

# Airwave Health Monitoring Study

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## Summary

Activity within the Airwave Health Monitoring Study this year has been focussed on recruitment of new volunteers from participating forces; carrying out detailed genetic analysis of biological samples provided by the cohort; supplementing our participants' health-related dataset with data obtained from NHS, and writing our first scientific paper. We have also been redeveloping some of our existing infrastructure to improve accuracy of data collection, and are currently investigating the feasibility of deploying smartphone and tablet-based data collection software to follow up existing participants.

The Airwave Study is fast becoming established as an important resource for the Study of diseases likely to affect an occupational cohort such as the police. Researchers are coming to us with ideas for research that will, we believe, prove relevant to this police cohort. To ensure that any such additional research meets the funders and cohort members' expectations, we have beefed-up the governance process by introducing an Access Committee.

The following provides more detail on the current programme of screening, our data analysis work and the changes to governance outlined above.

## Current Screening Programme

Recruitment into the Study via health-screening continues to be popular and well supported by those forces where we are rolling out the Study. In the first four months of the current financial year we have carried out 885 screens in MPS and 354 screens in Dorset. Together with one member of SOCA, the total number of screens carried out so far this year is 1,240.

The total number of Study participants is now 42,395, of whom 37,402 have had a screen.

Rollout in Dorset was completed during July with 52.3% of officers and staff having enrolled. This is made up from 39.9% who had a screen and 12.4% that completed the questionnaire alone. It compares with a mean enrolment rate across completed forces of 49.5%, and the mean proportion that has a screen of 43.6%.

MPS have enrolled 4.3% of eligible officers and staff, 3.9% of which had a health screen. Because of its size and the difficulty in finding suitable space for clinics, MPS will require several more years to complete. Currently, we have two active clinics at Charing Cross hospital and one at commercial premises at Ilford. We have been scheduling 7 participants per clinic per day, but have recently increased this to 8 at Charing Cross. We continue to seek out appropriate and affordable locations at which clinics can be established, especially south of the river.

## Attendance Rate

The proportion of officers and staff that failed to attend health-screen appointments was 10.3% in Dorset, which is satisfactory. At MPS, the rate of no-shows is 14.2% overall, but with particularly bad

months in April, June and July. We are investigating whether there is any particular reason for this decline in attendance and are consulting with management at MPS.

## Interest from Other Forces

Interest amongst forces not yet enrolled in the Study has surged in recent months.

- **Hampshire** has decided they will enrol in the Study, initially by questionnaire and later via screens held in clinics at three locations around the county. We are actively planning this now.
- **Lincolnshire** implemented the enrolment questionnaire during 2008, recruiting 17.6% of the force into the Study. The force has submitted sickness absence data to us regularly since then, but has been unable to find accommodation to implement health-screening. We have been recently advised that suitable space for a clinic may now have been found and are investigating practical issues later this month.
- **West Midlands** was one of the pilot forces for the Study back in 2004 and they are now keen to be part of the main rollout. We are awaiting a decision from senior management.
- **South Yorkshire** initially declined to participate but have been in contact recently with a view to enrolling.
- **Thames Valley** has declined to take part in the Study after initial interest, citing the cost of providing abstraction time as the reason to not participate.

## Data Analysis

Six analysts and data managers have been working on preparing, cleaning and analysing laboratory, clinical and Airwave Usage data collected by the Study. Over and above this, additional effort from researchers and students is being deployed to code datasets that needs specialist analysis skills such as the food-diary and genomic data.

## CDRs

Call Data Records (CDRs) from 21 forces have been loaded and part-analysed for the years 2006 till 2012. Linkage between individual cohort members and their Airwave usage is proving to be easier than our earlier analyses suggested. We are now linking these data with other measures of Airwave usage in order to arrive at a consolidated measure of TETRA exposure that can be used for more general analyses.

In addition to determining a measurement of exposure to Airwave, we are exploring other possible uses for this dataset, such as determining the incidence of shift work. This may allow us to investigate whether there is any relationship between police working patterns and certain types of disease.

## DNA / Genotyping

We are currently extracting and analysing the DNA from approximately 15,000 participants using money from the National Institute of Health Research (NIHR). This builds on the successful processing of 2,500 samples carried out in the first quarter of 2013. The resulting data is now being analysed and should expand the breadth of analysis that can be carried out on cohort members.

## **Hospital Episodes Statistics (HES)**

To supplement our understanding of the prevalence of a wide variety of disease types within the cohort, we have applied for permission from the NHS to use HES data. This will complement the questions we ask cohort members when they join the Study, and will provide a richer picture of the current health of the cohort than can be obtained from the cancer and mortality registries alone.

## **Publications**

The team has written its first paper intended for publication in a scientific journal. This “cohort paper” describes the protocol used by the Study and provides summary descriptive statistics of clinical and biological measurements of cohort members.

## **Governance**

During July, the first meeting took place of the Study’s “Access Committee”. The committee’s role is to review all requests to access Airwave samples and / or data and make recommendations to the ICHTB Tissue Management Committee (TMC), where final approval to release Study material would occur. The Access Committee includes a lay member who is also a representative of the Police Federation on the Study’s Steering Group.

Five proposals for additional research were considered at the July meeting, three from Imperial researchers and two from external groups. All were considered suitable.

Andrew Heard (Database and Laboratory Manager).  
Dr. Deepa Singh (Project Manager and Clinical Lead).

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