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Foreword

The current issue of the *European Journal of Cancer* is devoted to childhood and adolescent cancer in Europe. Europe is drawing closer and closer together and is merging politically, socially, economically, and in the field of medicine. The European Union (EU) currently comprises 25 countries and is set to expand further. Despite some significant recent successes, childhood and adolescent cancer is still one of the major challenges facing medicine.

With a population of approximately 460 million in the current EU, and an average childhood cancer incidence rate of about 140 per million children, per year, cancer will be newly diagnosed in about 13,000 children annually. The Automated Childhood Cancer Information System (ACCIS) has collected data from 62 population-based cancer registers from across Europe [Steliarova-Foucher, Kaatsch, Lacour and colleagues, this issue] with relatively comparable data gathered on children up to the age of 14 years. These statistics show, in part, a wide variation between different European regions, varying also, but to a lesser extent, for different diagnostic groups [Stiller, Marcos-Gragera, Ardanaz and colleagues, this issue]. This variation can be only partially explained by differences in diagnostic or registration practices. According to time-trend analyses, incidence of childhood cancer has increased significantly, with an average annual percentage change of 1.1% [Kaatsch and colleagues, this issue]. In five European regions rising trends were observed in the incidence of acute lymphoblastic leukaemia, being most marked in boys [Coebergh and colleagues, this issue]. As early as 2 years ago, the ACCIS published somewhat alarming figures on the increase in childhood cancer in Europe. The detailed data presented in this special issue discuss the potential contribution of artefacts in data collection and patient registration and clearly demonstrate that a large proportion of this increase cannot be explained by improvement in diagnostic and registration practices; and they are thus most likely due to changing risk factors. The challenge now is to continue to monitor these changes in incidence across large geographical regions and populations in order to understand the roles played by genetic versus environmental factors.

For adolescents the figures are not quite so authoritative, because the European population was covered less completely. Total incidence varied widely between regions, from 169 per million in the East to 210 per million in the North [Stiller, Desandes, Danon and colleagues, this issue]. The increase in incidence in adolescents, at 2% per year between 1978 and 1997, appears even more pronounced than in children. It would be of interest to have reasons or hypotheses as to why this is the case. Adolescents are, in part, treated in paediatric institutions, but also by medical oncologists. Some publications have shown that treatment results tend to be better when adolescents are treated according to paediatric protocols or in paediatric institutions. However, this may not be true for the whole spectrum of adolescent cancers because the frequency of the various cancer types is clearly different between children and adolescents. In the latter, epithelial tumours start to play a major role compared with the paediatric age group. The reported 5-year survival rate of 73% for all cancers in adolescents is impressive, though geographical variation was greater than for children. However, there are large areas of Europe that are not covered by registration, and therefore the figures for adolescents are less representative of the European incidence and survival than those for children. More complete coverage of other areas by population-based cancer registries and further improvement in data quality is to be fostered. Many health professions are involved in generating data for cancer registries, including paediatric oncologists, haematologists and pathologists. Their co-operation is indispensable for production of high-quality population-based data. This special issue provides the feedback on everyday clinical work and overall progress in cancer patients' care.

Survival of childhood and adolescent cancer has improved markedly over the past few decades [Magnani and colleagues and Stiller, Desandes, Danon and colleagues, this issue]. Again, compared with clinical experience, figures for children are relatively sound, whereas for adolescents the data is less representative. As can be seen in this issue of the *European Journal of Cancer*, there is still a disparity between old and new EU member states. In general, this divides Europe into western and northern countries on the one hand, and eastern and central European countries on the other. Assuming an average cure rate of about 70%, approximately 9000 out of 13,000 of affected children will survive, most of them with a satisfactory or good quality of life. However, long-term follow-up is necessary in order to assess and validate the quality of life as well as the spectrum of, in part already known, but also potentially not yet fully known, late sequelae, in particular second cancers. Respective data need to be collected systematically in population-based cancer registries. A 5-year survival of 75% [Sankila and colleagues, this issue] can, at first glance, be considered a big success. On the other hand, we should realise that each year about 3000 children still die from cancer in the current EU, and many more in other European

countries. The problem of childhood cancer is therefore far from being solved.

Paediatric oncologists were amongst the first to realise that co-operation is essential in order to make progress. This insight was probably a consequence of the fact that paediatric oncologists are dealing with rare diseases and that cancer is an imminent life-threatening diagnosis. Treatment standards have been established over the past few years for the major disease groups; in part, these have already been accepted and are in use internationally. For others, in particular the rarer diseases, strategies and standards for diagnosis and treatment still need to be sought in order to acquire better insight into the biology, and to develop novel approaches for curative treatment. Likewise, epidemiological questions can be addressed only with the help of international co-operation. In this sense, paediatric oncology is already intensely involved in the process of globalisation.

For Europe, concerted effort needs to be made in the coming years to harmonise registration modalities, diagnosis and treatment of childhood and adolescent cancer. Within the EU member states, all procedures need to be in agreement with Good Clinical Practice rules. This applies in particular to clinical trials, for which the EU directive had to be implemented into the national law relating to each individual EU member state. The development and licensing of new drugs for children has also become subject to European legislation. Thus, intensive, close and unrestricted co-operation of all disciplines involved in paediatric oncology across Europe is required now more than ever. Without doubt this includes collaboration with epidemiologists and well-organised cancer registries in order to develop uniform standards of data collection and quality assurance. The European Branch of the International Society of Paediatric Oncology (SIOP Europe) is the ideal umbrella organisation to co-ordinate and govern this process within and beyond the boundaries of the EU in the coming years, in order to give paediatric oncology a strong and unanimous voice.

The results presented in this special issue are indispensable for successful public health policy in paediatric oncology. Regrettably, the study period ends in 1997, which is partly due to lack of funding for this international project, initially funded by the European Commission. It should be possible within the European Communities to allocate the modest funds required for this important project to continue.

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