

# Data-driven Dementia Care



# The DASH model of effective falls management

In this eBook, you'll discover an entirely new approach to dementia care based on gathering and analyzing resident behavioral data.



**D**

**Detect:**  
**reveal all falls**

including unreported incidents that lead to future falls.



**A**

**Authenticate:**  
**confirm real falls**

as opposed to false alerts that waste staff time.



**S**

**Spot:**  
**identify illness**

that makes falls more likely by tracking bathroom usage.



**H**

**Highlight:**  
**assess fall risk**

by identifying disturbed sleep.

# A growing challenge

Dementia is now among the **leading causes of death**<sup>1</sup> and **50% of US nursing home residents**<sup>2</sup> live with some form of the condition. And providing care for people experiencing cognitive decline is getting harder.

As the senior population ages, and with fewer qualified professionals available to care for this extremely vulnerable, highly dependent, and rapidly growing cohort, the sector urgently needs to embrace new ways of monitoring, assessing, and protecting people with dementia.



**Dementia is now among the leading causes of death.<sup>1</sup>**

**Caregivers working in dementia care have one of the most demanding jobs** in an industry struggling to address a severe and prolonged staffing crisis. **Burnout is a fact of life.**

<sup>1</sup>World Health Organization. <sup>2</sup>Alzheimer's Association.





# The fallout for dementia care patients

While the risk of falling naturally increases with age, older adults with dementia are **four to five times more likely to fall<sup>3</sup>** than those without cognitive impairment.

This is due to problems with visual-spatial awareness, disorientation and decline in cognition, mobility, muscle strength, and coordination.

**3**  
times

Older adults with dementia are three times more likely to suffer a fracture as a result of a fall.<sup>4</sup>



Antipsychotic medications can cause side-effects such as lowered blood pressure and dizziness.



Common symptoms of dementia such as delirium, wandering, 'sundowning' and incontinence also result in more falls.

**Effective falls management is the top priority for dementia care providers.**



# Limitations of standard technologies

Legacy fall alert solutions such as buttons, cords and wearables are severely limited in their ability to protect memory care residents.

People with dementia may forget —or refuse— to put on a pendant alarm or a fall detection watch. And immediately after a fall, many people are confused and disoriented. There's no guarantee that they'll be able to push a button or pull a cord to summon help.

Video cameras compromise privacy, increasing stress on psychologically vulnerable people. What's more, they cannot be installed in bathrooms where **four out of five**<sup>5</sup> falls happen.

Floor mats, meanwhile, that notify caregivers when a resident gets out of bed, trigger frequent false alerts and can represent a tripping hazard. And some people with dementia can perceive them as holes in the ground or pools of water that they must step over or around, increasing the chance of a fall.



**Intrusive  
of privacy**



**Dependent on  
resident action**



**Widely  
underused**



**Prone to false  
alerts**

**The bottom line is that reliance on standard alert and monitoring technologies heightens the risk of long lies and their catastrophic consequences.**

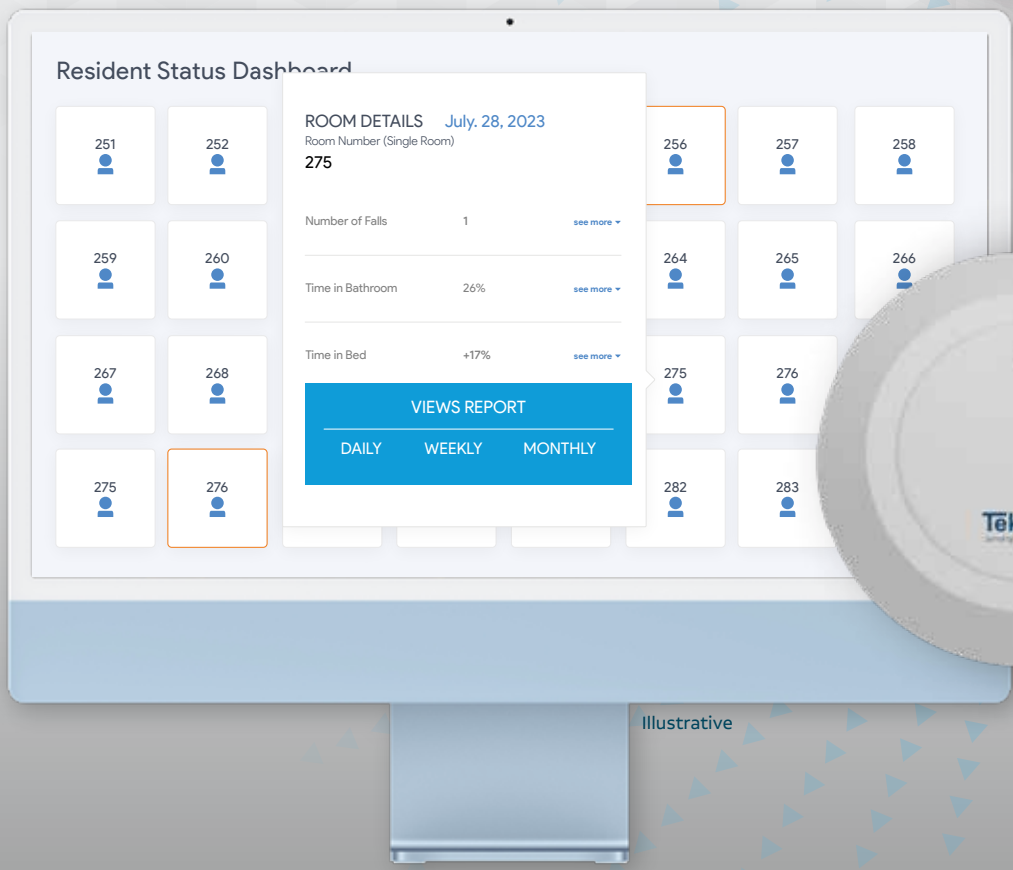
<sup>5</sup>National Institute on Aging.

# The data dementia care demands

To overcome the drawbacks of legacy devices, memory care and dementia care providers are looking beyond standard reactive solutions.

That data is at the heart of a new model of technology-enabled dementia care, detecting both major and minor falls, distinguishing true falls from false alerts, discovering undiagnosed conditions, and determining resident risk.

**Operators are turning to advanced sensor platforms that gather a wide range of activity data.**





# Detect



# Detect: reveal all falls

When a memory care resident fails to use a standard active alarm system, they need a passive fall detection solution that will summon help immediately to eliminate the risk of a long lie. Even without direct injury from the fall, remaining on the floor for over an hour results in death within six months in **half of cases**.

Detecting “hidden” falls is another significant challenge. Since dementia is **the most feared health condition**<sup>6</sup> among older adults, it’s common for an LTC resident not to report minor, self-recovered falls, fearing they might lose more of their independence. People with advanced dementia may also forget that they’ve fallen.

**50%**  
of cases

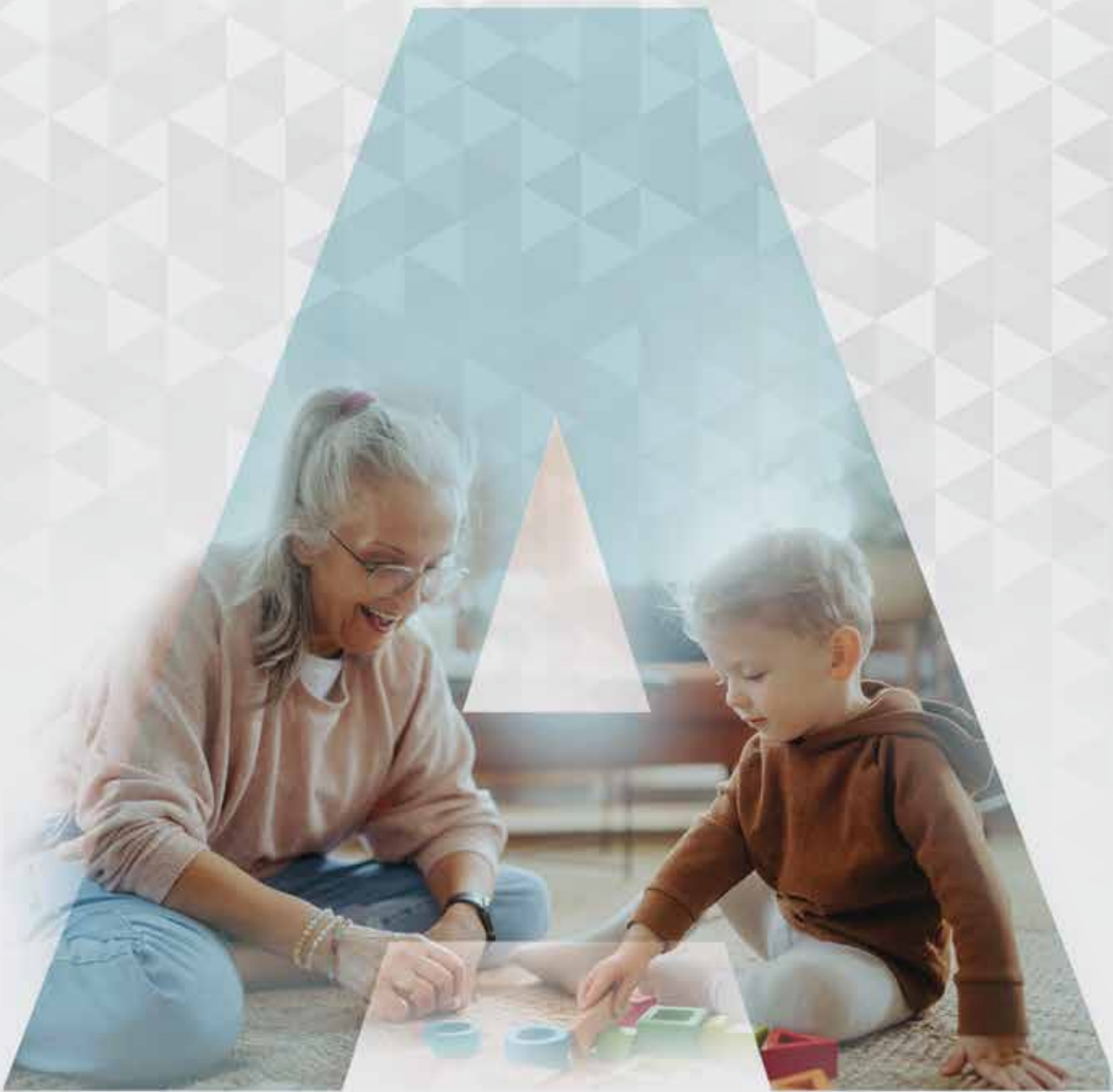
**Remaining on the floor for over an hour results in death within six months.**<sup>7</sup>

And when fear of falling leads seniors to restrict their daily activities, they become even more vulnerable to social isolation and depression – a vicious circle that accelerates cognitive decline.

**These unreported falls are the No. 1 risk factor for subsequent, serious falls. They double the likelihood of falling again.**<sup>8</sup>



# Authenticate



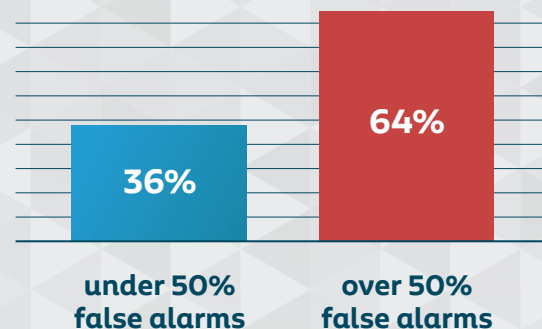
# Authenticate: confirm real falls

Memory care providers need solutions that directly address the issue of staff alarm fatigue.

In addition to the higher emotional and physical demands on caregivers, nurse call system overuse is a major issue in dementia care.

“Cry wolf syndrome” can lead to delayed response in the event of genuine emergencies. It also contributes significantly to staff burnout and attrition.

Proportion of false alarms due to resident overuse of nurse call systems



TekTone Partner Survey 2023

45%

Caregivers with experience of slow response due to alarm fatigue.

**Fall detection systems must be able to verify data in real time, ensuring that caregivers are in the right place at the right time —every time.**

# Spot





# Spot: identify illness

Tracking bathroom usage —during the day and at night — enables dementia care providers to assess increased short-term fall risk and take appropriate preventative action.

It's how caregivers can spot signs of UTIs early and prevent sepsis.

What's more, nighttime bathroom visits are connected to **higher fall risk**<sup>9</sup> for people of all ages.



Illustrative

**UTIs also represent a major fall risk since they often cause low blood pressure, leading to dizziness. Severe infections may also cause muscle weakness.**

# Highlight



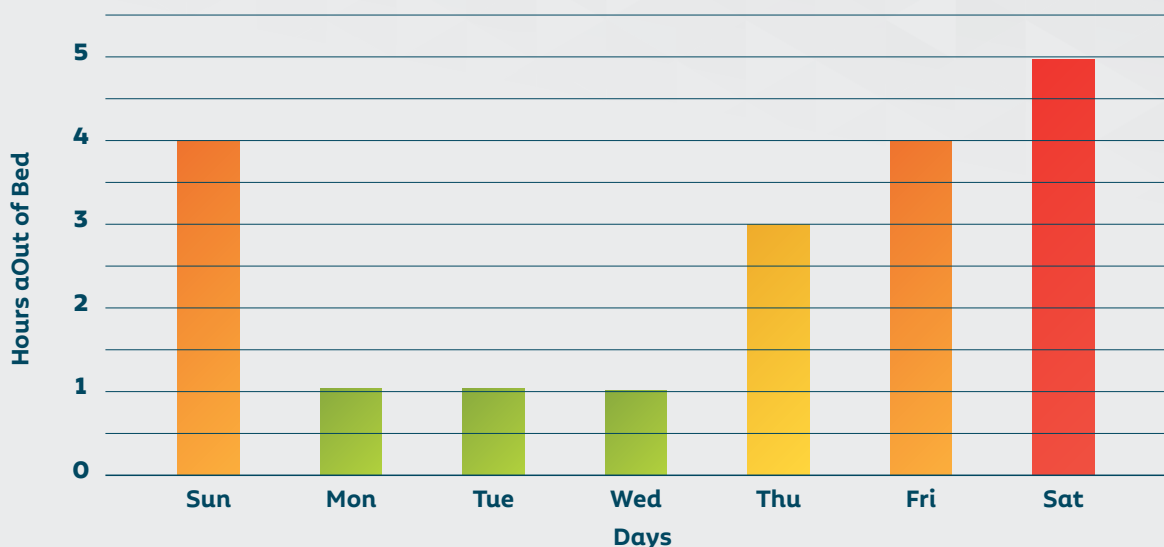
# Highlight: assess risk

Flagging up disturbed sleep is critical for dementia care providers<sup>10</sup>. When residents move around their rooms at night, their fall risk increases exponentially. What's more, fatigue the following day makes a fall much more likely.

This is especially important when disturbed sleep is the result of breathing problems caused by respiratory conditions such as CHF and COPD. Violent coughing and anxiety inevitably heighten fall risk.

**Caregivers need to know when residents are spending longer out of bed at night so they can supervise them more closely and make the right interventions.**

**Time Out of Bed**  
(20:00 – 08:00)



<sup>10</sup>Requires additional sensor.



# 4D imaging radar: elevating dementia care

One technology that's transforming dementia care is 4D imaging radar, which uses low-power radio waves to monitor residents' activity around the clock.

If there's a fall, caregivers are alerted automatically, enabling rapid response and immediate assistance, while ensuring awareness of even minor falls, enabling preventative care planning.

The technology delivers what dementia care providers need:



**Rich data about falls and bathroom visits generates actionable insights that enhance protection for people with dementia.**

▶ Provides passive fall detection in all conditions.

▶ Gathers rich activity data on time in bed and bathroom usage.

▶ Enables prioritization of care delivery according to need.

▶ Supports person-centered care planning and effective falls management.

# TekTone: a lifeline for your front line

**TekTone**, the care industry's most advanced and mature 4D imaging radar monitoring system, provides the visibility staff need to excel.

It provides emergency fall alerts that protect the most vulnerable residents and gathers behavioral data that generates actionable insights supporting predictive, preventative, person-centered care.

**TekTone** end-to-end falls management service delivers a new gold standard, protecting residents, easing the burden on staff, and boosting profitability for operators.



Fall detected



Self-recovered falls



Bathroom usage



Time in bed



# Do your residents deserve the best in data-driven care?

Rich behavioral data is the key to a new paradigm of fall management in dementia care:

- D** Detecting all falls
- A** Authenticating real falls
- S** Spotting symptoms of UTIs
- H** Highlighting disturbed sleep

Discover how **TekTone** is working with memory and dementia care communities, as well as leading nurse call system and platform providers, to transform outcomes across the board.

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