

# Understanding Falls Risk While Supporting an Unpaid Carer

## At a Glance

### Technology used

Andi Hub, environmental sensors and Pacsana activity bracelet

### Focus

Understanding mobility patterns and falls risk while supporting an unpaid carer

### Outcome

Combined sensor and wearable data provided deeper insight into mobility, falls risk and the level of support being provided within the home



## Background

An 83 year old woman lives at home with her husband, who is her primary carer. The couple are supported by their three daughters, one of whom lives locally while the others travel to assist when needed.

The woman lives with several health conditions including dementia, hypertension, osteopenia, atrial fibrillation and depression. She also has a history of a left hip fracture and now mobilises using a walker.

Although her husband provides most day-to-day support, there are times when he needs to leave the home to run errands, attend work commitments or spend short periods with friends.

The family had growing concerns after several incidents where the woman had fallen while outside the home and was unable to call for help.

However, there was limited objective information available to understand when these incidents were occurring or how frequently they were happening.

To better understand the risks and provide reassurance, the Andi system was introduced.

## Initial Monitoring Setup

Environmental sensors were installed within the home to help understand daily movement patterns.

These included:

- Movement sensors in key areas of the home including the bedroom, bathroom and hallway
- Door contact sensors on the front and back doors

This allowed professionals to establish a baseline understanding of daily movement patterns within the home.

Following an initial review, additional sensors were introduced to build a more detailed picture of activity within the home.

## Adding Person Specific Insight

While environmental sensors provided valuable insight into movement within the home, it was not always possible to distinguish whether activity related to the woman or her husband.

To address this, a Pacsana bracelet was introduced.

This enabled the care team to gain individual insight into the woman's mobility including:

- Walking speed and gait
- Activity levels throughout the day
- Sleep patterns
- Detection of potential falls

This made it possible to distinguish the woman's movements from those of her husband.

The data revealed that on several occasions the woman had experienced a fall but had been able to get herself back up independently without assistance.

## Impact

By combining environmental sensors with a wearable device, professionals and family members gained a much clearer understanding of daily routines and mobility patterns.

The insights provided reassurance to the husband and wider family while helping professionals identify potential risks earlier.

The system also highlighted the level of support the husband was providing, offering valuable insight into the role of unpaid carers within the home.

This information is now helping to inform future care planning and preventative support, enabling professionals to respond proactively while allowing the individual to continue living safely and independently at home.