

SECTION OF CANCER INFORMATION (CIN)

Section head

Dr David Forman

Deputy section head

Dr Freddie Bray

Scientists

Dr Maria-Paula Curado

(until July 2010)

Dr Hai Rim Shin (until June 2010)

Dr Isabelle Soerjomataram

Dr Eva Steliarova-Foucher

Project support officer

Ms Stella de Sabata

Informatics officer

Mr Jacques Ferlay

Technical assistants

Mr Morten Ervik

Ms Isabelle Savage

Mr Sébastien Antoni

Assistants (statistics)

Mr Eric Masuyer

Clerks (informatics)

Mr Emmanuel Giraud

Clerks (statistics)

Ms Murielle Colombet

Ms Joannie Tieulent

Secretariat

Ms Chantal Lambert

(until May 2010)

Ms Fatiha Louled

Ms Katuska Veselinovic

Visiting collaborator

Mr Mark O'Callaghan

Visiting scientists

Ms Graciela Cristina Nicolas

Dr Cristina Stefan

Postdoctoral fellows

Dr Jiansong Ren

Dr Suzanne Moore

Students

Mr Mohannad AINSour

Mr Dyego Bezerra de Souza

(until July 2010)

Ms Marianna de Camargo Cancela

(until March 2011)

Ms Marine Castaing (until July 2011)

Ms Karima Chaabna

Ms Stephanie Gehring

(until August 2010)

Ms Clarisse Héry (until February 2010)

THE SECTION OF CANCER INFORMATION (CIN) HAS THE OVERALL GOAL OF MAINTAINING IARC AS THE DEFINITIVE REFERENCE SOURCE FOR THE PROVISION OF INFORMATION CONCERNING WORLDWIDE CANCER STATISTICS. CIN WAS CREATED IN 2009 AND, IN MARCH 2010, TWO OF THE THREE EXISTING GROUPS, DESCRIPTIVE EPIDEMIOLOGY PRODUCTION (DEP) AND DATA ANALYSIS AND INTERPRETATION (DEA), WERE AMALGAMATED TO CONSTITUTE AN INTEGRATED SECTION. THE THIRD, BIostatistics GROUP (BST), PREVIOUSLY IN CIN, WAS MOVED TO THE SECTION OF GENETICS (GEN).

In April 2010, Dr David Forman joined IARC from the University of Leeds, United Kingdom to become Section Head, and Dr Freddie Bray joined IARC from the Cancer Registry of Norway as a Staff Scientist. In October 2010, Dr Bray was appointed as Deputy Section Head. The previous Group Heads, Dr Maria Paula Curado (DEP) and Dr Hai-Rim Shin (DEA), left IARC in July 2010.

CIN works to fulfil a series of linked objectives consistent with the goal of the Section and with the IARC medium-term strategy. The primary objective is the collection, analysis and dissemination of information concerning the global cancer burden. This is accomplished through collaboration with and provision of support to cancer registries worldwide and the International Association of Cancer Registries (IACR). Information obtained is published in the serial definitive reference volume, Cancer

Incidence in Five Continents, and in online global cancer statistics tools, including GLOBOCAN, available on the CancerMondial website (<http://www-dep.iarc.fr/>). CIN provides support to cancer registries worldwide in terms of development, staff training, promotion of common standards for coding and classification and ensuring effective use of data produced. There is a relative deficit of cancer registries in low- and middle-income countries (LMIC). CIN is responsible for leading a new IARC Global Initiative for Cancer Registration in LMIC (GICR) in collaboration with several international partners. CIN conducts a research programme in the descriptive epidemiology of cancer, which includes geographic analyses, studies of time trends and the estimation of the future burden of the disease. Components of the research programme include the use of new sources of information concerning the burden of cancer and novel methodological approaches to the analysis of registration and mortality data.

THE GLOBAL BURDEN OF CANCER

GLOBOCAN 2008

Accurate statistics on cancer occurrence and outcome are essential, both for the purposes of research and for the planning and evaluation of programmes for cancer control. IARC provides regular updates of the cancer burden worldwide through its GLOBOCAN series (<http://globocan.iarc.fr>). This has now been updated to 2008 for incidence, mortality (Ferlay *et al.*, 2010) and prevalence (Bray *et al.*, submitted). Estimates have been prepared for 27 major cancers by sex and ten age groups in 184 countries. The new release of GLOBOCAN has benefited from a comprehensive review of the estimation procedures and from new sources of data. A hierarchy of methods is employed in building up the global profile of cancer, and are dependent on the availability and accuracy of country-specific data. National sources of incidence and mortality were used wherever possible, with local data and statistical modelling used in their absence. For developing countries where no vital statistics were available, cancer-specific mortality was approximated using the estimated

incidence for 2008 and cancer survival probabilities modelled by GDP per capita, and scaled to the WHO estimates.

Overall in 2008 there were an estimated 12.7 million new cancer cases, 7.6 million cancer deaths and 28.8 million persons alive with cancer (within five years of diagnosis). Lung cancer remains the most common cancer in the world in terms of both new cases (1.6 million cases, 12.7% of the total cancer incidence burden) and deaths (1.4 million deaths, 18.2% of the total mortality burden). Breast cancer is the second most common cancer overall (1.4 million cases, 10.9%) and ranks fifth in terms of cause of cancer death (458 000 deaths,

6.1%). Cancers of the colon and rectum (1.2 million cases, 608 000 deaths), stomach (990 000 cases, 738 000 deaths), prostate (913 000 cases, 261 000 deaths) and liver (748 000 cases, 695 000 deaths) rank third to sixth respectively in terms of global frequency of new cases. With respect to prevalence, the most common cancers are breast cancer (5.2 million women surviving up to five years after diagnosis), colorectal cancer (3.3 million persons) and prostate cancer (3.2 million men). Figure 1 illustrates the striking variations from region-to-region in the patterns of occurrence of cancer, while Figure 2 provides a breakdown of the total burden of cancer incidence, mortality and prevalence by continent.

Figure 1. Global maps of the 2008 age-standardized incidence rates per 100 000, all ages. Contrasting patterns for (a) male colorectal cancer and (b) cervical cancer

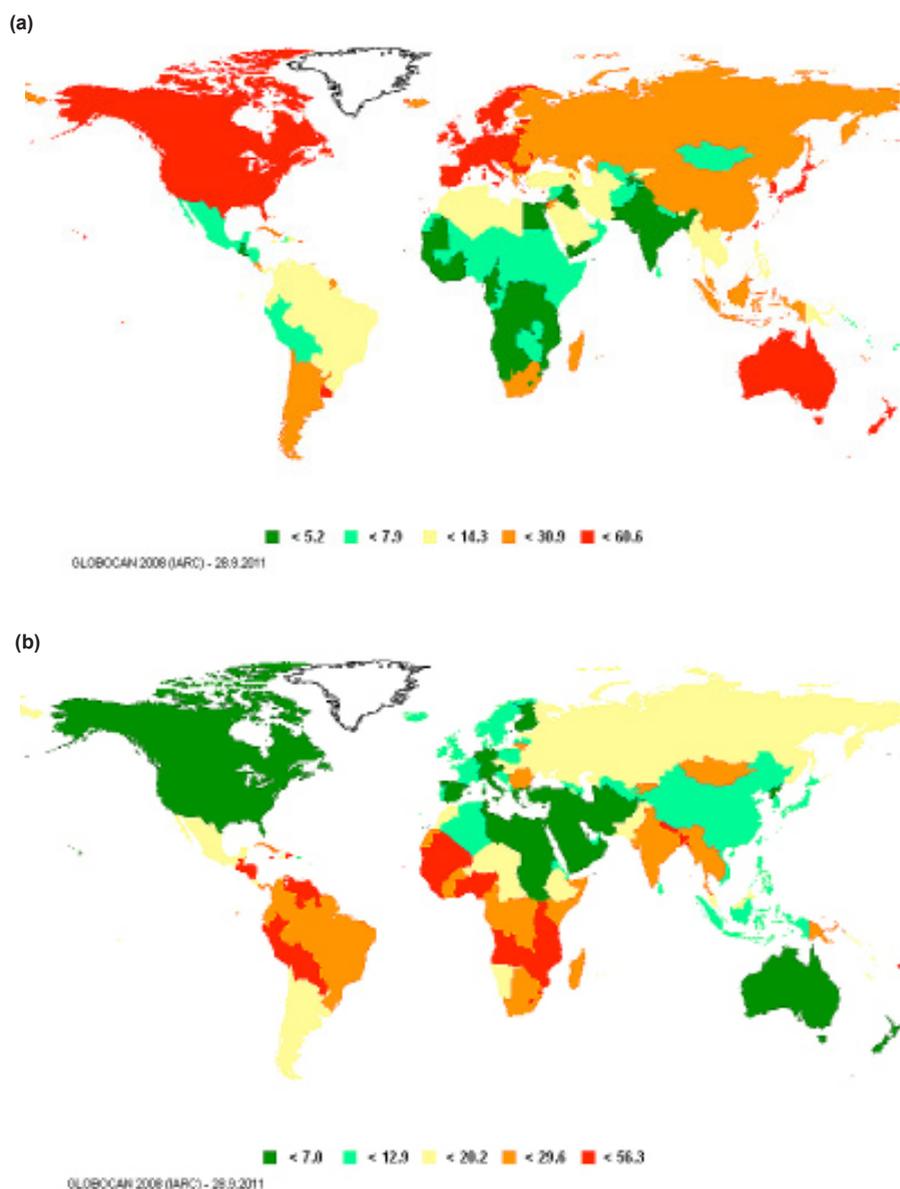
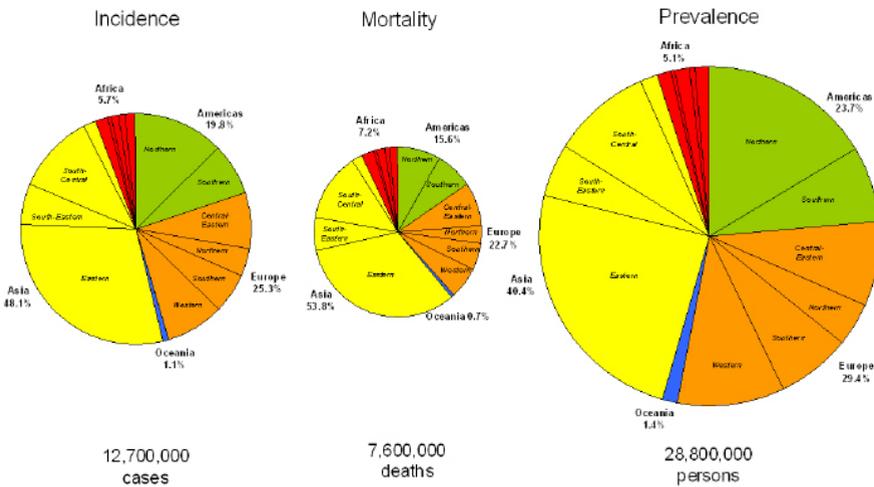


Figure 2. Estimated cancer incidence, mortality and prevalence worldwide in 2008 by continent

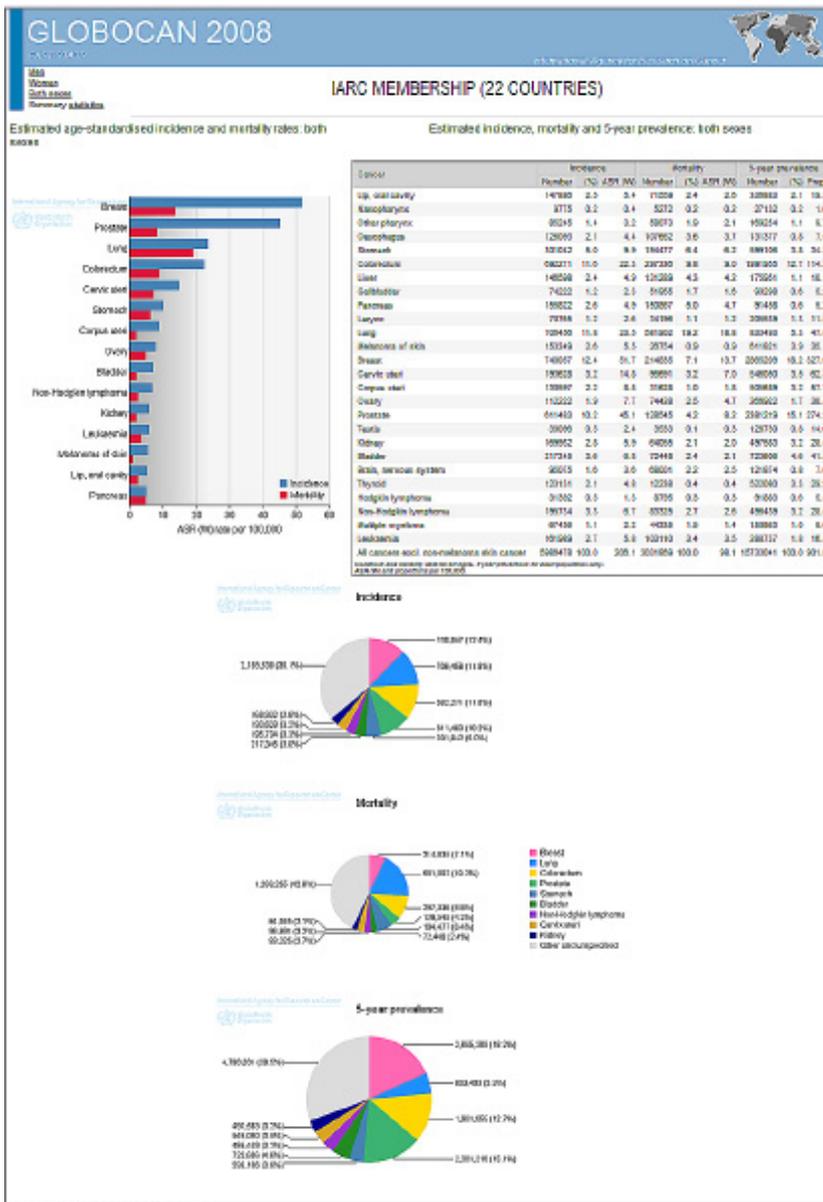


Facilities for the tabulation and visual description of the current and future cancer burden in each country of the world, and according to world region, can be accessed via the website. This also provides a series of cancer site and country-specific factsheets (e.g. Figure 3).

CANCER INCIDENCE IN FIVE CONTINENTS

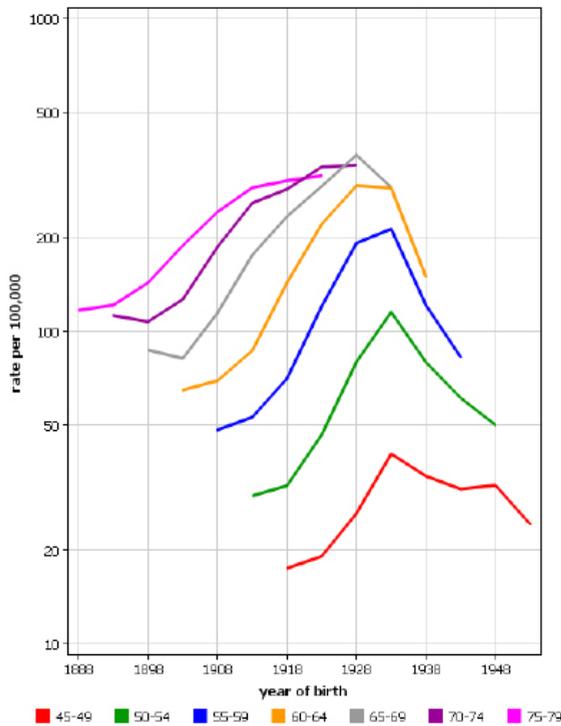
Recent work on *Cancer Incidence in Five Continents* (CI5) has brought together results from all nine previously published volumes (Parkin *et al.*, 2010). CI5 I-IX comprises two public domain websites, CI5 I-IX and CI5plus (<http://ci5.iarc.fr>). The CI5 I-IX application contains data exactly as published in the nine volumes of CI5. The CI5plus database contains unpublished annual data for 101 selected populations from 86 cancer registries published in CI5, for the longest period available (up to 2002), and for 27 major cancer sites and all cancers combined. In addition, combined groups of cancer registries in the same country have been added for 11 countries. An *online analysis* option allows creation of tables of incidence rates for a selected population or cancer similar to those of CI5 I-IX. Graphic options are also available, allowing creation of age-specific incidence curves (e.g. Figure 4), or time trends (e.g. Figure 5). A downloadable page gives access to the tabulated annual data used in the online application (*summary* database) or to a subset of the summary database, including incidence data for 88 selected populations for which histological data were available for a minimum of 15 consecutive years (*detailed* database).

Figure 3. Example of country fact sheets available at the GLOBOCAN 2008 website (<http://www.globocan.iarc.fr>)



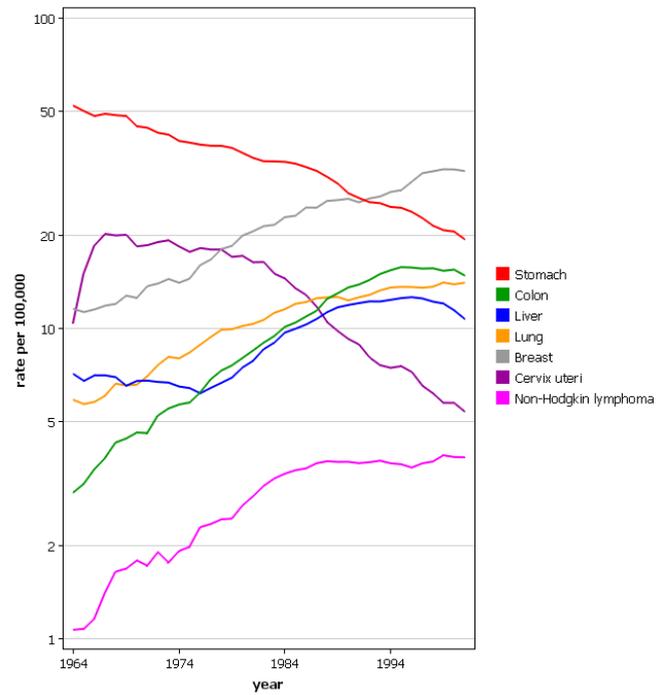
In March 2011, an Editorial Board was convened to prepare for volume X of CI5. Members of the Editorial Board representing IACR are: David Brewster (United Kingdom), Charles Gombe-Mbalawa (Republic of Congo), Betsy Kohler (USA), Marion Piñeros-Petersen (Colombia) and Rajaraman Swaminathan (India) and, representing IARC: Freddie Bray, Jacques Ferlay, David Forman and Eva Steliarova-Foucher. A call for volume X data was sent to cancer registries in September 2011. Volume X will include data for cancers diagnosed in the period 2003–2007 and will be published in 2012.

Japan, Osaka Prefecture
Liver: Male age [45-79]



International Agency for Research on Cancer (IARC) - 13.5.2010

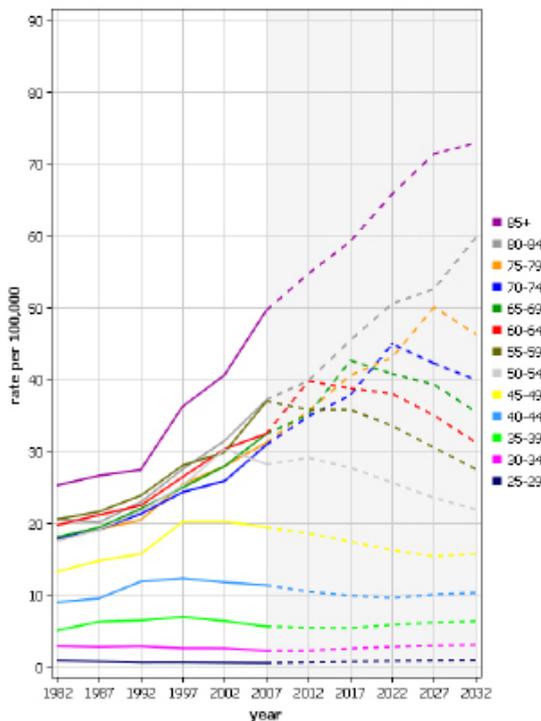
Figure 4. Trends in incidence of liver cancer in males (age 45-79) Osaka, Japan, by period of birth



International Agency for Research on Cancer (IARC) - 15.6.2010

Figure 5. Trends in age-standardized incidence of selected cancers in females (all ages) Osaka, Japan, 1964-2004

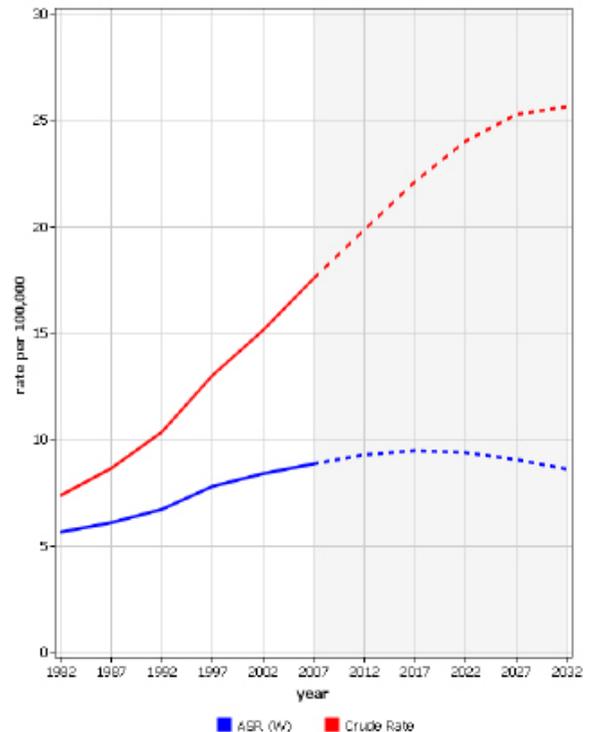
Japan
Breast cancer
Prediction of mortality: age-specific rates



International Agency for Research on Cancer (IARC) - 21.12.2011

Figure 6. Prediction of breast cancer mortality in Japan using the WHO mortality database online application

Japan
Breast cancer
Prediction of mortality rates



International Agency for Research on Cancer (IARC) - 21.12.2011

INTERNATIONAL INCIDENCE OF CHILDHOOD CANCER

International Incidence of Childhood Cancer (IICC) is a collaborative project between IARC and IACR (<http://iicc.iarc.fr>). The objective is to provide data on cancer incidence in children and adolescents through a worldwide collaboration with cancer registries, including specialized paediatric registries. Currently, Volume 3 of IICC is under preparation. Data are being collected and validated using semi-automated procedures developed over the reporting period. An online questionnaire is administered to the participating cancer registries to aid interpretation of the collected data. Publication of results is expected by the end of 2012.

CANCERMONDIAL

In response to the ever-growing demand for descriptive epidemiological data on the global cancer burden, the CIN website, *CANCERmondial* (<http://www-dep.iarc.fr>), has been completely redesigned. Information is now accessible through several applications developed within the Section (see above). Also included is the WHO mortality database, which provides easy access to the most recent information on cancer mortality recorded in selected countries around the world. Within this application is the ability to predict cancer mortality up to 2030 (Figure 6). A new option designed for the analysis of trends is being developed. It will detect one breakpoint in a time series of data and enable users to test whether or not an apparent change in trend is statistically significant (Figure 7). *CANCERmondial* also provides links to external databases of cancer statistics and to CIN collaborative projects.

CANCER IN EUROPE

EUROPEAN NETWORK OF CANCER REGISTRIES AND EUROPE AGAINST CANCER: OPTIMIZATION OF THE USE OF REGISTRIES FOR SCIENTIFIC EXCELLENCE IN RESEARCH

CIN has provided a Secretariat to the European Network of Cancer Registries (ENCR) for over two decades (Steliarova and Parkin, 2011). Recently, CIN has supported a major project of the ENCR, Europe against

Cancer: Optimization of the Use of Registries for Scientific Excellence in Research (EUROCOURSE), an 'ERA-NET' project funded by the Seventh Framework Programme of the European Commission. This project aims to improve the operation and use of cancer registry data in scientific research and involves five partners and some 200 contributors from Europe. CIN staff have contributed to various EUROCOURSE working groups devoted to the topics of accessibility, standardization and dissemination of data collected in European cancer registries and issues of data protection and confidentiality. The project runs from April 2009 until March 2012 (<http://www.eurocourse.org/>).

Within EUROCOURSE, the *Registries Portal* was developed (<https://cinportal.iarc.fr>). The Portal considerably improves communication and data exchange with over 600 collaborators within and outside Europe and greatly increases the automation of data processing.

Software for automatic verification of received data sets (DepEdits-2) was completely redesigned from an earlier version and rewritten using JAVA. The new version contains numerous customization options and produces a standard output dataset, ready to be incorporated into a common database. DepEdits-2 has been tested on multiple datasets and will be available for use by registries at the end of 2011.

A 'common database' was developed and is stored on a SQL server. The common database contains some 60 million cancer records and will be used for multiple studies, including those with a worldwide scope.

EUROPEAN CANCER OBSERVATORY

The European part of the common database has been analysed and results will be disseminated through the European Cancer Observatory website through three channels:

EUCAN to provide national estimates of incidence, mortality and prevalence for 40 European countries for 2012 (as an IARC-based continuation of the ECO website currently hosted at <http://eu-cancer.iarc.fr/>); EUROCAN to allow the analysis of

incidence and mortality rates and time trends (Figure 8); and EUROCIM to enable research access to the underlying database (according to the requirements of the individual cancer registries. The β version of the website will be released by the end of 2011 (<http://eco.iarc.fr>)).

NORDCAN

The NORDCAN project is a joint activity of the Association of Nordic Cancer Registries (ANCR) and IARC, supported by the Nordic Cancer Union (NCU). The NORDCAN database includes information about cancer incidence, mortality and prevalence recorded by the five Nordic countries from the first (earliest 1943) to the most recent (up to 2009) year available. The latest version (4.0) of NORDCAN (Engholm *et al.*, 2010) now includes 1-, 5- and 10-year standardized relative survival by country, covering the years 1964–2003. The website, which presents these data together with advanced graphical and analysis options, is available in English and five Nordic languages (<http://www-dep.iarc.fr/nordcan.htm>). It is hosted at IARC and is maintained and developed by CIN. The NORDCAN application was delivered to the Italian Association of Cancer Registries (AIRTUM) to present similar data from the Italian cancer registries. A worldwide-based version of NORDCAN is in preparation and will contain time series of incidence data from either national cancer registries or groupings of regional registries within the same country and national mortality data extracted from the WHO database.

EUROPEAN PARTNERSHIP FOR ACTION AGAINST CANCER (EPAAC)

CIN is involved in the European Partnership for Action Against Cancer (EPAAC) as a 'collaborating' partner in support of the 'Health Information' work package lead by the National Cancer Institute in Italy. This 'joint action' is funded by the European Commission DG SANCO for a three year period beginning March 2011. IARC will contribute statistics on incidence and mortality in the EU Member States and possibly work on survivorship and the cost of cancer registration. Implementation of this plan is subject to identification of appropriate funding for this activity.

Figure 7. Joinpoint analysis of breast cancer mortality trends in the UK, women (aged 20–84), using the WHO mortality database online application

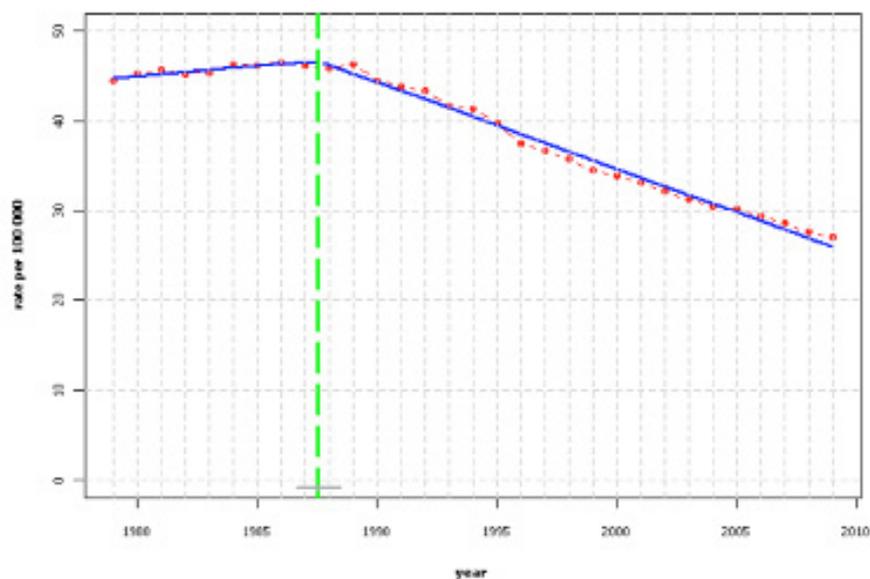
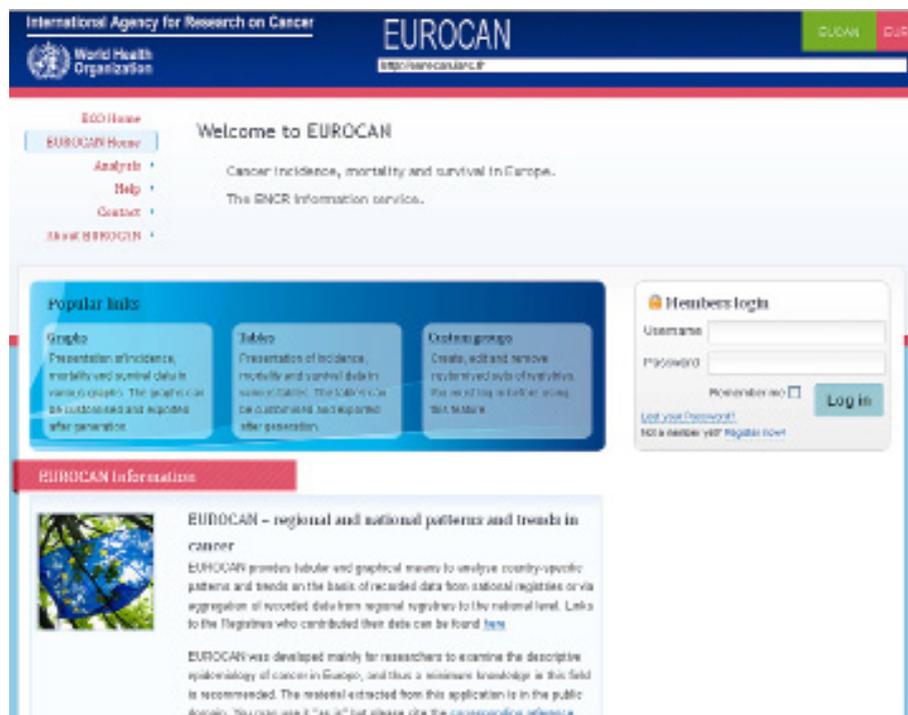


Figure 8. European Cancer Observatory: the new EUROCAN website



AUTOMATED CHILDHOOD CANCER INFORMATION SYSTEM

The Automated Childhood Cancer Information System (ACCIS) is a European project, co-funded by the Ministry of Health of the Federal Government of Germany. The aim of this project is to collect, analyse, interpret

and disseminate data on incidence and survival of children and adolescents with cancer in Europe using automated procedures. Over the current reporting period, the database was updated to include some 170 000 cancers in children and adolescents arising from 1500 million person-years in the period 1970–2007 (Figure 9).

Two papers on childhood cancer are in preparation: one to update the report of increasing incidence trends and another on incidence and survival of germ cell tumours in children and adolescents.

CANCER REGISTRY DEVELOPMENT

CIN undertakes several activities to support the development of population-based cancer registries throughout the world. It also provides a Secretariat to the IACR (www.iacr.com.fr) and, together with the local hosts, is responsible for organizing the annual meeting of the IACR (held in Yokohama, Japan in 2010 and in Mauritius in 2011). CIN interacts with cancer registries and their associated networks around the world and has developmental projects of relevance to all registries (e.g. updating and dissemination of the International Classification of Diseases for Oncology (ICD-O) for which a revision to the 3rd edition was published in 2011). In collaboration with IACR, CIN is also engaging in a revision to the textbook *Cancer Registration, Principles and Methods* due for publication in 2012.

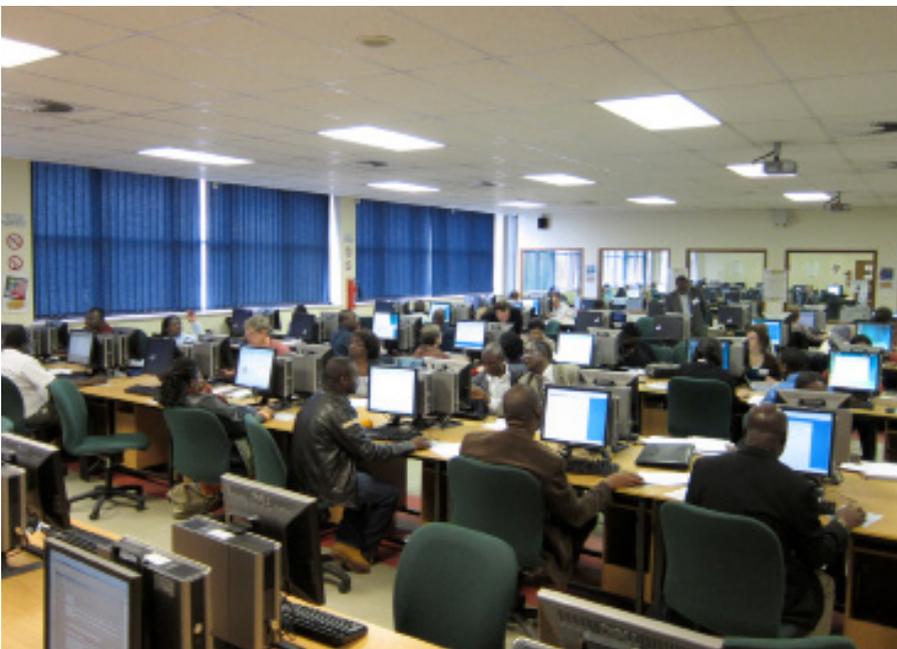
CIN's priority in developmental work is to support cancer registration in LMICs. This incorporates several activities including:

- Collaborative Research Agreements (CRAs) with cancer registries in Guinea, Mali, Mozambique, Niger, Nigeria, Zimbabwe (2008–2010/11) and India (2010–2012). Several new CRAs with cancer registries in Africa and Asia will be established for the next biennium.
- Training: CIN is responsible for module 1 of the annual IARC Summer School, which provides training in cancer registration and its application to epidemiology. Regional cancer registration training courses took place in Cape Town in 2010 (Figure 10) and in Mumbai and Cairo in 2011; further courses are being planned for 2012 in South America, Asia and Africa.
- Expert site visits: CIN staff are involved in conducting site visits to assess the feasibility of establishing new cancer registries and to provide developmental advice to existing registries, particularly in low- and middle-income countries. Recent site visits took place in Nigeria, Kenya, Indonesia and Oman; expert visits to Sri Lanka and Mongolia are foreseen in 2012.

Figure 9. Automated Childhood Cancer Information System (ACCIS) re-launched on the new website



Figure 10. Cancer registration training course, Stellenbosch University, Cape Town, South Africa, September 2010



• CanReg: The registration software package has been developed by IARC and is currently used in over 50 countries. The open source version of CanReg5, version 5.00, was officially launched at the 2010 IACR conference in Japan. One of the major changes from previous versions of CanReg is the focus on user autonomy – a user can download and set up the program with no interaction with IARC, but still follow the most important standard coding and quality control systems. Other

improvements are stronger multi user support, more modern database, multi platform support, increased security and improved analytical capabilities. The software is available to download for free in several languages (English, French, Russian, Portuguese and Spanish – with a Chinese version shortly). A handbook is also available. Training courses and workshops were held in India (Regional), Kenya (Regional), Japan (International), Mauritius (International), Egypt (Regional), South Africa (Regional),

IARC Summer School (International), Ecuador (Regional), Trinidad & Tobago (Regional), Morocco (National) and Turkey (Regional). Continuous technical support has been given to registries using CanReg on aspects ranging from installation and tailoring to data entry and analysis.

THE GLOBAL INITIATIVE FOR CANCER REGISTRY DEVELOPMENT IN LOW- AND MIDDLE-INCOME COUNTRIES

Subsequent to an IARC Governing Council resolution (May 2009) calling for a special project to improve the coverage and quality of data from cancer registries in LMIC, IARC launched the Global Initiative for Cancer Registry Development in Low- and Middle-Income Countries (GICR), together with several other international partner organizations. This was unveiled at the UICC World Cancer Leaders Summit in November 2011. CIN was responsible for organizing a partners' meeting, held at IARC in July 2011 (Figure 11), which confirmed cancer registration as a priority area across all the organizations represented.

The GICR proposes the establishment and development of several regional registry resource centres (or hubs). IARC's role will be to coordinate and support the operation of these regional hubs, which will in turn provide local support, training and infrastructure to networks of cancer registries in their region. Regional hubs will be established as the focal contact points for technical support queries for cancer registries in the region, including the provision of technical support for CanReg5, the development of a programme of regular site visits to monitor and support improvements in the operation of cancer registries and the establishment of a regional training programme. Hubs will also help cancer registries make full use of the data they produce and participate in research programmes.

A pilot hub for the Asian region has been established at the Tata Memorial Centre in Mumbai (India) at the end of 2011. Further hubs are planned to be established over the next years depending on the success of the pilot and the availability of external funds.



Figure 11. Partners' meeting, IARC, Lyon, July 2011

Progress of the GICR may be followed on <http://gicr.iarc.fr>.

CHILDHOOD CANCER

CIN's expertise in childhood cancer has contributed to the international programme "My Child Matters," coordinated by UICC (<http://www.uicc.org/programmes/my-child-matters>). This programme is devoted to improving the conditions and management of childhood cancer in selected low-resource countries. Dr Steliarova-Foucher, as a member of UICC Childhood Cancer Task Force, mentors three projects involving registration and follow-up of childhood cancer patients, in Cali (Colombia), Karachi (Pakistan) and Quito (Ecuador). Ad hoc collaborations are also being developed with the South African National Paediatric Cancer Registry, the National Cancer Registry of Trinidad and Tobago, the Chennai Cancer Registry in India and the National Paediatric Cancer Registry of Belarus.

DESCRIPTIVE EPIDEMIOLOGY

A research programme in the descriptive epidemiology of cancer has been a major component of IARC's activities since its inception. Current and planned research within CIN is characterized by developing a systematized approach to studying the global descriptive epidemiology of cancer that embraces innovative concepts and methodologies. Accordingly, the portfolio of descriptive epidemiology includes global overviews of the key indicators of cancer burden (and their interpretation) by place and time, cancer-specific or region/country-specific reports, and also includes novel use of indicators of burden (e.g. disability-adjusted life-years), of levels of development (e.g. the Human Development Index) and methodology (e.g. trends-based predictions).

GLOBAL CANCER BURDEN

With the launch of GLOBOCAN 2008 and online versions of CI5, accompanying papers have outlined the estimation procedures of GLOBOCAN (Ferlay *et*

al., 2010), presented key variations of the global burden (Ferlay *et al.*, 2010; Jemal *et al.*, 2011) and described 50 years of CI5 (Parkin *et al.*, 2010). Two additional indicators of cancer burden have been added to GLOBOCAN 2008:

Prevalence

Estimates of global cancer prevalence in 2008 for 27 sites in the adult population have been completed for 184 countries (Bray *et al.*, submitted). The five year global cancer prevalence is estimated to be almost 29 million in 2008, with prevalent cancers of the prostate and breast dominating in men and women respectively. A validation exercise based on a comparison of the observed prevalence in the Nordic countries, Italy and the United Kingdom, suggests the methods provide reasonably robust estimates of prevalence.

Disability-adjusted life-years

A set of estimates of disability-adjusted life-years (DALYs) from cancer for

184 countries have been assembled, and papers describing the methods (Soerjomataram *et al.*, submitted) and global results (Soerjomataram *et al.*, submitted) published. The DALYs link data on disease occurrence to health outcomes. The estimation process yields two key components of the burden of cancer: one related to premature mortality, the other to the loss of 'healthy' life-years related to the morbidity that follows a diagnosis of cancer. Such indicators provide valuable additional information in establishing country-specific agendas regarding cancer control.

GLOBAL BURDEN AND THE HUMAN DEVELOPMENT INDEX

A first global overview has been conducted (Bray *et al.*, submitted) investigating patterns of cancer incidence and mortality in relation to levels of the Human Development Index (HDI), a reference statistic that serves as a frame of reference for social and economic development. The study examines the patterns and trends globally and additionally estimates the future burden of cancer in relation to HDI levels, considering both relatively well characterized demographic effects as well as predicted changes in the risk of cancer.

GEOGRAPHIC STUDIES

Papers have been published (or are in press) on cancer as an emerging public health problem in Africa. They review the current patterns of disease and the opportunities for reducing the burden through the application of resource-level interventions (Jemal *et al.*, submitted). Other work estimates cancer mortality in India based on verbal autopsy survey methods, including a description of cancer patterns by region and urban/rural status (Dikshit *et al.*, submitted). Also examined is the worldwide burden of cervical cancer in relation to prevention (Arbyn *et al.*, 2011; Arbyn *et al.*, submitted).

TIME TRENDS AND PREDICTIONS

Ongoing collaborations include those with colleagues in India on studies examining 30 year incidence trends in Mumbai. A collaboration with Dr Dhillon

(SANCD, Delhi) examines the three most common cancers in women (Dhillon *et al.*, 2011), while a study with Dr Dikshit (Tata Memorial Centre, Mumbai) looks at breast cancer by menopausal status, and includes predictions of the disease up to 2025 (Dikshit *et al.*, submitted). A further paper, developed in collaboration with the Chennai Cancer Institute, examines trends in overall cancer incidence in Chennai city (1982–2006) and predicts the future burden in Tamil Nadu (2007–2016) (Swaminathan *et al.*, 2011). Collaborations with colleagues in Shanghai at the Cancer Institute examine the declining incidence rates of hepatocellular carcinoma in the city between 1976–2005 (Gao *et al.*, in press).

COLLABORATIVE EFFORTS

Research with the National Cancer Institute includes: ongoing analyses of international HPV-related and unrelated head & neck cancer incidence trends, using a novel age-period-cohort model; long-term trends in gastric cancer by age and subsite; and an international overview of male breast cancer rates. There is also continuing work with the American Cancer Society to examine international patterns and trends in urological cancers. European collaborations have resulted in papers comparing European incidence and mortality trends in prostate cancer (Bray *et al.*, 2010) and mortality trends in testicular cancer (Znaor and Bray, submitted), while another reports the large increases in testicular cancer based on data from the Croatian Cancer Registry (Sincic *et al.*, in press). Collaborations with the Karolinska Institute, Stockholm, Sweden include an age-period-cohort collaborative analysis of lung cancer incidence trends in 11 countries according to the main histological groupings (Bray *et al.*, in press) and analyses of oesophageal cancer by histological sub-type.

There are also ongoing collaborative studies with colleagues in other IARC Sections: the analyses of trends of cervix cancer (with ICE), and global trends in melanoma of the skin (Erdmann *et al.*, submitted) and testicular cancer (with ENV).

GLOBAL POPULATION ATTRIBUTABLE FRACTIONS

As a collaboration between ICE and CIN, global and regional assessments are being prepared of the overall burden of cancer attributable to infectious causes. GLOBOCAN 2008 data are being used as a source for the total burden of cancer, while IARC Monograph 100B has been used to provide information on those infectious agents that have been classified as definite (Group I) causes of human cancer.

METHOD DEVELOPMENT

Jian Song Ren, an IARC fellow, has compared methods to estimate the incidence burden in China (Chen *et al.*, 2010) in collaboration with the National Central Cancer Registry in Beijing. There has also been a complete revision of the chapter entitled "Descriptive Studies" for inclusion in the Second Edition of the Springer book *Handbook of Epidemiology* (Bray and Parkin, submitted). There is ongoing work examining the comparability of the cancer registries in India. Previous studies have found a high level of consistency between the registries with respect to variables routinely collected, however differences in procedures in retrieving information, checking for duplicates and handling missing information were apparent. This study is ongoing and in collaboration with IACR and the Tata Memorial Hospital.

CHILDHOOD CANCER

CIN is also contributing to two new large-scale international studies funded by the Seventh Framework Programme of the European Commission. The European Network for Cancer Research in Children and Adolescents (ENCCA) is a 'Network of Excellence' with 38 participating institutes and is coordinated by the President of SIOP Europe (Dr Ladenstein, Austria). IARC's role is to evaluate the feasibility of, and resources required by, population-based cancer registries to undertake enhanced prospective data collection to include information on diagnosis, initial risk group, tumour response and events. As a first step, a questionnaire has been developed and administered to all registries with a potential to collect the relevant data. Results of this survey will inform further research directions.

PanCare Childhood and Adolescent Cancer Survivor Care and Follow-up Studies (PanCareSurFup) is a five year collaborative project of 16 participating institutes, coordinated by the chairman of the PanCare network (Dr Hjorth, Sweden), and aims to predict long-term side-effects to cancer therapy (<http://www.pancaresurfup.eu/>). IARC will ensure participation of population-based cancer registries which are not involved through the other partner institutions. A baseline status report will also be prepared to estimate the prevalence of long-term survivors of cancer in childhood and adolescence, incidence of second primary tumours and mortality after five year survival.

COURSES

CIN is responsible for organizing the Cancer Registration module for the annual IARC Summer School. In addition, the following regional courses were organized on Cancer Registration and Descriptive Epidemiology:

Guayaquil, Ecuador, April, 2010
Trinidad & Tobago, April, 2010
Cape Town, South Africa, September, 2010
Mumbai, India, Feb/March, 2011
Cairo, Egypt, November, 2011
Specific training in CanReg was conducted in:
Antalya, Turkey, Feb, 2010
Casablanca, Morocco, March, 2010
Yokohama, Japan, Oct, 2010
Nairobi, Kenya, May, 2011
Mauritius, Oct, 2011

MEETINGS

CIN organized meetings of the Cancer Incidence in Five Continents Editorial Board (March, 2011) and the Global Initiative for Cancer Registration in Low- and Middle-Income Countries (July, 2011). Because of its provision for an ENCR Secretariat, CIN hosted Steering Group meetings (Nov, 2010 and March, 2011), a meeting of the EURO COURSE Steering Group (March, 2011) and meetings associated with EURO COURSE Work Packages.

The CIN is grateful to the following for their collaboration:

Florencia Moreno, Graciela Nicolas, Argentina; Freddy Sitas, Australia; Eva Frey, Ruth Ladenstein, Nadine Zielonke, Austria; Natallia Savva, Belarus; Marc Arbyn, Edel Fitzgerald, Ian Magrath, Wendy Tse Yared, Belgium; Ugyen Tshomo, Bhutan; Edesio Martins, Brazil; Nadia Dimitrova, Bulgaria; Heather Bryant, Bernard Candas, Andy Coldman, Les Merys, Canada; Wanqing Chen, China; Eduardo Bravo, Marion Pineros, Oscar Ramirez, Colombia; Ariana Znaor, Croatia; Gerda Engholm, Niels Christensen, Marianne L. Gjerstorff, Hans Storm, Denmark; Patricia Cueva; Ismael Soriano, Ecuador; Margit Maggi, Mati Rahu, Estonia; Desiree Grabow, Peter Kaatsch, Alexander Katalinic, Germany; Jóanis E. Køtlum, Faroe Islands; Ahti Antilla, Anssi Auvinen, Timo Hakulinen, Eero Pukkala, Risto Sankila, Finland; Christophe Bergeron, Catherine Boniface, Jacqueline Clavel, Marc Colonna, Pascale Grosclaude, Brigitte Lacour, Sabine Perrier-Bonnet, Florent de Vathaire, France; Edit Bardi, Hungary; Elínborg Ólafsdóttir, Laufey Tryggvadóttir, Iceland; Preet Dhillon, Rajesh Dikshit, AP Kurkure, V Shanta, Rajaraman Swaminathan, B.B. Yeole, India; Eulina Sinuraya, Mugi Wahidin, Indonesia; Juliane Byrne, Mark O'Callaghan, Harry Comber, Fiona Dwane, Ireland; Andrea Biondi, Riccardo Capocaccia, Marine Castaing, Emanuele Crocetti, Gemma Gatta, Riccardo Haupt, Momcilo Jankovic, Andrea Micheli, Paola Pisani, Riccardo Ricciardi, Stefano Rosso, Milena Sant, Diego Serraino, Roberto Zanetti, Italy; Omar Nimri, Jordan; Geneden Purevsuren, Mongolia; Saida Fettouki, Morocco; Jan Willem Coebergh, Leontien Kremer, Annemiek Kwast, Sabine Siesling, Corina van den Hurk, Netherlands; Tom Børge Johannesen, Mari Nygard, Giske Ursin, Elisabete Weiderpass, Norway; Yasmin Bhughri, Pakistan; Ryszard Mezyk, Poland; Charles Gombe, Republic of Congo; Daniela Coza, Romania; Cristina Stefan, Peter Hesseling, South Africa; Hee Young Shin, Sohee Park, Republic of Korea; Eva Ardanaz, Rafael Peris Bonet, Joseph Borrás, Xavier Bosch, L Bruni, Xavier Castellsagué, Jaume Galceran, Isabel Izarzugaza, Silvia de Sanjosé, Spain; Suraj Perera, Sri Lanka; Joakim Dillner, Gustav Edgren; Stanislaw Garwicz, Lars Hjorth, Åsa Klint, Mats Lambe, Sweden; Franco Cavalli, Robert Jakob, Claudia Kuehni, Jean-Michel Lutz, Colin Mathers, Julie Torode, Switzerland; Twalib Ngoma, United Republic of Tanzania; Veronica Roach, Trinidad and Tobago; Sultan Eser, Murat Gultekin, Tezer Kutluk, Turkey; Henry Wabinga, Uganda; David Brewster, Michel Coleman, Majid Ezzati, Anna Gavin, Mike Hawkins, Paul Lambert, Gill Levitt, Cheryl Livings, Tracy Lightfoot, Henrik Møller, Rob Newton, Max Parkin, Kathy Pritchard-Jones, Bernard Rachet, Eve Roman, Brian Rous, Rod Skinner, Charles Stiller, Catherine Thomson, United Kingdom; Greta Bunin, Bill Anderson, Anil Chaturvedi, Michael Cook, Brenda Edwards, April Fritz, Beatriz Gutierrez, Joe Harford, Ruth Hoffman, Ahmedhin Jemal, Betsy Kohler, Branka Legetic Riki Ohira, Charles Rabkin, Raul Ribeiro, Mona Saraiya, USA; Margaret Borok, Eric Chokunonga, Zimbabwe.

Financial support from the following bodies is gratefully acknowledged:

International Union Against Cancer (ICRETT Training Workshop in India)
European Commission FP7-ERA-NET (EUROPE against Cancer:
Optimization of the Use of Registries for Scientific Excellence in research)
European Commission FP7-HEALTH (EUROPEAN NETWORK for CANCER research in CHILDREN
and ADOLESCENTS – Network of Excellence)
European Commission FP7-HEALTH (PanCare Childhood
and Adolescent Cancer Survivor Care and Follow-Up Studies – Collaborative Project)
GAVI (Provision of support to countries monitoring cervical cancer burden
in relation to the introduction the HPV vaccine – activities using cancer registries)
Nordic Cancer Union for the NORDCAN project

PUBLICATIONS

- Anfinsen KP, Devesa SS, Bray F *et al.* (2011). Age-period-cohort analysis of primary bone cancer incidence rates in the United States (1976–2005). *Cancer Epidemiol Biomarkers Prev*, 20:1770–1777. doi:10.1158/1055-9965.EPI-11-0136 PMID:21724855
- Arbyn M, Castellsagué X, de Sanjosé S *et al.* (2011). Worldwide burden of cervical cancer in 2008. *Ann Oncol*. doi:10.1093/annonc/mdr015 PMID:21471563
- Bezerra de Souza DL, de Camargo Cancela M *et al.* (2011). Trends in the incidence of oral cavity and oropharyngeal cancers in Spain. *Head Neck* PMID:21717523
- Bezerra de Souza DL, Milagros Bernal Pérez M, Curado MP (2011). Predicted incidence of oral cavity, oropharyngeal, laryngeal, and hypopharyngeal cancer in Spain and implications for cancer control. *Cancer Epidemiol*. PMID:21470934
- Bezerra de Souza DL, Milagros Bernal Pérez M, Curado MP (2011). Gender differences in the incidence of laryngeal and hypopharyngeal cancers in Spain. *Cancer Epidemiol*. PMID:21474407
- Bouvier AM, Sant M, Verdecchia A *et al.* (2010). What reasons lie behind long-term survival differences for gastric cancer within Europe? *Eur J Cancer*, 46:1086–1092. doi:10.1016/j.ejca.2010.01.019 PMID:20163952
- Bray F, Lortet-Tieulent J, Ferlay J *et al.* (2010). Prostate cancer incidence and mortality trends in 37 European countries: an overview. *Eur J Cancer*, 46:3040–3052. doi:10.1016/j.ejca.2010.09.013 PMID:21047585
- Bzhhalava D, Bray F, Storm H, Dillner J (2011). Risk of second cancers after the diagnosis of Merkel cell carcinoma in Scandinavia. *Br J Cancer*, 104:178–180. doi:10.1038/sj.bjc.6605989 PMID:21081931
- Cho LY, Yang JJ, Ko KP *et al.* (2011). Coinfection of hepatitis B and C viruses and risk of hepatocellular carcinoma: systematic review and meta-analysis. *Int J Cancer*, 128:176–184. doi:10.1002/ijc.25321 PMID:20232388
- Coleman MP, Forman D, Bryant H *et al.*; ICBP Module 1 Working Group (2011). Cancer survival in Australia, Canada, Denmark, Norway, Sweden, and the UK, 1995–2007 (the International Cancer Benchmarking Partnership): an analysis of population-based cancer registry data. *Lancet*, 377:127–138. doi:10.1016/S0140-6736(10)62231-3 PMID:21183212
- Cook MB, Akre O, Forman D *et al.* (2010). A systematic review and meta-analysis of perinatal variables in relation to the risk of testicular cancer—experiences of the son. *Int J Epidemiol*, 39:1605–1618. doi:10.1093/ije/dyq120 PMID:20660640
- Curado MP, Pontes T, Guerra-Yi ME *et al.* (2011). Leukemia Mortality Trends in Adolescents and Young Adults in Latin. *Rev Panam Salud Publica*, 29:96–102 doi:10.1590/S1020-49892011000200004 PMID:21437366
- de Camargo Cancela M, Chapuis F, Curado MP (2010). Abstracting stage in population-based cancer registries: the example of oral cavity and oropharynx cancers. *Cancer Epidemiol*, 34:501–506. doi:10.1016/j.canep.2010.04.012 PMID:20452853
- de Camargo Cancela M, Voti L, Guerra-Yi M *et al.* (2010). Oral cavity cancer in developed and in developing countries: population-based incidence. *Head Neck*, 32:357–367. PMID:19644932
- Dhillon PK, Yeole BB, Dikshit R *et al.* (2011). Trends in breast, ovarian and cervical cancer incidence in Mumbai, India over a 30-year period, 1976–2005: an age-period-cohort analysis. *Br J Cancer*, 105:723–730. doi:10.1038/bjc.2011.301 PMID:21829198
- Downing A, Gilthorpe MS, Dodwell D *et al.* (2011). Waiting times for radiotherapy after breast-conserving surgery and the association with survival: a path analysis. *Clin Oncol (R Coll Radiol)*, 23:442–448. doi:10.1016/j.clon.2011.02.004 PMID:21377846
- Downing A, West RM, Gilthorpe MS *et al.* (2011). Using routinely collected health data to investigate the association between ethnicity and breast cancer incidence and survival: what is the impact of missing data and multiple ethnicities? *Ethn Health*, 16:201–212. doi:10.1080/13557858.2011.561301 PMID:21462016
- Engholm G, Ferlay J, Christensen N *et al.* (2010). NORDCAN—a Nordic tool for cancer information, planning, quality control and research. *Acta Oncol*, 49:725–736. doi:10.3109/02841861003782017 PMID:20491528
- Eyre R, Feltbower RG, James PW *et al.* (2010). The epidemiology of bone cancer in 0–39 year olds in northern England, 1981–2002. *BMC Cancer*, 10:357. doi:10.1186/1471-2407-10-357 PMID:20604931
- Ferlay J, Parkin DM, Steliarova-Foucher E (2010). Estimates of cancer incidence and mortality in Europe in 2008. *Eur J Cancer*, 46:765–781. doi:10.1016/j.ejca.2009.12.014 PMID:20116997
- Ferlay J, Shin HR, Bray F *et al.* (2010). Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. *Int J Cancer*, 127:2893–2917. doi:10.1002/ijc.25516 PMID:21351269
- Freitas R Jr, Freitas NM, Curado MP *et al.* (2010). Incidence trend for breast cancer among young women in Goiânia, Brazil. *Sao Paulo Med J*, 128:81–84. PMID:20676574
- Gao S, Yang WS, Bray F *et al.* (2011). Declining rates of hepatocellular carcinoma in urban Shanghai: incidence trends, 1976–2005. *Cancer Epidemiol*. In press. PMID:21846596

- Gilthorpe MS, Harrison WJ, Downing A *et al.* (2011). Multilevel latent class casemix modelling: a novel approach to accommodate patient casemix. *BMC Health Serv Res*, 11:53.doi:10.1186/1472-6963-11-53 PMID:21362172
- Grotmol T, Bray F, Holte H *et al.* (2011). Frailty modeling of the bimodal age-incidence of Hodgkin lymphoma in the Nordic countries. *Cancer Epidemiol Biomarkers Prev*, 20:1350–1357.doi:10.1158/1055-9965.EPI-10-1014 PMID:21558495
- Harrison SE, Watson EK, Ward AM *et al.* (2011). Primary health and supportive care needs of long-term cancer survivors: a questionnaire survey. *J Clin Oncol*, 29:2091–2098.doi:10.1200/JCO.2010.32.5167 PMID:21519023
- Holmberg L, Robinson D, Sandin F *et al.* (2011). A comparison of prostate cancer survival in England, Norway and Sweden: A population-based study. *Cancer Epidemiol*. In press. doi:10.1016/j.canep.2011.08.001 PMID:21907655
- Jemal A, Bray F, Center MM *et al.* (2011). Global cancer statistics. *CA Cancer J Clin*, 61:69–90. doi:10.3322/caac.20107 PMID:21296855
- Jones AP, Haynes R, Sauerzapf V *et al.* (2010). Geographical access to healthcare in Northern England and post-mortem diagnosis of cancer. *J Public Health (Oxf)*, 32:532–537.doi:10.1093/pubmed/fdq017 PMID:20202980
- Jung KW, Park S, Kong HJ *et al.* (2010). Cancer statistics in Korea: incidence, mortality and survival in 2006–2007. *J Korean Med Sci*, 25:1113–1121. doi:10.3346/jkms.2010.25.8.1113 PMID:20676319
- Kang J, Cho JH, Suh CW *et al.* (2011). High prevalence of hepatitis B and hepatitis C virus infections in Korean patients with hematopoietic malignancies. *Ann Hematol*, 90:159–164.doi:10.1007/s00277-010-1055-5 PMID:20821327
- Kim MA, Oh JK, Chay DB *et al.* (2010). Prevalence and seroprevalence of high-risk human papillomavirus infection. *Obstet Gynecol*, 116:932–940.doi:10.1097/AOG.0b013e3181edbeba PMID:20859158
- Ko KP, Park SK, Park B *et al.* (2010). Isoflavones from phytoestrogens and gastric cancer risk: a nested case-control study within the Korean Multicenter Cancer Cohort. *Cancer Epidemiol Biomarkers Prev*, 19:1292–1300.doi:10.1158/1055-9965.EPI-09-1004 PMID:20447921
- Lambert PC, Holmberg L, Sandin F *et al.* (2011). Quantifying differences in breast cancer survival between England and Norway. *Cancer Epidemiol*. doi:10.1016/j.canep.2011.04.003 PMID:21606014
- Lambert R, Sauvaget C, de Camargo Cancela M, Sankaranarayanan R (2011). Epidemiology of cancer from the oral cavity and oropharynx. *Eur J Gastroenterol Hepatol*, 23:633–641.doi:10.1097/MEG.0b013e3283484795 PMID:21654320
- Lepage C, Sant M, Verdecchia A *et al.*; and the EURO CARE working group (2010). Operative mortality after gastric cancer resection and long-term survival differences across Europe. *Br J Surg*, 97:235–239.doi:10.1002/bjs.6865 PMID:20069605
- McCormack V, Lortet-Tieulent J, Shin HR, Bray F (2011). Cancer in Women: Global Burden and Insights from Gender Comparisons. In: Goldman M, Troisi R, Rexrode K. *Woman and Health, Second Edition* Elsevier. In press.
- Mellemkjær L, Christensen J, Frederiksen K *et al.* (2011). Risk of primary non-breast cancer after female breast cancer by age at diagnosis. *Cancer Epidemiol Biomarkers Prev*, 20:1784–1792.doi:10.1158/1055-9965.EPI-11-0009 PMID:21653644
- Møller H, Sandin F, Robinson D *et al.* (2011). Colorectal cancer survival in socioeconomic groups in England: Variation is mainly in the short term after diagnosis. *Eur J Cancer*. In press. doi:10.1016/j.ejca.2011.05.018 PMID:21676610
- Morris EJ, Birch R, West NP *et al.* (2011). Low abdominoperineal excision rates are associated with high-workload surgeons and lower tumour height. Is further specialization needed? *Colorectal Dis*, 13:755–761.doi:10.1111/j.1463-1318.2010.02263.x PMID:20236155
- Morris EJ, Forman D, Thomas JD *et al.* (2010). Surgical management and outcomes of colorectal cancer liver metastases. *Br J Surg*, 97:1110–1118. doi:10.1002/bjs.7032 PMID:20632280
- Morris EJ, Jordan C, Thomas JD *et al.*; CLASICC trialists (2011). Comparison of treatment and outcome information between a clinical trial and the National Cancer Data Repository. *Br J Surg*, 98:299–307.doi:10.1002/bjs.7295 PMID:20981742
- Morris EJ, Sandin F, Lambert PC *et al.* (2011). A population-based comparison of the survival of patients with colorectal cancer in England, Norway and Sweden between 1996 and 2004. *Gut*, 60:1087–1093.doi:10.1136/gut.2010.229575 PMID:21303917
- Morris EJ, Taylor EF, Thomas JD *et al.* (2011). Thirty-day postoperative mortality after colorectal cancer surgery in England. *Gut*, 60:806–813. doi:10.1136/gut.2010.232181 PMID:21486939
- Northwood EL, Elliott F, Forman D *et al.* (2010). Polymorphisms in xenobiotic metabolizing enzymes and diet influence colorectal adenoma risk. *Pharmacogenet Genomics*, 20:315–326.doi:10.1097/FPC.0b013e3283395c6a PMID:20375710
- Oh JK, Alemany L, Suh JI *et al.* (2010). Type-specific human papillomavirus distribution in invasive cervical cancer in Korea, 1958–2004. *Asian Pac J Cancer Prev*, 11:993–1000. PMID:21133613
- Oh JK, Lim MK, Yun EH *et al.* (2010). Awareness of and attitude towards human papillomavirus infection and vaccination for cervical cancer prevention among adult males and females in Korea: a nationwide interview survey. *Vaccine*, 28:1854–1860.doi:10.1016/j.vaccine.2009.11.079 PMID:20005860
- Pakseresht M, Forman D, Malekzadeh R *et al.* (2011). Dietary habits and gastric cancer risk in north-west Iran. *Cancer Causes Control*, 22:725–736. doi:10.1007/s10552-011-9744-5 PMID:21347819
- Parkin DM, Ferlay J, Curado M-P *et al.* (2010). Fifty years of cancer incidence: CI5 I-IX. *Int J Cancer*, 127:2918–2927.doi:10.1002/ijc.25517 PMID:21351270
- Persson C, Canedo P, Machado JC *et al.* (2011). Polymorphisms in inflammatory response genes and their association with gastric cancer: A HuGE systematic review and meta-analyses. *Am J Epidemiol*, 173:259–270.doi:10.1093/aje/kwq370 PMID:21178102
- Rachet B, Ellis L, Maringe C *et al.* (2010). Socioeconomic inequalities in cancer survival in England after the NHS cancer plan. *Br J Cancer*, 103:446–453.doi:10.1038/sj.bjc.6605752 PMID:20588275
- Reis AA, Silva DM, Curado MP, da Cruz AD (2010). Involvement of CYP1A1, GST, 72TP53 polymorphisms in the pathogenesis of thyroid nodules. *Genet Mol Res*, 9:2222–2229.doi:10.4238/vol9-4gmr807 PMID:21086258
- Ren JS, Ferlay J, Chen WQ *et al.* (2010). A comparison of two methods to estimate the cancer incidence and mortality in China for 2005. *Asian Pac J Cancer Prev*, 11:11587–11594.PMID:21338201

- Ribeiro KB, Levi JE, Pawlita M *et al.* (2011). Low human papillomavirus prevalence in head and neck cancer: results from two large case-control studies in high-incidence regions. *Int J Epidemiol*, 40:489–502. doi:10.1093/ije/dyq249 PMID:21224273
- Sankaranarayanan R, Swaminathan R, Brenner H *et al.* (2010). Cancer survival in Africa, Asia, and Central America: a population-based study. *Lancet Oncol*, 11:165–173. doi:10.1016/S1470-2045(09)70335-3 PMID:20005175
- Schmidt HM, Andres S, Nilsson C *et al.* (2010). The cag PAI is intact and functional but HP0521 varies significantly in *Helicobacter pylori* isolates from Malaysia and Singapore. *Eur J Clin Microbiol Infect Dis*, 29:439–451. doi:10.1007/s10096-010-0881-7 PMID:20157752
- Schmidt HM, Ha DM, Taylor EF *et al.* (2011). Variation in human genetic polymorphisms, their association with *H pylori* acquisition and gastric cancer in a multi-ethnic country. [Epub ahead of print]. *J Gastroenterol Hepatol*. doi:10.1111/j.1440-1746.2011.06799.x PMID:21649724
- Shin A, Park S, Shin HR *et al.* (2011). Population attributable fraction of infection-related cancers in Korea. *Ann Oncol*, 22:1435–1442. doi:10.1093/annonc/mdq592 PMID:20974652
- Shin HR, Boniol M, Joubert C *et al.* (2010). Secular trends in breast cancer mortality in five East Asian populations: Hong Kong, Japan, Korea, Singapore and Taiwan. *Cancer Sci*, 101:1241–1246. doi:10.1111/j.1349-7006.2010.01519.x PMID:20219071
- Shin HR, Joubert C, Boniol M *et al.* (2010). Recent trends and patterns in breast cancer incidence among Eastern and Southeastern Asian women. *Cancer Causes Control*, 21:1777–1785. doi:10.1007/s10552-010-9604-8 PMID:20559704
- Shin HR, Masuyer E, Ferlay J, Curado MP; Asian Contributors to CI5 IX4 (2010). Cancer in Asia - Incidence rates based on data in cancer incidence in five continents IX (1998–2002). *Asian Pac J Cancer Prev*, 11 Suppl 2:11–16. PMID:20553065
- Shin HR, Oh JK, Lim MK *et al.* (2010). Descriptive epidemiology of cholangiocarcinoma and clonorchiasis in Korea. *J Korean Med Sci*, 25:1011–1016. doi:10.3346/jkms.2010.25.7.1011 PMID:20592891
- Shin HR, Oh JK, Masuyer E *et al.* (2010). Comparison of incidence of intrahepatic and extrahepatic cholangiocarcinoma—focus on East and South-Eastern Asia. *Asian Pac J Cancer Prev*, 11:1159–1166. PMID:21198257
- Shin HR, Oh JK, Masuyer E *et al.* (2010). Epidemiology of cholangiocarcinoma: an update focusing on risk factors. *Cancer Sci*, 101:579–585. doi:10.1111/j.1349-7006.2009.01458.x PMID:20085587
- Sighoko D, Bah E, Haukka J *et al.* (2010). Population-based breast (female) and cervix cancer rates in the Gambia: evidence of ethnicity-related variations. *Int J Cancer*, 127:2248–2256. doi:10.1002/ijc.25244 PMID:20162609
- Sighoko D, Curado MP, Bourgeois D *et al.* (2011). Increase in female liver cancer in the Gambia, West Africa: evidence from 19 years of population-based cancer registration (1988–2006). *PLoS One*, 6:e18415. doi:10.1371/journal.pone.0018415 PMID:21490972
- Sincic N, Tomislav K, Znaor A, Bray F (2011). Time trends in testicular cancer in Croatia 1983–2007: rapid increases in incidence, no declines in mortality. *Cancer Epidemiol*. In press.
- Sortino-Rachou AM, Curado MP, Cancela MdeC (2011). Cutaneous melanoma in Latin America: a population-based descriptive study. *Cad Saude Publica*, 27:565–572. doi:10.1590/S0102-311X2011000300016 PMID:21519706
- Steliarova-Foucher E, Parkin DM (2011). Cancer Registration in Europe. In: Razum O, Spallek J, Reeske A, Arnold M (eds). *Migration-sensitive Cancer Registration in Europe. Challenges and Potentials*. Frankfurt: Peter Lang Verlag.
- Swaminathan R, Selvakumaran R, Esmy PO *et al.* (2009). Cancer pattern and survival in a rural district in South India. *Cancer Epidemiol*, 33:325–331. doi:10.1016/j.canep.2009.09.008 PMID:19853553
- Swaminathan R, Shanta V, Ferlay J *et al.* (2011). Trends in cancer incidence in Chennai city (1982–2006) and statewide predictions of future burden in Tamil Nadu (2007–16). *Natl Med J India*, 24:72–77. PMID:21668047
- Vaccarella S, Franceschi S, Clifford GM *et al.*; IARC HPV Prevalence Surveys Study Group (2010). Seroprevalence of antibodies against human papillomavirus (HPV) types 16 and 18 in four continents: the International Agency for Research on Cancer HPV Prevalence Surveys. *Cancer Epidemiol Biomarkers Prev*, 19:2379–2388. doi:10.1158/1055-9965.EPI-10-0336 PMID:20826835
- Walters S, Quaresma M, Coleman MP *et al.* (2011). Geographical variation in cancer survival in England, 1991–2006: an analysis by Cancer Network. *J Epidemiol Community Health*. doi:10.1136/jech.2010.126656 PMID:21321064
- Yoon SO, Suh C, Lee DH *et al.* (2010). Distribution of lymphoid neoplasms in the Republic of Korea: analysis of 5318 cases according to the World Health Organization classification. *Am J Hematol*, 85:760–764. doi:10.1002/ajh.21824 PMID:20806229