

Reducing emergency service demand using GPS technology

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Practice note: using GPS trackers to find missing people with dementia

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As a police officer of 25 years, I have devoted my life to finding people. I have been a licenced search officer for most of my career. I now work as a qualified police search adviser (PoISA) where I coordinate the search capability of South Yorkshire Police. As a PoISA, I have learnt that the hardest people to find are those suffering from dementia, because there is no rationality behind their behaviour.

Personal experience

When my father was diagnosed with dementia, my understanding of the condition changed completely. My personal experience has taught me what the disease takes from people, both those living with the condition and their families. Motivated by these experiences, I sought a solution to the problem of people living with dementia becoming missing persons. I found a technological solution: GPS (global positioning system) trackers.

I secured funding through the force's innovation fund. This was initially knocked back, but once I could demonstrate that it would work in practice and outlined who would have access to the trackers, funding for 50 GPS trackers was granted.

Tracking trial

The trackers were issued to 25 females and 25 males living with dementia, who were eligible under the following conditions.

1. Must live in the community

2. Must be at risk of wandering (all were previous missing persons)
3. Must have a responsible person with power over their care

I sought advice from a human rights barrister to ensure that issues around privacy and consent were considered and accounted for. The barrister advised that any impact on the individual's right to privacy would be outweighed by their right to life, this gave due consideration to both Article 2 of the Human Rights Act 1998 and Article 8.

The principle behind the project was to achieve genuine upstream demand reduction and to save lives. The GPS units allowed the families to manage the welfare of their loved one without police intervention or awareness.

Two types of devices were chosen for the trial. One was a pendant that came in three different colours and was worn on a silver necklace. These looked like a piece of jewellery and were simply worn around the neck. The other option resembled a key fob which could be added to a bunch of keys, worn on a lanyard around the neck, slid onto a belt for trousers or simply put into a pocket.

The unit is worn by the person living with dementia and the family have an app on a smart phone which allows them to set a geofence area. Should the person go wandering beyond this pre-set area, the family is alerted and can track their movements.

Trial outcomes

During the 12 months prior to the trial, of the 50 candidates, there were 84 high-risk missing episodes recorded where the subject was suffering with dementia. During the 12-month trial, this figure reduced to one recorded episode, and no medical interventions were required. In this period, there were 40 occasions where users wandered, and the trackers were used to return them to their home address.

Following this trial, I enlisted Professor Michael Doyle at the University of Huddersfield, a professor of mental health and an honorary clinical chair in the Faculty of Biology, Medicine and Health at the University of Manchester. A [similar trial](#) was conducted to provide more evidence as to the success of the project, which was published in *Dementia: The International Journal of Social*

Research and Practice.

In practice

Not one to rest on my laurels, I sought further funding from the four metropolitan authorities that make up South Yorkshire. One of the local authorities chose to fund the trackers. Across the authorities, 65 high-risk missing episodes were recorded over a six-month period that went on for nearly 1,000 hours of police time. In the district that funded trackers, there were three episodes lasting three hours in total. These were incidents where the family were not able to get to their loved one in time and asked for police assistance to safeguard them.

The benefits of the GPS tracker project are substantial and include:

- a reduction in demand for emergency services
- the positive effect on the families in reducing stress and providing reassurance
- the person living with dementia gets to stay in their home for longer, improving quality of life and extending their life

This project has the potential to be rolled out at speed to prevent harm, wherever it is needed. Several other police forces have taken on the initiative and are now rolling out GPS trackers. The ultimate goal of the project is for the National Institute for Health and Care Excellence (NICE) to use this as a health care provision at the point of diagnosis, meaning the police would have no involvement.

- Peer reviewed by Inspector Stephen Currie, Greater Manchester Police

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