

would have access to counselling and up-to-date clinical information, and the opportunity to take part in intervention studies.

According to a report by Susan Jenks [1] the subcommittees will have to decide how to set up a national system that meets research needs without compromising patient confidentiality; how to set up longitudinal studies that tie in with existing NCI efforts; and how to develop educational materials for healthcare professionals outside the oncology community who may treat patients who identify themselves as being at high risk of certain cancers.

#### *Key network centres*

The major centres of the network are likely to be the NCI's 28 comprehensive cancer centres, supplemented by institutions that specialise in genetics research and counselling.

The comprehensive cancer centres embody a multidisciplinary approach to cancer research, patient care and community outreach. The NCI criteria for "comprehensiveness" include the requirement that a centre have: • a strong core of basic laboratory research in several scientific fields; • a strong programme of clinical research; • and an ability to transfer research findings into clinical practice.

1. Jenks S. NCI plans National Cancer Genetics Network. *J Natl Cancer Inst*

## Hand-held Cellular Telephones and Adult Brain Cancer

A comprehensive study of malignant and benign brain tumours to identify whether hand-held cellular telephones and other environmental and genetic factors cause tumours is underway. National Cancer Institute, U.S.A., researchers and other researchers intend to examine factors that may affect brain cancer incidence, including occupational exposures, diet, vitamin supplements, use of home appliances and cellular telephones, reproductive and medical history, inherited susceptibility, and other factors.

The NCI case-control study, directed by Elizabeth Hatch, is being conducted at hospitals in Phoenix, Pittsburgh and Boston. By the end of 1998, the researchers plan to enrol about 700 newly diagnosed brain tumour cases and an equal number of controls. The controls are patients admitted to the same hospitals with a variety of non-cancer diseases or conditions.

Information will be obtained about use of cellular telephones, including the types of phones used (hand-held, car, transportable cellular phones or cordless phones) and frequency and duration of use. The researchers will also examine the consumption of foods and beverages containing N-nitroso compounds or their precursors and consumption of vitamins, fruits and vegetables; medical and dental exposures to ionising radiation; reproductive histories; exposures to viruses; and other pre-existing medical conditions. Data collection began in 1994 and will finish at the end of 1998. Separate analyses will be conducted for different brain tumours.

Previously, a number of studies on the possible health effects of low frequency electromagnetic fields emitted from power-lines, transmitters, household items such as computers, TV sets, electric blankets and microwave ovens have been completed. Thirteen studies relate to children, and five to adults. According to the National Institutes of Health, "So far, the findings have yielded mixed results in children, while no association between adult cancer and EMF has been found. Furthermore, no correlations have been observed between 'directly measured' residential EMF exposures and risk for either children or adults. While occupational studies have suggested a link between EMF exposures and adult leukaemias and brain tumours, only four of these investigations have included measurements, and findings have been inconsistent."

In addition to the study on adult brain cancer, the NCI is teaming up with the Children's Cancer Group on a large-scale investigation to determine whether exposure to extremely low-frequency EMFs contributes to the development of acute lymphocytic leukaemia (ALL) in children under the age of 15 years. The EMF study is part of a larger Children's Cancer Group study of over 1900 ALL cases and 1900 controls. For the EMF evaluation, more than 600 children with ALL and more than 600 controls were selected from those participants in the larger group.

This study will provide one of the first comprehensive and complete measures of EMF exposures in households with children. Results should be available late 1996 or early 1997.

## From Europe

### Rise in Testicular Cancer Incidence in Six European Countries

The age-adjusted incidence of testicular cancer is increasing annually in six European countries namely Denmark, Norway, Sweden, the former German Democratic Republic (East Germany), Finland and Poland. Rates range from 2.3% in Sweden to 5.2% in East Germany.

This was the finding of Dr Reinhold Bergström and colleagues from the Departments of Cancer Epidemiology and Statistics at Uppsala University, Sweden

[1]. They studied a total of 30 908 incident cases of testicular cancer, diagnosed from 1945 through 1989, in men who were 20-84 years of age and on population-based cancer registries.

#### *Birth cohort*

Birth cohort was found to be a stronger determinant of testicular cancer risk than was calendar time for all six populations. Little variation in testicular cancer risk was observed for men born between 1880 and 1920, but after that the risk began to

increase. Among men born in Denmark, Norway and Sweden between 1930 and 1945 (a period that included the Second World War), the increasing trend levelled off. After 1945, an uninterrupted increase in risk was observed for all six populations. The authors reported: "With men born around 1905 as the reference group, the relative risk of testicular cancer for those born around 1965 varied from 3.9 (95% CI 2.7-5.6) in Sweden to 11.4 (95% CI 8.3-15.5) in East Germany," write the