

## **New study will investigate whether mobile phones and wireless technologies affect children's cognitive development**

A new study launching today will investigate whether the use of mobile phones and other wireless technologies might affect children's cognitive development.

The Study of Cognition, Adolescents and Mobile Phones (SCAMP) is the largest study in the world to address this issue. It will focus on cognitive functions such as memory and attention, which continue to develop into adolescence.

Seventy percent of 11-12 year olds in the UK now own a mobile phone, rising to 90 per cent by age 14. Most research to date on mobile phones has focused on adults and risk of brain cancers. While there is no convincing evidence that radio wave exposures from mobile phones affect health, scientists remain uncertain as to whether children's developing brains are more vulnerable than adults' brains, due to their developing nervous system, enhanced absorption of energy in head tissue, and increased cumulative exposure over their lifetime. The latest World Health Organisation Organization (WHO) radiofrequency agenda highlights this uncertainty, ranking '*prospective cohort studies of children and adolescents*', including neurocognitive and behavioural outcomes, as a '*highest priority research need*'.

SCAMP is an independent, three-year study commissioned by the Department of Health, on behalf of multiple funders (see Notes to editors). This study comes under the 'Research Initiative on Health and Mobile Telecommunications (RIHMT)' formerly the MTHR Programme. Led by researchers from Imperial College London, working with partners from Birkbeck, University of London, and others, it will follow the cognitive development of approximately 2500 year 7 (aged 11-12 years) pupils in participating schools from this September. Over 160 secondary schools in the outer London area will today receive invitations to take part. 11-12 years is the age at which the majority of children start to own a mobile phone.

Current UK health policy guidelines advise that children under 16 should be encouraged to use mobile phones for essential purposes only, where possible use a hands-free kit or text and, if calls are really necessary, to keep them short. An NHS leaflet giving this advice was produced in 2011 and that advice still stands.

Dr Mireille Toledano, Principal Investigator of the study, from the MRC-PHE Centre for Environment and Health at Imperial College London, explains: "This advice to parents is based on the precautionary principle, given in the absence of available evidence and not because we have evidence of any harmful effects. As mobile phones are a new and widespread technology central to our lives, carrying out the SCAMP study is important in order to provide the evidence base with which to inform policy and through which parents and their children can make informed life choices.

"By assessing the children in year 7 and again in year 9 we will be able to see how their cognitive abilities develop in relation to changing use of mobile phones and other wireless technologies" added Dr Toledano.

Professor Patrick Haggard, Deputy Director of the Institute of Cognitive Neuroscience at UCL and Chair of the SCAMP Steering Committee commented that: "I am delighted that the UK is contributing to this high priority research with the launch of SCAMP, the largest follow-

up study of its kind in adolescents worldwide. This study has two particularly valuable aspects: it attempts to estimate the children's exposure to radiofrequency fields as precisely as possible, and it uses a carefully-designed suite of tests to measure many of the key cognitive functions that are developing during adolescence.”

Professor Paul Elliott, Director of the MRC-PHE Centre for Environment and Health at Imperial College London and co-investigator of the study said: “Scientific evidence available to date is reassuring and shows no association between exposure to radiofrequency waves from mobile phone use and brain cancer in adults in the short term (less than 10 years of use). But the evidence available regarding long term heavy use and children’s use is limited and less clear.”

The COSMOS study, the UK arm of which is funded by the Department of Health and also led by Imperial College London, is currently following the health of 290,000 adult mobile phone users for 20-30 years to address the knowledge gap in possible long term health effects of mobile phone use. To date, there are only two studies, both in Europe, focusing on childhood cancers and mobile phone use. One reported no association and the other is ongoing.

Dr Mireille Toledano said: “SCAMP will compliment this other research by focusing on the ongoing development of cognitive functions in the brain during adolescence. Cognition is essentially how we think; how we make decisions; and how we process and recall information. It is linked to intelligence and educational achievement and forms the building blocks of the innovative and creative potential of every individual and therefore society as a whole”.

Parents and pupils who agree to take part in the study will answer questions about the children's use of mobile devices and wireless technologies, well-being and lifestyle in Year 7 and Year 9. Pupils will also undertake classroom-based computerised tasks measuring various cognitive abilities that underpin functions such as memory and attention.

Encouraging schools to participate in SCAMP, Dr Toledano said: “Taking part in SCAMP is a fantastic opportunity for schools to bring ‘live’ science into their classrooms, show children how we conduct health research and, above all, for schools, pupils and parents to make a real contribution to the health of current and future generations.”

Anyone who wants to find out more, or nominate their school to take part in SCAMP, can visit the website at [www.scampstudy.org](http://www.scampstudy.org).

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**Notes to editors**

1. Funding information

The study has been commissioned by the Department of Health Policy Research Programme, through the Research Initiative on Health and Mobile Telecommunications. This initiative is jointly funded by Industry - mobile phone operators (Vodafone, Orange, O2, T-mobile, Arqiva, Carphone Warehouse) and non-industry (DH, MRC, HSE, DHSSPSNI, WAG, SE).

## 2. About Imperial College London

Consistently rated amongst the world's best universities, Imperial College London is a science-based institution with a reputation for excellence in teaching and research that attracts 14,000 students and 6,000 staff of the highest international quality. Innovative research at the College explores the interface between science, medicine, engineering and business, delivering practical solutions that improve quality of life and the environment - underpinned by a dynamic enterprise culture.

Since its foundation in 1907, Imperial's contributions to society have included the discovery of penicillin, the development of holography and the foundations of fibre optics. This commitment to the application of research for the benefit of all continues today, with current focuses including interdisciplinary collaborations to improve global health, tackle climate change, develop sustainable sources of energy and address security challenges.

In 2007, Imperial College London and Imperial College Healthcare NHS Trust formed the UK's first Academic Health Science Centre. This unique partnership aims to improve the quality of life of patients and populations by taking new discoveries and translating them into new therapies as quickly as possible.

Website: [www.imperial.ac.uk](http://www.imperial.ac.uk)

## 3. About the MRC-PHE Centre for Environment and Health

The MRC-PHE Centre for Environment and Health was established in June 2009 as a collaboration between Imperial College London and King's College London. It is an international centre of excellence for research and training on the health effects of environmental pollutants and the translation of this knowledge to inform national and international policies to improve health.

Website: [www.environment-health.ac.uk](http://www.environment-health.ac.uk)