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Avon & Somerset Police Dementia Safeguarding Scheme

Utilizing NFC & GPS technology within Policing

Presented by Inspector Stuart King



















A little about me...











Avon & Somerset Policing area

Jurisdictional structure Avon and Somerset, Operations jurisdiction England, England Map of police area 1,847 square miles Size $(4,780 \text{ km}^2)^{[3]}$ 1.72 million^[3] Population

England & Wales

Legal jurisdiction

Key locations:

- City of Bristol
- City of Bath
- City of Wells
- Glastonbury Festival





Key benefits of the Dementia Safeguarding Scheme

- Safeguards some of the most vulnerable members of society.
- Reduces demand on policing and partner services.
- Collaborative working with partners including charities, NHS, GPs, other Forces.
- Provides real time savings.
- Utilizes technology effectively.
- Increases trust and confidence in policing.
- Showcases UK policing on an international stage.

Overview of Dementia in the UK

- In the UK, Dementia is one of the most significant conditions affecting older population
- Predicted estimates:
 - 2025: 1 million+ people
 - 2051: 2 million+ people



Source: Prince, M et al. (2014) Dementia UK: Update Second Edition report produced by King's College London and the London School of Economics for the Alzheimer's Society

1 in 3 people born in the UK this year will develop dementia in their lifetime.

Source: Lewis, F: Estimation of future cases of dementia from those born in 2015 (July 2015); Consultation report for Alzheimer's Research UK



- Estimated 850,000 people in the UK have dementia, less than 50% receive a formal diagnosis.
- Worldwide prevalence over 24 million people.
- The likelihood of developing dementia becomes greater the older a person is > 1.3% of people in the UK aged 65–69 have dementia, rising to 20% over 85 years.
- 62% of people living with dementia in the UK are female and 38% male.
- As populations in both developed and developing countries are ageing rapidly, the number of people with dementia will increase, making it one of the most important public health issues.
- Alzheimers is the most common dementia type in the UK 62%, Vascular dementia 17%, 10% Mixed Dementia. Lewy Body 4%, Frontotemporal and Parkinson's 2%, Less common Alcohol induced, Syphilis, Prion disease.





Prof Michael Hornberger, from UEA's Norwich Medical School, said: "People with dementia getting lost or going missing is a problem worldwide. Around 70 percent of people with dementia may go missing at least once, with some at risk of going missing multiple times.

"Around 40,000 people with dementia go missing for the first time every year in the UK – and this figure is likely to grow with the projected increase in the dementia population.





Statistical Tables for UK Missing Persons Data Report, 2019/2020

Time series data of missing related reports in England and Wales

Website: missingpersons.police.uk
Contact email: ukmpu@nca.gov.uk

- Dementia= 2,158 incidents in 2019/20 which is 2.7% across England & Wales
- •
- Estimated Cost of £5,395,000 (\$7,055,581.00) to policing alone!
- *(based on average search cost @ £2500)
- *https://www.nationalcrimeagency.gov.uk/who-we-are/publications/503-uk-missing-persons-unit-statistics-report-2019-2020-1/file











Demands placed on other services...







Catalyst which caused me to take a closer look at links with Missing person reports & Dementia...

- Death of man with dementia struck by train after becoming disorientated.
- A Lady who travelled across city to visit her childhood home, which had been cleared following bombing during WWII.
- Personal family diagnosis.
- Drive for efficiency and maximizing our ability to protect.







A chance meeting in 2015

Demand within Avon and Somerset identified...



This meeting led to my decision to create a bespoke 'Dementia Safeguarding Scheme'.



2015 Dementia Safeguarding Scheme is launched utilizing GPS technology to allocate tracking devices to most at-risk people.

Key issues identified were:

- Funding
- Reputational risk from media
- Longevity of scheme
- Public and charitable support

Response:

Torbay and South Devon
NHS Foundation Trust

- Stage 1 (2015-16)
 - Funding: Bristol Dementia charity
 - 15 devices force-wide for 12 months
 - Strict referral criteria: most at risk allocated device
 - Designated mailbox for referrals
 - Basic GPS pendant monitored by NHS call centre



Continued...

 Formation of forcewide Avon & Somerset Dementia Forum

 New funding stream through PCC community fund







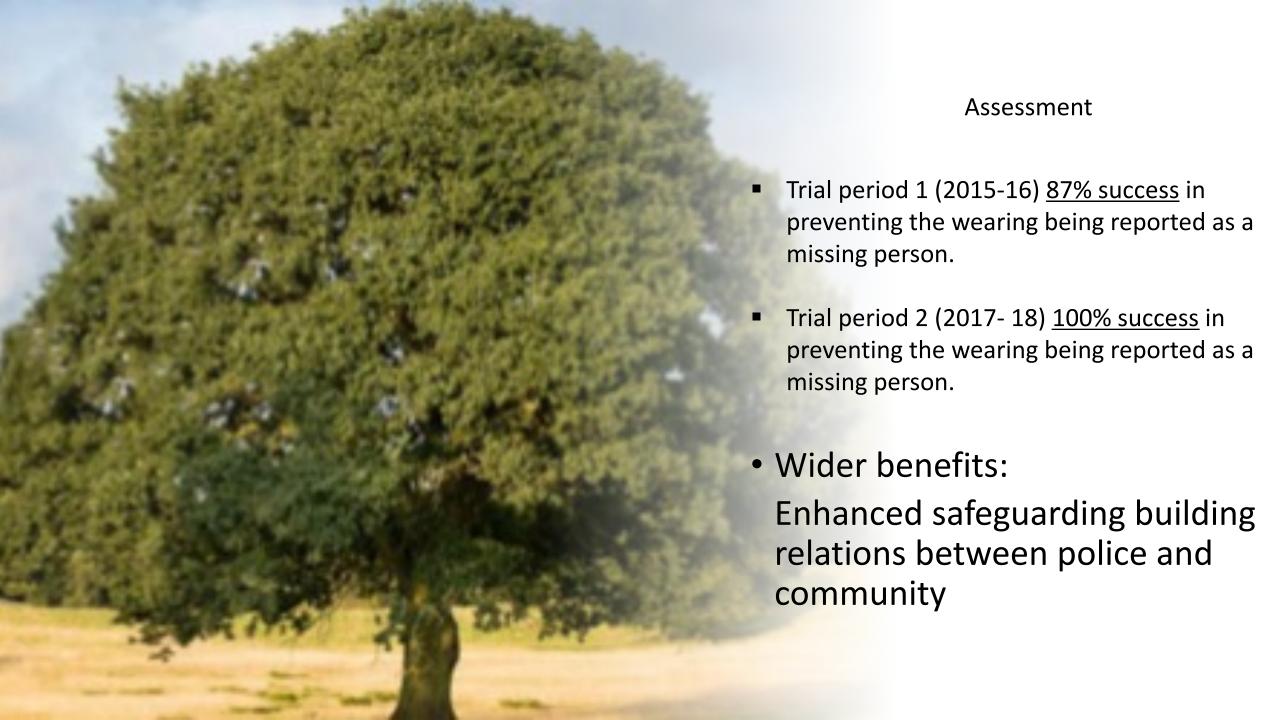
Stage 2 (2017-2018)

- New supplier: Bristol Careline
- Doubling devices to 30
- Missing person specialist to assess nominations
- Photograph/description added (with consent) to police intelligence system
- Promotional videos produced, local officers deliver GPS device



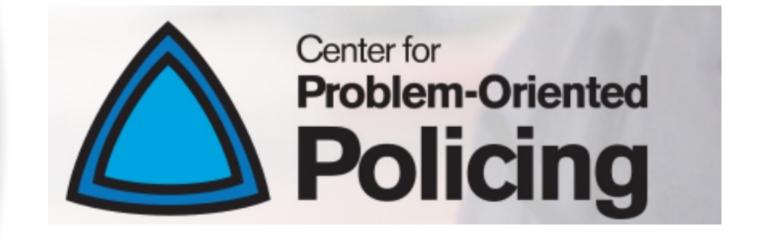
GPS device with enhanced features:

- Geo safe zones
- Online location access by NOK
- Reduced demand on police call centre: NOK don't have to wait for missing episode to develop



Scheme recognized and published by the Goldstein Problem Orientated Policing awards 2018

- -This resulted in the SARA paper being published.
- -Promoting true British policing as a service and problem solver on an International stage.
- -Assistance and influence on other policing agencies.



However.....

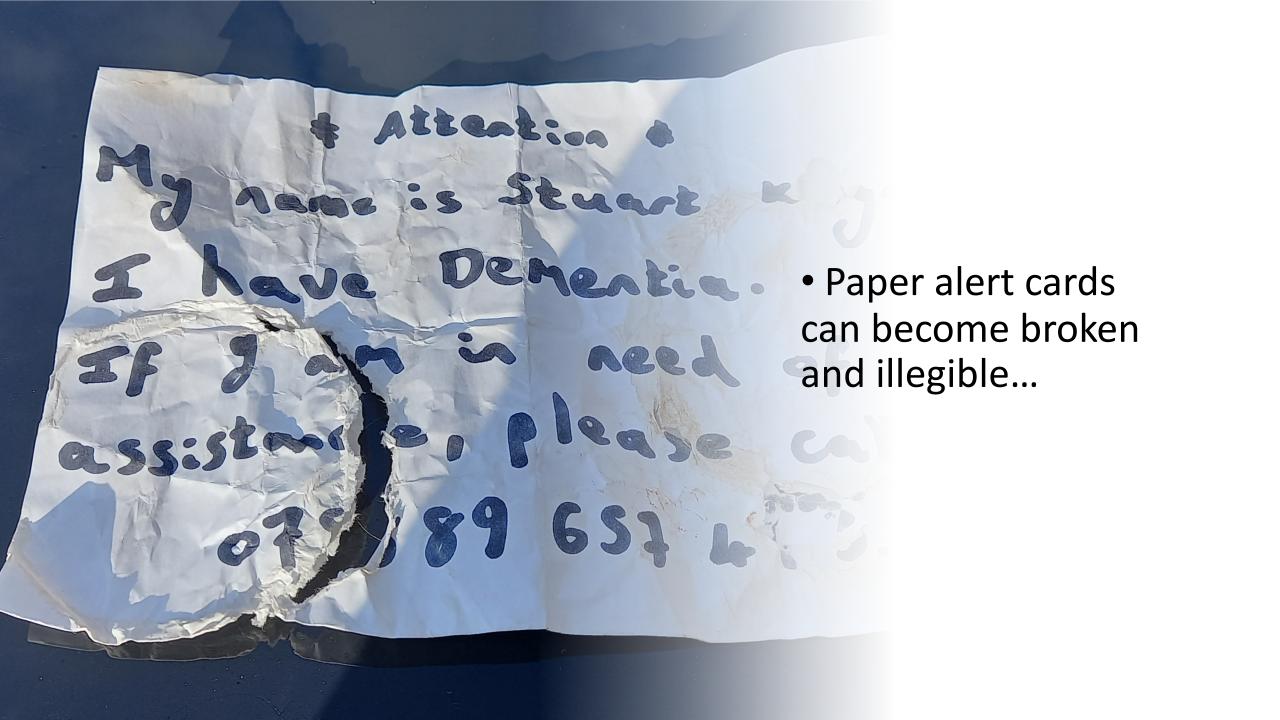
- There was a requirement for an alternative passive device due to the cost of GPS devices.
- Key driver was the need for a device that was cost effective to safeguard a broader number of people.
- Options available were.....



Simple paper ID card perhaps?....







More robust silicone/rubber/metal printed bands maybe?



Medical Bracelet with Engraveable Tag



Deluxe Engraveable Silicone Bracelet BROAD BAND



Medical Flatband (Inside Engraving)



Medical Bracelet with Clasp



Deluxe Engraveable Silicone Bracelet (Inside Engraving)



Slim Traditional Medical ID Bracelet



Sports Bracelet with Engraveable Tag





• ...too costly as require bespoke individual production per band.

• Other issues are that they can't be updated and are limited in the information which can be printed. Image credit



NFC technology selected as the Solution!

- Key requirement of the NFC device were identified:
 - Obvious in appearance
 - Robust
 - Waterproof
 - Able to hold sufficient information about the wearer
 - Able to offer assistance which will safeguard the wearer









Collaboration between Police, Charity & Fire...





Bespoke "Police & Fire" Wristband created cost was £1.50 (\$1.88).



NFC Assistance Wristbands

- Bright yellow for instant recognition of the scheme.
- Watch strap for application versatility.
- Rubberised for durability and waterproof.
- Embedded NFC chip.

NFC Chip spec:

- NTAG215 microchip.
- Memory of 504 bytes storage of a message up to about 480 characters.
- Extremely reliable chip memory retention of at least 10 years.
- Can be written 100,000 times so no worry about erasing or changing the data!
- NFC Forum Type 2 compliant means compatible with all NFC enabled mobile phones.



Yellow wristband scheme launched in Avon and Somerset for 'most vulnerable'



Emergency services and the public can help keep people safe











By **Zasha Whiteway-Wilkinson** Content Editor 16:41, 25 SEP 2020 | **UPDATED** 16:49, 25 SEP 2020



- October 2020, 750 NFC wristbands purchased.
- Allocated during home fire safety visits by the fire service in the area of Avon (city of Bristol, Bath and parts of Somerset).



LIVE



The 2020 new Collaboration scheme launched on BBC 1 Crimewatch Show..

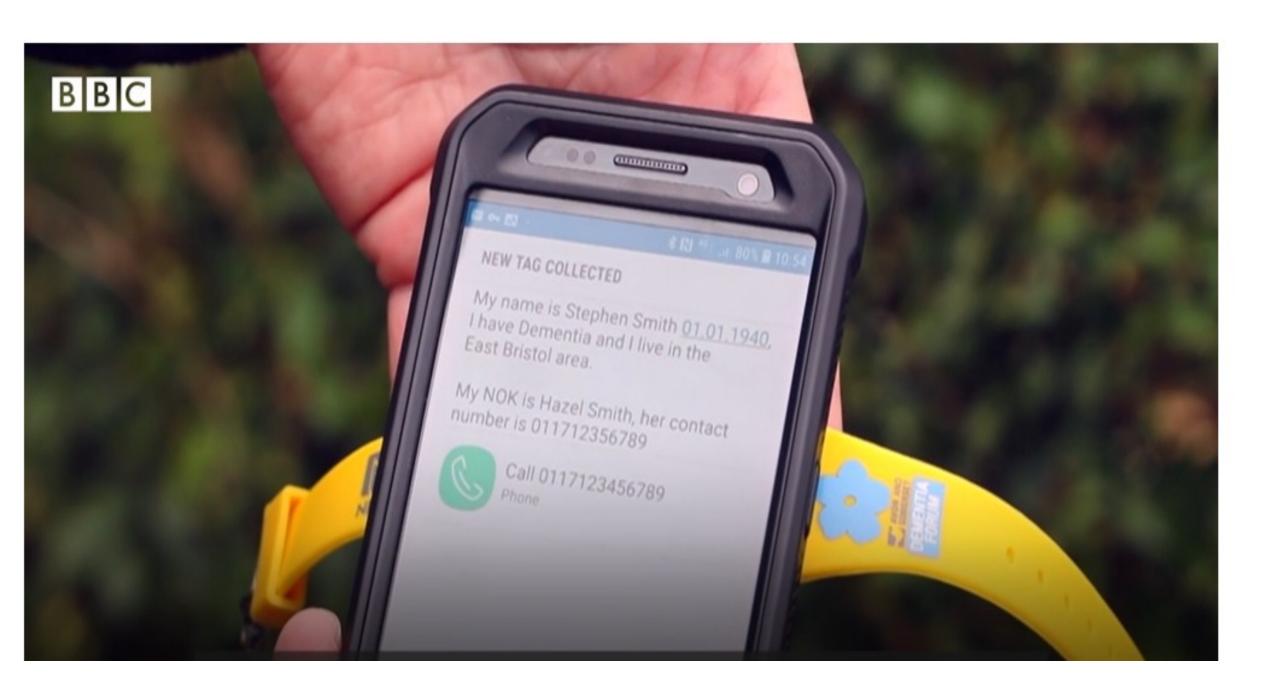




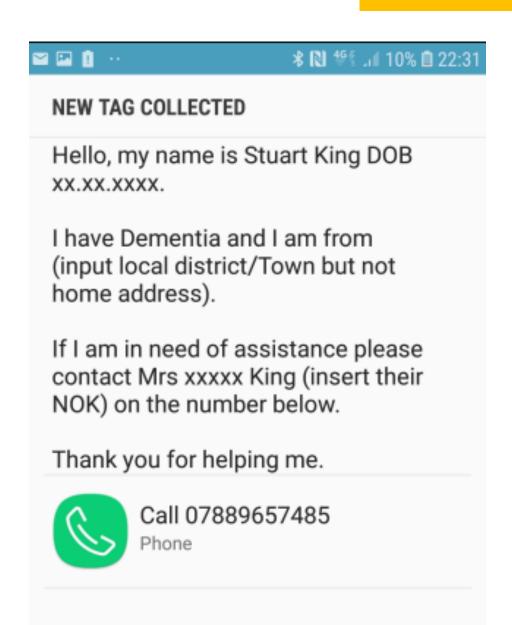


NFC wristband featured on BBC news!





On screen display when NFC device is scanned by a phone.



Distribution

• Initial distribution of the first 750 wristbands was via applications to Avon Fire & Rescue for a home safety visit.

Dementia Safeguarding Scheme





Blockers identified to increased distribution

Fire home safety visits not required/wanted by everyone with Dementia.

Only part of the force area covered.

Herbert Protocol not completed during Fire visit and allocation of wristband.

THE HERBERT PROTOC L Safe & Found

 The protocol is named after a war veteran of the Normandy landings named George Herbert, who lived with dementia in a care home. Mr Herbert went missing and sadly died while searching for his childhood home.



2021: EXPANSION of the Dementia Safeguarding Scheme







Funding from Western Power, Bristol Water and Wessex Water to purchase the entirety of the new wristbands.

Benefits

Greater coverage of the entire force area (rather than just the "Avon" area).

Combined the application for the NFC assistance device with registering for the Herbert Protocol.

Additional funding obtained which allowed the purchase of a further 2,000 NFC assistance wristbands.

The increased quantity allowed distribution to support groups, hospitals, charities and other forces wishing to carry out a trial.

- Introduction of on-line Herbert Protocol/DSS form.
- In-force digital services utilised to create a coded form which is received by enquiry office staff.
- Believed to be one of the first forces which stores the document electronically for instant access in the case of a Missing episode



Register for the Dementia Safeguarding Scheme

Use this form if someone you know has dementia or is awaiting diagnosis and you would like t provide the police with information to help in the event of the person going missing.

If you are concerned about your friend or relative, call the police on 999.

If you have already registered someone for the Dementia Safeguarding Scheme (Herbert Proto want to update their details, report a change of circumstances.

Once you have started the form you will not be able to leave it and return, so make sure you have time and information to be able to complete it in one go.

This form will take about 25 minutes to complete.



To fill in this form

Enquiry Office staff process Herbert Protocol/DSS Forms

 On-line applications are received by Enquiry Office staff and processed at all of our 25 enquiry offices force-wide.

A record is then created on Niche and Webstorm which means there is instant access to vital data if the person registered is reported missing, such as:

- Former addresses
- Places frequented
- Photos
- Medications
- Former places of work



nentia and worry missing?



All fields are required unless specified otherwise. Which devices you would like us to send you? When selecting an option, please consider the type of device which would be used. This will help make sure as many people as possible receive a device. If your chosen option is unavailable, we will send you an alternative. Yellow NFC assistance wristband Yellow NFC assistance hangtag and yellow dementia lanyard Yellow NFC assistance wristband and NFC yellow hangtag Yellow NFC assistance wristband, NFC yellow hangtag and yellow dementia lanyard Do not send a device

Continue

First, download the "NFC Tools" app onto your mobile phone. *Some older Apple phones won't allow read/write

Helk

Thank you for taking the time to register for the Dementia Safeguarding Soheme (also known as the Herbert Protocol). The information provided will be very useful in assisting us with our search if the person registered becomes a missing person.

I am pleased to enclose the NFC (Near Field Communication) enabled device which you | requested during your application. The devices are waterproof, do not require any maintenance or charging and are very robust

The wristband is usually worn like a watch but could be attached to other items such as a walker.

The hangtag can be attached to the lanyard or looped onto items such as a zip, button hole, keys or walking stick.

The NFC assistance device is intended to allow a member of the emergency services, or a member of the public, to scan the wristband or hangtag and contact the registered next of kin, if the wearer is in need of assistance. For this reason, I advise that it is worn in a prominent position.

I have enclosed a simple step-by-step guide on how to programme the NFC device. This shouldn't take you any more than 5 minutes and can be done through an NFC app, available for free download, on most Android enabled devices.

Please ensure that the wristband or hangtag is programmed <u>before</u> it is given to the wearer; the device is only able to provide assistance if it contains the relevant information and contact for the next of kin.

Please note, the wristband and hangtag are <u>not</u> tracking devices and will <u>not</u> allow us to locate the wearer remotely. The NFC devices are passive devices which can be worn daily.

hally, I would like to invite you to visit the Facebook support group called the 'Avon and verset Dementia Forum'. This is a collective of many of the Dementia support groups across on and Somerset region and you may find it useful for further support and information.

find the Dementia Safeguarding Scheme reassuring, it is funded through external d stakeholder funding and is a scheme I administer in additional to my core role. I welcome any feedback or suggestions as we are always striving to improve the

> Kind regards, Sergeant Stuart Ki



Register for Priority Services



with NFC, Most Android phones will work

The NFC devices are posted out to the recipient along with a letter, programming guide and priority service booklet from water and power companies.

AFE & FOUND

you care for someone h Dementia and worry y may go missing?

Over 750 registrations for the Herbert Protocol within the first year! By year 2 this was at almost



liew Favourites Tools He





Register for the Dementia Safeguarding Scheme

Use this form if someone you know has dementia and you would like to provide the police with information to help in the event of the person going missing.

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m will take about 25 minutes to complete.





Over 1,500 NFC devices distributed in first year!

Applications made via force website via the Herbert Protocol and mass allocation to groups.



Jenny Slee

Katie PM a patient today had one of these on and I thought what a good idea!



24w Like Reply



Ali Roper

I got one for a friend of mine who has dementia, she was over the moon to get it and wears it every time she goes out. Thank you A&S $\stackrel{\smile}{\simeq}$

9w Like Reply



Donna Ham

Brilliant. Hope this is the start of other ideas. Well done

9w Like Reply





Maria Quinnell

I am very grateful for this scheme. My close relative does wear the band, so if they did become lost we can be informed much quicker of their whereabouts without the person having to remember personal information about themselves.

8w Like Reply



Andy Gainey

Brilliant idea. Well done.

Ali Roper

I helped a good friend get one as she has the early stages of dementia. It arrived within a week. She never leaves home without it. Thank you

24w Like Reply

2 🖒



Kathy Timbrell

This is such a great scheme I remember when I did community care and I did dementia training there was a case of a guy who went missing with dementia, he had one of these types of bands on and ended up being found in Scotland, I think he had managed to get on a bus and somehow got all the way up there before he was found but one of these types of bands helped find him, I really do believe that all... See more



Jaime Day

We have one for my dad. When he was recently admitted into hospital the doctors and nurses thought it was a fantastic idea.

Helen Sanders

What a brilliant idea and lovely to see the police being pro active with public safety. Well done.





2022 need for alternative products.

• Feedback regarding original wristband was overall positive but....

- Some said it was too bulky for small wrists.
- Wasn't versatile enough for applying to garments, walkers etc.
- Was hidden under sleeves and therefore not visible.

Sample of feedback...



Kathryn Cleave

My mum wont and doesnt wear the wristband as it's very chunky and she doesnt like it so takes it off constantly.... I've now hidden it into her handbag but the tags would work a lot better for us. Either that or an easier to wear bracelet type wristband that maybe isnt so chunky and stiff to wear... it's too big really particularly for an older lady with small wrists to wear. Thanks.

Like Reply



Sally White

I think the tags are so much better my mum wouldn't wear the bracelet but I would be able to attach the tag to her handbag

Like Reply







Deb McCormack

Please can I get some more information on how to get the hand tag x

Like Reply



Angela Richmond

Is it possible to have one of the tags please, we have the wristband,



55

March 2022-750 NFC assistance Hangtags purchased.

- Greater versatility
 - Bungee strap allows self-attachment via a 'hook over' application.
 - Lighter in weight.
 - More visible (not hidden beneath clothing etc.)







Greater versatility



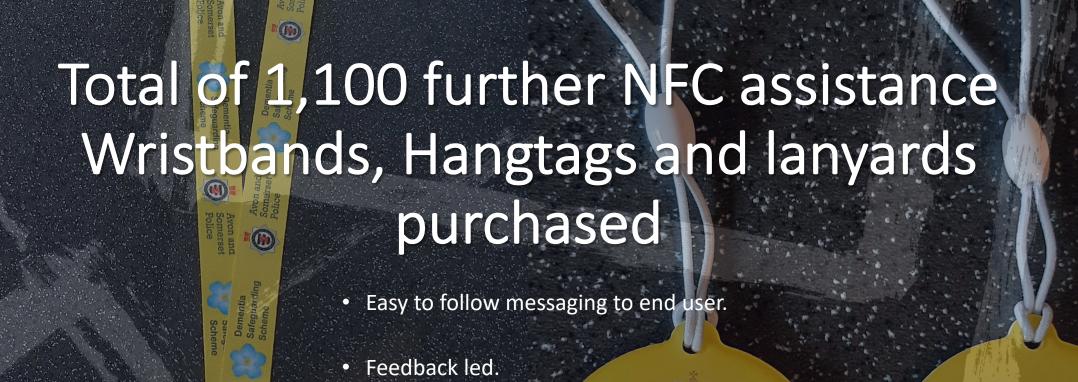




2022 saw further funding of £9,000 from Western Power, Bristol Water and Wessex Water obtained to purchase GPS devices and NFC devices.





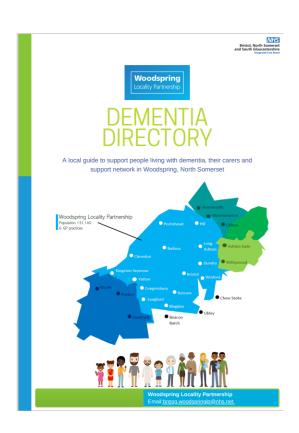


Application to lanyards also made available.

Cheaper (less than £1) = greater distribution.

I have dementia, tap tag with NFC phone if I need help.

Partnership with local NHS, Doctor Surgeries and Community groups to reduce risk and increase awareness.







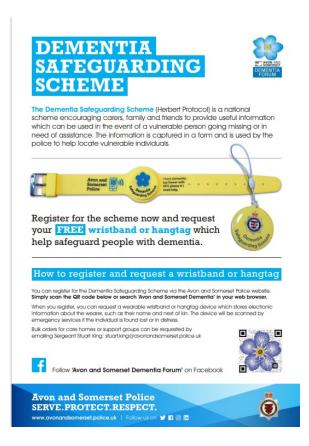


By Summer 2022 all new NFC devices were now embedded with a video link to assist with programming and as a safeguard for devices which haven't been programmed.

Programming the NFC Assistance Device (vimeo.com)











Simply scan the QR code above or search 'Avon and Somerset Dementia' in your web browser.

Posters and on-line adverts created by force design unit utilizing QR codes



Supplies and support provided to many other forces to raise awareness of the scheme and assist its expansion.























Supporting independent living for those living with dementia

14 16/05/2022

Gwent Police becomes the first police force in Wales to adopt a scheme which gives those people living with dementia the support they need.



The dementia wristband scheme means emergency service workers can easily identify and get the right help and support for those living with the condition.

As part of a pilot over 80 local residents will be offered the band which will link care providers with emergency service workers.

Ahead of the launch, Chief Inspector Stephanie Blakemore said:

"Living with dementia is often scary and leaves you feeling lonely."

"When someone with dementia requires help from emergency service practitioners, it requires a vast amount of work to gather all the information to correctly care for that person.

"The wristband visually informs the public, emergency service workers and other care providers that the individual is living with dementia."

This scheme bolsters the Herbert Protocol which Gwent Police alongside the other Welsh forces support. The scheme provides valuable information on anyone living dementia and other neurological conditions.

The protocol provides emergency service workers with information on medication, contact information, frequently visited places and a recent photograph.

Cllr Paul Cockeram, Gwent Regional Partnership Board Chair said:

Lincolnshire PCC launches "smart" wristbands to protect people with dementia

A pilot project using 600 wristbands will be launched in East Lindsey









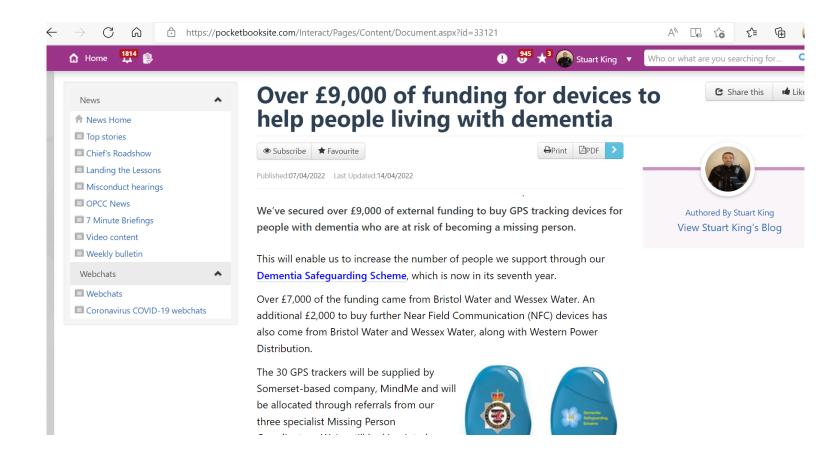
Neighbourhood, Response and Missing person unit upskilled in allocating both NFC & GPS devices.

Promotional work of the scheme has also been undertaken with pubic transport providers.





Extensive internal communication with staff via intranet and presentations





Trial period 3 (April 2022- onwards) 96% success in preventing the wearer being reported as a missing person.







Provided free of charge to people considered at high risk of going missing.

Key features include:

- Geo-safe zones
- Instant access by carer/NOK to GPS location via an app or on-line.
- -Monitoring by call center.
- -Re-allocation of devices.
- -Prevents a missing episode
- -Fraction of the cost (£250) of the average missing person search of £2,500







Home UK World Politics US Climate Science & Tech Business Ents & Arts Travel Offbeer

Dementia: GPS trackers given to those with syndrome to help stop 'tragic' incidents

When people are at risk of going missing, families and police can log in to an app and





Force Corporate Comms utilised to increase awareness of positive work.



In addition to the GPS trackers, we also promote the use of tracking apps if the user would tolerate carrying a phone.







October 2022 the force is formally recognised by Bristol Dementia Action Alliance as being a 'Proud Dementia Aware Organisation'

Amendments to design for improved useability, 4th generation. QR code added





20mm Lanyard







Back







Over £2,000 further funding from external partners allows new devices to be purchased.

1000 Lanyards 500 Hang tags 500 Glow Cards 300 Wristbands







FOR YOU. FOR LIFE.

YTL GROUP













I have dementia, tap flower with NFC phone if I need help.

New Features and Devices

QR Coding print on all devices which directs to a URL with embedded video, instructing how to activate and read NFC.

'Glow-Card' NFC device for increased visibility and alternative NFC function.

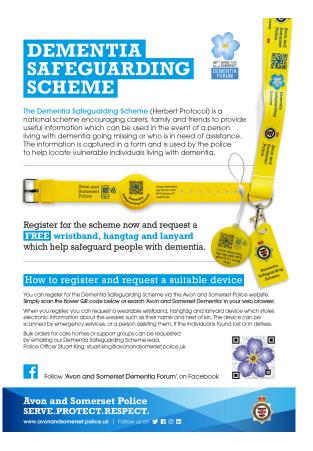






New QR Video introduced

New publicity literature created by the force design team.





Simply scan the flower QR code above or search 'Avon and Somerset Dementia' in your web browser.

Feedback within the first week of the 4th generation device launch.



Emily Culblaith

These are great, we recently found a lady in the pouring rain who was very confused.

She had one of these in her bag which meant we were able to get her home, dry and warm.

25 m Like Reply













I have dementia, tap flower with NFC phone if I need help.

March 2023 statistics

 Just 7% people went missing after being signed up to the scheme.

• This shows a <u>93% success</u> rate.



The scheme now has 2 Citizen volunteers as well as SPOCs across the force making up the team.



March 2023

PEEL 2021/22

Police effectiveness, efficiency and legitimacy

An inspection of Avon and Somerset Constabulary

The constabulary problem-solves well with partner organisations to protect the vulnerable and reduce demand

We found the constabulary works effectively with a wide partnership of agencies to protect the vulnerable and reduce demand. One of many good examples of this involved the constabulary working with the local authority, health service, fire and rescue service and a dementia charity. This group set about safeguarding a group of people with dementia. Financial support was obtained from the private sector to purchase tracking equipment. This helped relatives of those with dementia, and others who may find them, to return them to safety without any police intervention. This initiative almost completely diverted demand away from police officers but more importantly protected some of the most vulnerable from harm.

March 2023

A further £5,832 funding has ben secured with Bristol Water and Wessex Water to continue the GPS allocation for a further 12 months.









Dementia Hero Awards 2023

 Dementia Hero Award for Dementia Friendly Business (Large)

Dementia Hero Award for Research and Innovation





April 2023

commencement of an academic assessment of the NFC/Herbert Protocol by Michael Hornberger, from UEA medical School, **Professor of Applied** Dementia Research.

University of East Anglia

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Michael Hornberger

Professor

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https://orcid.org/0000-0002-2214-3788

Contact expert







View Scopus Profile

2.04 Bob Champion Research & **Education Bldg**

Email

M.Hornberger@uea.ac.uk

Overview of some of the key benefits of the Dementia Safeguarding Scheme:

- 1. Safeguarding some of our most vulnerable members of society.
- 2. Reducing demand on policing and partner services.
- 3. Working in collaboration with partners including charities, NHS, GPs, other Forces.
- 4. Providing real time savings.
- 5. Using technology effectively.
- 6. Increasing trust and confidence in policing.
- 7. Showcasing UK policing on an international stage.





Thank you for listening, I welcome any questions.

Inspector Stuart King

THANK YOU



MAY 9-11, 2023 ORLANDO, FLORIDA