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Study of genetic susceptibility to severe streptococcal infection launched

Researchers at Oxford University, Public Health England and Imperial College London have launched a new study to assess genetic susceptibility to severe streptococcal infection with particular focus on *S. pyogenes* (group A streptococcus). The study, STREP GENE, also encompasses an acceptability study soliciting opinions of survivors and family members on proposed methods for a future, comprehensive study examining a range of host and pathogen determinants of severe streptococcal infection.

In close partnership with the Lee Spark Necrotising Fasciitis Foundation, survivors of severe streptococcal infection and their family members will be recruited to both arms of the STREP GENE study. Exome sequencing will be used to examine DNA from survivors' saliva samples with a target recruitment of 200 cases.

The role of host genetic factors in susceptibility to infection is increasingly recognised, particularly for invasive bacterial infection [1,2]. The STREP GENE study is the first of its kind to assess genetic predisposition to *S. pyogenes*. Findings will expand the state of knowledge of susceptibility to infection and assist with the design of future, large-scale studies examining acquired and inherited host factors predisposing to infection alongside pathogen-associated factors.

The project is funded by the European Society of Clinical Microbiology and Infectious Diseases and has been approved by the National Research Ethics Service (reference 13/SC/0520).

Further information on the study can be obtained from the [study website](#) or from [Dr Tom Parks](#) at the Wellcome Trust Centre for Human Genetics or [Dr Theresa Lamagni](#) at Public Health England.

References

1. Chapman SJ, Hill AVS. Human genetic susceptibility to infectious disease. *Nat Rev Genet* 2012; **13**: 175–88.
2. Parks T, Hill AVS, Chapman SJ. The perpetual challenge of infectious diseases. *N Engl J Med* 2012; **367**: 90–0.

Impact of flu vaccine pilots in primary schools assessed

The results of a first assessment of the uptake and impact of the child flu vaccine pilot programme launched last year [1] are encouraging, according to an article published in *Eurosurveillance* [2].

In 2012 the Joint Committee on Vaccination and Immunisation advised extending the national flu immunisation programme to all children from the age of two to less than 17 years. In addition to protecting healthy children from flu, the extension aimed to reduce the spread of flu and protect younger siblings, grandparents and those who are at increased risk of becoming seriously ill from flu.

As a first step in the extension of the programme, all children aged two and three years in England were offered flu vaccination during the 2103/14 flu season, while children aged between four and 11 years old were vaccinated in seven pilot areas (in Bury, Cumbria, Gateshead, Leicester City, East Leicestershire and Rutland, and the London Boroughs of Havering and Newham and South East Essex). A total of 104,792 primary age children received at least one dose of a nasal spray flu vaccine – or a needle vaccine for the small number of children unable to receive the nasal spray vaccine – an overall uptake of 52.5% in this target group [3]. Despite the low flu activity in 2013/2014, early results – although statistically non-significant – suggest a positive impact, PHE said [3].

Results were obtained from a range of surveillance indicators including GP consultations for influenza-like illness, swab positivity in primary care, laboratory confirmed hospitalisations and percentage of respiratory emergency department attendances.

From September 2014 vaccination against flu will be offered to all children aged two to four years of age. The geographical pilots for primary school children established in 2013 to 2014 will continue and a number of additional pilots for secondary school age children in years seven and eight (ages 11 to 12) will also begin in some areas.

References

1. PHE/DH/NHS England, 26 July 2013. “The flu immunisation programme 2013/14 – extension to children”.
2. “Uptake and impact of a new live attenuated influenza vaccine programme in England: early results of a pilot in primary school-age children, 2013/14 influenza season”, *Euro Surveill.* 2014; **19**(22).
3. “Child flu vaccine pilot has positive impact”, PHE/DH/NHS England press release, 6 June.

Respiratory

Laboratory reports of respiratory infections made to the CIDSC from PHE and NHS laboratories in England and Wales: weeks 18-2/2014

Data are recorded by week of report, but include only specimens taken in the last eight weeks (i.e. recent specimens)

Table 1. Reports of influenza infection made to PHE Colindale, by week of report

Week	Week 18	Week 19	Week 20	Week 21	Week 22	Total
Week ending	4/5/14	11/5/14	18/5/14	25/5/14	1/6/14	
Influenza A	46	39	26	26	13	150
Isolation	4	1	–	5	–	10
DIF *	6	–	4	5	–	15
PCR	31	32	13	11	6	93
Other †	5	6	9	5	7	32
Influenza B	12	4	7	4	2	29
Isolation	–	–	–	–	–	–
DIF *	1	–	1	–	–	2
PCR	10	4	6	4	2	26
Other †	1	–	–	–	–	1

* DIF = Direct Immunofluorescence. † Other = "Antibody detection - single high titre" or "Method not specified".

Table 2. Respiratory viral detections by any method, by week of report

Week	Week 18	Week 19	Week 20	Week 21	Week 22	Total
Week ending	4/5/14	11/5/14	18/5/14	25/5/14	1/6/14	
Adenovirus †	43	39	41	47	49	219
Coronavirus	7	7	8	7	6	35
Parainfluenza †	90	68	72	76	89	395
Rhinovirus	134	126	139	157	191	747
RSV	22	17	14	14	7	74

* Respiratory samples only.

† Includes parainfluenza types 1, 2, 3, 4 and untyped.

Table 3. Respiratory viral detections by age group: weeks 18-22/2014

Age group (years)	<1 year	1-4 years	5-14 years	15-44 years	45-64 years	≥65 years	Un-known	Total
Adenovirus †	2	118	22	37	27	13	–	219
Coronavirus	2	14	3	5	5	6	–	35
Influenza A	–	18	4	40	36	49	–	147
Influenza B	–	7	2	11	8	1	–	29
Parainfluenza †	7	183	21	47	84	52	1	395
Rhinovirus	28	384	52	104	79	100	–	747
Respiratory syncytial virus	4	45	1	5	8	11	–	74

* Respiratory samples only.

† Includes parainfluenza types 1, 2, 3, 4 and untyped.

Table 4 Laboratory reports of infections associated with atypical pneumonia, by week of report

Week	Week 18	Week 19	Week 20	Week 21	Week 22	Total
Week ending	4/5/14	11/5/14	18/5/14	25/5/14	1/6/14	
<i>Coxiella burnettii</i>	1	–	1	–	–	2
Respiratory <i>Chlamydia</i> sp.*	–	1	5	–	3	9
<i>Mycoplasma pneumoniae</i>	10	4	9	10	14	47
<i>Legionella</i> sp.	3	1	6	4	5	19

*Includes *Chlamydia psittaci*, *Chlamydia pneumoniae*, and *Chlamydia* sp detected from blood, serum, and respiratory specimens.

Table 5a Reports of Legionnaires Disease cases in England and Wales, by week of report

Week	Week 18	Week 19	Week 20	Week 21	Week 22	Total
Week ending	4/5/14	11/5/14	18/5/14	25/5/14	1/6/14	
Nosocomial	–	–	–	–	–	–
Community	1	–	3	2	3	9
Travel Abroad	2	1	2	2	2	9
Travel UK	–	–	1	–	–	1
Total	3	1	6	4	5	19
Male	2	1	6	3	3	15
Female	1	–	–	1	2	4

Nineteen cases were reported with pneumonia. Fifteen males aged 43 - 92yrs and four females aged 61 - 81yrs. Nine cases had community-acquired infection. One death was reported in a 61yr old female.

Ten cases were reported with travel association: Cyprus (2), Egypt (1), France/United Kingdom (1), Indonesia/Philippines (1), Malta (1), Spain (1), Thailand (1), Tunisia (1) and United Kingdom (1).

Table 5b. Reports of Legionnaires Disease cases in England and Wales, by PHE Centre: weeks 18-22/2014

Region/Country	Noso-comial	Community	Travel Abroad	Travel UK	Total
North of England					
North East	–	–	2	–	2
Cheshire & Merseyside	–	1	2	–	3
Greater Manchester	–	1	1	–	2
Cumbria & Lancashire	–	–	1	–	1
Yorkshire & the Humber	–	–	1	–	1
South of England					
Devon, Cornwall & Somerset	–	–	–	1	1
Avon, Gloucestershire & Wiltshire	–	1	–	–	1
Wessex	–	2	–	–	2
Thames Valley	–	–	1	–	1
Sussex, Surrey & Kent	–	–	–	–	–
Midlands & East of England					
East Midlands	–	1	–	–	1
South Midlands & Hertfordshire	–	1	–	–	1
Anglia & Essex	–	–	–	–	–
West Midlands	–	–	–	–	–
London Integrated Region					
London	–	2	–	–	2
Public Health Wales					
Mid & West Wales	–	–	–	–	–
North Wales	–	–	–	–	–
South East Wales	–	–	–	–	–
Miscellaneous					
Other	–	–	1	–	1
Not known	–	–	–	–	–
Total	–	9	9	1	19