TS4-05 INTERNATIONAL PROSPECTIVE COHORT STUDY ON MOBILE PHONE USE AND HEALTH (COSMOS)

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There is extensive public and scientific interest in the possibility that exposure to radiofrequency electromagnetic fields (RF) from mobile telephony might increase the risk of disease. This hypothesis does not appear to be biologically based but rather reflects a concern that the current understanding of how fields interact with the human body might be incomplete or misconceived. This concern is amplified by the rapid world-wide penetration of mobile phone use. Current exposure guidelines have been implemented to minimise the effects of tissue heating from exposure to RF fields.

In the absence of a credible biological hypothesis and convincing experimental results, epidemiologic research is particularly important. It is also the most relevant branch of science for risk identification and assessment because it directly investigates the putative exposure-disease relationship in humans.

"Cosmos" is a large cohort study of mobile phone users (250,000 men and women aged 18+ in up to four European countries) followed up for 25+ years to provide epidemiologic evaluation of possible long-term risk of health events that might be associated with mobile phone use. These include risk of chronic diseases of the brain and of the head and neck, such as cancer, benign tumours and neurological and vascular diseases, as well as change in occurrence of specific subacute and chronic symptoms over time, including headache, sleep disorders, depression and tinnitus. Also, the study will help to determine the extent to which use of a mobile phone influences health-related quality of life. First results of the study are expected after five years of follow up.

The prospective cohort study is the gold standard for such an investigation, because data on exposures are captured prior to occurrence of disease. This removes a major potential source of bias associated with the case-control design adapted by most prior epidemiological studies of mobile phone use. Both prospectively collected information on mobile phone use and objective traffic data from network operators will be collected, essential for assessment of a rapidly changing technology and avoiding error and misclassification related to sole reliance on long-term recall.

The four countries involved in setting up the "Cosmos" study are Denmark, Finland, Sweden and the UK. Feasibility studies were conducted in all countries to demonstrate under which circumstances the study is feasible in each country.