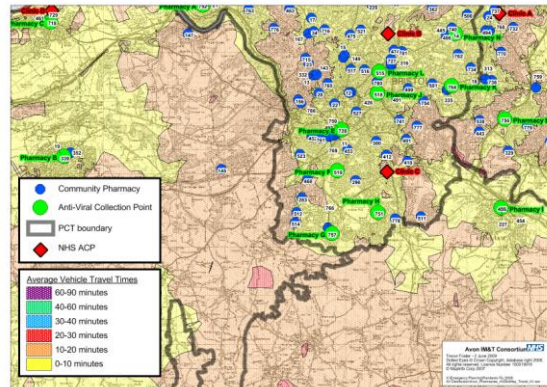


## Swine flu drug distribution optimised by Avon IM&T Consortium using Dotted Eyes solution with NAVTEQ mapping



Avon Information Management and Technology Consortium (AIMTC) provided GIS support for local Primary Care Trusts in their pandemic swine flu preparations. This included choosing a solution from Dotted Eyes featuring NAVTEQ street level mapping as a key component.

### The Challenge

As part of a national UK programme, four Primary Care Trusts in the Avon region - Bristol, Bath and North East Somerset, South Gloucestershire and North Somerset – asked their joint emergency planning team to address the challenges of swine flu including the management of antiviral drug stocks. A key priority was to identify sufficient collection points so large numbers of people (10,000 per location) could, when necessary, access drugs quickly.

The team was given vital GIS support from AIMTC, a shared information management and technology service for healthcare across the Avon area which is called upon whenever there is a joint or wider strategic need which cannot be managed by individual primary care trusts.

### The Solution

With the aim of establishing a pharmacy collection point within a 20 minute drive for everyone in the 1.1 million catchment population, potential locations were initially identified using local knowledge. Based on pre-determined road speed parameters, drive times to each position were calculated using a combination of tools: MapInfo Professional GIS in conjunction with RouteFinder plus TrafficMap - a road network dataset featuring NAVTEQ street level mapping.

Zones (isochrones) were then generated based on ease of access from the road network hence highlighting gaps in the travel time target. The next step was to calculate the number of people served by each pharmacy collection point on the list - population breakdown was based on Census Super Output Areas but updated to show latest the population figures.



Avon IM&T Consortium



### THE CHALLENGE

- To manage public access to swine flu antiviral drugs
- To identify key collection points for large numbers of people
- To ensure all 1.1 million residents fell within a 20 minute drive of a collection location

### THE SOLUTION

- A GIS analysis tool and road network dataset to calculate drive times to each potential collection point
- Zones generated based on ease of access to road network to highlight gaps in travel time target
- Location catchment population calculated using Voronoi polygons

### THE BENEFITS

- GIS analysis and geographic representation of data provided vital strategic support
- Need for more collection centres identified
- Emergency planning team equipped to respond to changes and developments in swine flu progress
- Cost savings
- Environmental impact limited

## The Solution

This process involved using mathematical algorithms known as Voronoi polygons which, in simple terms, enabled an equal distribution of catchment areas around the collection points. From this data, it was then possible to determine any necessary changes to the antiviral collection sites.

## The Benefits

As a direct result of the GIS support, the emergency planning team agreed that several more collection centres were needed to bolster capacity in the Avon region. These have been identified and the full list of locations now includes pharmacies, hospitals and other National Health Service sites.

GIS analysis and geographic representation of data delivered an advantage and support in high level strategic decision making on vital resource priorities. As and when the progress of the virus changes, the emergency planning team are equipped to respond quickly and appropriately based on the best possible intelligence.

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### About Avon IM&T Consortium

Avon Information Management and Technology Consortium (AIMTC) is a shared service over NHS Bristol, North Somerset and South Gloucestershire (BNSSG) and the wider health community. AIMTC staff work alongside staff in NHS Bristol, South Gloucestershire and North Somerset to make sure that time, money, skills and equipment are used effectively to achieve better patient care.

### About Dotted Eyes

Dotted Eyes is one of the leading enablers of the Unified Spatial Environment, bringing together CAD and GIS in a centralised, controlled environment. The organisation is a trusted partner of NAVTEQ, Pitney Bowes Business Insight (MapInfo) and Safe Software. The organisation is accredited by Buying Solutions, and has recently won three major public sector procurements, including the contract to supply digital maps to the NHS in England.

Dotted Eyes provides a range of products and services to its wide customer base including web mapping, spatial data loading, consultancy, training, data and software. The company is now producing a range of solutions which will revolutionise the way in which GIS departments deliver their services, removing the repetitive low value items from a GIS Manager's task list so they can focus instead on real, high value GIS services and analysis. [www.dottedeyes.com/nhs](http://www.dottedeyes.com/nhs)

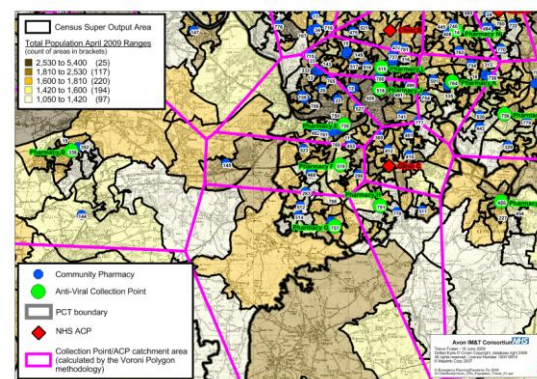
### About NAVTEQ

NAVTEQ is the leading global provider of digital map, traffic and location data that enables navigation and location-based platforms around the world. NAVTEQ supplies comprehensive digital map information to power automotive navigation systems, portable and wireless devices, Internet-based mapping applications and government and business solutions. The Chicago-based company was founded in 1985 and has approximately 4,400 employees located in 195 offices and in 44 countries. NAVTEQ is a trademark in the U.S. and other countries. All rights reserved.

The solution included complex analysis covering around 500 square miles. Factors concerning vulnerable groups were also taken into account - for example identifying pupil numbers at local schools

*"This project is a prime example of the strength of GIS. Without it, we would have had to put a map on the wall, stick pins in it and basically decide what to do by feeling our way. GIS analysis gives us a major advantage and NAVTEQ's accurate maps were a key element in the process."*

**Trevor Foster**  
AIMTC GIS & Mapping Specialist



### NAVTEQ CONTACTS

[enterprise@navteq.com](mailto:enterprise@navteq.com)  
[www.navteq.com](http://www.navteq.com)