

Case Study

Enhancing care
through technology at
Epilepsy Society

epilepsy
society



CLB Acoustic Monitoring + Alert-Triggered Visual Monitoring

Acoustic monitoring uses sound intelligence to notify a central hub of changes in the residents' behaviour. This warns caregivers of potential risks or distress, allowing them to check on residents before accidents occur. It reduces intrusive routine night-time checks, helping residents wake up well-rested and content, enhancing their care home experience.

Read on to learn how our Acoustic + Alert-Triggered Visual Monitoring technologies help enhance care.



ENHANCING COMPLEX NEEDS CARE: HOW THE INTEGRATION OF ADAPTIVE CARE'S ALERT MONITORING TECHNOLOGY MINIMISES RESIDENT RISKS AND BETTER SUPPORTS STAFF AT EPILEPSY SOCIETY

Adaptive Care's technology positively impacts the lives of residents at the Epilepsy Society's Chalfont Centre, a specialist residential care service in Buckinghamshire. By enabling proactive fall prevention, aiding carers in identifying potential seizures and facilitating early intervention strategies, this technology enables safer and more effective care.

About the Society

Epilepsy Society is the UK's only charity transforming the lives of people with epilepsy through world-leading research, advocacy and care.

Its impressive Chalfont Centre in Gerrard's Cross is home to over 120 people who live in the residential care and supported living services across the site; in addition to their epilepsy, the people living here often have associated and additional complications, including physical and learning disabilities, brain injury and autism.

The challenges of care at Chalfont Centre

People living at Chalfont Care centre require very specialist care and support, particularly as epilepsy brings other risks to the mix.

Sudden Unexpected Death in Epilepsy (SUDEP)

As the name suggests, this condition is the sudden, unexpected death of someone with epilepsy. Early intervention against generalised tonic-clonic seizures is critical to the person's safety and welfare.

Professor Matthias Koepp explains that "SUDEP is a rare event, but in this population with refractory epilepsy it happens in approximately 1 in 200 people. This risk is three times increased for people who have seizures at night." – *Matthias Koepp, Professor of Neurology - (UCL Institute of Neurology)*

Night-time is a particularly high-risk area of support for people with epilepsy; because people are in their individual bedrooms rather than communal areas and there are inherently less support staff on at night-time, therefore people are at higher risk of SUDEP.

Monitoring and the impact on a resident's sleep

Monitoring is time intensive for waking nights and there is a chance, seizures may be missed through waking night checks that tend to be on a 30-minute basis. Furthermore, the regular 30-minute checks often have a negative impact on the quality of a person's sleep.

Lack of sleep

A good night's sleep is essential for everyone's physical and mental health, however for a person with epilepsy, a lack of sleep can bring more complications. As well as feeling tired during the day and hence affecting a person's general well-being, poor sleep quality may also increase the likelihood of having a seizure. In some cases, poor sleep can increase the intensity and length of seizures too.

"Sleep plays a crucial role in managing epilepsy. Firstly, preventing SUDEP (Sudden Unexpected Death in Epilepsy) largely depends on seizure control. If seizures aren't observed, which could potentially lead to SUDEP, there is no way to reduce the risk. You only can improve things if you can measure them." – *Matthias Koepp, Professor of Neurology - (UCL Institute of Neurology)*

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Matthias Koepp, Professor of Neurology
- (UCL Institute of Neurology)

What did Epilepsy Society staff think of Adaptive Care’s technologies?

“Before the system was implemented, the night staff were checking in every 30 minutes, which disrupted sleep for one individual who was a light sleeper. As a result, he didn’t sleep well at night, leading to challenging behaviours during the day because he wasn’t fully rested. This lack of proper rest also increased the frequency of seizures.

With the system in place, nights have become much less intrusive, allowing him to sleep better. As a result, we’ve seen a significant reduction in challenging behaviours during the day.

For individuals with learning disabilities and behaviours that challenge, poor sleep or frequent interruptions at night often trigger a cascading effect of issues. This system has helped reduce those problems. The people we support now sleep better, which leads to fewer daytime challenges and an overall improvement in their well-being.

This has also made life much easier for the entire team.”
- Doris Kave, Deputy Manager - Russell House, Epilepsy Society

Risk of falls related to epileptic seizures

There is also a heightened risk of falls due to the onset of epileptic seizures. For the residents at the Epilepsy Society, this risk is even greater, as acquired brain injuries often affect their dexterity and balance.

While Epilepsy Society assess each resident’s fall risk and despite having installed bed exit alarms, sensors and detection mats, it recognised the need for more advanced solutions to proactively prevent falls ‘before’ they occur.

HOW ACOUSTIC MONITORING WORKS



Figure 1 - A sensor monitors sounds in a room. When any sound profile exceeds its individually set threshold, an alert is sent to a central station or forwarded to a mobile device.

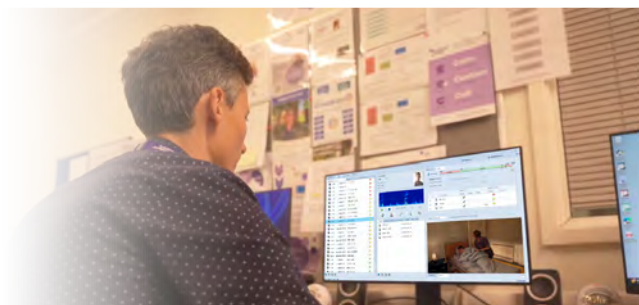


Figure 2 - An operator working with the Event Handler client.

To minimise the risks of falls and undetected seizures, Epilepsy Society chose to implement CLB Acoustic Monitoring, advanced Nurse Call and Alert-Triggered Visual Monitoring. This decision has provided peace of mind to residents, carers and families, ensuring the highest standards of care and support are being delivered.

Choosing the right technology

Taking a deeper dive into sensor-based technologies, Epilepsy Society reviewed several options and systems, including baby monitors and in-bed seizure monitors.

“Baby monitors need different radio signals and it’s hard to do this for 20 plus bedrooms – plus we inadvertently picked up signals from baby monitors over the road!

The in-bed seizure monitors don’t always pick up what we are looking for, particularly if a person moves around a lot in their sleep”. - Steve Potter, Registered Manager at Queen Elizabeth House, Epilepsy Society

Mindful of privacy and ethical considerations, particularly regarding visual monitoring technology supporting the auditory systems, Epilepsy Society undertook extensive

consultation to understand people’s views on this technology. For individuals lacking capacity, they ensured that best interest decisions were made.

After careful evaluation of a wide variety of options, Epilepsy Society chose Adaptive Care’s CLB Acoustic Monitoring, advanced Nurse Call System and Alert-Triggered Visual Monitoring as the preferred solution. The solution comprises 103 rooms equipped with CLB Acoustic Monitoring and advanced Nurse Call units, 91 of which also feature Alert-Triggered Visual Monitoring.

With over 40 years’ worth of research and development in the UK and The Netherlands, Adaptive Care’s technology has proven results in detecting and preventing falls worldwide, including the UK. The CLB Acoustic Monitoring technology is specifically designed to monitor residents at night, particularly those with a higher risk of falls, especially where staffing is limited and one staff member per resident is not feasible.



Positive outcomes

Here, we explore the key highlights of the successful implementation of Adaptive Care's smart technologies and their impact on enhancing complex needs care at Epilepsy Society, including whether these technologies have contributed to fall prevention.

More transparency over seizures

"If you observe the seizures, you have at least a chance of intervening. 5 out of 6 people in Morton House with night-time seizures had more seizures picked up by carers using the monitoring system compared to the same period before, when they were monitored with standard routine checks. So, in 5 out of 6 people, we were kind of managing them blindly, blind to the fact that they actually had far more seizures". – *Matthias Koepp, Professor of Neurology - (UCL Institute of Neurology)*

Acoustic monitoring in action

"Some people with epilepsy may let out a pre-ictal yelp or make a sound at the start of a generalised tonic-clonic seizure. The acoustic monitoring technology detects these sounds and triggers an alert to a call handler monitoring the system at night. If necessary, the call handler can activate the camera (which is not a live feed and does not record events) to assess the situation. They can then direct care staff to provide rapid support, such as staying with the resident during their seizure, administering medication, or arranging medical assistance."

"In early implementation, the technology has alerted staff to sounds associated with potentially dangerous seizures. In one instance, this led to the identification of frequent nocturnal episodes for an individual that had previously gone undetected". – *Jonny Anders-Cannon, Director of Care Development, Epilepsy Society*

From a falls perspective, the highly sensitive acoustic monitoring system detects various sounds which could indicate the need for intervention, such as coughing, distress or even the slightest of resident movement.

By identifying these early warnings, the call handler can assess the situation via the system or switch to the Visual Monitoring technology to quickly assess the situation.

They can then decide if intervention is required and direct staff and allocate resources appropriately. This approach helps prevent falls rather than merely detecting them after they occur.

Therefore, the system supports early staff intervention by detecting and alerting carers to sounds that may indicate a seizure. This helps reduce risks linked to prolonged episodes, including those associated with SUDEP. Epilepsy Society also benefits by eliminating unnecessary routine night-time checks, allowing residents to enjoy a more peaceful, less disrupted sleep environment.

What do residents make of the Acoustic Monitoring and Alert-Triggered Visual Monitoring systems?

"This system has been transformative for our clients in supported living. It helps them maintain independence and dignity by removing the need for staff to enter their rooms during the night for routine night-time physical checks. They mention how this acoustic monitoring system supports person-centred care by respecting their privacy and making them feel safer, without the need for staff to be in their flat, home or room 24/7." – *Szymon Kosciukiewicz, Registered Manager – Supported Living, Epilepsy Society*

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**Szymon Kosciukiewicz, Registered Manager
– Supported Living, Epilepsy Society**

Szymon's clients had this to say about the technology:

"Having a system is far better than having staff coming to into my bedroom all the time." – *Martin Evans, Support Living Client at Epilepsy Society*

"It gives you a more peaceful night's sleep and people are more relaxed at the fact that they've got this system in place. Sometimes I have seizures that don't make a noise, but I do shake and that will actually come up on the screen downstairs and even then, they really do have my back." – *Mags, Support Living Client at Epilepsy Society*

"The CLB Adaptive waking night technology enables staff to respond more quickly to potential seizure-related sounds, in turn allowing a faster response from staff to offer support or medical intervention as needed. This system complements existing companion alarms and movement sensors and offers a robust form of safety for the people we support." – *Jonny Anders-Cannon, Director of Care Development, Epilepsy Society*

"In traditional social care, night staff typically spend just 3% of their shift conducting physical, half-hourly, one minute room checks. With Adaptive Care's continuous monitoring systems enabling our carers to detect potentially dangerous seizures throughout the night, we've improved visibility of in-room care needs at night to nearly 100%." – *Jonny Anders-Cannon, Director of Care Development, Epilepsy Society*

"An Auditory monitoring system is far more efficient. You can pick up and monitor multiple people at once, even hundreds of people at the same time." – *Matthias Koepp, Professor of Neurology - (UCL Institute of Neurology)*

By installing Adaptive Care's technology solutions, residents benefit from a less disturbed sleep pattern, there is improved efficiency for care staff, an improvement in the quality of care provided including the prevention of falls and there is peace of mind for all involved.



“ With Adaptive Care's continuous monitoring systems, we've improved visibility of in-room care needs at night to nearly 100%. ”

**Jonny Anders-Cannon,
Director of Care Development, Epilepsy Society**

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