

Life Sciences Hub Wales has led the first Welsh evaluation (and one of the first in the UK) of an AI-powered pain assessment tool – PainChek.

After discovering the tool while horizon scanning for new innovations, Life Sciences Hub Wales approached Gwent Regional Partnership Board about running a 12-month evaluation across care homes in the region. The Assistive Technology Team at the Partnership Board agreed to fund the evaluation with £36k, covering licences for the tool, training and implementation costs for 1,000 care home residents in Gwent.

Care homes across Gwent were invited to take part, with an initial focus on dementia care. Following the launch, two mental health-specialist care homes also asked to be part of the evaluation, after recognising the benefits the tool could bring to their residents.

By six months into the project, 905 of the 1,000 PainChek licences were in use across 18 care homes in Gwent, with a mix of both private and local authority-funded homes taking part. The remaining 95 licences were earmarked for use in learning disabilities, to further broaden the scope of possible learnings from the evaluation.

## Partners and funding

### Partners

- Life Sciences Hub Wales
- Gwent Regional Partnership Board
- PainChek

### Funders

Gwent Regional Partnership Board Assistive Technology Team provided funding of **£36k** for the pilot.

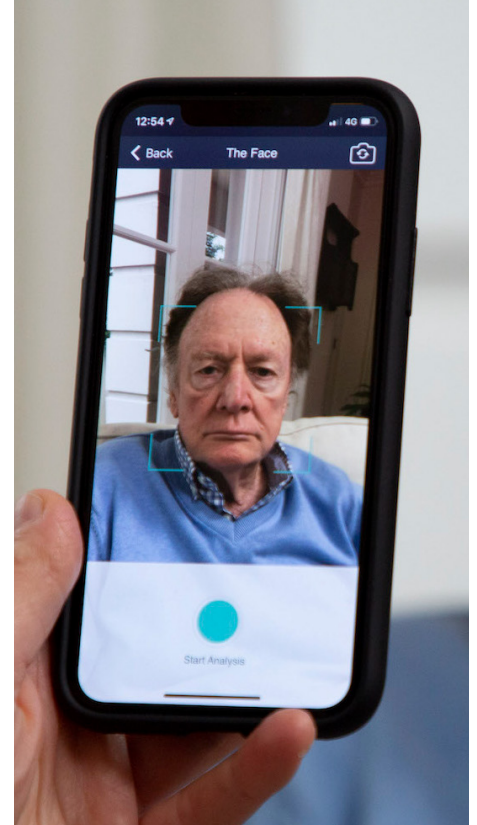
## What is PainChek?

PainChek is an AI-powered tool that scans facial movements to assess the level of pain a person is in. The facial scan can be completed from up to three metres away, minimising any distress for the service user. Caregivers then use the tool to complete a guided assessment for other indicators of pain, such as body movement. The result is an overall pain score, and a record of the assessment that has taken place. Based on the established Abbey Pain Scale, which scores pain between 0-18, this allows caregivers to make more informed, documented clinical decisions about pain relief.

Developed in Australia, the tool is already used in around 70% of residential care homes for older people there. It is now rapidly expanding to other parts of the world, including the UK, North America, Singapore and New Zealand.

## Benefits PainChek has reported include:

- Reductions in the use of antipsychotic medications.
- Improved use of analgesics (pain relief).
- Greater carer and resident safety and satisfaction.

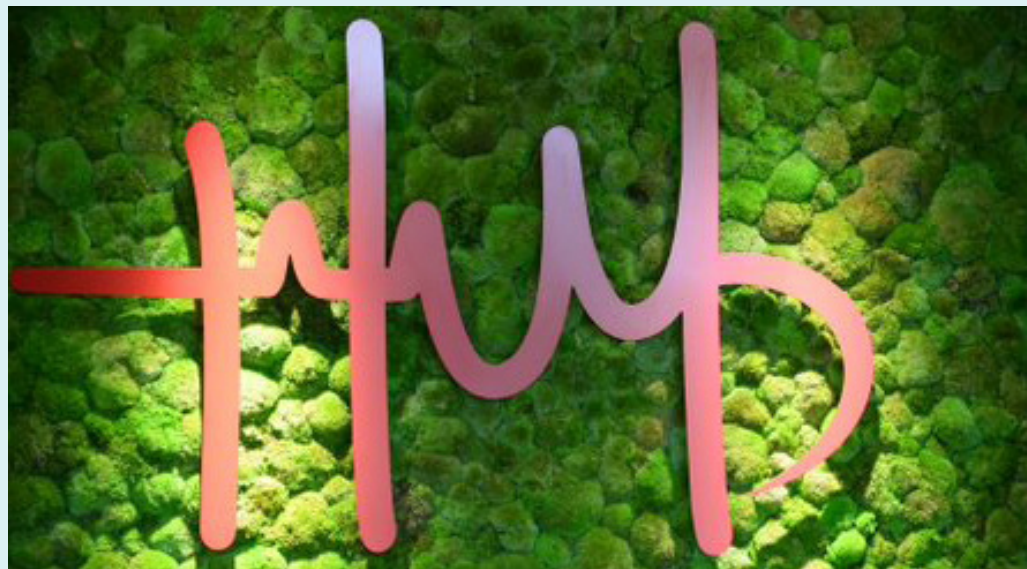


“ NICE guidance recommends monthly pain assessments for residents of care homes. Typically, we see them being done much less frequently and, where they are done, they are often not formal, documented assessments. Where they are documented, this is usually not done ‘live’ with the resident, but written down some time later in the office. PainChek allows caregivers to conduct those regular pain assessments, document them in real time and access longitudinal data on how their residents are doing.”

Aimee Twinberrow, former Project Lead at Life Sciences Hub Wales, now Digital Innovation Lead at Social Care Wales

## Life Sciences Hub Wales input

- Instigating the evaluation after identifying the tool through engagement with innovative companies.
- Identifying and agreeing funding for the project.
- Convening providers, funders and users to launch the project.
- Overseeing the rollout of the evaluation in Gwent and engaging with funders and local authorities across Wales to identify further areas.





## Impact for people receiving care and support

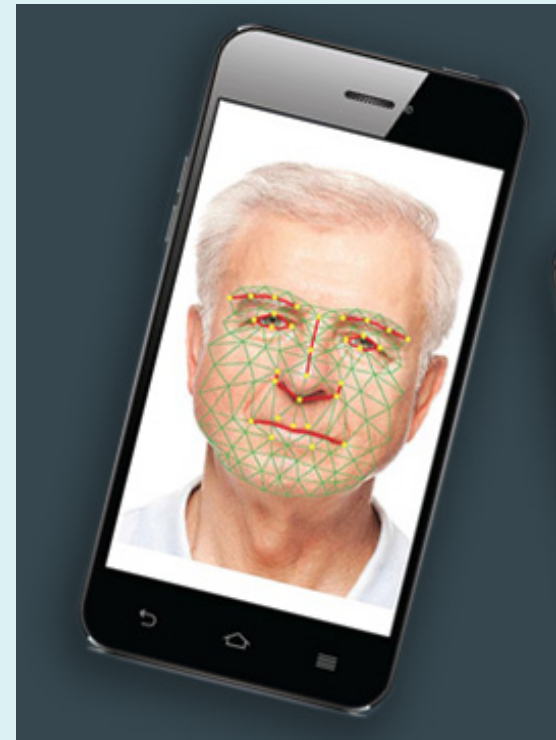
Independent analysis by KPMG of PainChek's large-scale rollout across Australia indicated that participating homes saw pain scores decrease over time, suggesting PainChek has a positive impact on pain management and reduces pain burden for residents.

Recent results from a pilot in England reported a 50% reduction in distressed behaviours thought to be associated with pain, and a 50% increase in the number of residents on regular pain relief as a result of newly identified pain.

The evaluation in Gwent is exploring and verifying the benefits that PainChek reports for its global user base, producing evidence for the impact it

has for service users in Wales. Some of the expected impacts for service users that should come from better management of pain relief include:

- Reduced falls
- Improved nutrition through better intake of food and fluids
- Improvement in the symptoms of other conditions.



## Impact for health and care providers

Other pilots of PainChek have recorded as much as a 100% increase in the frequency of pain assessments being conducted in homes. For those assessments, care providers now have recorded evidence of pain assessments, captured more accurately in a 'live' scenario with residents, and more quickly than traditional paper-based assessments.

Care home managers have access to an analytics portal to track an individual's pain assessments, as well as whether improvements are being seen across their resident population.

The pain assessments should equip caregivers to:

- Make evidenced-based decisions on medication.
- Reduce challenging behaviours in residents that are a result of poor pain management.
- Improve data-sharing across multidisciplinary teams. Analysis of the rollout in Australia found that 78% of homes frequently shared PainChek results with GPs, physiotherapists, occupational therapists, and dementia support services.

As a result of the better management of pain and challenging behaviours, it's also expected that there will be a reduction in unplanned GP visits and hospital admissions.

As an additional knock-on impact for caregivers, early feedback from care homes suggests that the tool is having a positive effect on building digital skills for carers.



## Achievements within 6 months of launching the pilot:



18 care homes signed up to take part – almost a third of care homes in Gwent.



905 residents benefitting.



Care homes across all five local authorities in Gwent involved, including private and local authority-funded homes.



## How Life Sciences Hub Wales has supported the project

This project was instigated and led by Life Sciences Hub Wales from the start, through our work actively scanning for new, innovative solutions to support health and care provision in Wales. After researching and engaging with the providers of PainChek, our Project Lead approached local authorities and funding providers to gauge interest in a potential evaluation project. Following the funding agreement with Gwent Regional Partnership Board, we have led the evaluation, engaging with both care homes and PainChek to oversee the launch and roll-out of licensing and training programmes. We will be working with the Assistive Technologies Innovation Centre (ATiC) at the University of Wales, who will conduct an independent evaluation of the technology, and the impact it has in a Welsh setting.

## What next?

Given the early positive reactions from care homes to this first evaluation, and the evidence PainChek is amassing from other worldwide implementations, the project team is positive about the potential benefits this tool could bring to Wales. Pending outcomes of the evaluation, and if the evidence is strong enough, Life Sciences Hub Wales is already in discussions with Welsh Government about a nationwide implementation of the tool.


Another funded evaluation has also been agreed in North Wales, with a focus on learning disability services. This will gather evidence on the use of PainChek for people with a learning disability living in supported living services.

## Get in touch

We're here to help drive system-wide transformation! If you want to access support similar to that outlined in this case study, then we want to hear from you.

Submit your enquiry today via our website: [lshubwales.com/innovation-enquiry-form](https://lshubwales.com/innovation-enquiry-form)



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 **PainChek**  
Intelligent Pain Assessment

