



**SEROEPIDEMIOLOGY
UNIT**

USER GUIDE

April 2009

Introduction.

The Health Protection Agency (HPA) Seroepidemiology Programme.

The basis for the HPA Seroepidemiology Programme is a large collection of sera approximating the general population of England and Wales, forming a unique and valuable public health resource. The serum collection is now stored and maintained by the seroepidemiology unit (SEU) at the HPA (North West) Manchester laboratory having previously been stored at the Lancashire Teaching Hospitals NHS Trust (formerly Preston Public Health Laboratory). Sera used are residues of specimens submitted for diagnostic testing, they represent the entire age range of the population and are anonymised (retaining age, sex, date of collection and source laboratory only). Collection of sera is continuing through collaboration with the HPA Regional Microbiology Network and laboratories throughout England and Wales, and has occurred annually since 1986, with over 150,000 sera now stored and catalogued. The collection is available for testing to anyone wishing to use it for public health purposes.

The programme is focused on cross-sectional antibody prevalence studies to help in the understanding of the epidemiology and burden of infectious diseases of public health importance, and how this may be changing. This provides key evidence to assist with making informed decisions regarding health policy where intervention is possible.

Cross-sectional antibody prevalence studies.

Cross-sectional prevalence studies involve collecting biological samples at a point in time that represents a population of interest and subsequently screening them for a marker that relates to a disease. They are relatively simple to conduct, take only a short time and are relatively inexpensive. Serum is often the sample of choice with specific IgG the marker chosen, as the presence of this antibody indicates previous exposure (or vaccination) to the disease for which it is specific. If samples collected at several different time points are able to be used it is possible to estimate changes in the epidemiology of a particular disease.

Regular cross-sectional IgG prevalence studies form the basis of serological surveillance, an important technique for continually monitoring the behaviour of a disease within a population.

The collection is run on a voluntary basis with over 150,000 sera now available. If you would like to contribute, please contact us. Some financial assistance may be available.

Further information:

<http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1158313434390?p=1158313434390>

SEU Staff and Contact Details:

SEU at HPA Centre for Infections (CfI):

For general enquiries and requests to use the archive:

Address: HPA CfI,
Immunisation Department,
61, Colindale Avenue,
London,
NW9 5HT.

Staff: Dr Richard Pebody

SEU at HPA North West, Manchester Laboratory:

For contributions of sera to the archive, general enquiries and the return of tested samples and results:

Delivery Address: Elaine Stanford,
HPA Seroepidemiology Unit,
Vaccine Evaluation Unit,
Manchester Medical Microbiology Partnership,
2nd Floor, Clinical Sciences Building 2,
Manchester Royal Infirmary,
Oxford Road,
Manchester
M13 9WL,
UK.

Hays: HPA North West, Manchester Lab, DX 6962410, Manchester 90 M

Staff: Ms Elaine Stanford

Dr Jamie Findlow
Dr Ray Borrow

The laboratory is open to receive samples on Mondays to Fridays from 8.00am to 4.00pm (excluding bank holidays).

Contributions of sera to the SEU archive:

Serum requirements:

The current yearly approximate target age ranges for collection per HPA region, distributed evenly between male and female patients, are as follows:

- 1 - 24 years: 25 sera in each 1 year age group
- 25 - 44 years: 50 sera in each 5 year age group
- 45 - 84 years: 50 sera in each 10 year age group

A minimum volume of 200µL is requested for each sample

Recent repeat sera from the same individual should be excluded

Sera from individuals known to be immuno-compromised should be excluded

Sera submitted for genitourinary investigations (GU) and/or antibody testing to Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV) or Hepatitis C can be included but should be flagged appropriately by annotating the GU column of Appendix I or an electronic copy thereof.

All contributions of serum samples to the archive are to be sent frozen in secure, appropriately-labelled packaging including freezer packs or dry ice. Serum vials should be rigid polypropylene with a screw-cap with O-ring or phlange seal, with a capacity of no more than 2 mL. **Shipping costs to the SEU archive laboratory are the responsibility of the contributing laboratory.**

It is requested that contributing laboratories supply the following data for all samples submitted to the archive:

Gender

Unique sample identifier

Date of birth (or age, if DOB not available)

Date of sample

Whether or not sample collected for GU investigation and/or testing for HIV/HBV.

The data must be sent to the SEU laboratory in electronic form by email to Elaine Stanford (elaine.stanford@hpa.org.uk) as a Microsoft Office Excel spreadsheet with column headings as above (an electronic template will be provided on request) or as a text file, as well as a printed list of samples or box plan to accompany all sample shipments. **It is important that no patient identifying data (names) are included.** Upon receipt of a shipment of samples into the SEU laboratory, the samples are checked against the sample information provided, and confirmation and/or notes of discrepancies are notified to the contributing laboratory by email or telephone. **Please include full contact details of the person(s) to whom queries can be directed.**

Payments to Contributing Laboratories.

Payment may be available for contributing laboratories, but can vary each year depending on budgetary allowances. Information will be sent to current contributing laboratories at the start of each financial year. New contributors can contact the SEU for up to date information.

Using the SEU archive

The SEU archive is freely available to be used for public health research and requests to use the archive should be submitted to the SEU at Cfl stating required sample numbers and demographic criteria. All requests are considered by Cfl, who then use the SEU database to select a subset of samples within the demographic criteria requested, if appropriate. A list of samples is then sent to the SEU laboratory and the samples are retrieved from the archive and sent to the organisation who is conducting the research.

The samples are packed securely in labelled boxes, kept frozen on dry ice and sent with a list and box plan, using a courier service. Samples must be stored at -65°C to -95°C by the testing laboratories, and freeze-thaw cycles must be kept to a minimum. Testing laboratories are requested to confirm receipt of samples by email or fax. Sample packaging is re-usable and should be retained for shipping samples back to the SEU laboratory when testing is complete.

Arrangement of shipping from and to the archive laboratory and associated costs are the responsibility of the requesting laboratory.

Returning samples to the SEU archive

When testing is complete, all SEU samples must be returned to the archive (even if insufficient volume to test). Samples must be returned frozen on dry ice with complete lists/box plans, preferably in the same packaging used to send them for testing. Confirmation of receipt of samples by the SEU laboratory will be faxed or emailed.

Arrangement of shipping from and to the archive laboratory and associated costs are the responsibility of the requesting laboratory.

Reporting test results

It is requested that the following basic results of tests on the serum archive are reported back to the SEU laboratory in electronic format, preferably a Microsoft Office Excel spreadsheet (an electronic template will be provided on request) or text file with the following headings:

SEU sample number/barcode

Analyte

Result

Units (i.e., $\mu\text{g}/\text{mL}$)

Results will be entered into the SEU results database held on the shared network drive at Cfl.

