Research Project on Ethical Use of Surveillance Technology for Citizens with Dementia: Recommendations and Guide

The project SIGNS OF LIFE has examined ways to improve and ethically balance surveillance technology used by care staff working with citizens with dementia.


Professor, Anders Albrechtslund

ÅRHUS, DENMARK, February 7, 2025 /EINPresswire.com/ -- How can surveillance technologies, used ethically and effectively, assist care staff in safeguarding citizens with dementia who are at risk of getting lost, ensuring them a safe and dignified life? This is the key issue that the research project LIVSTEGN, which has been underway for four years, and they are now ready to present a model that supports implementation and everyday use of surveillance technologies in dementia care.

The project involved empirical fieldwork in several nursing homes and collaboration with VIVE (The National Research and Analysis Center for Welfare), and Aarhus Municipality, where its recommendations are now being implemented.

Based on the research project, four key focus points have been identified that care staff and management should be aware of, according to project lead Anders Albrechtslund, Professor at the Department of Digital Design and Information Studies at Aarhus University, and Astrid Meyer, Scientific Assistant at the same department:

- The needs of citizens with dementia are constantly changing.
- Surveillance technology only provides small glimpses at a time.
- The sense of safety provided by technology can create both real and false reassurance.
- Working with surveillance technology is a continuous process—the best solution is always

evolving because the condition, behavior, and needs of citizens with dementia constantly change.

That this is a critical societal issue is evident from a 2022 Alzheimer Associations study. According to the study, Danish media reported 193 cases of citizens with dementia going missing between 2019 and 2021. In 25 of these cases, the outcome was fatal—equating to a mortality rate of 12.9%.

Surveillance as a Tool for Care

LIVSTEGN originated when Anders Albrechtslund, previously involved in surveillance research, was introduced to a nursing home director who highlighted the deep concern about residents with dementia wandering off.

Ph.d. Astrid Meyer

"This is something that happens daily in nursing homes across the country," says Albrechtslund.

> We are looking at a future where technology will play an even bigger role in demographic challenges. This means we need structured support for care staff in integrating solutions. That is our aim."
>
> *Mark Michaelsen, Technical system owner*

"The idea began there. Surveillance is often associated with crime prevention, but here, it's about care. This creates a completely different dynamic and type of surveillance relationship—one that facilitates care instead. That aspect fascinates me," he explains.

With funding from VELUX FOUNDATION'S Humanities and Practice Program, which aims to create equally research- and practice-driven projects, LIVSTEGN became a reality. This funding also enabled the hiring of PhD student Astrid Meyer, who, along with Stinne Aaløkke Ballegaard from VIVE, conducted fieldwork in nursing homes.

"We were two anthropologists following daily life with surveillance technology in nursing homes, observing when and how these technologies were used—when they worked well, when they didn't, and in what situations they became useful," Meyer explains.

"We also organized several workshops with care staff to jointly identify challenges and explore

solutions. The biggest area of focus became GPS tracking, as it presented the most challenges and interest."

Four Fundamental Conditions for Surveillance Technology
The research project identifies four fundamental conditions for the use of surveillance technology for citizens with dementia.

1. Constant Change
o Dementia is an evolving condition, making it difficult to predict needs. Technology must adapt continuously.
2. Surveillance only provide "Small Glimpses"
o Technology does not provide full oversight—only limited snapshots of movement.
o For instance, a GPS might show a location from two minutes ago, meaning it already needs updating.
3. Balancing Real vs. False Safety
o Surveillance can provide genuine safety, but excessive use of alarm-based technologies can create false reassurance or alarm fatigue—where too many alerts become overwhelming and are eventually ignored.
4. Technology Requires Continuous Effort
o Devices must be charged, adjusted, turned on/off, and adapted to ever-changing circumstances.
o Staff must deeply understand how each technology works, its limitations, and how to integrate it into care practices.

These four conditions lead to the project's central conclusion:
"Surveillance technologies require both adaptability and stability—they must evolve with the progression of dementia while also being robust and structured in use. We try to capture this balance in our new model," concludes Astrid Meyer.

A Guide for Safe Use of GPS, Sensors, and Alarms
The fundamental conditions outlined in the project form the basis of a practical guide for the safe use of surveillance technologies in nursing homes, specifically aimed at managers and welfare technology consultants.

The guide highlights five key factors for improving the safe and effective use of GPS tracking, sensors, and alarms:
1. Leadership Engagement & Guidance – Management must systematize the use of technology and support continuously reflection on its application.
2. Appoint Key Staff Members – Specific employees should monitor errors and challenges.
3. Establish Clear Responsibility – Define who is accountable for ensuring the technologies function properly.
4. Reduce Alarm Overload – Ensure alarms match actual resident needs to prevent unnecessary alerts.

5. Monitor & Adjust Usage – Regularly assess technology effectiveness and adapt to changing requirements.

Implementation in Aarhus Municipality

During the project, LIVSTEGN collaborated with Aarhus Municipality and nursing homes Skovvang and Hedevej, closely following their use of surveillance technology for residents with dementia.

The conclusions and recommendations from the research are now being applied in daily practice, explains Mark Michaelsen, Technical System Owner in the Department of Digitalization, Health, and Care at Aarhus Kommune.

“We must systematize the use of these technologies; otherwise, it becomes chaotic, leading to problematic situations. LIVSTEGN’s guide is already proving highly valuable in our nursing homes. I see great potential in this work, and we’ve escalated discussions to senior management to implement it more broadly next year,” Michaelsen explains.

He provides a concrete example:
“Skovvang and Hedevej use it daily. The improvement factors outlined in the guide are fully integrated into their daily processes—staff use them in meetings and strategy planning.”

The ultimate goal is to expand these recommendations to more nursing homes in the future. Michaelsen anticipates that surveillance technology will become even more prevalent, requiring structured implementation processes:

“We are looking towards a future where technology will play an even bigger role in addressing demographic challenges. This means we need structured support for care staff in integrating these solutions. That is our aim.”

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