

Documenting how dementia sufferers benefit from GPS

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A brand new study of 200 dementia sufferers in Norway reveals that almost all experience greater peace of mind and increased levels of physical activity using GPS devices.

The study relates the story of an elderly man residing in the secure ward of a nursing home who was not allowed to go out because he always got lost. He wasted a lot of energy getting up and shaking the door, and minor conflicts always arose when staff had to lead him away.

One nurse intervened and decided that during her shift the patient should be given a GPS device and allowed out. The man went for a walk, visited a café, sat for while watching the people go by, and then returned home. If he failed to return, it was easy to find him and bring him back. After a while, three of the patients on this ward were given GPS devices. Things calmed down and staff found that they had more time to take care of those patients who didn't venture out.

Documentation is vital

The study forms part of the public sector innovation projects collectively known as "Trygge Spor og Samspill" (Safe tracking and interaction) – a joint initiative launched in 2011 being carried out by SINTEF together with a number of Norwegian municipalities. The initial project began with five municipalities and 50 [dementia sufferers](#), and in 2015 it was expanded to include 18 municipalities. People with dementia (or

[cognitive dysfunction](#)) taking part in the study have experience in using the devices varying from three months to two years.

A survey has been incorporated into the study involving device users, next of kin and personnel employed by all of the 18 municipalities as respondents. Interviews have also been conducted. All forms of data can provide useful background information as a basis for the planning and use of GPS technology as part of health care provision in Norway.

Previously, it has been difficult to substantiate the benefits of using GPS devices, and this is why the documentation of experience reported by municipalities is key to the work currently being carried out.

Independence and peace of mind

"We have seen many positive benefits", say Tone Øderud and Dag Ausen at SINTEF. "The study has confirmed that dementia sufferers can maintain their independence, enjoy their freedom and continue to pursue their outdoor activities in spite of the development of their illness", they say.

More or less all respondents to the survey (next of kin, GPS users, health service providers and staff at out-patient clinics and nursing homes) say that the GPS devices give them greater peace of mind. Staff at the clinics and homes experience fewer conflicts and waste less time and effort in redirecting patients and keeping order on the wards.

Moreover, the technology can result in financial savings in cases where sufferers are able to live for longer at home or can reside in open, as opposed to secure, nursing home wards. Only very few feel that they are under surveillance.

There is also the direct benefit of enabling next of kin carers to spend

more time at work.

Who benefits?

During the three years that SINTEF researchers have been gathering data from the municipalities, they have acted as project supervisors and have obtained a wealth of research-based insights.

"It is vital to identify who is best suited to use the GPS devices", says Tone Øderud. "This type of technology doesn't suit everyone", she says. The municipalities are currently carrying out a survey with the aim of identifying and establishing an overview of their GPS users. Who are the users? Where do they live? Why were they given the technology? How is the service set up? Guidelines provided here may make it possible to weed out those who will not benefit from the technology.

"It's important to realise that not every municipality has to have the same experiences or dedicate resources to these issues", says Ausen. "For example, we know that Drammen municipality has worked with this issue for some time and has become increasingly more adept at 'getting it right'. When a candidate is identified and registered with a request for a GPS device, municipal staff can decide quickly as to whether or not he or she will benefit from the technology. In some cases, a municipality has been able to postpone transfer to a nursing home by as much as six months", he says.

Extending a good life

Not all the GPS users in the study have received a dementia diagnosis, but all are suffering from dementia-related problems with cognitive dysfunction.

The assistance provided by a GPS device will not last in the long term. Nevertheless, its function is important to sufferers for as long as it works", says Dag Ausen. "So far during the study the average period of use has been between 10 and 11 months", he says.

The study reveals that between 20 and 25% of sufferers who report benefits from using GPS also obtain a direct benefit from being able to live longer at home. If their functioning deteriorates to the extent that they are unable to live at home, they can nevertheless reside in an open ward in a nursing home.

"For younger dementia sufferers, the use of a GPS device means that a spouse can spend more time at work and plan their day-to-day routines better", says Øderud.

She tells the story of a younger couple taking part in the study in which the wife became worried when her husband started getting lost on his journey home. She wanted him to have a GPS device, but at first he didn't feel he needed it. Today, she can go to work while her husband spends his mornings going for walks or cycling with his GPS device. If he doesn't get home for dinner, she can find out where he is. By then he will be tired and exhausted.

The couple have been granted the technology by the municipality as a preventive measure. This can be particularly useful for young and fit people who want to keep active.

Regular routines

In conclusion, there is no doubt that people suffering from dementia who would still rather go out than sit inside can live an active life much as they did before, and as safely as possible.

The study provides evidence that it is important that dementia sufferers, their next of kin carers, and professional care providers all work together. This ensures that the GPS technology works successfully, and means that dementia sufferers can be located in an appropriate manner.

The researchers emphasise that it is important to establish regular routines. Most sufferers find it useful to have the GPS device by the door, and then hang it round their neck or put it in their pocket when they go out. Some have learned how to charge their devices, while others rely on next of kin or visiting nurses for supervision and assistance.

Close supervision is important for GPS users, and it varies from person to person as to who they think can help them best among their next of kin, social services, volunteers and suchlike. The most important thing is that roles are clearly defined and the service robust.

Provided by SINTEF

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