

# **GAINS IN ELDERLY CARE USING THE SAFETY SENSOR NIGHT OWL**

***- A SURVEY AMONG CARE MANAGERS AND STAFF IN NORDIC  
CARE SETTINGS***

2024



**Nattugla**

# Summary

## Mapping of Night Owl in the healthcare sector



In today's healthcare services in Norway, particularly in nursing homes and home care, we face challenges such as increased demand for local authority services and a growing need for assistance, especially among those living with dementia. In the face of these challenges, the need for innovation and new thinking becomes evident. Findings from the interviews show that the implementation of welfare technology helps alleviate the burden on healthcare professionals while maintaining or improving the quality of care. This article is based on findings from the gain realization survey conducted by the Norwegian Smart Care Lab, highlighting the gains and potential of the Night Owl multisensor when the solution is implemented extensively in nursing homes and residential communities.

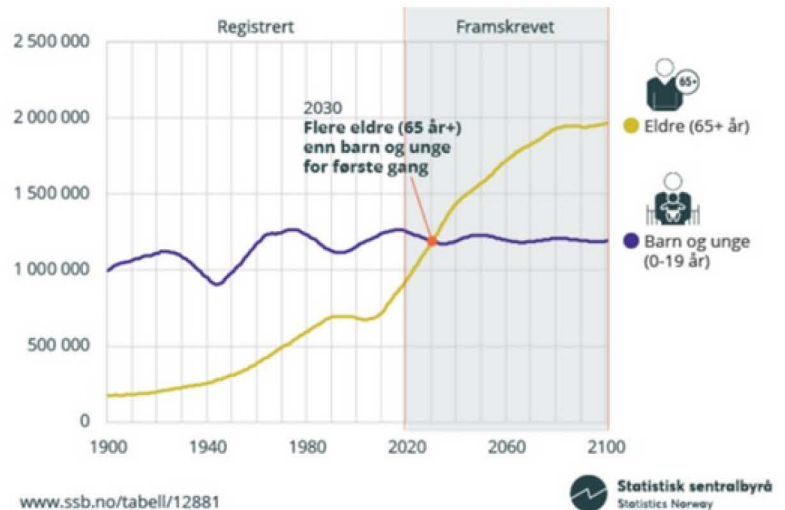
The survey findings indicate high customer satisfaction with Night Owl, measured by an impressive Net Promoter Score (NPS) of 75%. Customers give an average score of 9 out of 10 in the likelihood of recommending Night Owl, to other local authorities or care settings. This speaks to the quality and effectiveness of the product in meeting the needs of elderly care.

Specific gains identified include increased safety, a reduction in the number of falls, improved overview for night shifts, better sleep quality, improved collaboration on duty, and time freed up for other important tasks. Night Owl, proves to detect falls before they happen, not only reducing the risk of unwanted incidents but potentially also reducing the costs associated with treating injuries such as hip fractures.

This survey and its results emphasize the importance of investing in and implementing innovative welfare technology as a necessary strategy to meet the upcoming challenges in elderly care. By continuing to develop and implement such solutions, healthcare services can better meet the needs of an aging population while ensuring the quality of care offered."

# The current situation and challenges in Norwegian elderly care

"The expectation is that the number of elderly individuals in the Norwegian population will increase dramatically in the years to come. According to Statistics Norway, by 2030, there will be more residents over the age of 65 than under, marking the first time there will be more elderly individuals than young in the population. If the forecast is accurate, by 2060, there will be a tripling of individuals over 80 years old and a quintupling of those over 90 years old in Norway. For nursing homes and home care services, this implies an increased demand for local authority services, users with progressively greater support needs, and a rising number of individuals living with dementia in the years ahead."



SSB: Forecast for Norwegian demographics for the next 80 years

## 84%

**of residents with long-term placements in care settings have dementia.**



## We need innovation to solve future challenges

According to the National Center for Aging and Health, prevalence figures indicate that around 84% of residents with long-term placements in care homes have dementia. Dementia is a condition characterized by changes in cognition and behavior to such an extent that it affects the ability to perform daily activities. This means that the resident group has an increased need for follow-up by healthcare professionals to meet their needs, to maintain a good quality of life, and engage in meaningful activities.

The challenges associated with demographics and the current capacity situation in today's health and care services, as well as the forecast for the future, require us to think innovatively and invest in solutions that can relieve healthcare professionals while maintaining the quality of care for each resident. Awareness of the challenges facing the healthcare system creates momentum for change.



# Implementation of welfare technology in healthcare



Innovative welfare technology and a strategic approach to change management play a crucial role in addressing the challenges facing the healthcare sector. By effectively implementing smart solutions, we can save time and resources while maintaining or improving the quality of care. Change management is essential to ensure a smooth transition to new methods, proper training of staff, and acceptance of new tools and work processes. The Norwegian Directorate of Health aims to introduce more welfare technology in healthcare services to enhance resident safety and assist staff with daily tasks. The purpose of the implementation is to contribute to gains and positive changes that encompass people, needs, and processes in the healthcare sector.

Most nursing homes currently operate using traditional nurse call systems, such as pull cords and alarm pendants. These systems assume that users themselves can manually activate the alarms. However, this can pose challenges for various resident groups with cognitive impairment or physical limitations. A consequence of residents' inability to use traditional call systems is an increased risk of undesirable events. Several nursing homes in Norway report fall incidents where residents have been unable to alert staff, thus lying unnoticed without necessary assistance for an extended period. Falls can cause pain and reduced quality of life for the resident, as well as high costs for the healthcare system.

In the first year, the average costs associated with hip fractures are approximately 44,000 GBP. For those who survive the first two years, costs increase to 71,000 – 90,000 GBP thereafter. This corresponds to a total cost of 620–800 millions GBP per year for hip fractures in Norway. Residents in nursing homes are not included in this calculation, constituting approximately 25% of all hip fractures. Norway, along with other Scandinavian countries, is among the world leaders in hip fractures among women, and most of these fractures occur on indoor floors.

# Benefits of using Night Owl

One of the major benefits of Night Owl highlighted in the survey is the sense of safety for both staff and residents, particularly for family members. **100% of the respondents state that Night Owl significantly or very significantly ensures the safety of elderly residents.** The same applies to those living with dementia. Family members want their loved ones to receive the best possible care and attention. Through the use of Night Owl, relatives experience increased assurance as staff have the ability to closely monitor and provide necessary assistance to those in need. This reassures family members that their loved ones are well taken care of.

## Fall Prevention

### Detecting situations that may lead to accidents

Night Owl, developed by Nattugla, aims to reduce and detect falls, and the survey confirms that they live up to this goal. One highlighted benefit is that staff members feel they can detect hazardous situations and intervene before the resident is actually harmed.

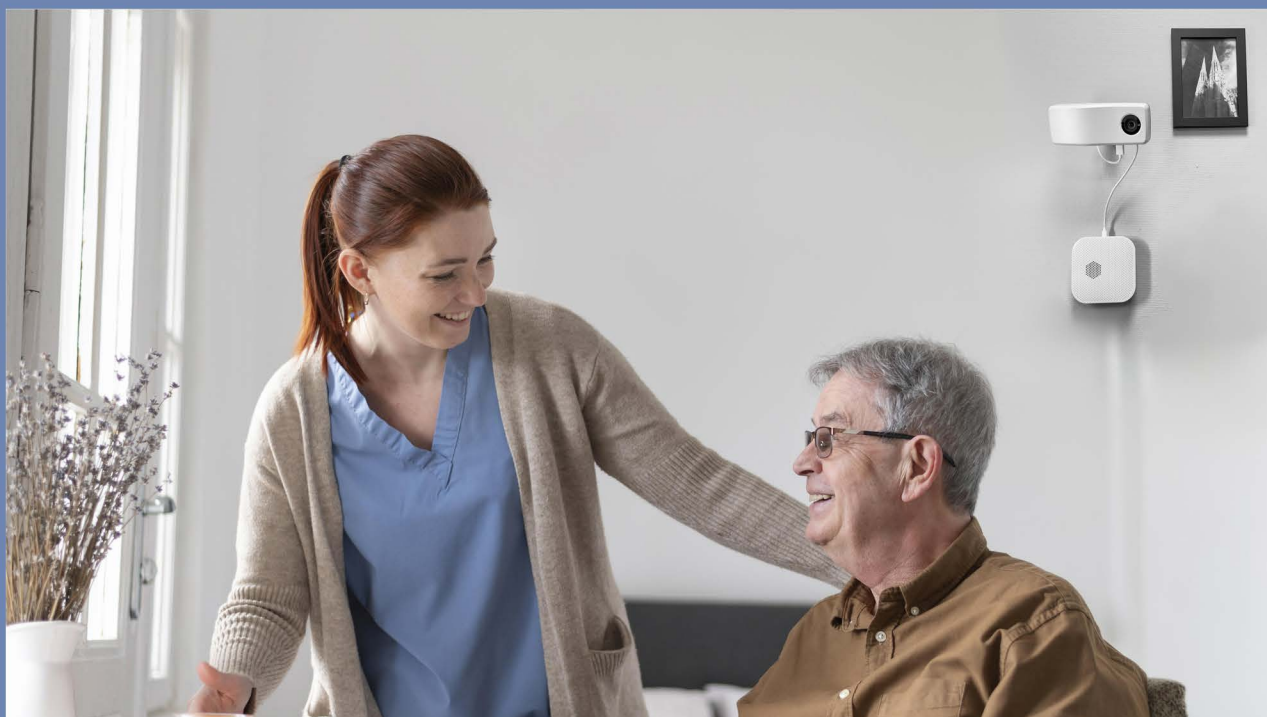
Several participants in the survey mention experiencing minimal falls and an immediate change in the number of falls after implementation. Hazardous situations can be detected, for example, by alerting staff when the resident has left or gotten up from their chair or bed.

**We hardly have any falls anymore where we have Night Owl** says Jørgen Ahlstrøm, center director at Otium Housing and Welfare Center in Tromsø. Through alerts, staff can prevent falls, contributing to significant health benefits for individual residents. Night Owl detects potentially dangerous situations, providing staff with an opportunity to act quickly before accidents occur.

**"A significant benefit for healthcare professionals is the aspect of security. Residents are better taken care of, and one can detect falls, which is the biggest fear of healthcare personnel. Night Owl generally provides a greater overview for the staff,"** says Anette Skogstad, advisor at ForUT in Bodø.







## Residents receive assistance faster

Everyone interviewed in this survey experienced to a large or very large extent that Night Owl contributes to providing faster assistance to residents who have fallen. It is also highlighted that residents feel increased security as the fall alarm enables immediate response from the staff. Numerous residents express a desire to have Night Owl in their rooms.

Having been in a nursing home or health facility, they move to another unit, telling caregivers that they wish to have Night Owl implemented in their new assigned room. In many cases, Night Owl have detected hazardous situations which has led to fall prevention. However, if the fall happens more unexpectedly or quickly, it can naturally be more challenging to receive assistance before the fall actually occurs.

This can be a matter of seconds. In this context, getting help quickly is crucial to reduce the risk of the resident lying on the floor for an extended period. By allowing residents to communicate through Night Owl, such as calling for help, it also provides an opportunity for the staff to ensure that the resident receives the necessary assistance. If repeated falls are observed, staff can document these incidents and, based on collected information, initiate other fall prevention measures.

**"Residents feel safer knowing that staff will be alerted if they fall."**

says Ruben Hakin, advisor in e-health and welfare technology in Stavanger.



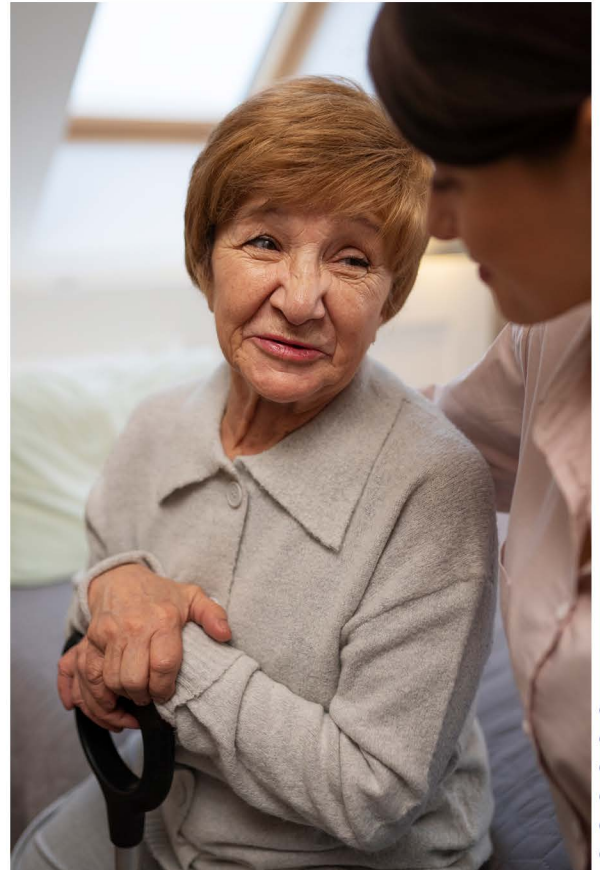
# Well-suited for those living with dementia

11 out of 12 local authorities interviewed responded that Night Owl is implemented for residents with a high degree of dementia. It is emphasized that residents with a high degree of dementia are prone to falls, and through the use of Night Owl, they can both assess, prevent, and detect these falls.

The use of Night Owl as a tool for collaboration and assistance for elderly living with dementia is highlighted as valuable. It is noted that the traditional nurse call system is challenging in interactions with those living with dementia. **A significant 90% of respondents say that the traditional nurse call system is suitable to a small or very small extent in connection with persons living with dementia.** Ine Holt, an occupational therapist in the rehabilitation unit in Trysil, describes how alarm cords and buttons do not always work optimally for those living with dementia.

**"Those who press, do so out of curiosity about the button, not necessarily because they need help," says Holt.**

The advantage of using Night Owl is that alerts automatically reach the staff in case of the risk of dangerous events without the need to press anything. If the resident needs help with something else, it provides increased assurance for the staff that they can communicate via Night Owl as a tool."



---

## Increased quality and more time for care

"Night Owl contributes to freeing up staff from certain tasks, allowing them to allocate more time to resident care. In addition to providing an increased sense of security for residents and relatives, staff express that they can deliver higher quality care. Staff members feel that they can be present for residents when they actually need it. Night Owl enables staff to make individual adjustments based on the specific needs of residents.

**Based on information provided by Night Owl, healthcare professionals can implement individual measures for each resident"** says one of our informants.

"Findings from the benefit realization indicate that staff can be present in a different way when they have Night Owl as a tool. Healthcare professionals can better meet the needs of residents with diverse requirements. With Night Owl, healthcare professionals can tailor interventions to each resident, contributing to residents feeling more taken care of, which is crucial for their relatives."

---

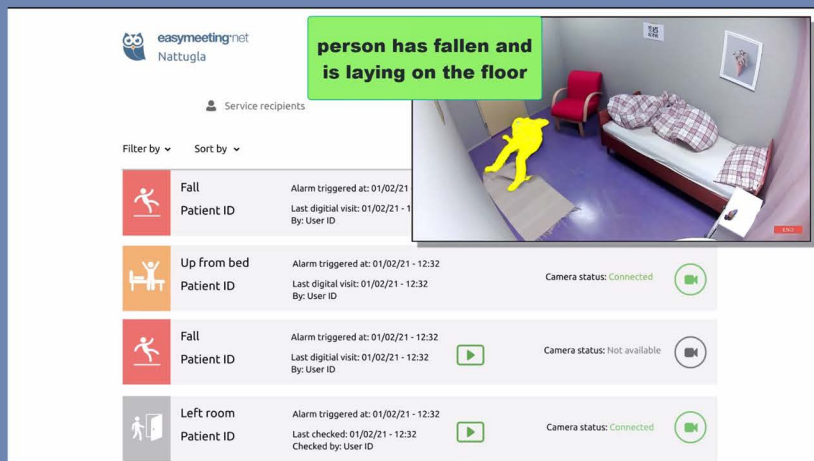


# Digital monitoring provides better overview and reduces disruption

## The use of digital monitoring for necessary supervision.

Digital supervision provides staff with a better overview than when they only conduct physical supervision. Night Owl is an example of how healthcare professionals can conduct digital supervision securely, ensuring resident privacy. In some cases, regular physical supervision is replaced by digital, while other times it is used as an additional tool combined with physical supervision. Several informants experience that Night Owl contributes to a new way of conducting supervision. Occupational therapist Ine Holt from Trysil says the following about the introduction of digital supervision:

**"Since we got Night Owl in all resident rooms in 2019, it has given us a new way to provide insight. We receive quicker notifications when residents need help, and residents have an easier way to contact healthcare professionals now than before. Active and passive alerts give us a new opportunity to be present in a room when it is actually needed instead of checking unnecessarily".**



The possibility of digital monitoring as an additional tool to physical supervision also proves to be practical in private homes where residents have Night Owl installed. Several local authorities mention that some residents in need of home care do not want to be unnecessarily disturbed at home. With Night Owl, healthcare professionals are alerted when events occur in private homes and can, based on the alerts, assess whether it is necessary to visit the resident.

One benefit highlighted by using digital supervision revolves around infection control. Not only can digital supervision be linked to gains during the COVID-19 pandemic, but the winter months, in general, are characterized by a lot of illnesses and influenza, which one would prefer not to transmit to the residents. With digital supervision, it is possible to maintain infection control to a greater extent, allowing staff to avoid unnecessary physical contact with residents to prevent infection and illness among vulnerable residents.



# Fewer disruptions lead to better sleep quality

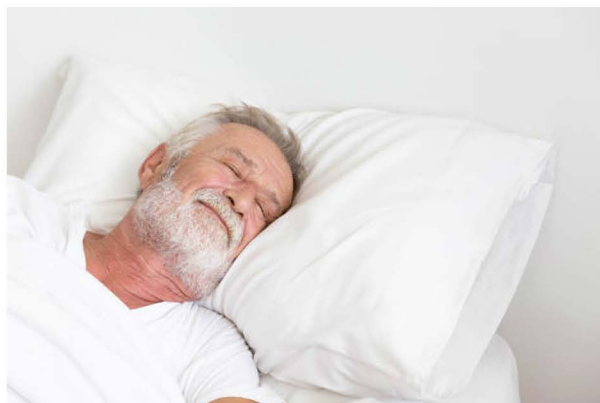
Night Owl has proven to be a valuable resource for improving sleep quality among residents in healthcare services. In today's aging society, sleep quality is crucial for the elderly, especially those over 90 years old or suffering from dementia. Research indicates that these groups often experience reduced deep sleep, frequent awakenings, and general sleep disturbances, which can, in turn, impact the residents' cognitive health and quality of life.

Safety sensor contributes to reducing nightly disturbances by allowing digital supervision. In our benefit realization, it emerges that Night Owl has become a sought-after resource among elderly residents. One respondent mentions that in the nursing home department in their local government unit, there has been an increase in the demand for Night Owl to avoid disturbances from staff at night. Especially in home care, Night Owl has proven to be a valuable resource. In Trysil, several private homes have chosen to use Night Owl to reduce physical supervision. In one of our interviews, occupational therapist Hilde Helseth Bryn mentions that some individuals do not want supervision at night.

***"Some residents do not want visits at night, and they are therefore happy about the alternative to physical supervision at home. Several residents who used to stay awake, waiting until the night shifts visited are now going to sleep in their own time with digital monitoring using Night Owl "***

## A turning point

Night Owl has proven to be a turning point, where residents who previously stayed awake waiting for the night shifts can now enjoy more undisturbed sleep. The interviews also show that relatives are positive about the use of Night Owl in nursing homes, as digital supervision at night can reduce restlessness for residents. Night Owl not only increases safety but also significantly improves sleep quality for the elderly.



# 90%

**Of the respondents say that Night Owl contributes to better sleep for the residents**

# Time and resource-saving

Several local authorities highlight that using Night Owl is time- and resource-saving. It is emphasized by numerous respondents that Night Owl contributes to less stress for staff. In addition, healthcare professionals can prioritize their time better, allocate more time to essential tasks rather than tasks perceived as time-consuming, and thus use their expertise more effectively. 65% of respondents experience that Night Owl significantly simplifies their work and helps them prioritize better.

"Night Owl provides gains in terms of efficient use of time. Nurses can then also focus on nursing tasks and spend time with those who need a nurse", says Ingebjørg Jordbrekk, department manager at Tasta Nursing Home in Stavanger. Night Owl also assists healthcare professionals in the challenges related to staffing. Today's healthcare sector is initially strained when it comes to staffing.

With Night Owl, several local authorities experience that the staffing challenge can be better addressed. In a local government unit we have talked to, there is, for example, a challenge related to a lack of adequate staffing in the nursing home. Some staff work both in the assisted living facility and the nursing home in the local government unit.

With Night Owl in use, staff working in both places can be moved up to the nursing home and assist there, while they follow residents in the assisted living facility through digital supervision. Night Owl frees up the capacity of staff so that they can assist in the nursing home and go down to the facility if there is an alarm on the residents. Being able to move resources from one place to another is perceived as valuable. The local authorities also consider this gain in using staff in two places as an economic gain, as the local government unit saves by avoiding extra hires."

## The night shift's best friend

**"Feel safe at night, sleep with a Night Owl"**, says Jørgen Ahlstrøm, who is the center manager at the Otium Housing and Welfare Center in Tromsø. Night shifts express that Night Owl is a crucial tool that makes their work more efficient and, at the same time, easier. Some local authorities have even been able to reduce staffing at night. **One of the respondents in the survey mentions that they have reduced 5.4 full-time equivalents of night shifts.**



"Many highlight that the most significant gains for healthcare personnel with the use of Night Owl are related to night shifts. Night shifts experience a new way of performing their work, especially in terms of supervision, where staff can now use digital monitoring as a tool to avoid unnecessary physical check-ins. This helps reduce stress for night shift workers, preventing them from feeling overwhelmed with tasks. They can more effectively monitor residents through digital monitoring, avoiding the need to run around the corridors. **'Night shifts think Night Owl is a brilliant tool'**", says Torhild Skjelstad, a nurse responsible for coordinating and implementing welfare technology in Stjerdal."



# Safety sensor

## Night Owl

Night Owl is one of the leading providers of welfare technology in the Nordic region. In the implementation of welfare technology in healthcare, the company aims to ensure excellent care for healthcare professionals, relatives, residents and society at large. One of the products provided by Nattugala is the safety sensor called Night Owl.

Night Owl is a safety sensor that alerts staff to critical events involving a resident. Night Owl enables a digital-first workflow, allowing healthcare professionals to conduct anonymized, digital supervision of residents. Based on digital monitoring, it can be assessed whether there is a need for physical supervision. Night Owl sends passive alerts in undesirable situations without the user needing to trigger them. For residents with cognitive impairment, such as dementia, this is highly beneficial. Through active use of Night Owl, healthcare professionals can gain unique decision support for their residents, providing increased opportunities for individual customization of needs and follow-up.



---

### Survey

The Norwegian Smart Care Lab is an international testing center and Living Lab for welfare technology, testing and verifying new solutions as a neutral third party. In the fall of 2023, the lab conducted a benefit realization study commissioned by Night Owl. The study involved interviewing 12 local authorities that have extensively implemented Night Owl to assess their satisfaction with the solution. The goal of the study was to measure customer satisfaction with the use of the Night Owl multisensor, highlight benefits, and gather user stories. Feedback was collected from those directly involved in resident care as well as those with overarching responsibility for welfare technology in the local authorities. Participants included department heads, nurses, project managers, and advisors responsible for e-health and welfare technology. The interviews were conducted without Night Owl staff present. This article will present findings from the studying the context of the current situation in the healthcare system."

### Customer satisfaction

The participants in this study were asked if they would recommend Night Owl to other local authorities or in other care settings. 11 out of 12 responded that they had recommended Night Owl, and 1 participant answered 'don't know.' A Net Promoter Score (NPS), a well-known methodology for ranking customer satisfaction, was also conducted. Participants rated on a scale from 0-10 the likelihood that they would recommend Night Owl to another local authority or care setting. The NPS score was 75%, considered an excellent rating, with an average rating of 9 out of 10.

