WORLD ATLAS OF BIRTH DEFECTS

2ND EDITION

International Centre for Birth Defects
of the
International Clearinghouse for Birth Defects Monitoring Systems
in collaboration with the
Human Genetics Programme
of the
World Health Organization

Human Genetics Programme
Management of Noncommunicable Diseases
World Health Organization
Geneva, Switzerland
2003

WORLD HEALTH ORGANIZATION

WORLD ATLAS OF BIRTH DEFECTS, 2ND EDITION

CORRIGENDUM

Cover and Title Page

Under 2nd Edition, should read:

International Centre for Birth Defects (ICBD) of the
International Clearinghouse for Birth Defects Monitoring Systems
in collaboration with
European Surveillance of Congenital Anomalies (EUROCAT)
in cooperation with
Human Genetics Programme
World Health Organization

WHO Library Cataloguing-in-Publication Data

International Clearinghouse for Birth Defects Monitoring Systems.
International Centre for Birth Defects.
World atlas for birth defects / International Centre for Birth Defects of the International Clearinghouse for Birth Defects Monitoring Systems. – 2nd ed.

Produced in collaboration with the European Registration of Congenital Anomalies (EUROCAT), and in cooperation with the Human Genetics Programme, World Health Organization.

1.Genetic diseases, Inborn - epidemiology 2.Abnormalities - epidemiology 3.Registries 4.Atlases
I.European Registration of Congenital Anomalies II.WHO Human Genetics Programme III.Title

ISBN 92 4 158029 1 (NLM classification: QS 675)

Acknowledgements
The production of the 2nd Edition of the World Atlas of Birth Defects has been supported by a Cooperative Agreement (No.U50/CCU207141) between the International Centre for Birth Defects and the Birth Defects and Genetic Diseases Branch, Division of Birth Defects and Developmental Disabilities, National Center for Environmental Health, Centers for Disease Control and Prevention, Atlanta, United States of America. The collaboration of EUROCAT Central Registry in the production of this Atlas was supported by the EU Public Health Directorate Rare Diseases Programme, Contract No: SI2.306037 (2000CVG4809).

Information on the International Centre for Birth Defects (ICBD) is available by request at:
International Centre for Birth Defects, Via Pilo Albertelli, 9 - 00195 Rome.
Phone: +39-6-3701905; Fax: +39-6-3701904; E-mail: icbd@icbd.org
Internet site: http://www.icbd.org

Information on EUROCAT activities is available by request at:
EUROCAT Central Registry, Room 1F08, University of Ulster, Newtownabbey, Co Antrim, Northern Ireland, BT37 0QB.
Tel: +44 (0)28 90366639, Fax: +44 (0)28 90368341; Email: eurocat@ulster.ac.uk
Internet site: http://www.lshtm.ac.uk/php/eeu/eurocat
http://www.eurocat.ulst.ac.uk (from mid 2002)

Printed in Malta
Cover design by WHO Graphics

Credits

International Centre for Birth Defects (ICBD)
Pierpaolo Mastroiacovo, Director
Gian Luca Di Tanna, Statistician
Aldo Rosano, Senior Statistician (until March 2002)
Alessandra Lisi, Junior Statistician
Michela Tripaldi, Secretary
Tatjana Dukic, Web Master

European Surveillance of Congenital Anomalies (EUROCAT)
Helen Dolk, Project Leader
Martine Vrijheid, Project Co-ordinator
Michael Rosato, Data Manager and Programmer
Barbara Norton, Administrator

Centers for Disease Control and Prevention, National Center on Birth Defects and Developmental Disabilities (CDC)
Csaba Siffel, Epidemiologist

Data for this Atlas were contributed either directly by Clearinghouse programmes or by data extraction from the EUROCAT Central database for EUROCAT registries. Data management, statistical analyses were undertaken by Gian Luca Di Tanna, maps were prepared by Csaba Siffel. Pierpaolo Mastroiacovo, Helen Dolk, Lorenzo Botto, Aldo Rosano and Gian Luca Di Tanna oversaw the overall development and completion of the Atlas and wrote the introductory chapters. Michael Rosato and Martine Vrijheid supplied EUROCAT data. Editing was undertaken by Paul Merlob.

Data contributors for the second edition [Contributor Registries in alphabetical order]:

Registry Name	Director Name
Australia	Paul Lancaster
Austria, Styria	Martin Hausler
Belgium, Antwerp	Vera Nelen
Belgium, Hainaut	Yves Gillerot
Bulgaria, Sofia	Emil Simeonov
Canada, Alberta	Brian R. Lowry
Canada, British Columbia	Soo-Hong Hu
Canada, National	ID Rusen
China, Beijing	Zhu Li
China, CBDMN	Zhu Jun
Croatia, Zagreb	Ingeborg Barisic
Cuba	Luis Heredero Baute

Czech Republic	Antonin Sipek
Denmark, Odense	Ester Garne
England & Wales	Beverley J Botting
England, Mersey	Grace Edwards
England, North Thames West	Lenore Abramsky
Finland	Annukka Ritvanen
France, Central East	Elisabeth Robert
France, Paris	Catherine De Vigan
France, Strasbourg	Claude Stoll
Germany, Saxony-Anhalt	Volker Steinbicker
Hungary	Csaba Siffel/Julia Metneki
Ireland, Dublin	Howard Johnson
Israel, IBDMS	Paul Merlob
Italy, BDRCAM	Gioacchino Scarano
Italy, IMER	Guido Cocchi, Elisa Calzolari
Italy, ISMAC	Sebastiano Bianca
Italy, North East	Romano Tenconi
Italy, Tuscany	Fabrizio Bianchi
Japan, JAOG	Yoshio Sumiyoshi
Malta	Miriam Gatt
Mexico, RYVEMCE	Osvaldo Mutchnick
New Zealand	Barry Borman
Northern Netherlands	Hermien De Walle
Norway	Lorentz M. Irgens
Russian Federation, Tomsk	Ludmila P. Nazarenko, Nataly I. Krikunova
Scotland, Glasgow	David Stone
South Africa, SABDSS	David Bourne-Rauf Sayed

South America, ECLAMC	Eduardo Castilla
Argentina Bolivia Brazil Chile Colombia Paraguay Uruguay Venezuela	
Southern Portugal	Maria J. Feijoo
Spain, Asturias	Carmen Mosquera Tenreiro
Spain, Barcelona	Joaquin Salvador
Spain, Basque Country	Blanca Gener
Spain, ECEMC	María-Luisa Martínez-Frías
Spain, El Valles	Neus Baena, Miriam Guitart
Switzerland, Zurich	Marie-Claude Addor
United, Arab Emirates	Lihadh Al Gazali
USA, Atlanta	David Erickson

Table of contents

Why an Atlas and for whom?

This Atlas has developed from interest in having one source of information on the birth prevalence of birth defects[1] from as many areas around the world as one might find. Historically, such information has been difficult to find and collate, leaving a considerable gap in the international assessment of birth defect prevalence. This Atlas, now in its second edition, aims at filling such gap. To do so, we have brought together many distinguished researchers involved in birth defect monitoring worldwide, who have provided published and unpublished information to this collaborative effort.

The burden of disease: the Atlas as a minimum estimate

The information from the Atlas can be used in many ways, some of which are more appropriate than others, as discussed in the sections that follow. Primarily, these data can be used to estimate the current world 'burden of disease' related to birth defects detected at or soon after birth. Because of the difficulties in ascertaining all cases of disease, and because in many areas fetal deaths and pregnancy terminations associated with birth defects are incompletely recorded, such estimate of the burden of disease should be considered as a minimum estimate only.

Even so, we trust that the considerable burden of birth defects will become readily apparent to anyone perusing the maps and tables included in the atlas. Public health professionals, health care experts, birth defect epidemiologists, and policy makers within each country are likely to find such data useful in their professional activities.

Interpreting geographic variations: some words of caution

Early on it was decided to use maps and tables as a reasonable way to summarize birth defect information. The tables allow us to present precise and detailed data, whereas maps provide a powerful visual summary for large segments of the information. Such an approach, however, is not without risks. In particular, the juxtaposition of data and maps from different areas inevitably leads the reader to focus on comparisons between countries and regions. While there may be times when such comparison can provide useful clues, in general it should be resisted.

In particular, the temptation might be to attribute variations in birth prevalence to variations in risk factor distribution or genetic susceptibility. In fact, geographical variation may reflect to a large degree what data are being collected and how, rather than true variations in occurrence. For examples, differences in prenatal screening, diagnostic services, methods of collecting epidemiological data, and even chance can all have a major impact on the recorded prevalence of birth defects in a given area or country. Because of the recognized impact in some parts of the world of prenatal diagnosis followed by termination of the affected pregnancy, we have attempted to provide, where available, the information on the proportion of terminations of pregnancy for each birth defect, as recorded by the registries. Thus, maps and tables are only a starting point in assessing the burden of disease represented by birth defects in different countries.

---

[1] The terms birth defects and congenital anomalies are often used interchangeably in the text, although technically these terms are not identical. "Birth defects" is more general and all-inclusive, referring to many kinds of abnormal development that originated in the prenatal period, whether present at birth or expressed later. Some birth defects such as certain inborn errors of metabolism can be diagnosed only with specialised techniques, while others are obvious to the naked eye.

Causes of birth defects

The geographic variations shown by the maps and tables must be interpreted with caution. Nevertheless, a careful study of the data might provide researchers with initial clues that might prove useful in etiologic studies of birth defects.

The significance of finding such causes cannot be underestimated. Birth defects are a major cause of infant mortality and childhood morbidity, affecting 2-3% of all babies (Stevenson, 1993; Stellman, 1986). They are also responsible for large numbers of embryonic and fetal deaths. In addition, birth defects are among the leading causes of years of potential life lost and contribute substantially to childhood morbidity and long-term disability.

Today, the causes of birth defects are largely unknown. Although genetic and environmental causes are thought to play a role, qualifying and quantifying their contribution to occurrence of birth defects has proven difficult (Kalter, 1983a; ,O'Rahilly, 1992; Mortensen, 1991). Overall, it has been estimated that single gene and chromosomal conditions might account for as many as one quarter of cases of birth defects, with chromosomal conditions having an even larger contribution to anomalies seen in spontaneous abortions and stillbirths.

The role of the environment (including the maternal environment) is even less clear, reflecting our limited understanding of their contribution to the etiology of birth defects (Schardein, 1993; Kalter, 1983b; Mortensen, 1991; O'Rahilly; 1992).

Some known environmental causes of birth defects such as maternal conditions (*e.g.*, diabetes, rubella) or certain medications (*e.g.*, valproic acid, retinoic acid), though relatively uncommon, are important to recognize because the exposure is preventable. An important environmental cause of birth defects, certainly of neural tube defects and perhaps many other defects, is insufficient folic acid intake. The major efforts at primary prevention are now being focused on periconceptional folic acid supplementation, whether by use of specific supplements or by food fortification (MRC, 1991; Czeizel, 1992; Berry, 1999).

Such prior information on the relation between exposure and outcome, combined with data such as those in the Atlas, can provide medical and public health with an appreciation of the preventable number of cases of birth defects, including, for example, the number of cases of spina bifida that could be averted through primary prevention using folic acid.

Where to find more information

The data presented in this second edition of the World Atlas come from registries participating in the International Clearinghouse of Birth Defects and EUROCAT (European Surveillance of Congenital Anomalies). For more information, readers are referred to the most recent reports of the International Clearinghouse of Birth Defects (ICBDMS, 2001) and EUROCAT (EUROCAT Working Group 2002) and websites (see www.icbd.org and www.lshtm.ac.uk/php/eeu/eurocat or www.eurocat.ulst.ac.uk).

Concluding comments

The primary aim of this Atlas is to provide an easily accessible resource with recent information on birth defect prevalence from many areas of the world. These data, while not exhaustive, represent the outcome of careful selection from programs whose primary function is to conduct effective monitoring of birth defects.

Collectively, the information in the Atlas represents a unique resource for medical and public health professionals involved in birth defect research, monitoring and prevention,

at both a national and international level. We hope that this collaborative effort will increase the appreciation of the global burden of birth defects, and possibly contribute to finding and implementing effective measures of primary prevention worldwide.

References

Berry RJ, Li Z, Erickson JD, Li S, Moore CA, Wang H, Mulinare J, Zhao P, Wong LY, Gindler J, Hong SX, Correa A. Prevention of neural-tube defects with folic acid in China. China-U.S. Collaborative Project for Neural Tube Defect Prevention. N Engl J Med. 1999 Nov 11; 341(20): 1485-90.

Czeizel AE, Dudas I. Prevention of the first occurrence of neural-tube defects by periconceptional vitamin supplementation. N Engl J Med. 1992 Dec 24; 327(26): 1832-5.

EUROCAT Working Group. EUROCAT Report 8. Surveillance of congenital anomalies in Europe 1980-99. University of Ulster, Belfast, 2002.

International Clearinghouse for Birth Defects Monitoring Systems (ICBDMS). Annual Report 2000. Ed. ICBD, Rome, 2001.

Kalter H, Warkany J. Medical progress. Congenital malformations: etiologic factors and their role in prevention (first of two parts.) N Engl J Med. 1983 Feb 24; 308(8): 424-31.

Michal F, Grigor KM, Negro-Vilar A, Skakkebaek NE. Impact of the environment on reproductive health: executive summary. Environ Health Perspect. 1993 Jul; 101 (Suppl 2): 159-67.

Mortensen ME, Sever LE, Oakley GP Jr. Teratology and the epidemiology of birth defects. In: Gabbe SG, Niebyl JR, Simpson JL, and editors. Obstetrics: normal and problem pregnancies. New York: Churchill Livingstone, 1991:233-268.

MRC Vitamin Study Research Group. Prevention of neural tube defects: results of the Medical Research Council Vitamin Study. Lancet. 1991 Jul 20; 338(8760): 131-7.

O'Rahilly R, Fabiola M. Human embryology and teratology. New York: Wiley-Liss, 1992:69-78.

Stellman JM. Environmental agents and birth outcomes. Ann N Y Acad Sci. 1986; 477: 116-22.

Stevenson RE, Hall JG. Terminology. In: Stevenson RE, Hall JG, Goodman RM, editors. Human malformations and related anomalies (vol I). New York: OxfordUniv. Press, 1993:21-30.

Guide to the Reader I: What is Presented in the Tables and Maps?

In the tabulations that follow, data on liveborn and stillborn cases of birth defect are presented for 52 registries in five continents, 1993-98, in a total population of 16.9 million births.

For 32 of these registries, data on terminations of pregnancy following prenatal diagnosis are also presented separately. These are registries, which have been able to collect information on such cases, in countries where termination of pregnancy for congenital anomaly is legal.

The data presented relate to a selection of major structural and chromosomal defects. They do not include inborn errors of metabolism, nor do they specifically address disabilities arising from defects of vision, hearing and intellect, although some of the anatomical defects presented are associated with such disabilities.

The tabulations provide information about a wide range of common anomalies. For each malformation, we present two tables, one graph and three maps.

The first table contains (for every program/registry that provided data for that anomaly):

- Years coverage (years covered between 1993 and 1998).
- Cases: number of live + stillborn cases.
- Births: denominator i.e. number of births in each population (live and still).

Birth Prevalence per 10,000: birth prevalence rates per 10,000 births calculated as (live + still born cases) / births with 95% Confidence Interval. We adopt the standard convention of expressing this as "prevalence" rather than "incidence" (Hook, 1982). We present the confidence interval only if a test of heterogeneity calculated within the registry on yearly data was not statistically significant. If significant, the values reported (as bold character) represent the birth prevalence ranges (minimum and maximum values of the period). This is because, if the values are heterogeneous, the confidence interval around the point estimate may be misleading.

L+S trend: for every program, we tested the linearity of the trend in birth prevalence considering only the live and still births time series using the Chi-squared test for trend. When the test is significant the arrow indicates the increasing (upward) or the decreasing (downward) trend.

The second table refers to programs/registries, which reported terminations of pregnancies (ToP). For each year under investigation (1993-1998) we show the total number of cases (live + still births +ToP) and the percentage of ToP (calculated as ToP / (live+still births + ToP)). Note that the time period covered could be different from the first table, as some registries did not have information on terminations of pregnancy for all years. The column "trend" shows the significant trends (tested using the chi-squared test for trends) of the total number of cases.

The graph shows the prevalence at birth per 10,000 with registries ordered by magnitude of point estimate of prevalence, along with the 95 % confidence interval (i.e. a graphical presentation of the data given in the first table). The registers that in the first table evidenced heterogeneity of trends have no bars and the intervals show the range of the birth prevalence.

The maps show the geographical representation of the birth prevalence rates at birth (i.e. the data presented in the first table), shaded by quartiles of the rate distribution.

Guide to the Reader II: Factors affecting the accuracy of estimation of birth prevalence

Many factors affect the accuracy of estimation of prevalence rates at birth. Readers can refer to the following publications for more information: Mastroiacovo & Botto 2000, ICBD 1993, EUROCAT Working Group 2002. Below we give a brief summary of the main factors.

1. Definition of the population.

Registries can be "population-based" or "hospital-based". "Population-based" means that they cover residents of a defined geographical area. "Hospital-based" means that they cover births in selected hospitals. Where a registry is hospital-based, it is possible that there has been some selection of high-risk pregnancies towards or away from the selected hospitals, and thus estimated prevalence rates may be biased upwards or downwards. If a registry is population-based, it must ensure coverage of residents who deliver outside the geographic boundaries, who may also be at higher or lower risk than the rest of the population. In practice, there are also some variants of the above definitions based on knowledge of how information can be gathered and where mothers go to deliver. Assessing the potential for bias requires detailed knowledge of the local situation. The definition of the population covered by each registry is given in the "Registry Descriptions" section of this Atlas.

2. Definition and classification of cases and diagnostic practice

Epidemiological data are derived from diagnoses made by clinicians working within given health service conditions. A registry is rarely in a position to impose a standard definition or diagnostic practice, though it may facilitate the adoption of standards. Many malformations exhibit a range in severity and the inclusion or exclusion of mild forms may be a source of variation between prevalence rates. This is of greatest consequence for widely variable conditions like hypospadias, where the very mild forms that represent a large proportion of all cases may or may not be counted. Other examples are microphthalmia and microtia. Another source of variation is the definition of stillbirths included in prevalence rates. Although stillbirths are included in the data of all reporting registries, they are defined variably by a minimum of 16, 20, or 28 weeks of gestation or by birth weight limits of at least 500 or 1,000 grams. As malformed infants tend to be born prematurely or to be stillborn, the inclusion or exclusion of stillbirths of low gestational age or weight may lead to significant variations in the reported prevalence of some birth defects. Many variations in diagnostic practice may affect the reported prevalence of birth defects. For example, the accurate reporting of chromosomal anomalies (e.g. Trisomy 13 or 18 and Down Syndrome) is dependant on karyotyping rates and indications for karyotyping. The autopsy rates for stillbirths and neonatal deaths will determine the likelihood that a birth defect is diagnosed, or the accuracy of the diagnosis, especially for conditions which are not externally visible such as serious congenital heart disease (e.g. hypoplastic left heart syndrome).

Children with syndromes and multiple anomalies present particular classification problems. Practice varies as to whether the name of the syndrome only is recorded, or all of the component malformations. Defects that are seen as consequences of other defects (e.g. hydrocephaly when associated with spina bifida) are generally not recorded separately. Such combinations of malformations are called "sequences".

3. Ascertainment and coding

A diagnosis must not only be made, but also be recorded accurately, with the record reaching the registry, often through one or more intermediary records. There can be a loss of information between the place of diagnosis and the registry, either in terms of whether the child is recorded as having a birth defect at all, or in terms of the detail or accuracy of the diagnosis recorded (e.g. whether the baby is recorded with congenital heart disease, or specifically with coarctation of aorta). Registries work hard to establish and maintain an information pathway which will lead to high case ascertainment (i.e. the proportion of diagnosed cases who are registered), and accurate diagnostic information. Another step where there can be loss of information is between the text diagnostic information and the coding of that information. Most registries use versions 9 or 10 of the International Classification of Disease, some with special extensions (a further one or two digits) to allow more detail to be recorded.

Overall case ascertainment probably never reaches 100%, and its level depends on a registry's methods of data collection. Registries need to use multiple sources of information. Underascertainment of some anomalies can occur if sources of information stop in the early neonatal period, as diagnoses may be made later than this. Specialist services treating children later than the postneonatal period are also vital for confirmation of diagnostic details. Some birth defects are now being discovered earlier in life due to prenatal and postnatal screening programmes. For example, cystic kidneys are more likely to be diagnosed early in life if there is ultrasound screening of the kidneys. This can lead to variation in prevalence rates between regions and over time as screening practice changes.

It is more difficult for registries covering very large populations to attain a high level of case ascertainment, although some large registries are organised hierarchically with local offices. Local contact with clinicians and other information sources is vital. The level of resources available to the registry or local office to employ suitable personnel, and the stability of those resources to retain experienced personnel, will also affect the quality of the data collected. Data management itself can be complex, even the conceptually simple tasks such as not registering the same child twice.

4. Statistical Considerations

A 95% confidence interval is an estimated range of values with a 95% probability of covering the true population value. When the number of cases on which the prevalence rate is based is small, the confidence interval is wide, representing a large degree of sampling error.

Statistical significance (meaning a low p value below an arbitrary threshold such as 5%) represents how likely differences in prevalence could have arisen by chance. Unfortunately, p values and statistical significance are often accorded too much weight. Critical readers should bear in mind that the $p < 0.05$ threshold is wholly arbitrary. To call one finding significant when the p value is 0.04 and another not significant when it is 0.06 vastly overstates the difference between the two findings, moreover 10% or 1% significance levels could be reasonable alternatives. Because p values are quantifiable and seemingly objective, it is easy to overemphasize the importance of statistical significance. For most studies, the biggest threat to an author's conclusion is not random error (chance), but systematic error (bias). Thus, readers must focus on the more difficult, qualitative questions discussed in this Guide. When using numerous statistical tests with a significance level of 5%, one can expect 5% of test results to be spuriously significant, i.e. the differences in prevalence are due to chance alone. As many

statistical tests were performed for this Atlas, this needs to be borne in mind. We have presented in this Atlas straightforward maps where prevalence rates have been divided into quartiles of the rate distribution. Readers should be aware of the interpretational "traps" of this method. Firstly, the eye tends to focus on the large areas in the map of the same colour, rather than taking into account smaller areas which may be much more densely populated. This can lead the eye to see false geographical patterns. Secondly, some of the rates are based on quite small numbers of cases with wide confidence intervals around the prevalence rates (as shown in the first table for each birth defect). The map does not show the confidence interval, only the point estimate, and this can lead to misinterpretation of apparent patterns. Small populations moreover tend to give rise to the most extreme (high or low) rates due to Poisson (chance) variability, even if the true disease rates are similar across the areas, focusing viewers' attention on these extreme areas when they scrutinize the map. Bayesian smoothing has been employed as a method to get round this problem in mapping (Bernardinelli, 1995; Osnes, 1999). In this Atlas however, our use of maps is as a simple graphical representation of data given in tables, rather than as a tool for presenting the strength of evidence for geographical variation, which would require more attention to the range of factors affecting accuracy of estimation of prevalence rates summarized above in this Guide.

Guide to Reader III: Terminations of pregnancy: a challenge for birth defect epidemiology

Terminations of pregnancy are a special challenge to birth defect registries and to the whole field of birth defect epidemiology. We know that prenatal screening policies (and the resources for prenatal screening) vary enormously between different countries and between regions and even hospitals within countries. The "culture" in terms of how often prenatal diagnosis of a birth defect leads to termination of pregnancy also varies. For example, termination of pregnancy is very widespread for lethal conditions such as anencephaly, but the practice is much more variable for conditions such as spina bifida. Thus, prenatal screening followed by termination of pregnancy introduces considerable geographic and temporal variation in prevalence rates at birth, and the proportion of terminations must be known or well estimated to assess whether there are real differences in "risk" between populations related to genetic or environmental risk factors.

Many birth defect registries in Europe have been set up to provide a mechanism for the audit of prenatal screening practice. The registry can provide data on the proportion of cases of congenital anomaly diagnosed prenatally, the proportion of positive prenatal screening results which were confirmed as cases of congenital anomaly, and the proportion of prenatally diagnosed cases which led to termination of pregnancy, as well as related information about prenatal screening methods.

Registries often require access to entirely different sources of information to ascertain terminations. Assessment of completeness of ascertainment of terminations requires detailed knowledge about local use of services (public and private) and information flows.

Ideally for epidemiologic purposes, terminations of pregnancy should be subject to the same rigour of diagnostic verification as live and stillbirths, but this is not always so. For example, autopsies may not be carried out to confirm the diagnosis, and a karyotype may not be performed where multiple malformations have been detected prenatally by ultrasound, to determine whether a chromosomal anomaly is present.

Prenatal diagnosis presents particular problems for hospital based registries (see definition of population above) since it is common for referral to a tertiary centre of expertise to take place, either for termination or for the birth of the affected child. This may increase the potential for bias in the estimation of prevalence or in the estimated proportion of terminations.

Reporting of terminations of pregnancy can lead to relative "overascertainment" of cases. The earlier in pregnancy the termination, the greater the probability that the pregnancy would in other circumstances have ended naturally in a spontaneous abortion. A spontaneous abortion would not necessarily have been examined for malformations or reported to the registry. These probabilities are generally small, but when the number of early terminations are high might result in a slight inflation of the total number of cases recorded compared to what would be expected if no terminations had been performed.

Prenatal screening and diagnosis, whether or not followed by termination, can also lead to relative "overascertainment" of cases when the age of detection of a congenital anomaly is brought within the age coverage of the registry. This obviously depends on the age limit each registry applies to its information gathering, as well as diagnostic practice regarding the age when the anomaly would usually be detected postnatally. Similarly, the recorded proportion of

all cases which are terminations of pregnancy may be inflated if prenatally diagnosed cases are ascertained by the registry more completely than postnatally diagnosed cases.

The purpose of prenatal diagnosis is to increase the possibility of optimal management of the pregnancy and baby. While the issues of prenatal diagnosis and termination of pregnancy are intertwined in the evaluation of prevalence rates based on epidemiologic data, they are not intertwined in health service terms. Prenatal diagnosis can lead to beneficial outcomes such as effective early neonatal treatment or care. As outcomes improve, the practice of termination may well change.

Birth defect registries are concerned to provide a basis through surveillance and research for the primary prevention of birth defects. Currently, we can expect the prevalence of neural tube defects at birth to decrease through the combined impact of primary prevention and prenatal screening and termination, and the challenge is to vastly increase the proportion of cases prevented by appropriate folic acid supplementation (see Introduction). The larger challenge is to identify the range of genetic and environmental risk factors for birth defects in order to increase the potential for primary prevention.

References

Bernardinelli L, Clayton D, Pascutto C, Montomoli C, Ghislandi M, Songini M Bayesian-analysis of space-time variation in disease risk. Stat Med. 1995 Nov 15-30;14(21-22):2433-43.

EUROCAT Working Group. EUROCAT Report 8, University of Ulster, 2002.

Hook EB Incidence and prevalence as measures of the frequency of birth defects. Am J Epidemiol. 1982 Nov;116(5):743-7.

Mastroiacovo P, Botto LD Surveillance for Birth Defects and Genetic Diseases. In: Genetics and Public Health in the 21st Century. Eds. MJ Khoury, W Burke and EJ Thomson, Oxford University Press, New York, 2000.

Osnes K. Aalen OO Spatial smoothing of cancer survival: a bayesian approach. Stat Med. 1999 Aug 30; 18(16): 2087-99.

The International Centre for Birth Defects. Guidelines for the development on national programmes for monitoring birth defects. World Health Organization, Hereditary Diseases Programme. Geneva, 1993.

Birth defects list

Anencephaly
Spina bifida
Arhinencephaly / Holoprosencephaly
Hydrocephaly
Anophthalmos / Microphthalmos
Anotia / Microtia
Transposition of great vessels
Tetralogy of Fallot
Hypoplastic left heart syndrome
Coarctation of aorta
Cleft palate without cleft lip
Cleft lip with or without cleft palate
Oesophageal atresia / stenosis with or without fistula
Small intestine atresia / stenosis
Anorectal atresia / stenosis
Hypospadias
Indeterminate sex
Renal agenesis
Cystic kidney
Polydactyly, preaxial
Limb reduction defects
Diaphragmatic hernia
Omphalocele
Gastroschisis
Trisomy 13
Trisomy 18
Down syndrome

List of registries and time periods

Registries	Years
Argentina	1993-1998
Australia	1993-1997
Austria, Styria	1993-1998
Belgium, Antwerp	1993-1998
Belgium, Hainaut	1993-1998
Bolivia	1993-1998
Brazil	1993-1998
Bulgaria, Sofia	1996-1997
Canada, Alberta	1993-1998
Canada, British Columbia	1993-1998
Canada, National	1993-1997
Chile	1993-1998
China, Beijing	1997-1998
China, CBDMN	1997-1998
Colombia	1993-1994
Croatia, Zagreb	1993-1997
Cuba	1993-1998
Czech Republic	1993-1998
Denmark, Odense	1993-1998
Ecuador	1993-1998
England and Wales	1993-1998
England, Mersey	1998
England, North Thames West	1997-1998
Finland	1993-1998

France, Central East	1993-1998
France, Paris	1993-1998
France, Strasbourg	1993-1998
Germany, Saxony-Anhalt	1993-1998
Hungary	1993-1998
Ireland, Dublin	1993-1998
Israel, IBDMS	1993-1998
Italy, BDRCAM	1993-1998
Italy, IMER	1993-1998
Italy, ISMAC	1993-1998
Italy, North East	1993-1998
Italy, Tuscany	1993-1998
Japan, JAOG	1993-1998
Malta	1993-1998
Mexico, RYVEMCE	1993-1998
New Zealand	1993-1998
Northern Netherlands	1993-1998
Norway	1993-1998
Paraguay	1993-1998
Russian Federation, Tomsk	1993-1998
Scotland, Glasgow	1997-1998
South Africa, SABDSS	1993-1997
Southern Portugal	1993-1998
Spain, Asturias	1993-1998
Spain, Barcelona	1993-1998
Spain, Basque Country	1993-1997
Spain, ECEMC	1993-1998
Spain, El Valles	1993-1997

Switzerland, Zurich	1993-1998
United Arab Emirates	1996-1998
Uruguay	1993-1998
USA, Atlanta	1993-1998
Venezuela	1993-1998

Registry Descriptions

Australia

Australian Congenital Malformation Monitoring System

History: National monitoring of malformations began in 1981, but not all States and Territories were collecting data at that stage. Subsequently, perinatal data systems have been introduced in all States and Territories. The programme became a member of the ICBDMS in 1982.

Size and coverage: All births in Australia are included, now more than 250,000 births annually. Coverage increased from about 50% in 1981 to 100% in 1986. Stillbirths of 20 weeks or more are registered. Data for Tasmania (about 6,000 births) were excluded from this report.

Legislation and funding: State and Territory health departments, and birth defect registers in New South Wales, Victoria, South Australia and Western Australia, report data to the national monitoring system, which is funded by a grant from the Australian Institute of Health and Welfare, an independent health and welfare statistics agency in the Commonwealth Department of Health and Aged Care.

Sources of ascertainment: Reports are obtained from birth notifications, death certificates, cytogenetic laboratories, autopsy reports, children's hospitals, and notifications of terminations of pregnancy.

Background information: Data on births are obtained from State and Territory perinatal data collections and from birth and perinatal death registrations compiled by the Australian Bureau of Statistics.

Exposure information: Except in South Australia, exposure information is not routinely recorded but has to be obtained ad hoc.

Address for further information:

Paul A.L. Lancaster (until 2001), Elizabeth Sullivan (from 2002), AIHW National Perinatal Statistics Unit, The University of New South Wales, Sydney Children's Hospital, Randwick, NSW, 2031, Australia.
Phone: 61-2-93821014, Fax: 61-2-93821025. E-mail: npsu@unsw.edu.au

Austria, Styria

Styrian Malformation Registry

History: The registry was set up as a regional population-based registry in 1986 following the Chernobyl disaster. It registers embryos/fetuses/babies with congenital anomalies (CA) born after January 1st 1985. The registry joined EUROCAT in 1995.

Size and coverage: A total of 192,530 live and stillbirths were surveyed between 1985 and 1999. The annual number of births covered is at present approximately 11,000. Embryos/fetuses/babies with anomalies are registered if diagnosed before birth, at birth or during the first year of life. There is no lower limit of gestational age for registration. Terminations of pregnancy are included as well. The maternal residency is recorded and can be used for evaluating the regional pattern of birth defects.

Legislation and funding: The programme is a research programme with voluntary participation of hospitals and funded by research grants provided by the Styrian government.

Sources of ascertainment: The SMR is based on information actively gathered from 49 sources. These consist of 34 minor or major obstetric hospitals, 1 cytogenetic laboratory, 2 pathology services, 11 child health services, including specialised departments for diagnosis and treatment, and free practicing midwives. 48 % of cases are reported by more than one source, which allows checking for reliability of data in these cases. In 52 % of cases only one source provided data.

Exposure information: not available

Prenatal diagnosis information: Data about techniques of prenatal screening (ultrasound, serum markers) and prenatal diagnosis are not systematically collected.

Background information: Information on all births is available from birth certificates, gathered by Statistics Austria

Address for further information:

Prof. Dr.Martin HAUSLER, Registry Leader, Dept. of Obstetrics and Gynaecology, Karl-Franzens University, Graz Auenbruggerplatz 14, A-8036 Graz
Email : martin.haeusler@uni-graz.at

Prof. Andrea BERGHOLD, PhD, Institute for Medical Informatics, Statistics and Documentation, Karl-Franzens University, Graz, Engelgasse 13, A-8010 Graz
Email : andrea.berghold@uni-graz.at

Belgium, Antwerp

Eurocat registry of congenital anomalies

History: The registry was initialized with a pilot study in 1989. In 1990 the registry really started in a region in Antwerp. Since 1997 the whole province of Antwerp is covered. The registry is developed in collaboration with the provincial government and the university of Antwerp. The registry joined EUROCAT in 1990.

Size and coverage: The registry covers about 18000 births, these are all births in the province of Antwerp (about 15% of the births in Belgium). It includes livebirths, stillbirths (20 weeks or more) and terminations of pregnancy after prenatal diagnosis. There are 23 participating hospitals.

Legislation and funding: Reporting by hospitals and health workers is voluntary. Privacy legislation in Belgium deals with rules for information to the public. Individuals can refuse registration. The program is funded by the provincial government of Antwerp.

Sources and ascertainment: Reports are actively collected from maternities and paediatric and neonatologic units. Notification also by gynaecologists, paediatricians, GP's, child welfare nurses.

Exposure information: includes: maternal drug use maternal smoking and alcohol ab(use), maternal and paternal diseases and family history, parental occupation

Background information: Background data on births are retrieved from the population databases of the communities and from the study center for perinatal epidemiology in the Flanders region.

Address for further information:

Dr. Vera Nelen, Provinciaal Instituut voor Hygiëne, Kronenburgstraat 45, 2000 Antwerpen, Belgium
Phone: 32-3-259-12-70. Fax: 32-3-259-12-01. E-mail: vera.nelen@pih.provant.be.

Belgium, Hainaut

Registry of Hainaut-Namur

History : The registry of Hainaut-Namur was initiated in 1978 and it started in 1979. Since the beginning it is a member of Eurocat. From 1979 to 1990, it was located at the School of Public Health of the Catholic University of Louvain (Brussels). Since 1990, it was integrated into the Centre of Human Genetics of the Institute of Pathology and Genetics (Loverval – Belgium). The registry joined EUROCAT in 1979.

Size and coverage : The registry annually covers 12,500 births in East Hainaut and the whole province of Namur, which represents about 10.5 % of all births in Belgium. The registry includes livebirths, stillbirths and terminations. The coverage rate of congenital anomalies is estimated at around 100 %.

Legislation and funding: As a part of the Institute of Pathology and Genetics of Loverval, it is supported by an annual grant from the Institute of Research in Pathology and Genetics of Loverval. From 2001 it is also partly supported by the Ministry of Public Health of Wallonia.

Sources of ascertainment: Delivery units, neonatal and paediatric departments divided into 13 hospitals. All cytogenetic, genetic and pathological data including the examination of aborted fetuses are regionally concentrated in the Institute of Pathology and Genetics of Loverval.

Exposure information: All that concerns information of maternal diseases during pregnancy, maternal drugs, occupations and genetic data is available.

Background information: Background data on births are available from national and regional institutes of statistics. It is also based on our own statistics in collaboration with the ONE (Office de la Naissance et de l'Enfance)

Adress for further information:

Prof. Yves Gillerot, Centre of Human Genetics, Institute of Pathology and Genetics, Allée des Templiers 41, B – 6280 Gerpinne, Belgium.
Phone : +32.71.47.30.47. Fax : +32.71.47.15.20. E-mail : yves.gillerot@ipg.be

Bulgaria, Sofia

Sofia Registry of Congenital Anomalies (SORCA)

History: The registry started in 1996. The registry joined EUROCAT in 1996.

Size and coverage: The registry is population-based and covers approximately 10,000 births annually in the region of Sofia. The registry covers livebirths up to 1-year life, stillbirths and terminations of pregnancy.

Legislation and funding: The registry is organised by the Bulgarian Society of Human Genetics and Sofia Municipality, and was supported by the State and private sponsors. The registry is currently not funded.

Sources and ascertainment: Cases are notified by obstetricians, neonatologists, paediatricians, and pathologists.

Exposure information: Information about maternal drug use, maternal diseases, maternal occupation, and obstetrical history is available for cases.

Background information: Denominators are available from the Statistics Unit of the regional health centre of Sofia municipality, the Ministry of Health and the statistics units of Sofia maternity clinics.

Address for further information:

Dr Emil Simeonov, Higher Medical School, Department of Paediatrics, Section of Clinical Genetics, Rue d Nestorov 11, BG-1606 Sofia
Phone: 359 2 517264. Fax: 359 2 521650. E-mail: simeonov@rtsonline.net

Canada, Alberta

Alberta Congenital Anomalies Surveillance System

History: This programme began in 1966 as a general Registry for Handicapped Children. This was disbanded in 1980 and continued as a surveillance programme for live and stillborn infants with congenital anomalies who were born in the Province of Alberta. The programme became a member of the ICBDMS in 1996.

Size and coverage: All live and stillbirths in the province are covered which at present comprises about 40,000 births per year. The definition of stillbirth is 20 weeks or more or 500 grams or more. The vast majority of births occur in hospital (approximately 97%). In 1997 a special fetal congenital anomalies surveillance system was started to include those fetuses with congenital anomalies who were either spontaneously lost prior to 20 weeks or where there was termination as a result of prenatal diagnosis.

Legislation and funding: Reporting is voluntary. The system is run by members of the Department of Medical Genetics, Alberta Children's Hospital/University of Calgary reporting to Alberta Vital Statistics and Alberta Health. Funding is from Alberta Ministry of Health.

Sources of ascertainment: Reports are obtained from physician's notice of birth, live birth and stillbirth registrations, death registrations and a special congenital anomalies reporting form (CARF) from hospitals. This is based on discharge diagnosis, including readmissions for any reason up to one year of age. Additional sources are speciality clinics, such as medical genetics and cytogenetics laboratories.

Exposure information: None is routinely collected.

Background information: Linkage studies are possible with other statistical data from Alberta Health.

Address for further information:

R. Brian Lowry, Department of Medical Genetics, Alberta Children's Hospital, 1820 Richmond Road S.W., Calgary, Alberta, T2T 5C7, Canada.
Phone: 1-403-2297370. Fax:1-403-2280796. E-mail: brian.lowry@calgaryhealthregion.ca

Canada, British Columbia

British Columbia Health Status Registry (BCHSR)
Congenital Anomalies Surveillance Program

History: The programme was established in 1952 as the *Crippled Children's Registry*. Until 1959 the programme had an age limit of 21, but this was removed in 1960 and the name was change to the *Registry for Handicapped Children and Adults* and included all familial conditions and congenital malformations. In 1975, the Registry's name was changed to the *Health Surveillance Registry* as risk registers for amniocentesis, rubella, hyaline membrane disease, and fetal alcohol syndrome were added. In 1991, the Royal Commission Report on Health Care and Costs contained a recommendation that Vital Statistics should develop and maintain a registry of individuals with disabilities to assist in the development of long-range plans and to monitor the changing needs of the population. Subsequently, in September 1992, amendments to the Health Act established the legislative mandate and responsibilities for the HSR. The Registry's current name, *Health Status Registry*, was acquired in 1992. In order to refocus the Registry's emphasis on children, the criteria for registration of individuals with long-term physical, mental and/or emotional problems was restricted to persons under the age of 20 years old, however registration of persons with genetic conditions was not age limited. By 2000 there were approximately 215,000 records in the Registry.

Size and Coverage : The registry covers all births in the province approximately 45,000 births annually including stillbirths with at least 20 weeks gestation or birth weight 500 grams or more.

Legislation and Funding: In 1992, amendments to the Health Act established the legislative mandate and responsibilities for the BC HSR. Funding comes from the British Columbia Vital Statistics Agency.

Sources of Ascertainment: Sources include: Notice of Live and Stillbirth, Death registrations, Hospital Admission/Discharge Abstracts, Children's Hospital, Sunnyhill Hospital, UBC and Victoria General Medical Genetics Clinics,

Child Development Centres, Health Regions, the Asante Centre for Fetal Alcohol Syndrome.

Exposure Information: Information on complications of pregnancy, labour or delivery is available on Vital Statistics birth registrations and environmental/occupational and drug/alcohol/smoking lifestyle related information can be obtained from

the death registrations for the deceased.

Web site: http://www.vs.gov.bc.ca/stats/hsr/index.html

Background Information: The registry data are regularly matched to Vital Statistics birth registrations to obtain birth particulars of the registrants and maternal/paternal information, and also matched to death registrations to get the date of death and causes of death if the registered person was deceased. The registry is also working on the collection of the medically terminated pregnancies due to congenital anomalies.

Addresses for further information:

Programme Director to British Columbia Health Status Registry :
Soo-Hong Uh,Manager, BC Vital Statistics Agency, 818 Fort Street, Victoria, British Columbia, Canada, V8W 1H8
Phone : 250-952-2567. Fax : 250-952-2587
E-Mail: SooHong.Uh@gems6.gov.bc.ca

Canada, National

History: The program was started in 1966. The program was a full member until 1987, when it became an associate member. The program was discontinued a member of the ICBDMS in the early 1990s, and reinstated its associate member status in 1996.

Size and coverage: The system presently monitors about 280,000 births annually, which represents about 70% of all births in Canada. Stillbirths of at least 20 weeks of gestation are included.

Legislation and funding: Reporting is based on an agreement between the Canadian Institute for Health Information, a non-profit organization which collects and disseminates data on hospital admission/separation in Canada, and the central registry, which is run and funded by Health Canada. Alberta Congenital Anomalies Surveillance System and Manitoba provincial government also provide the two Canadian provinces' data.

Sources of ascertainment: Cases are ascertained from hospital admission/separation summary records collected by the Canadian Institute for Health Information, or by Alberta Congenital Anomalies Surveillance System and Manitoba provincial government. Follow-up continues to one year of age.

Exposure information: No exposure information is routinely collected in the central registry.

Background information: Background information is based on hospital admission/separation summary records from the Canadian Institute for Health Information, or provided by Alberta Congenital Anomalies Surveillance System and Manitoba provincial government.

Address for further information:

I.D. Rusen, MD, MSc, FRCPC, Community Medicine Specialist, Bureau of Reproductive and Child Health, Health Protection Branch Building, Tunney's Pasture, AL 0701D, Ottawa, Ontario, Canada, K1A 0L2.
Phone:613-946-9742. Fax: 613-941-9927. E-mail: ID_Rusen@hc-sc.gc.ca

China, Beijing

Birth Defect Surveillance System in Thirty Counties of Four Provinces, People's Republic of China (BDSS - China)

History: The programme began in 1992. It became a member of the ICBDMS in 1997.

Size and coverage: This is a population based monitoring system. Reports were obtained from all hospitals and village health stations, which together cover all geographically defined population. Total number of population in these areas is around 17 millions and total number of births per year is around 150,000.

Legislation and funding: Funding is from China Ministry of Health and local health authorities.

Sources of ascertainment: Reports are obtained from delivery units, paediatric clinics, ultrasound departments, pathology departments and perinatal health care departments of different level hospitals, MCH institutes and village health stations in the participating counties and cites.

Exposure information: Exposure information is obtained from the perinatal health care surveillance system (PHCSS) in the same areas for all women and their babies from pre-marital examination till six weeks after birth. BDSS data is linked with PHCSS data by using an ID number assigned to each woman.

Background information: Background information is also obtained from PHCSS data.

Address for further information:

Zhu Li, M.D., M.P.H., China National Centre for Maternal and Infant Health, Beijing Medical University, 38 College Road, Beijing 100083, PR China.
Phone: 86-10-62091138. Fax: 86-10-62091141. E-mail: izh@public.bta.net.cn

China, CBDMN

Chinese Birth Defects Program of Sichuan Province, China (until 1994)
Chinese Birth Defects Monitoring Network

History: The programme began in 1984. it became a member of the ICBDMS in 1985.

Size and coverage: In 1984, reports were obtained from 100 hospitals but participation has increased. In 1985,205 hospitals participated. At present, the programme covers approximately 260,000 births annually in 31 provinces.

Legislation and funding: Participation is voluntary. Funding is mainly from local health authorities.

Sources of ascertainment: Reports are obtained from delivery units, paediatric clinics, and pathology departments of the participating hospitals.

Exposure information: Exposure information is obtained by interviews of mothers of the reported malformed infants. No information is available on exposures in controls.

Background information: Total number of births from each participating hospital is known.

Address for further information:

Zhu Jun, National Center for Birth Defects Monitoring, West China University of medical Sciences, No.17 section 3 REN MIN NAN LU , Chengdu-PRC-China.
Phone: 86-28-5501363. Fax: 86-28-5501363. E-mail: lzh@public.bta.net.cn

Croatia, Zagreb

History: The project started as a pilot investigation in 1982. The registry joined EUROCAT in 1983.

Size and coverage: The registry is population based and covers approximately 7,500 births per year, up to 12 % of births in Croatia (cities Rijeka, Varazdin, Koprivnica and region Pula). During the covered period 1983-1999 we have monitored 103,265 pregnancies. The average prevalence rate of congenital anomalies during the monitored period was 17.0 per 1,000 births.

Legislation and funding: Till the end of 2000 we did not have any local funding, collection and transmission of data were on voluntary basis. From the year 2000 we receive the funding from Ministry of Science and Technology and as a public health project we are in process of applying for funding from the Ministry of Health.

Sources and ascertainment: Data are actively collected from four Delivery Units in the cities of Rijeka, Varazdin, Koprivnica and region Pula by neonatologists and gynecologists.

Exposure information: information on maternal drug use, maternal and paternal diseases and occupations, outcome of previous pregnancies is available for almost all malformed cases.

Background information: Information on all births is available from the birth certificates.

Address for further information:

Dr Ingeborg Barisic, MD, Ph.D., Registry Leader and Medical Geneticist, Children's University Hospital Zagreb, Department of Paediatrics, Divison of Clinical Genetics, Klaiceva 16, 10 000 Zagreb, Croatia
Tel: 385-1-4600-141. Fax: 385-1-4600-160. Email: ibarisic@kdb.hr and romana.gjergja@zg.hinet.hr

Czech Republic

Congenital Malformations Monitoring Programme of the Czech Republic

History: A registration of congenital malformation began in 1961 and regular monitoring started in 1975. The programme was a founding member of the ICBDMS.

Size and coverage: All births in the Czech Republic (Bohemia, Moravia and Silesia regions) are covered, at present comprising approximately 90,000 annual births. Stillbirths weighting at least 1,000g are included.

Legislation and funding: Reporting is compulsory. The registration is financed and run by the government in the Institute of Health Information and Statistics of the Czech Republic. Analysis of data is supported by Grant projects (NJ 6214-3, 6224-3 and NJ/5764-3) of Grant Agency Ministry of Health of the Czech Republic in the Institute for Care of Mother and Child.

Sources of ascertainment: Reports are obtained from delivery units, neonatal, pediatric, child surgery, pathology departments and cytogenetic laboratories. Reporting to the central registry occurs via Regional Department of Institute of Health Information and Statistics.

Exposure information: Some exposure information is available on malformed infants, at present none on controls.

Background information: Information's on all births are available in the Institute of Health Information and Statistics of the Czech Republic.

Address for further information:

Antonin Sipek, Department of Population Teratology, Institute for Care of Mother and Child,
Podolske nabrezi 157, 147 10, Prague 4, Czech Republic.
Phone: 420-2-612142410. Fax: 420-2-61213851. E-mail: sipek@yahoo.com

Cuba

Cuban Register of Congenital Malformations (RECUMAC)

History: The program started in 1985 in Havana City, and was extended to the other hospitals in 1987 .

Size and coverage: Reports are obtained from hospitals distributed all over Cuba. The number of participating hospital has grown 4 in 1986 to 36 at the present time.The annual number of birth is approximately 60,000, representing almost 50 % of all births.

Legislation and funding: Reporting is voluntary. The registry is associated with the National Center of Medical Genetics.

Sources and ascertainment: Reports are obtained from delivery units and paediatric departments of the participating hospitals. Mothers are also interviewed directly to gather information and fill in the RECUMAC standard protocols.

Exposure information: The mother of each reported infant and the mother of a control infant, the next non malformed infant born at that hospital with the same sex as the proband are interviewed on various exposures, including drug usage and parental occupation.

Background information: Total number of birth by sex and number of twin pairs in each participating hospital are known. Other background information is obtained partly from summarizing tables of births in each participating hospitals, partly from the control material.

Address for further information:

Maria Emilia Ferrero Oteiza and Luis Heredero, Recumac. Centro Nacional De Genetica Medica. ISCM-Habana. Victoria de Girón, C.P. 16000 Ciudad de la Habana. Cuba.

Denmark, Odense

Registry of Funen County

History: The registry joined EUROCAT in 1979.

Size and coverage: The registry covers Funen County (island of Funen with surrounding small islands) situated in the middle of Denmark. The total number of births per year in Funen County is around 6000.

The registry includes information about induced abortions after prenatal diagnosis of malformations, fetal deaths with GA ≥ 20 weeks and livebirths. For livebirths late diagnosed cases are included up to the age of seven years.

Legislation: In Denmark induced abortion is allowed for any reason with gestational age ≤ 12 weeks. After 12 weeks of gestation induced abortion can be performed after permission from a local committee. Usual upper limit for induced abortion is 24 weeks. Stillbirths include fetal deaths with gestational age ≥ 28 weeks.

The registry is approved by the "Data Tilsynet" as a private registry for research.

Sources and ascertainment: The registry is based on active case finding. Data for the registry includes hospital records from obstetric and paediatric departments, birth notifications, deaths certificates, post-mortem examinations and data from the cytogenetic laboratory.

Exposure information: Parental occupation. Maternal smoking and medication during first trimester. Maternal illness before and during pregnancy

Background information: Data on births per year and maternal age distribution covering Funen county is avalable from National Danish Statistics.

Address for further information:

Ester Garne, Eurocat Registry of Congenital malformations, Epidemiology – Institute of Public Health, University of Southern Denmark, Sdr Boulevard 23A, DK – 5000 Odense C
E-mail: Egarne@health.sdu.dk

England and Wales

The National Congenital Anomaly System

History: The monitoring programme was started in 1964. It was a founding member of the ICBDMS.

Size and coverage: All births in England and Wales are covered, at present approximately 610,000 annually. Stillbirths of 24 weeks or more gestation are registered.

Legislation and funding: Reporting is voluntary. The system is financed by the governmental Office for National Statistics.

Sources of ascertainment: Reports are mainly based on notifications of births prepared by attendants at birth, either physicians or midwives, supplemented by other reports from neonatal intensive care units, special care baby units etc. Reporting via the Wales regional congenital anomaly register began in 1998, and in 1999 from the Trent Region. In 2000 reporting has started from the Merseyside and Cheshire register and the North Thames West register. These four registers together use several sources for ascertainment and cover 27% of the births in England and Wales

Exposure information: Parents' occupation is known. No other information on other exposures is available but can be retrieved ad hoc from general practitioners.

Background information: Information on all births is available from birth certificates.

Address for further information:

Beverley J Botting, Office for National Statistics, B6/08, 1 Drummond Gate, London SW1V 2QQ, UK
Tel: 44-20 - 533 5195. Fax: 44- 20 - 533 5635. E-mail: bev.botting@ons.gov.uk

England, Mersey

Mersey Congenital Anomaly Survey

History

In 1992 a fetal anomaly survey was initiated in the former Mersey region. Its aim was to assess the effectiveness of antenatal diagnosis. However, this survey proved difficult to establish and anomalies were under reported. The registry joined EUROCAT in 1995.

In 1995 the survey linked to CESDI, (Confidential Enquiry into Stillbirths and Deaths in Infancy) and became the responsibility of the CESDI Regional Coordinator. A great deal of time and effort has been concentrated on the Survey, which was relaunched as the Congenital Anomalies Survey.

Size and Coverage

The Survey presently covers Merseyside and Cheshire that has over 28,000 births per year. The survey records all anomalies which:

a) are first detected antenatally, at birth or termination of pregnancy, or during the first year of life.

b) Involve a structural, metabolic, endocrine or genetic defect in the child/fetus.

Legislation and funding: Funding is obtained from various sources and is bid for annually. Reporting is voluntary.

Sources of Ascertainment: The survey relies on multi source ascertainment and has developed an extensive network of health professionals, obstetricians, paediatricians, midwives, neonatal nurses, pathologists and ultrasonographers. There is also close collaboration with CESDI, cytogenetics, cleft lip and palate unit, Royal Liverpool Children's Hospital and district health authorities. This network has ensured our local ascertainment is better than national statistics.

Exposure Information: No information on exposure is collected other than self reported information on smoking, alcohol and drug intake during pregnancy.

Address for further information:

Dr Grace Edwards, Perinatal Surveys Manager, Mersey Perinatal Epidemiology Unit, University Department of Obstetrics & Gynaecology, 1st Floor, Liverpool Women's Hospital, Crown Street, Liverpool, L8 7SS, U.K.
Tel: +44 (0) 151 702 4244. Fax: +44 (0) 151 702 4242. email: grace@liverpool.ac.uk

England, North Thames West

North Thames (West) Congenital Malformation Register

History: We began registering cases on 1 January 1990. We began reporting to EUROCAT in 1996. We began transmitting data to ONS (the Office for National Statistics) on 1 January 2000.

We are active members of BINOCAR (British Isles Network of Congenital Anomaly Registers) and FOCAL (Follow-up of Congenital Anomalies Long Term). Our data continue to be used in many collaborative research projects as well as for local audit of prenatal screening and diagnostic programmes. The registry joined EUROCAT in 1996.

Size and coverage: We cover 15 obstetric units, which together have about 46,000 births

per year. We register fetuses with prenatally diagnosed anomalies, affected fetuses spontaneously lost from 16 weeks gestation, and babies diagnosed before their first birthday in the case of structural anomalies and at any time in the case of chromosome anomalies. We use the EUROCAT exclusion list, but we also exclude babies in whom the main diagnosis is hypospadias, polydactyly, syndactyly, talipes, or soft markers on ultrasound. We now have more than 9,000 cases on the register.

Legislation and funding: Reporting is voluntary. We are funded by our regional

Genetics Commissioning Group

Sources and ascertainment: We have multi-source reporting. Sources include:

- Delivery suite staff
- Ultrasound Staff
- Post natal ward staff
- Paediatric Intensive Care unit staff
- Fetal Medicine Unit staff
- Paediatricians
- Post mortem reports
- Cytogenetic reports
- Computerised obstetric records
- CESDI (Confidential Enquiry on Still births & deaths in Infancy)
- Regional Genetic Service Notes
- Serum Screeening for Down Syndrome Programme
- Notifications to Office for National Statistics
- Paediatric Cardiology Referral Centre

Exposure information: Chronic illness in mother, pregnancy induced condition in mother, acute maternal illness during pregnancy, therapeutic and recreational drugs taken around conception and during pregnancy, details of assisted conception, invasive tests in pregnancy, smoking habits, alcohol abuse. Post code of residence.

Prenatal screening and diagnosis information: We collect information on how and when anomalies were diagnosed and the indication for any invasive tests that were done. We also collect information about why prenatal karyotyping was not done.

Denominator Data: As numerator is hospital based, we use as a denominator the births and TOPs in the contributing hospitals. There is a computerised database which stores information on all births similar to that which we have on the births on our register.

Address for further information:

Lenore Abramsky, CMR Co-ordinator, North Thames Perinatal Public Health Department, Kennedy Galton Centre, Room 8W015, Northwick Park Hospital, Watford Road, Harrow, HA1 3UJ, England
Phone 011-44-20-8869-3527. Fax: 011-44-8869-3387. E-mail: l.abramsky@ic.ac.uk

Finland

History: The registry was established in 1963 and regular monitoring started in 1977. It was a founding member of the ICBDMS. The registry joined EUROCAT in 1998.

Size and coverage: The registry is national and population based. All births in Finland are covered, at present approximately 57.000 annually. Stillbirths of 22 weeks / 500 g or more are registered. As a research project selective terminations for fetal reasons and spontaneous abortions with malformations have also been included since 1993.

Legislation and funding: Reporting is compulsary. The registry is run and financed by STAKES, the governmental National Research and Development Centre for Welfare and Health (under the Ministry of Social Affairs and Health).

Sources and ascertainment: Reports are obtained from delivery units, neonatal, pediatric and pathology departments, death certificates and cytogenetic laboratories. Case information is also received from the national Medical Birth Register, Abortion Register and Hospital Discharge Register.

Exposure information: Until 1986, extensive exposure information was obtained from maternity health centers and by personal interview for selected malformations and their controls. In 1987-1992 only parental occupation was reported. Exposure information, like maternal occupation, medication, X-rays and diseases, etc., has been obtained since 1993. Some exposure information on all births is also available in the Medical Birth Register since 1987.

Background information: Epidemiological background data are available on all births in the Medical Birth Register and in the Statistics Finland.

Address for further information:

Annukka Ritvanen, STAKES (The National Research and Development Centre for Welfare and Health), Siltasaarenkatu 18 A, P.O.Box 220, SF-00531 Helsinki, Finland.
Phone: 358-9-39672376. Fax: 358-9-39672324. E-mail: annukka.ritvanen@stakes.fi
Website: http://www.stakes.fi

France, Central East

Central-East France Register of Congenital Malformations

History: The registry began in 1973 within the Rhone-Alps area -the Auvergne region was added in 1983, the Jura area in 1985, the Côte d'Or & Nièvre in 1989 and Saône-et-Loire in 1990. The programme was a founding member of the ICBDMS. In 1998 the registry was split up and the Auvergne region, became financially independent, under the responsibility of Christine Francannet. The collaboration between Auvergne and the rest of the FCE-registry is maintained and common results are published. The registry joined EUROCAT in 1999.

Size and coverage : The registry covers all births in the area approximately 100,000 births annually, which represents about 13% of all births in France. Stillbirths of 22 weeks or more gestation are included.

Legislation and funding: Reporting is voluntary. The system is run by a privately funded research organisation. It is now officially recognised by the French Ministry of Health and partially supported by an annual grant from the National Committee of Registries.

Sources of ascertainment: Reports are received from delivery units, pediatric and child surgery clinics, pathology departments, and cytogenetic laboratories. Infants up to the age of one are registered, as well as fetuses delivered after medical abortion.

Exposure information: Information on maternal and paternal occupation, drug use, diseases, etc. is collected by interviews of the mothers of the malformed infants. No controls are interviewed.

Background information: Some background information is available from the general population statistics.

Address for further information:

Elisabeth Robert, Institut Européen des Génomutations, 86 Rue Edmond Locard, F-69005 Lyon, France.
Phone: 33-478-258210. Fax: 33-478-366182 . E-mail: elisabeth.robert@ieg.asso.fr

Contact for the Auvergne registry: Christine Francannet, CEMC Auvergne, e-mail : CEMC-Auvergne@wanadoo.fr

France, Paris

History: The programme was initiated in 1975, but the registry really started in 1981. It became a member of the ICBDMS in 1982. The registry joined EUROCAT in 1982.

Size and coverage: The registry covers 38.000 annual births (about 5% of all births in France), that is all births (live and still births of 22 weeks or more) and terminations of pregnancy in the population of Greater Paris delivering in Paris maternity units. The estimation of the coverage of the registry is around 95%.

Legislation and funding: Reporting is voluntary. The registry is part of a research unit of INSERM (National Institute of Health and Medical Research). The registry has been officially recognized by the French National Comity of Registries, and is renewed for four years (2001-2004) and supported by an annual grant from INSERM and Institut de la Veille Sanitaire (Institute for Health Surveillance).

Sources of ascertainment: Reports are actively collected from delivery units, pediatric departments, cytogenetic laboratories, pathology departments. Terminations of pregnancy are included. Case information is also received from the health certificates of the first week.

Exposure information: Information on maternal drug use, maternal and paternal diseases and occupations, outcome of previous pregnancies, is available for the malformed cases.

Prenatal diagnosis information: Data about techniques of prenatal screening (ultrasound, serum markers) and prenatal diagnosis are systematically collected.

Background information: Background data on births are available from the National Institute of Statistics (INSEE)

Address for further information:

Catherine De Vigan, INSERM U149, 16 av P Vaillant-Couturier, 94807 Villejuif Cedex, France.
Phone: 33-1-45 59 50 09. Fax: 33-1-45 59 50 89. E-mail: devigan@vjf.inserm.fr

France, Strasbourg

Strasbourg Prospective Study of Congenital Malformations

History: The registry was started in 1979. The programme became a member of the ICBDMS in 1982. The registry joined EUROCAT in 1982.

Size and coverage: All births in an area including and around Strasbourg and the Bas-Rhin are covered –13,000 to 13,500 annually, or 1.8% of all births in France.

Legislation and funding: The programme is a research program, recognized by the local health authorities and funded by Social Security, Ministry of Health and INSERM.

Sources of ascertainment: Reports are obtained from pediatricians examining the newborn infants. A control infant is selected for each malformed one : the next infant of the same sex as the proband born at that hospital.

Exposure information: Detailed information on various exposures is obtained by interview of the mothers of the malformed infants and their controls. The children are followed to the age of one year.

Background information: General demographic information is obtained from the National Institute of Statistics. Further information is obtained from Social Security Records and Health Sheets.

Address for further information:

Claude Stoll, Service de Génétique Médicale, Hôpital de Hautepierre, Avenue Molière, 67098 Strasbourg Cedex, France.
Phone : 33-3.88.12.81.20. Fax : 33-3.88.12.81.25. E-mail : Claude.Stoll@chru-strasbourg.fr

Germany, Saxony-Anhalt

Malformation Monitoring Saxony-Anhalt

History: Since 1980 in the city of Magdeburg all live- and stillbirths, abortions after the 16th week of gestation (spontaneous and induced abortions according to medical evidence based on prenatal diagnoses of congenital defects), and postnatal anomalies or congenital defects have been recorded up to the first week of life. After the reunification of Germany and the creation of the federal state of Saxony-Anhalt, the survey of congenital defects included approximately two-thirds of all births with postnatal anomalies and congenital defects in the same federal state. Since 1 January 2000 the survey region includes the entire state of Saxony-Anhalt. Saxony-Anhalt has 2.7 million inhabitants and annual births at a rate of about 19,000 children. The survey system is multi-centric and based on population. The registry joined EUROCAT in 1992.

Legislation and funding:

1980 to 1989 Ministry of Health of the former German Democratic Republic

1990 to 1992 Academy of Medicine, Magdeburg

1993 to 1995 Ministry of Health, Federal Republic of Germany

since 1995 Ministry of Labour, Women, Health and Social Security of the Federal State of Saxony-Anhalt

The Malformation Monitoring is working in order of Ministry of Labour, Women, Health and Social Security of the Federal State of Saxony-Anhalt.

Sources:
The co-operation partner are:

32 obstetrics departments;
29 children hospitals;
10 institutions of prenatal diagnostic;
6 departments of pathology

Exposure information:

maternal and paternal occupation (in groups);
occupation risk;
drugs in pregnancy (ATC-code);
alcohol, nicotine, drug abuse.

Background:

population based registry (Federal State Saxony-Anhalt);
written informed consent of the mother (parents);
name and address don't registered;
two healthy "controls" per one malformed child;
inclusion of terminations of pregnancy, spontaneous abortions after 16th week of gestation, live and stillborn babies;
definition of stillbirth: < 500 grams;
maximum age to include diagnoses: 1 year, almost 1st week of life;
annual reports (in German)

Web site:

http://www.med.uni-magdeburg.de/fme/zkh/mz/

Address for further information:

Prof. Dr. Volker Steinbicker, Program Director (Paediatrician, Geneticist), Malformation Monitoring Saxony-Anhalt, Faculty of Medicine, Otto-von-Guericke University, Leipziger Straße 44, Haus 56, D-39120 Magdeburg, Germany.
Telephone: +49-(0)391- 6714174. Fax: +49-(0)391-6714176.
Email: volker.steinbicker@medizin.uni-magdeburg.de

Hungary

Hungarian Congenital Abnormality Registry

History: Centralized registration of congenital abnormalities began in Hungary in 1962, and became under our co-ordination in 1970. Monitoring began in 1973. The programme was a founding member of the ICBDMS.

Size and coverage: The registry covers all births in Hungary, approximately 120,000 annually. Criteria to define stillbirth was changed in 1998. At present, stillbirths of at least 24 weeks gestation or 500 grams are registered. Prenatally diagnosed and terminated fetuses are also registered.

Legislation and funding: Reporting is compulsory. The registry is run and financed by the governmental National Center for Epidemiology (formerly the National Institute of Public Health).

Sources of ascertainment: Reports are obtained from delivery units, neonatal and pediatric surgery, pathology, and prenatal diagnostic centers. Abnormalities detected before the age of one are reported. Variations in figures (especially in the1990s) compared with data from previous years may reflect incomplete notification. In most instances, decreases can be noticed in the rates of birth defects.

Exposure information: Exposure information has been available since 1980, when a case-control system was initiated. Mothers of selected malformed infants and controls are interviewed by community nurses to collect information.

Background information: General background information on all births is available from central statistics.

Address for further information:

Csaba Siffel/Julia Metneki, Department of Human Genetics and Teratology, National Center for Epidemiology, Gyali ut 2-6., H-1966 Budapest, Pf. 64., Hungary.
Phone/fax: 36-1-4761129. E-mail: siffel@antsz-oth.hu

Ireland, Dublin

Dublin EUROCAT Registry

History: Register began in September 1979. Joined the ICBDMS in 1997. The registry joined EUROCAT in 1980.

Size and coverage: The Registry is population-based and situated in the East of Ireland covering the counties of Dublin, Wicklow and Kildare. About one third (20,000 births) of all births in Ireland occur in this area.

Legislation and funding: The Registry is located within the Public Health Department of the Eastern Regional Health Authority. Staffing includes a full time nurse/researcher and a part time secretary plus a part-time public health specialist and a part-time epidemiologist. Funding is provided by the Department of Health through the Eastern Regional Health Authority. There is a Steering Committee comprising specialists from each of Maternity and Paediatric Hospitals in the catchment plus a representative from the Department of Health.

Exposure information : For each malformed infant reported, limited information is given on certain exposures. No information is available on controls.

Sources of ascertainment: All live and still births are covered. Abortion is illegal in Ireland.

Address for further information:

Robert Mc Donnell, Department of Public Health, Eastern Regional Health Authority, Dr. Steeven's Hospital, Dublin 8, Ireland.
Phone: 353-1-6352750. Fax: 353-1-6352745. E-mail: bob.mcdonnell@erha.ie

Israel, IBDMS

Israel Birth Defects Monitoring System

History: The programme started in one hospital in 1966 and was a founding member of the ICBDMS.

Size and coverage: Reports are now obtained from three hospitals located in the central region of the country, with more than 20,000 annual births (more than 15% of all births in Israel). Stillbirths of 20 weeks gestation or more and 500 gm or more are included. The registry of termination of pregnancy began in 1995.

Legislation and funding: The programme is a research programme supported by research grants without any governmental support.

Sources of ascertainment: Reporting is voluntary. Reports are obtained from delivery units and neonatal departments in the participating hospitals. The three included hospitals are: Rabin Medical Center, Beilinson Campus' Petah Tikva; Kaplan Hospital, Rehovot (Dr, Kohan Dr, Shinwell) and Lis Medical Center, Tel Aviv (Prof. Mimouni, Dr. Dolberg). These hospitals are affiliated to Sackler School of Medicine, Tel-Aviv University.

Exposure information: Complete anamneses are obtained by interviews of mothers of all malformed infants. All the other women with normal newborns complete a similar form at discharge.

Background information: Epidemiological information on all births occurring in the participating hospitals is available.

Address for further information:

Paul Merlob, Department of Neonatology, Rabin Medical Center, Beilinson Campus, 49100 Petah Tikva, Israel: IBDMS.
Phone: 972-3-9377473/2/4. Fax: 972-3-9220068. E-mail: merlob@post.tau.ac.il

Italy, BDRCam

Birth Defects Registry of Campania

History: The registry started in 1991. The registry joined EUROCAT in 1997.

Size and coverage: The programme is based on reporting from hospitals distributed in Campania, a southern Italy region. Naples is main city. Initially 38 hospitals reported and the annual number of births was 38.000. At the present time, 60 hospitals participate, covering approximately 50.000 annual births or approximately 80% of all births. Stillbirths and induced abortions are included

The programme became a full member of the ICBDMS in 1996.

Legislation and funding: The programme is a surveillance programme supported by grants from Regional Health Authorities. Participation was voluntary up to 1995. From 1996 participation is mandatory.

Sources of ascertainment: Reports are obtained from delivery units and pediatric clinics at the participating hospitals. For selected malformations multiple sources are used with follow-up to one year using specific records from pediatric specialties department dealing with malformed infants.

Exposure information: For each malformed infant reported, information is given on certain exposures, including maternal drug usage and parental occupation. Up to now no information on induced abortions and controls is available.

Background information: Up to now little background information is given on certain exposures, including maternal drug usage and parental occupation. Up to now no information on controls is available.

Address for further information:

Gioacchino Scarano, Registro Campano Difetti Congeniti, Azienda Ospedaliera "G. Rummo", Via dell'Angelo 1 , 82100 Benevento, Italy
Phone +39 0823 57374. Fax +39 0824 57495. e-mail : giorecam@tin.it

and

Osservatorio Epidemiologico Regionale, Assessorato alla Sanità, Regione Campania, Centro Direzionale isola C3, Naples, Italy.
Fax +39 081 7969347

Italy, IMER

Emilia-Romagna Registry of Congenital of Malformations

History: The registry started in 1978 in a few hospitals and has increased in size to now include 44 delivery units. The programme joined the ICBDMS in 1985. The registry joined EUROCAT in 1980.

Size and coverage: The programme is population-based (about 95% of all births in the Emilia-Romagna region) and covers approximately 28,000 annual births. Stillbirths of 28 weeks or more gestation are included.

Legislation and funding: The programme is recognised and financed by the health authorities, the National Research Council, and the Regional Health Council. Hospital participation is voluntary.

Sources of ascertainment: Reporting is made by neonatologists and pediatricians during the first week of the infant's life. Selected malformations are followed up.

Exposure information: Detailed exposure information is obtained by interviews of the mothers of malformed infants. For each malformed infant, a control is chosen (the baby born before or after the malformed case in the same hospital) and its mother is interviewed in a similar way.

Background information: Some general demographic information is known for all births in the area. For each participating hospital, the number of livebirths and stillbirths are known.

Address for further information:

Guido Cocchi, Istituto Clinico di Pediatria Preventiva e Neonatologia, Università di Bologna, Via Massarenti, 11, 40138 Bologna, Italy.
Phone: 39-051-342754 / 6363654. Fax: 39-051-342754. E-mail: cocchi@med.unibo.it

Italy, ISMAC

Sicilian Registry of Congenital Malformations

History: The Registry started in 1991 and became an ICBDMS member in 1996. Sicilian Registry collaborates with other Italian Registries under supervision of Italian National Institute of Health – Rome. The registry joined EUROCAT in 1997.

Size and coverage: It is hospital based and actually collaborates with four south-east provinces of the nine Sicilian provinces, (with a covering rate higher than 75%) and with more than 19000 controlled newborns for year.

Legislation and funding: The programme is on a voluntary basis, supported at local level by A.S.MA.C, Sicilian association for congenital malformations prevention.

Sources of ascertainment: Reports are obtained from delivery units, pediatric units and other specialist departments.

Exposure information: For each malformed reported (livebirth, stillbirth and voluntary abortion), information is given on certain exposures, including maternal drug usage and parental occupation. Up to now no information on controls is available.

Address for further informations:

Sebastiano Bianca, Dipartimento di Pediatria, via S. Sofia, 78 – 95123 Catania, Italy.
Fax: 39-095-222532. E-mail: sebastiano.bianca@tiscalinet.it

Italy, North East

North East Italy registry of Congenital Malformations

History: The Registry was established in 1981 to include Veneto and Friuli Venezia Giulia regions. Trentino Alto Adige region was added in 1990. The registry joined EUROCAT in 1985, and became a member of the ICBDMS in 1997.

Size and coverage: Reports are obtained from 73 participating hospitals, with a total of approximately 49,500 annual births; the actual coverage is estimated at 99%.

Legislation and funding: Reporting is voluntary. The programme is partly run by Regional Health Authorities.

Sources of ascertainment: Reports are obtained on specific forms from delivery units, induced abortion units, pediatric, cardiology, ophthalmology and pathology departments, regional induced abortion database and cytogenetic laboratories. 32 selected malformations are recorded within7 days from birth (within 3 years of age for cardiovascular and ophthalmological anomalies only). In terminated fetuses all anomalies are recorded. From 1st January 2000 we are now registering all congenital anomalies adopting the Eurocat list of exclusions (revised 1985).

Exposure information: Detailed information on various exposures, including maternal or paternal occupation, diseases and drug use is obtained by interview of the mothers at the birth of the malformed infants and their controls.

Background information: Some epidemiological background data of all births are available. For each participating hospital the number of livebirths and stillbirths by sex and number of twin pairs are known.

Address for further information:

Romano Tenconi MD, Clinical and Epidemiological Genetic Service, Pediatric Department, via Giustiniani 3,35128 Padova, Italy.
Phone: 0039-049-8213513. Fax: 0039-049-8211425. E-mail: romano.tenconi@unipd.it
Web: www.genetica.pedi.unipd.it

Italy, Tuscany

Tuscany Registry of Congenital Defects

History: The registry started in 1979 in the province of Florence and from 1992 in the whole Tuscany region. The programme became a member of the ICBMDS in 1998. The registry joined EUROCAT in 1979.

Size and coverage: The programme is population based, involves all the regional hospitals and the coverage is around 95% of all births in the Tuscany region (approximately 3.5 millions inhabitants and 25,000 births/year). Stillbirths of 20 weeks or more gestation and induced abortions after prenatal diagnosis of birth defects are systematically included. Malformed babies diagnosed within the first year of life are also registered.

Legislation and funding: The Registry is a surveillance programme included in the Regional Statistics System; it is formally recognised and supported by the Tuscany Region Health Authority.

Sources and ascertainment: Multiple sources are used to ascertain malformed infants; records are obtained from all obstetrical and maternity units, pediatric departments, neonatal and pediatric surgery units, prenatal diagnostic centers and pathology services. Mothers are interviewed by using a standardized questionnaire.

Exposure information: Exposure information on maternal and paternal occupation, life-style, and socio-economical characteristics are obtained by interviews of mothers of malformed infants.

Background information: Vital statistics and other epidemiological information are obtained by the birth medical records collected by the Regional Bureau of Statistics. Selected information is obtained from the control material collected.

Address for further information:

Fabrizio Bianchi, Sezione di Epidemiologia e Biostatistica, Istituto di Fisiologia Clinica del Consiglio Nazionale delle Ricerche, Area della Ricerca di S. Cataldo, Via Moruzzi, 1, 56127 Pisa, Italy.
Phone: 39 050 3152100. Fax: 39 050 3152095. E-mail: fabrizio.bianchi@ifc.cnr.it

Japan, JAOG

Japan Association of Obstetricians and Gynecologists

History: The programme started in 1972 and became a full member of the ICBDMS in 1988.

Size and coverage: The programme is based on reports from 330 hospitals throughout Japan. At present, approximately 110,000 births are covered, representing about 9 % of all Japanese births. Stillbirths of 22weeks or more gestation are included.

Legislation and funding: The programme is a research programme acknowledged by the Ministry of Welfare and Health and supported by JAOG and Ogyaa-Donation.

Sources of ascertainment: Reports are obtained from delivery units and pediatric clinics of participating hospitals.

Exposure information: Detailed information on various exposures including maternal or paternal occupation, chronic diseases and drug use, X-ray and viral infections are available.

Background information: Basic epidemiological information on all births is available from each participating hospitals.

Address for further information:

Yoshio Sumiyoshi, JAOG, Yokohama City University, Urafune Hospital, 4-57 , Urafune-cho, Minami-ku, Yokohama, 232-0024, Japan.
Phone: 81-45-2533668. Fax: 81-45-2533668. E-mail: fuhira@hamakko.or.jp

Malta

Malta Congenital Anomalies Register

History: The register started in 1985 as a research project of the University of Malta. It started as a hospital based register collecting data regarding congenital anomalies diagnosed in babies born at the main general hospital. The registry joined EUROCAT in 1986. Funding for the research project was stopped in 1995 and in 1997 the Department of Health Information resumed the functions of the registry increasing coverage to all hospitals on the islands making it a population based register. Several new sources of data were included at this stage. The Register was accepted as an associate member of the International Clearinghouse in 2000.

Size and Coverage: The registry is population based and presently covers about 4500 births per year. Stillbirths of 20 weeks gestation or more are registered. Termination of pregnancy is illegal in Malta.

Legislation and Funding: Reporting is voluntary. The registry is run and funded by the government Department of Health Information.

Sources of ascertainment: The registry employs active data collection from multiple sources including: labour, postnatal and nursery wards, cardiac lab records, genetics clinic records, National Mortality Register, National Obstetric Systems database, Hospital Activity Analysis database, National Cancer Register and the hypothyroid screening programme. Voluntary reporting by doctors is also available. These sources cover the whole population of the Maltese Islands.

Exposure information: Information regarding maternal disease and exposure to medicinal drugs, smoking, alcohol and drug abuse as well as parental occupation are collected for all malformed infants.

Background information:

Epidemiological background data on all births are available from the National Obstetric Information Systems database and the National Statistics Office (NSO).

Address for further information:

Miriam Gatt, Malta Congenital Anomalies Registry, Department of Health Information, 95, Guardamangia Hill, Guardamangia MSD 08, Malta.
Phone: (+356) 21234915. Fax: (+356) 21235910. E-mail: miriam.gatt@magnet.mt

Mexico, RYVEMCE

Mexican Registry and Epidemiological Surveillance of External Congenital Malformations

History: The programme was started in 1978. The programme became a member of the ICBDMS in 1980.

Size and coverage: Reports are obtained from 15 hospitals in 11 cities in Mexico. Participation is voluntary. The annual number of births is approximately 40.000, about 3.5% of all births in Mexico. Stillbbirths of 20 weeks or more gestation and/or at least 500g birthweight are included.

Legislation and funding: The programme is a research programme and is funded by research grants.

Sources of ascertainment: Reports are obtained from the delivery units and pediatric departments of the participating hospitals.

Exposure information: The mother of each reported infant and the mother of a control infant-the next non-malformed infant born at that hospital with the same sex as the proband - are interviewed on various exposures, including drug usage and parental occupation.

Background information: The total number of births in the hospitals is known.

Address for further information:

Osvaldo Mutchinick, Departamento de Genetica, Instituto Nacional de Nutricion, Salvador Zubiran, Vasco de Quiroga 15, Tlalpan, 14000 Mexico, D.F., Mexico.
Phone: 52-5-5731200/ 52-5-5730611, 52-5-5737333 (ext 2426, 2425). Fax: 52-5-6556138.
E-mail: osvaldo@servidor.unam.mx

New Zealand

New Zealand Birth Defects Monitoring Programme

History: The program began in 1975 and became a full member of the ICBDMS in 1979.**Size and coverage:** The programme covers all livebirths (approximately 56,000 per year) delivered or treated in a New Zealand publicly funded hospital. Only these data are included in the quarterly and annual reports to the ICBDMS. Data on stillbirths are retrospectively added to the database together with additional cases derived from the national perinatal and mortality databases. In late 1995 the definition of stillbirth was changed from 28 weeks completed gestation to 20 weeks or more gestation and/or 400g birthweight.

Legislation and funding: The programme is run and funded by Public Health Intelligence, Ministry of Health.

Exposure information: No exposure data are currently available, but attempts are being made to obtain such data.

Background information: General epidemiological characteristics for all births are available.

Address for further information:

Dr Barry Borman, Public Health Intelligence, Public Health Directorate, Ministry of Health, PO Box 5013 Wellington, New Zealand.
Phone: 64-4-495-4379. Fax: 64-4-495-4401. E-mail: barry_borman@moh,govt.nz

Northern Netherlands

EUROCAT registration Northern Netherlands

History: The programme started in 1981, and became a ICBDMS member in 1993. The registry joined EUROCAT in 1981.

Size and coverage: In the beginning the programme covered 7,500 births annually. Coverage was gradually increased to 19,000 births annually in the provinces Groningen, Friesland and Drenthe from 1989 onwards. Home deliveries (30% of births) are included.

Legislation and funding: The programme is funded by the Dutch Ministry of Public Health, Welfare and Sports. The registry is carried out in the Department of Medical Genetics of the University of Groningen.

Sources of ascertainment: Obstetricians, paediatricians, clinical geneticists, surgeons, general practitioners, midwives, well-baby clinics, pathologists and the national obstetric registry send information to the registry on a voluntary basis. Informed consent of the parents is needed. Registry personnel is actively involved in data collection. No age limits are applied.

Exposure information: Since 1997 parents are asked to fill out a questionnaire including questions on occupational activities and drug use. Besides, data from community pharmacies are used to collect maternal drug exposure data.

Background information: General statistics are available from the Dutch Central Bureau of Statistics (CBS).

Address for further information:

Hermien de Walle, Department of Medical Genetics, Ant. Deusinglaan 4, 9713 AW Groningen, The Netherlands.
Phone: 31-50- 3633193/3632952. Fax: 31-50-3187268.
E-mail: H.E.K.de.Walle@medgen.azg.nl

Norway

Medical Birth Registry of Norway

History: The programme was started in 1967. The programme was a founding member of the ICBDMS. The registry joined EUROCAT in 1979.

Size and coverage: The programme covers all births in Norway, approximately 60,000 annual births. Stillbirths of 16 weeks or more gestation are included.

Legislation and funding: The programme is run and funded by the governmental Norwegian Institute of Public Health. Reporting is compulsory.

Sources of ascertainment: The registry is based on the notification of births from the delivery units and since 1999 also from the neonatal units.

Exposure information: Some basic information, such as maternal disease and since 1999:smoking and occupation, is collected on all infants, malformed or not.

Background information: All information available for the reported malformed infants is also available for the total population of births.

Address for further information:

Lorentz M. Irgens, Medical Birth Registry of Norway, Armauer Hansen Bldg, Haukeland Hospital, N-5021 Bergen, Norway.
Phone: 47-5-5974667. Fax: 47-55-974998. E-mail: lorentz.irgens@mfr.uib.no

Russian Federation, Tomsk

Tomsk Birth Defects Monitoring Programme – Tomsk Genetics Registry

History: The registration of malformations in Tomsk begin in 1984 but actual The Tomsk Birth Defects Monitoring Programme started in 1990. It became an associate member of the CBDMS in 1996.

Size and coverage: The Tomsk Birth Defects Monitoring Program are population based surveillance system. At present, the program covers approximately 10.000 birth annually in the Tomsk, or about 100% all births in the Tomsk, or about 50% of all births in the province-less Tomsk. Stillbirths of 28 weeks or more gestation are registered. The prevalence estimates for all diagnostic categories are on data.

Legislation and Funding: The programme is funded by Institute of Medical Genetics Tomsk Scientific Center Russian Academy of Medical Sciences.

Sources of ascertainment: Reports are obtained from all maternity hospitals, pediatric clinics, and pathology departments of the participating hospitals of Tomsk.

Exposure information: Exposure information is obtained by interviews of mothers of the reported malformed infants. No exposure information is routinely available.

Background information: Total number of births from each participating hospital is known.

Address for further information:

Ludmila P. Nazarenko, Nataly I. Krikunova, Programme Director, Institute of Medical Genetics Tomsk Scientific Center of Russian Academy of Medical Sciences hereditary pathology laboratory, Ushaika embankment, 10,Tomsk, 634050, Russian Federation.
Phone: (3822)515339. Fax: (3822)513744. E-mail:Lnaz@img.tsu.ru.
E-mail: krikunova@img.tsu.ru

Scotland, Glasgow

Greater Glasgow NHS Board (formerly Greater Glasgow Health Board)
Congenital Anomalies Register

History: The programme was started in 1972. The registry joined EUROCAT in 1978, the first full year for which standardised notifications were made being 1979.

Size and coverage: The reference population is defined as all births to women resident in the Greater Glasgow NHS Board area, around 12,000 annually, irrespective of the place of birth. Live births, stillbirths of 24 weeks or more, spontaneous and induced abortions are included.

Legislation and funding: Reporting is voluntary. The Register is funded by Greater Glasgow NHS Board.

Sources of ascertainment: Hospital discharge data, Child Health Surveillance Programme, Health Visitor Immunisation Consent Forms, Death/Stillbirth Registration, Medical Genetics and Pathology Departments, Inborn Errors of Metabolism Screening Programme.

Exposure information: Information on maternal drug use, maternal habitual and unusual exposures, maternal and paternal diseases and occupations is available.

Prenatal diagnosis information: Data about techniques of prenatal screening and prenatal diagnosis are collected.

Background information: Data on births is available from the Registrar General for Scotland.

Address for further information:

Dr David H. Stone, Paediatric Epidemiology and Community Health (PEACH) Unit, University of Glasgow, Royal Hospital for Sick Children, Yorkhill, Glasgow G3 8SJ, Scotland, UK.
Tel 44 141 201 0178/0171. Fax 44 141 201 0837. Email: d.h.stone@clinmed.gla.ac.uk

Hilary Jordan, Information Services Unit,Greater Glasgow NHS Board, Dalian House, PO Box 15328, 350 St Vincent Street, Glasgow G3 8YY, Scotland, UK.
Tel 44 141 201 4563 Fax 44 141 201 4539. Email: hilary.jordan@gghb.scot.nhs.uk

South Africa, SABDSS

South African Birth Defects Surveillance Systems

History: The programme started in 1988 and became a full member of the ICBDMS in 1992.

Size and coverage: The programme is hospital based covering 11 sentinel sites over the country with approximately 75,000 annual or 5% of all births in South Africa.

Legislation and Funding: The programme is funded by the Department of National Health. Participation in the programme is voluntary.

Sources of ascertainment: Notifications are obtained from delivery units and paediatric units of the participating hospitals.

Exposure information: No exposure information is routinely available.

Background information: Total births for some participating hospitals are not accurately known.

Address for further information:

David Bourne-Rauf Sayed, Programme Director, Dept. of Public Health and Primary Health Care, University of Cape Town-Medical School, Observatoy 7925, Cape Town, South Africa
Phone: 27-21-4066482. Fax: 27-21-4066163.
E-mail: db@cormack.uct.ac.za E-mail: rauf@cormack.uct.ac.za

South America, ECLAMC

Latin American Collaborative Study of Congenital Malformations

History: The programme started in 1967 and has grown in size and coverage. The programme became a full member of the International Clearinghouse in 1977.

Size and coverage: The number of participating hospitals has grown from 20 in 1977 to 70 at the present time, distributed over most South Americans countries. The annual number of births covered is at present approximately 150,000, less than 1% of all births. Stillbirths of at least 500g birthweight have been included since 1978.

Legislation and funding: The programme is a research programme with voluntary participation of hospitals and funded by research grants provided from several sources, mainly the national research councils of Argentina and Brazil..

Sources of ascertainment: Reporting is made by collaborating pediatricians at the delivery units of participating hospitals.

Exposure information: The mother of each reported infant and the mother of a control infant - the next non-malformed infant born at that hospital with the same sex as the proband - are interviewed on various exposures, including drug usage and parental occupation.

Background information: Background information is obtained partly from summarising tables of births in each participating hospital, partly from the matched control newborns.

Address for further information:

Eduardo Castilla, ECLAMC/Dept. Genetica/FIOCRUZ, C.P. 926, 20010-970 Rio de Janeiro, Brazil.
Phone: 55-21-5984358. Fax: 55-21-2604282. E-mail: castilla@centroin.com.br

Southern Portugal

History: The registry started in 1990 and the registry joined EUROCAT in 1989.

Size and coverage: The registry is population-based and covers approximately 15,000 births annually in the Health Region Algarve, Health Region Aleniejo, and District of Setubal. The registry covers livebirths up to the first month of life, stillbirths and terminations of pregnancy.

Legislation and funding: The registry is funded by the National Institute of Health.

Sources and ascertainment: Cases are notified by paediatricians and obstetricians responsible for registration in each region. Data are validated in the registry in Lisbon.

Exposure information: Information about maternal drug use, maternal diseases, maternal occupation, and obstetrical history is available for cases.

Background information: Denominators are available from the National Statistics.

Address for further information:

Dr Maria J. Feijoo, Servico de Genetica Medica, Hospital de Egas Moniz, P-1300 Lisboa, Portugal
Phone: 351 1 3650313. Fax: 351 1 3650198. e-mail: mfeijoo@hegasmoniz.min-saude.pt

Spain, Asturias

History: The registry started in 1990. The registry joined EUROCAT in 1992. The registry is situated in the Epidemiology Unit of the Regional Public Health Department.

Size and coverage: The registry covers approximatelly 7,000 births annually in the Asturias region. The registry covers livebirths up to the first week of life, stillbirths and terminations of pregnancy.

Sources and ascertainment: Case forms are collected from pathology units, biochemical and cytogenic laboratories, neonatology and paediatric units, obstetricians, geneticists, death certificates and hospital discharge forms.

Exposure information: Information about maternal drug use, maternal diseases, and obstetrical history is available for cases.

Background information: Denominators are available from the Asturias Natural Population Movement Statistics.

Address for further information:

Dr Carmen Mosquera Tenreiro, Servicio de Epidemiologia, Conserjeria de Sanidad, General Elorza 32, E-33001 Oviedo, Spain
Phone: +34 9 8 5106500. Fax: +34 9 8 5106520. E-mail: carmenmt@princast.es

Spain, Barcelona

Barcelona Birth Defects Registry (Registro de Defectos Congénitos de Barcelona: REDCB)

History: The programme was initiated in 1990 and reached a population based status by 1992. The registry joined EUROCAT in 1992.

Size and coverage: The registry covers all livebirths and stillbirths of 22 weeks or more (about 12,500 annually) and terminations of pregnancy following prenatal detection of anomalies, in the population of Barcelona city. The coverage of the registry is estimated around 98%.

Legislation and funding: The registry is part of the Health Information Service in the Municipal Institute of Public Health of Barcelona. It is partially funded by national research grants.

Sources of ascertainment: General information on cases and controls as well as clinical information on cases is collected using questionnaires specifically made for the registry. An interview with the mother is the main source of general information. Delivery units, pediatric departments, cytogenetic laboratories, pathology departments, prenatal diagnosis units, etc. are the sources of clinical information.

Exposure information: Information on maternal drug use, maternal and paternal diseases and occupations, is available for cases and controls.

Prenatal diagnosis information: Data about techniques of prenatal screening and diagnosis are systematically collected.

Background information: Background data on births are available from birth certificates and the Barcelona perinatal mortality registry.

Address for further information:

Joaquin Salvador, Servei d'Informacio Sanitaria, Institut Municipal de Salut Publica, Pl. Lesseps, 1, 08023 Barcelona, Spain.
Phone: 34-3-2384545 (ext. 259). Fax: 34-3-2173197. E-mail: jsalvado@imsb.bcn.es

Spain, Basque Country

Registry of Congenital Anomalies of the Basque Country (RACAV)

History: Registration of congenital anomalies in the Basque Country started on January 1st 1990. The registry joined EUROCAT in 1990.

Size and coverage: The registry is located in the Basque Country region, in northern Spain, with a total extension of 7,260 Km^2, and a population of 2,250,000 inhabitants. It is a population-based registry that covers 16,000 to 17,000 annual births.

Legislation and funding: Reporting is voluntary. The registry is financially supported by the Health Department of the Basque Government.

Sources of ascertainment: There is an active research for cases (livebirths, stillbirths and induced abortions) through multiples sources of information: Neonatal Units, Specialist Paediatrics Departments, Cytogenetics and Pathology labs, Hospital discharge records and private maternities. Data about techniques of prenatal screening and diagnosis are systematically collected.

Exposure information: Information on maternal drug use, maternal and paternal diseases, outcome of previous pregnancies and assisted conception is available.

Background information: Statistics are provided by the Basque Statistics Institute (EUSTAT).

Address for further information:

Blanca Gener, RACAV. Hospital de Cruces. Departamento de Pediatría, 48903 Baracaldo, Vizcaya. Spain.
Phone/Fax: 34 94 600 60 73. E-mail: bgener@hcru.osakidetza.net

Spain, ECEMC

Spanish Collaborative Study of Congenital Malformations

History: The programme started in 1976 as a hospital-based case-control study and surveillance system. It became a member of the ICBDMS in 1979. The registry joined EUROCAT in 1979.

Size and coverage: Reports are obtained from hospitals (83 at present) distributed all over Spain. The annual number of births surpasses 100,000, representing more than 27% of all Spanish births. Stillbirths of at least 24 weeks or 500 g. have been included since 1980.

Legislation and funding: It is a research programme with voluntary participation of hospitals, and is financed mainly by the Spanish Administration and, partially, by non-governmental organisations.

Sources of ascertainment: The detection period is the first 3 days of life, including major and/or minor/mild defects. Reports come from delivery units and paediatric departments of the participating hospitals. Mothers are interviewed directly to fill in the ECEMC standard protocols, which include more than 300 data for each child (family history, demographic and obstetrical data, prenatal exposures, etc), whether case or control. Controls are defined as the next non-malformed infant born at the same hospital that the case with the same sex as the malformed infant. In many instances, photographs, imaging studies, high resolution bands karyotypes and molecular analysis when needed, and other complementary studies are available.

Exposure information: The mother of each reported infant (case or control) is interviewed on various exposures (parental occupation, maternal acute or chronic diseases, drug usage, exposure to other chemical or physical factors) within the first three days after delivery.

Background information: Total number of births by sex and number of twin pairs in each participating hospital are gathered. Other background information is obtained from the control material.

Address for further information:

Prof. María-Luisa Martínez-Frías, ECEMC, Facultad de Medicina, Universidad Complutense, 28040-Madrid, Spain.
Phone: 34-91-394 1587. Fax: 34-91-394 1592. E-mail: mlmartinez.frias@isciii.es

Spain, El Vallès

History: The registry started in April of 1991. The registry joined EUROCAT in 1993.

Size and coverage: The registry covers approximately 9,000 births. It includes livebirths, stillbirths and terminations of pregnancy. Cases are collected from the prenatal period until 3-4 days after birth. The coverage of registry is around 90%.

Legislation and funding: Until 2000 the registry was financed by grants. Currently, the registry has no financial support.

Sources and ascertainment: Case forms are collected from obstetrics, pediatric and pathology units. Terminations of pregnancy are collected from Department of Health (Catalonian Government).

Exposure information: Information about maternal drug use, maternal diseases, maternal and paternal occupations, and obstetrical history is available for cases.

Background information: Denominators are available from Department of Statistics (Catalonian Government).

Address for further information:

Neus Baena, Miriam Guitart. Corporació Parc Taulí. Edifici UDIAT. C/Parc Tauli, s/n 08208 Sabadell. Barcelona. Spain.
E-mail: nbaena@cspt.es

Switzerland

Registry of Switzerland

History: the registry of Switzerland was set up in 1988. The registry joined EUROCAT in 1988; different cantonal registries send their data to the central registry in Lausanne.

Size and coverage: the aim at the beginning was to cover the whole country (80,000 births/year). In the first years of activity, 30% - 81% of births were surveyed. For financial reasons, many cantons had to stop this activity and since 1993, the Swiss registry covers 50% of all births in Switzerland. Since 1998, the following cantons are included in the program : Zurich, Fribourg, Argovie, Tessin, Vaud, Valais, Neuchâtel, Jura. The registry covers congenital anomalies in live and still births of 20 weeks or more and in induced abortions following prenatal diagnosis.

Legislation and finding: reporting is voluntary. The registry is localized in the Division of Medical Genetics of the University hospital in Lausanne. The registry has formerly been elaborated with members from the Swiss Academy of Medical Sciences and from the Swiss Society of Paediatrics. The system is financed by the Swiss Federal Agency for Statistics for the central registry and by cantonal health departments for some cantonal registries.

Sources of ascertainment: active case-finding and multiple source of information are used: delivery units; paediatric departments; cytogenetic and genetic counselling; pathology unit. Data about different methods of prenatal diagnosis are collected (ultrasound, serum markers, cytogenetic and molecular).

Background information: background data on births are available from the Swiss Federal Agency for Statistics.

Address for further information :

Dr Marie-Claude ADDOR, Registre Vaudois des anomalies congénitales and Swiss Registry for EUROCAT, Division of Medical Genetics, Maternité, CH-1011 CHUV-Lausanne, Switzerland
Phone : 41 – 21 – 314 33 91 / 314 33 78. FAX : 41 – 21 - 314 33 92.
E-mail : marie-claude.addor@chuv.hospvd.ch
Web site EUROCAT Switzerland : www.hospvd.ch/public/chuv/genmol/eurocat/euro-home.htm

United Arab Emirates

Congenital Abnormality Study Group

History: Although started 1992, the program started continuos monitoring only in 1994. It is now a Member of the ICBDMS.

Size and coverage: The program covers about 8000 births a year occurring in three major hospitals of the Al Ain Medical District, situated in the eastern part of the Abu Dhabi Emirate. It has a population of about 270,000. Still births with a weight of only more than 500 gm are included.

Legislation and funding: The program is funded by the Faculty of Medicine and Health Sciences of the UAE University.

Sources of ascertainment: In each hospital, there is a neonatologist who examines, identifies abnormalities and records at birth in a form provided. The diagnosis is further assisted by a clinical geneticist/dysmorphologist and pediatricians.

Exposure information: Some basic information on exposure such as maternal disease is collected in all cases.

Background information: General epidemiological data for all births are available.

Address for further information:

Lihadh Al Gazali, Program Director, Congenital Abnormality Study Group, Department of Pediatrics, Faculty of Medicine, UAE University, Al Ain, PO Box 17666, Al Ain, United Arab Emirates.
Phone: 971-3-672000. Fax: 971-3-672022. E-mail: (1) padamanabhanr@uaeu.ac.ae
(2) algazali@hotmail.com

USA, Atlanta

Metropolitan Atlanta Congenital Defects Program

History: The program started in 1967 and was a founding member of the ICBDMS.

Size and coverage: The program covers all births within a five county area in metropolitan Atlanta, Georgia. The annual number of births in this area is approximately 47,000. Stillbirths and terminations of at least 20 weeks gestations (or a birth weight of at least 500 grams) are included. Terminations less than 20 weeks are included for selected defects.

Legislation and funding: In 1994 the Georgia Department of Human Resources (GDHR) added birth defects to the list of legally reportable conditions in Georgia. In 1997 the GDHR authorized the Birth Defects Branch at the Centers for Disease Control and Prevention (CDC) to act with and on its behalf to collect health information on children with birth defects. The program is funded by the Centers for Disease Control and Prevention.

Sources of ascertainment: Multiple sources, such as delivery units, pediatric departments, laboratories, prenatal diagnostic centers and other specialties, are used to ascertained malformed infants born in the defined area with a follow-up to age six years.

Exposure information: Exposure information is obtained by interview for mothers of reported malformed infants who participate in various research projects.

Background information: Number of live births and demographic information on the five counties are obtained from vital statistics.

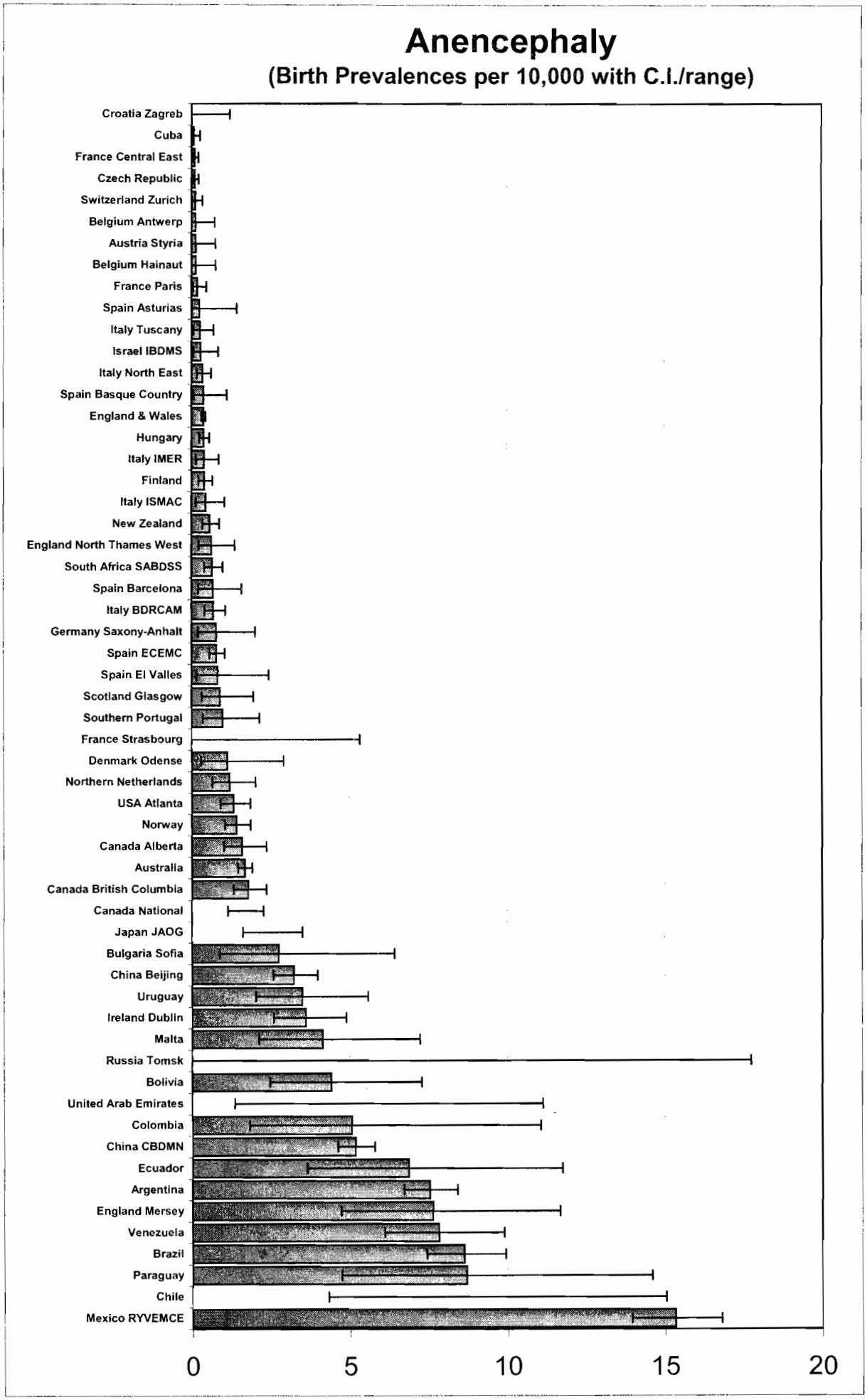
Address for further information:

Dave Erickson, National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention, 4770 Buford Highway, N.E., Mailstop F-45, Atlanta, GA 30341-3724, USA
Phone: 1-770-488-7160. Fax: 1-770-488-7197. E-mail: DErickson@cdc.gov

Table 1a: Anencephaly, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada National	93	97	265	1,389,607	1.91	**1.14**	**2.27**	↓
Canada Alberta	95	98	24	151,200	1.59	1.02	2.36	
Canada British Columbia	93	98	49	274,542	1.78	1.32	2.36	
USA Atlanta	93	98	33	249,434	1.32	0.91	1.86	
Mexico RYVEMCE	93	98	451	294,380	15.32	13.94	16.80	
Cuba	93	98	2	273,346	0.07	0.01	0.27	
Venezuela	93	98	70	89,441	7.83	6.10	9.89	
Colombia	93	94	6	11,844	5.07	1.82	11.05	
Ecuador	93	98	13	18,937	6.86	3.64	11.75	
Brazil	93	98	190	220,452	8.62	7.44	9.93	
Bolivia	93	98	15	34,007	4.41	2.46	7.28	
Paraguay	93	98	14	16,108	8.69	4.73	14.59	
Uruguay	93	98	17	48,771	3.49	2.03	5.58	
Chile	93	98	89	98,320	9.05	**4.30**	**15.03**	↓
Argentina	93	98	311	412,862	7.53	6.72	8.42	
Norway	93	98	51	360,906	1.41	1.05	1.86	
Finland	93	98	15	371,826	0.40	0.23	0.67	
Denmark Odense	93	98	4	35,285	1.13	0.29	2.92	
Scotland Glasgow	93	98	6	66,729	0.90	0.32	1.96	
England & Wales	93	98	150	3,934,009	0.38	0.32	0.45	
England North Thames West	97	98	6	94,949	0.63	0.23	1.38	
England Mersey	98	98	21	27,516	7.63	4.72	11.67	
Ireland Dublin	93	98	41	113,719	3.61	2.59	4.89	
Northern Netherlands	93	98	14	116,337	1.20	0.66	2.02	
Germany Saxony-Anhalt	93	98	4	50,947	0.79	0.20	2.02	
Belgium Antwerp	93	98	1	76,426	0.13	0.00	0.74	
Belgium Hainaut	93	98	1	73,563	0.14	0.00	0.77	
Czech Republic	93	98	6	596,805	0.10	0.04	0.22	
Hungary	93	98	25	650,371	0.38	0.25	0.57	
Austria Styria	93	98	1	73,918	0.14	0.00	0.77	
Croatia Zagreb	93	97	0	31,719	0.00	0.00	1.21	
Switzerland Zurich	93	98	3	255,571	0.12	0.02	0.35	
Bulgaria Sofia	96	97	5	18,230	2.74	0.87	6.42	
France Paris	93	98	4	220,330	0.18	0.05	0.47	
France Strasbourg	93	98	8	79,393	1.01	**0.00**	**5.33**	↓
France Central East	93	98	6	609,089	0.10	0.04	0.21	
Italy North East	93	98	11	316,862	0.35	0.17	0.62	
Italy IMER	93	98	6	151,604	0.40	0.14	0.86	
Italy Tuscany	93	98	4	148,120	0.27	0.07	0.69	
Italy BDRCAM	93	98	19	276,108	0.69	0.41	1.07	
Italy ISMAC	93	98	5	111,286	0.45	0.14	1.05	
Malta	93	98	12	29,021	4.13	2.13	7.23	
Spain ECEMC	93	98	43	547,015	0.79	0.57	1.06	
Spain Asturias	93	98	1	39,492	0.25	0.00	1.43	
Spain Basque Country	93	97	3	78,938	0.38	0.07	1.12	
Spain El Valles	93	97	3	36,006	0.83	0.16	2.45	
Spain Barcelona	93	98	5	73,501	0.68	0.21	1.59	
Southern Portugal	93	98	6	60,872	0.99	0.35	2.15	
Israel IBDMS	93	98	3	103,924	0.29	0.05	0.85	
United Arab Emirates	96	98	11	22,099	4.98	**1.35**	**11.13**	↕
Russia Tomsk	93	98	10	24,160	4.14	**0.00**	**17.74**	↕
Japan JAOG	93	98	156	619,107	2.52	**1.61**	**3.49**	↕
China Beijing	97	98	86	267,071	3.22	2.58	3.98	
China CBDMN	97	98	310	598,316	5.18	4.62	5.79	
Australia	93	97	217	1,295,708	1.67	1.46	1.91	
New Zealand	93	98	20	347,440	0.58	0.35	0.89	
South Africa SABDSS	93	97	22	336,331	0.65	0.41	0.99	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

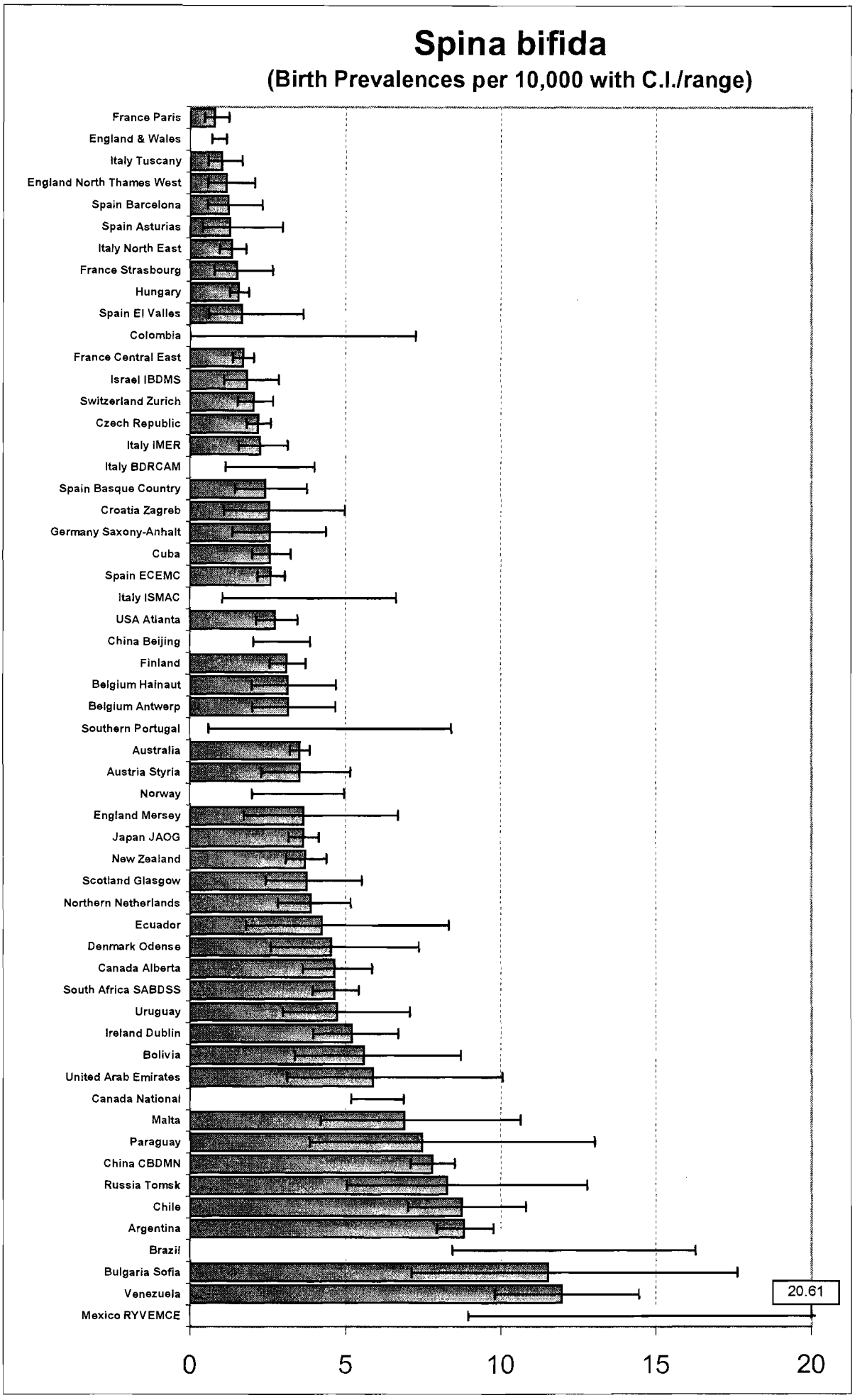
Table 1b: Anencephaly, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									19	52.63	12	66.67	
USA Atlanta			4	75.00	10	40.00	6	0.00	8	50.00	11	27.27	
Norway			25	52.00	21	57.14	20	60.00	13	46.15	12	58.33	↓
Finland							22	81.82	16	68.75	23	91.30	
Denmark Odense	1	0.00	1	100.00	4	75.00	2	50.00	1	100.00	2	50.00	
Scotland Glasgow	9	77.78	4	100.00	10	80.00	11	100.00	4	75.00	11	90.91	
England & Wales			191	86.39	200	83.00	172	86.05	186	83.87	185	88.11	
England North Thames West									21	80.95	36	94.44	
England Mersey											46	54.35	
Northern Netherlands			4	100.00	6	50.00	7	85.71	6	50.00	3	0.00	
Germany Saxony-Anhalt	3	66.67	1	100.00	1	0.00	6	83.33	3	66.67	2	100.00	
Belgium Antwerp	2	50.00	4	100.00	2	100.00	4	100.00	11	100.00	0		
Belgium Hainaut	4	100.00	1	100.00	4	100.00	3	100.00	5	100.00	6	83.33	
Czech Rep			34	97.06	26	100.00	22	90.91	32	100.00	26	96.15	
Hungary			8	62.50	8	37.50	3	33.33	19	78.95	20	75.00	
Austria Styria	3	100.00	4	100.00	0		4	75.00	3	100.00	2	100.00	
Croatia Zagreb	1	100.00	0		0		0		1	100.00			
Switzerland Zurich	9	100.00	10	100.00	12	91.67	6	66.67	2	100.00	5	100.00	
Bulgaria Sofia							6	33.33	6	83.33			
France Paris			14	92.86	25	96.00	15	93.33	19	100.00	21	100.00	
France Strasbourg			5	100.00	8	100.00	4	75.00	4	100.00	1	100.00	
France Central East			29	93.10	15	93.33	20	90.00	13	100.00	15	100.00	
Italy North East							16	93.75	10	80.00	9	77.78	
Italy IMER			8	87.50	5	80.00	3	66.67	4	100.00	5	80.00	
Italy Tuscany									4	100.00	9	77.78	
Italy BDRCAM			14	85.71	14	71.43	20	75.00	8	75.00	15	86.67	
Spain Asturias	3	100.00	5	100.00	3	100.00	4	100.00	1	100.00	7	85.71	
Spain Basque Country	6	100.00	9	88.89	7	85.71	13	92.31	7	100.00			
Spain El Valles	3	66.67	5	80.00	3	66.67	3	100.00	1	100.00			
Spain Barcelona	8	100.00	4	100.00	4	50.00	3	100.00	3	66.67	8	75.00	
Southern Portugal	0		2	0.00	2	0.00	6	83.33	3	66.67	0		
Israel IBDMS									0		1	100.00	
Russia Tomsk	3	33.33	8	12.50	7	100.00	6	83.33	6	100.00	4	100.00	
Australia	122	52.46	136	67.65	143	74.83	119	64.71	115	67.83			

Table 2a: Spina bifida, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada National	93	97	850	1,389,607	6.12	**5.18**	**6.87**	↓
Canada Alberta	95	98	70	151,200	4.63	3.61	5.85	
USA Atlanta	93	98	68	249,434	2.73	2.12	3.46	
Mexico RYVEMCE	93	98	449	294,380	15.25	**8.94**	**20.61**	↓
Cuba	93	98	70	273,346	2.56	2.00	3.24	
Venezuela	93	98	107	89,441	11.96	9.80	14.45	
Colombia	93	94	2	11,844	1.69	**0.00**	**7.26**	
Ecuador	93	98	8	18,937	4.22	1.80	8.34	
Brazil	93	98	251	220,452	11.39	**8.45**	**16.27**	↑
Bolivia	93	98	19	34,007	5.59	3.36	8.73	
Paraguay	93	98	12	16,108	7.45	3.83	13.02	
Uruguay	93	98	23	48,771	4.72	2.99	7.08	
Chile	93	98	86	98,320	8.75	7.00	10.80	
Argentina	93	98	364	412,862	8.82	7.93	9.77	
Norway	93	98	131	360,906	3.63	**1.99**	**4.95**	↑
Finland	93	98	115	371,826	3.09	2.55	3.71	
Denmark Odense	93	98	16	35,285	4.53	2.58	7.37	
Scotland Glasgow	93	98	25	66,729	3.75	2.42	5.53	
England & Wales	93	98	372	3,934,009	0.95	**0.70**	**1.18**	↓
England North Thames West	97	98	11	94,949	1.16	0.58	2.07	
England Mersey	98	98	10	27,516	3.63	1.73	6.69	
Ireland Dublin	93	98	59	113,719	5.19	3.95	6.69	
Northern Netherlands	93	98	45	116,337	3.87	2.82	5.18	
Germany Saxony-Anhalt	93	98	13	50,947	2.55	1.35	4.37	
Belgium Antwerp	93	98	24	76,426	3.14	2.01	4.67	
Belgium Hainaut	93	98	23	73,563	3.13	1.98	4.69	
Czech Republic	93	98	130	596,805	2.18	1.82	2.59	
Hungary	93	98	101	650,371	1.55	1.26	1.89	
Austria Styria	93	98	26	73,918	3.52	2.30	5.15	
Croatia Zagreb	93	97	8	31,719	2.52	1.08	4.98	
Switzerland Zurich	93	98	52	255,571	2.03	1.52	2.67	
Bulgaria Sofia	96	97	21	18,230	11.52	7.12	17.61	
France Paris	93	98	17	220,330	0.77	0.45	1.24	
France Strasbourg	93	98	12	79,393	1.51	0.78	2.64	
France Central East	93	98	103	609,089	1.69	1.38	2.05	
Italy North East	93	98	42	316,862	1.33	0.95	1.79	
Italy IMER	93	98	34	151,604	2.24	1.55	3.13	
Italy Tuscany	93	98	15	148,120	1.01	0.57	1.67	
Italy BDRCAM	93	98	65	276,108	2.35	**1.14**	**3.98**	↓
Italy ISMAC	93	98	30	111,286	2.70	**1.04**	**6.64**	↓
Malta	93	98	20	29,021	6.89	4.20	10.65	
Spain ECEMC	93	98	141	547,015	2.58	2.17	3.04	
Spain Asturias	93	98	5	39,492	1.27	0.40	2.96	
Spain Basque Country	93	97	19	78,938	2.41	1.45	3.76	
Spain El Valles	93	97	6	36,006	1.67	0.60	3.64	
Spain Barcelona	93	98	9	73,501	1.22	0.56	2.33	
Southern Portugal	93	98	20	60,872	3.29	**0.61**	**8.43**	↓
Israel IBDMS	93	98	19	103,924	1.83	1.10	2.86	
United Arab Emirates	96	98	13	22,099	5.88	3.12	10.07	
Russia Tomsk	93	98	20	24,160	8.28	5.05	12.79	
Japan JAOG	93	98	225	619,107	3.63	3.17	4.14	
China Beijing	97	98	80	267,071	3.00	**2.04**	**3.86**	
China CBDMN	97	98	466	598,316	7.79	7.10	8.53	
Australia	93	97	455	1,295,708	3.51	3.20	3.85	
New Zealand	93	98	128	347,440	3.68	3.07	4.38	
South Africa SABDSS	93	97	156	336,331	4.64	3.94	5.43	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

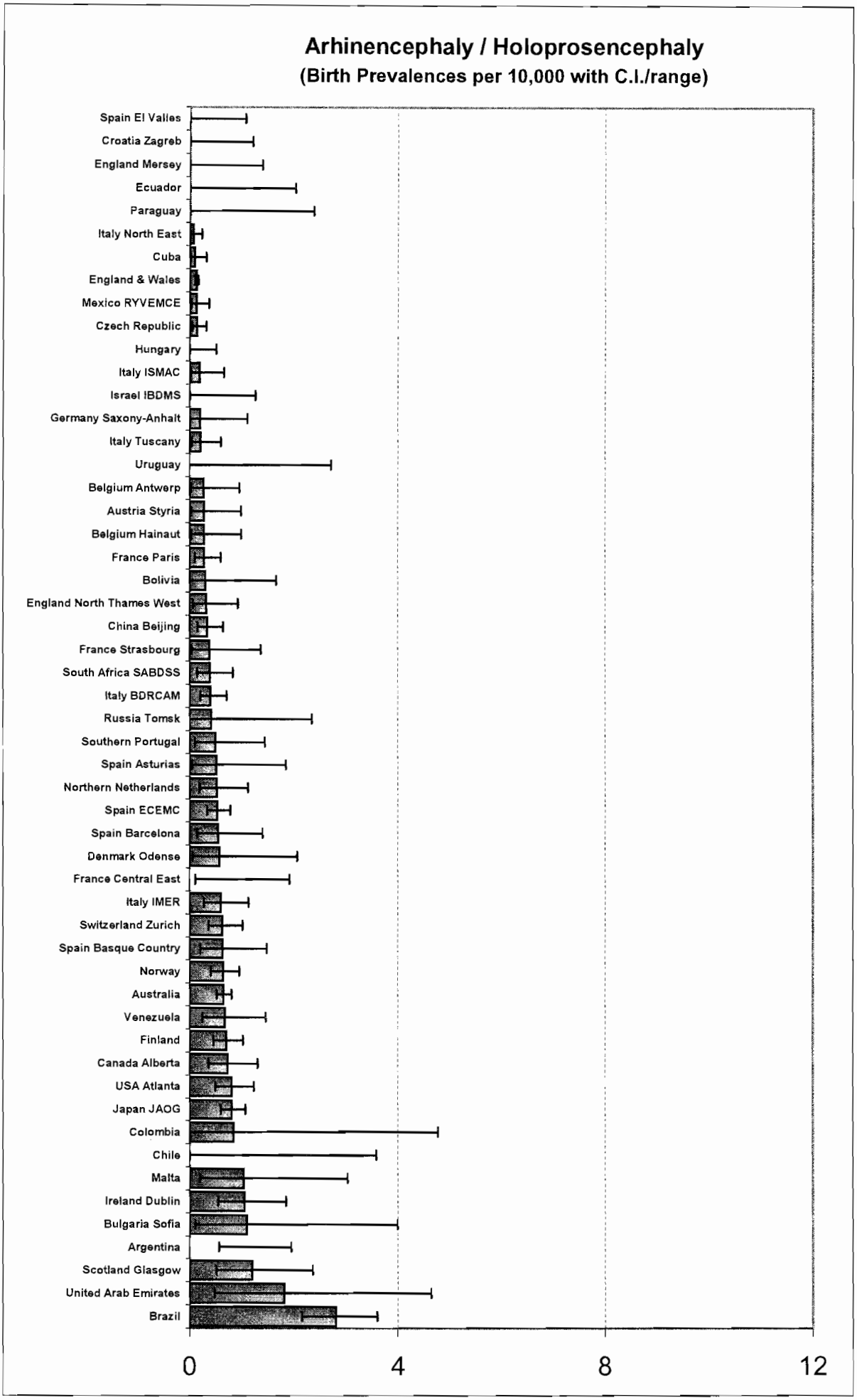
Tab 2b: Spina bifida, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									15	0.00	14	7.14	
USA Atlanta			19	36.84	6	50.00	13	15.38	18	16.67	19	10.53	
Norway			28	25.00	34	11.76	35	17.14	23	30.43	29	20.69	
Finland							25	36.00	33	24.24	39	51.28	↑
Denmark Odense	2	0.00	2	0.00	5	20.00	4	0.00	3	0.00	1	0.00	
Scotland Glasgow	5	40.00	14	57.14	8	50.00	19	63.16	2	100.00	7	28.57	
England & Wales			195	75.90	219	65.75	203	70.44	151	68.21	182	65.93	
England North Thames West									28	75.00	23	82.61	
England Mersey											20	50.00	
Northern Netherlands			8	12.50	10	20.00	12	8.33	9	44.44	10	20.00	
Germany Saxony-Anhalt	2	0.00	6	33.33	5	60.00	6	66.67	3	33.33	7	85.71	
Belgium Antwerp	6	16.67	8	12.50	3	33.33	4	50.00	2	0.00	14	57.14	
Belgium Hainaut	5	20.00	6	16.67	7	28.57	9	44.44	6	83.33	7	57.14	
Czech Republic			43	32.56	38	57.89	40	50.00	43	44.19	34	55.88	
Hungary			15	6.67	13	7.69	19	10.53	33	60.61	38	44.74	↑
Austria Styria	7	28.57	6	16.67	10	20.00	2	0.00	5	0.00	4	75.00	
Croatia Zagreb	3	0.00	2	0.00	0		0		4	25.00			
Switzerland Zurich	12	25.00	18	44.44	13	38.46	21	42.86	16	50.00	14	64.29	
Bulgaria Sofia							11	0.00	11	9.09			
France Paris			18	94.44	27	88.89	20	85.00	12	83.33	19	73.68	
France Strasbourg			6	83.33	4	100.00	11	72.73	3	100.00	13	76.92	
France Central East			50	60.00	28	42.86	46	63.04	41	73.17	37	62.16	
Italy North East							21	57.14	14	57.14	28	53.57	
Italy IMER			10	20.00	6	50.00	6	50.00	10	40.00	10	30.00	
Italy Tuscany									3	100.00	13	61.54	
Italy BDRCAM			22	31.82	11	54.55	18	44.44	18	33.33	12	41.67	
Spain Asturias	5	100.00	4	75.00	3	33.33	5	60.00	1	100.00	7	100.00	
Spain Basque Country	6	50.00	11	36.36	7	57.14	5	80.00	8	37.50			
Spain El Valles	1	0.00	1	100.00	4	25.00	3	66.67	2	50.00			
Spain Barcelona	4	75.00	5	20.00	4	50.00	2	50.00	1	100.00	4	75.00	
Southern Portugal	1	0.00	4	0.00	6	33.33	7	14.29	5	20.00	1	0.00	
Israel IBDMS									4	0.00	2	0.00	
Russia Tomsk	5	40.00	6	16.67	5	40.00	8	50.00	5	40.00	3	33.33	
Australia	167	34.13	155	47.10	169	42.01	150	47.33	137	37.23			

Tab 3a: Arhinencephaly / Holoprosencephaly, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada Alberta	95	98	11	151,200	0.73	0.36	1.30	
USA Atlanta	93	98	20	249,434	0.80	0.49	1.24	
Mexico RYVEMCE	94	98	3	238,101	0.13	0.02	0.37	
Cuba	94	98	2	230,039	0.09	0.01	0.32	
Venezuela	93	98	6	89,441	0.67	0.24	1.46	
Colombia	93	94	1	11,844	0.84	0.00	4.78	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	62	220,452	2.81	2.16	3.60	
Bolivia	93	98	1	34,007	0.29	0.00	1.67	
Paraguay	93	98	0	16,108	0.00	0.00	2.38	
Uruguay	93	98	1	48,771	0.21	**0.00**	**2.72**	↓
Chile	93	98	10	98,320	1.02	**0.00**	**3.59**	↕
Argentina	93	98	49	412,862	1.19	**0.56**	**1.96**	↕
Norway	93	98	23	360,906	0.64	0.40	0.96	
Finland	93	98	26	371,826	0.70	0.46	1.02	
Denmark Odense	93	98	2	35,285	0.57	0.05	2.07	
Scotland Glasgow	93	98	8	66,729	1.20	0.51	2.37	
England & Wales	93	98	47	3,934,009	0.12	0.09	0.16	
England North Thames West	97	98	3	94,949	0.32	0.06	0.93	
England Mersey	98	98	0	27,516	0.00	0.00	1.40	
Ireland Dublin	93	98	12	113,719	1.06	0.54	1.84	
Northern Netherlands	93	98	6	116,337	0.52	0.19	1.13	
Germany Saxony-Anhalt	93	98	1	50,947	0.20	0.00	1.11	
Belgium Antwerp	93	98	2	76,426	0.26	0.02	0.95	
Belgium Hainaut	93	98	2	73,563	0.27	0.03	0.99	
Czech Republic	95	98	5	368,919	0.14	0.04	0.32	
Hungary	93	98	11	650,371	0.17	**0.00**	**0.51**	↑
Austria Styria	93	98	2	73,918	0.27	0.03	0.99	
Croatia Zagreb	93	97	0	31,719	0.00	0.00	1.21	
Switzerland Zurich	93	98	16	255,571	0.63	0.36	1.02	
Bulgaria Sofia	96	97	2	18,230	1.10	0.10	4.00	
France Paris	93	98	6	220,330	0.27	0.10	0.59	
France Strasbourg	95	98	2	53,391	0.37	0.04	1.37	
France Central East	93	98	35	609,089	0.57	**0.10**	**1.91**	↓
Italy North East	93	98	2	316,862	0.06	0.01	0.23	
Italy IMER	93	98	9	151,604	0.59	0.27	1.13	
Italy Tuscany	93	98	3	148,120	0.20	0.04	0.60	
Italy BDRCAM	93	98	11	276,108	0.40	0.20	0.71	
Italy ISMAC	93	98	2	111,286	0.18	0.02	0.66	
Malta	93	98	3	29,021	1.03	0.19	3.04	
Spain ECEMC	93	98 (no 95)	24	459,643	0.52	0.33	0.78	
Spain Asturias	93	98	2	39,492	0.51	0.05	1.85	
Spain Basque Country	93	97	5	78,938	0.63	0.20	1.48	
Spain El Valles	93	97	0	36,006	0.00	0.00	1.07	
Spain Barcelona	93	98	4	73,501	0.54	0.14	1.40	
Southern Portugal	93	98	3	60,872	0.49	0.09	1.45	
Israel IBDMS	93	98	2	103,924	0.19	**0.00**	**1.26**	↓
United Arab Emirates	96	98	4	22,099	1.81	0.47	4.65	
Russia Tomsk	93	98	1	24,160	0.41	0.00	2.34	
Japan JAOG	93	98	50	619,107	0.81	0.60	1.06	
China Beijing	97	98	9	267,071	0.34	0.15	0.64	
Australia	93	97	84	1,295,708	0.65	0.52	0.80	
South Africa SABDSS	96	97	6	156,999	0.38	0.14	0.83	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

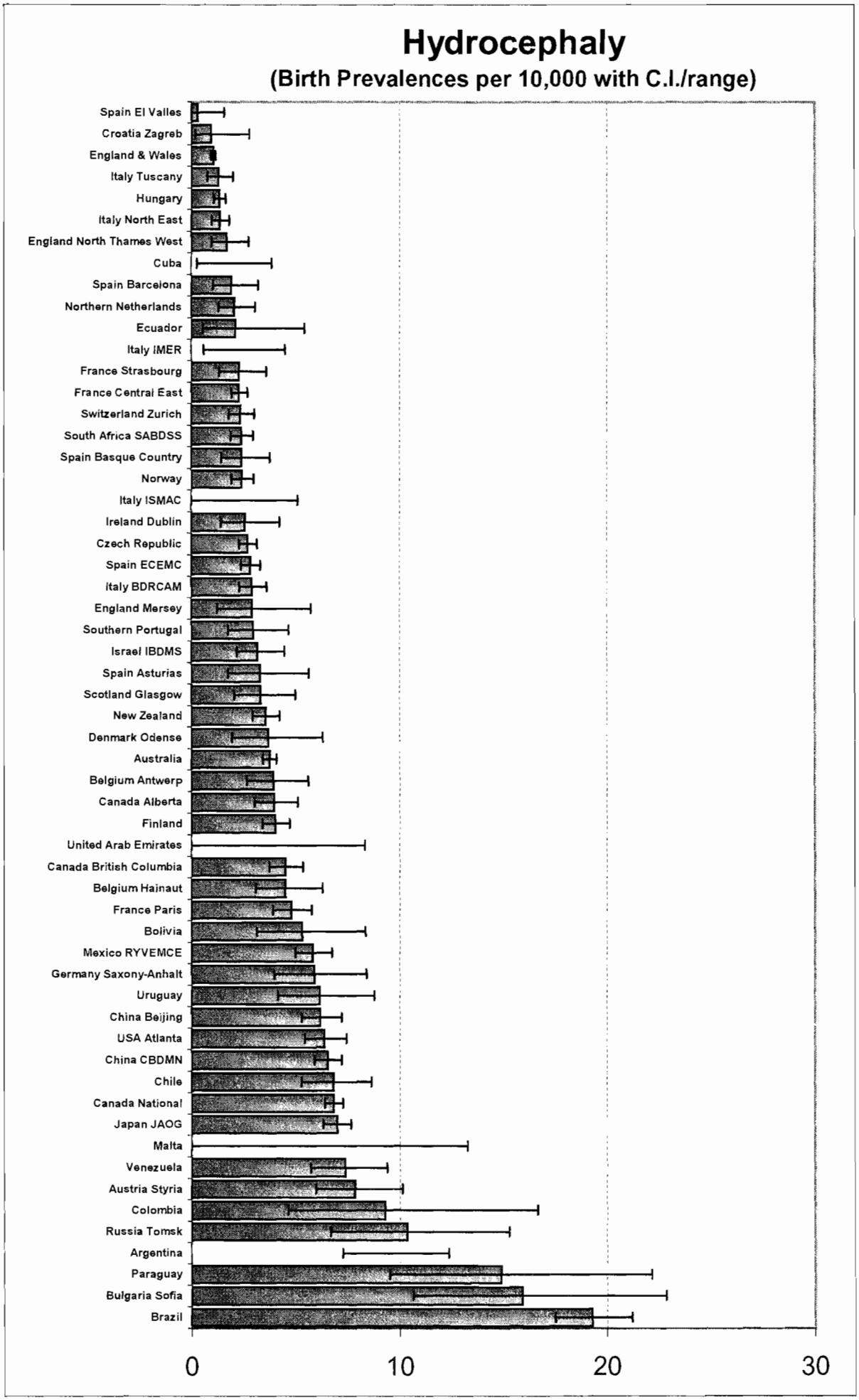
Tab 3b: Arhinencephaly / Holoprosencephaly, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									5	20.00	4	50.00	
USA Atlanta			5	0.00	5	40.00	3	3.00	2	0.00	4	25.00	
Norway			5	20.00	10	30.00	7	7.00	1	0.00	7	42.86	
Finland							9	9.00	6	16.67	9	44.44	
Denmark Odense	1	0.00	1	0.00	0		1	1.00	0		0		
Scotland Glasgow	3	0.00	1	0.00	2	100.00	2	2.00	3	0.00	2	100.00	
England & Wales			16	43.75	31	80.65	30	30.00	33	81.82	33	72.73	↑
England North Thames West									6	66.67	6	83.33	
England Mersey											3	100.00	
Northern Netherlands			2	0.00	0		1	1.00	1	0.00	1	0.00	
Germany Saxony-Anhalt	0		0		1	100.00	1	1.00	2	100.00	1	0.00	
Belgium Antwerp	2	50.00	1	0.00	0		0	0.00	0		0		↓
Belgium Hainaut	3	100.00	1	0.00	2	100.00	2	2.00	1	100.00	2	100.00	
Czech Republic					1	0.00	1	1.00	3	0.00	0		
Hungary			2	50.00	0		0	0.00	4	25.00	8	37.50	↕
Austria Styria	4	75.00	1	0.00	1	100.00	1	1.00	0		0		↓
Croatia Zagreb	0		0		0		1	1.00	0				
Switzerland Zurich	7	71.43	7	42.86	5	60.00	3	3.00	10	60.00	5	60.00	
Bulgaria Sofia							1	1.00	1	0.00			
France Paris			4	100.00	9	88.89	14	14.00	13	76.92	6	100.00	
France Strasbourg					1	0.00	6	6.00	2	100.00	4	100.00	
France Central East			16	75.00	12	75.00	13	13.00	13	69.23	21	80.95	
Italy North East							3	3.00	3	100.00	4	100.00	
Italy IMER					1	100.00	4	4.00	3	33.33	1	0.00	
Italy Tuscany									1	100.00	3	66.67	
Italy BDRCAM			2	100.00	4	25.00	2	2.00	7	57.14	7	57.14	
Spain Asturias	1	100.00	0		1	100.00	1	1.00	1	0.00	0		
Spain Basque Country	4	50.00	2	100.00	1	100.00	5	5.00	2	50.00			
Spain El Valles	0		1	100.00	0		1	1.00	0				
Spain Barcelona	2	0.00	3	66.67	0		2	2.00	2	50.00	1	100.00	
Southern Portugal	0		1	0.00	0		1	1.00	0		3	66.67	
Israel IBDMS									0		0		
Russia Tomsk	1	0.00	0		0		0	0.00	0		0		
Australia	31	25.81	24	33.33	32	34.38	18	18.00	18	27.78			↓

Table 4a: Hydrocephaly, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada National	93	97	947	1,389,607	6.81	6.39	7.26	
Canada Alberta	95	98	60	151,200	3.97	3.03	5.11	
Canada British Columbia	93	98	123	274,542	4.48	3.72	5.35	
USA Atlanta	93	98	159	249,434	6.37	5.42	7.45	
Mexico RYVEMCE	93	98	171	294,380	5.81	4.97	6.75	
Cuba	93	98	52	273,346	1.90	**0.26**	**3.85**	↓
Venezuela	93	98	66	89,441	7.38	5.71	9.39	
Colombia	93	94	11	11,844	9.29	4.61	16.63	
Ecuador	93	98	4	18,937	2.11	0.55	5.43	
Brazil	93	98	425	220,452	19.28	17.49	21.20	
Bolivia	93	98	18	34,007	5.29	3.13	8.37	
Paraguay	93	98	24	16,108	14.90	9.53	22.17	
Uruguay	93	98	30	48,771	6.15	4.15	8.78	
Chile	93	98	67	98,320	6.81	5.28	8.65	
Argentina	93	98	429	412,862	10.39	**7.25**	**12.37**	↑
Norway	93	98	87	360,906	2.41	1.93	2.97	
Finland	93	98	149	371,826	4.01	3.39	4.70	
Denmark Odense	93	98	13	35,285	3.68	1.95	6.30	
Scotland Glasgow	93	98	22	66,729	3.30	2.06	4.99	
England & Wales	93	98	412	3,934,009	1.05	0.95	1.15	
England North Thames West	97	98	16	94,949	1.69	0.96	2.74	
England Mersey	98	98	8	27,516	2.91	1.24	5.74	
Ireland Dublin	96	98	15	58,599	2.56	1.43	4.22	
Northern Netherlands	93	98	24	116,337	2.06	1.32	3.07	
Germany Saxony-Anhalt	93	98	30	50,947	5.89	3.97	8.41	
Belgium Antwerp	93	98	30	76,426	3.93	2.65	5.60	
Belgium Hainaut	93	98	33	73,563	4.49	3.09	6.30	
Czech Republic	93	98	161	596,805	2.70	2.30	3.15	
Hungary	93	98	87	650,371	1.34	1.07	1.65	
Austria Styria	93	98	58	73,918	7.85	5.96	10.14	
Croatia Zagreb	93	97	3	31,719	0.95	0.18	2.78	
Switzerland Zurich	93	98	60	255,571	2.35	1.79	3.02	
Bulgaria Sofia	96	97	29	18,230	15.91	10.64	22.85	
France Paris	93	98	105	220,330	4.77	3.90	5.77	
France Strasbourg	93	98	18	79,393	2.27	1.34	3.58	
France Central East	93	98	139	609,089	2.28	1.92	2.69	
Italy North East	93	98	43	316,862	1.36	0.98	1.83	
Italy IMER	93	98	33	151,604	2.18	**0.59**	**4.48**	↓
Italy Tuscany	93	98	19	148,120	1.28	0.77	2.00	
Italy BDRCAM	93	98	80	276,108	2.90	2.30	3.61	
Italy ISMAC	93	98	27	111,286	2.43	**0.00**	**5.11**	↓↑
Malta	93	98	21	29,021	7.24	**0.00**	**13.30**	↑
Spain ECEMC	93	98	154	547,015	2.82	2.39	3.30	
Spain Asturias	93	98	13	39,492	3.29	1.75	5.63	
Spain Basque Country	93	97	19	78,938	2.41	1.45	3.76	
Spain El Valles	93	97	1	36,006	0.28	0.00	1.57	
Spain Barcelona	93	98	14	73,501	1.90	1.04	3.20	
Southern Portugal	93	98	18	60,872	2.96	1.75	4.67	
Israel IBDMS	93	98	33	103,924	3.18	2.18	4.46	
United Arab Emirates	96	98	9	22,099	4.07	**0.00**	**8.35**	↓
Russia Tomsk	93	98	25	24,160	10.35	6.69	15.28	
Japan JAOG	93	98	432	619,107	6.98	6.34	7.67	
China Beijing	97	98	165	267,071	6.18	5.27	7.20	
China CBDMN	97	98	390	598,316	6.52	5.89	7.20	
Australia	93	97	484	1,296,092	3.73	3.41	4.08	
New Zealand	93	98	123	347,440	3.54	2.94	4.22	
South Africa SABDSS	93	97	80	336,331	2.38	1.89	2.96	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

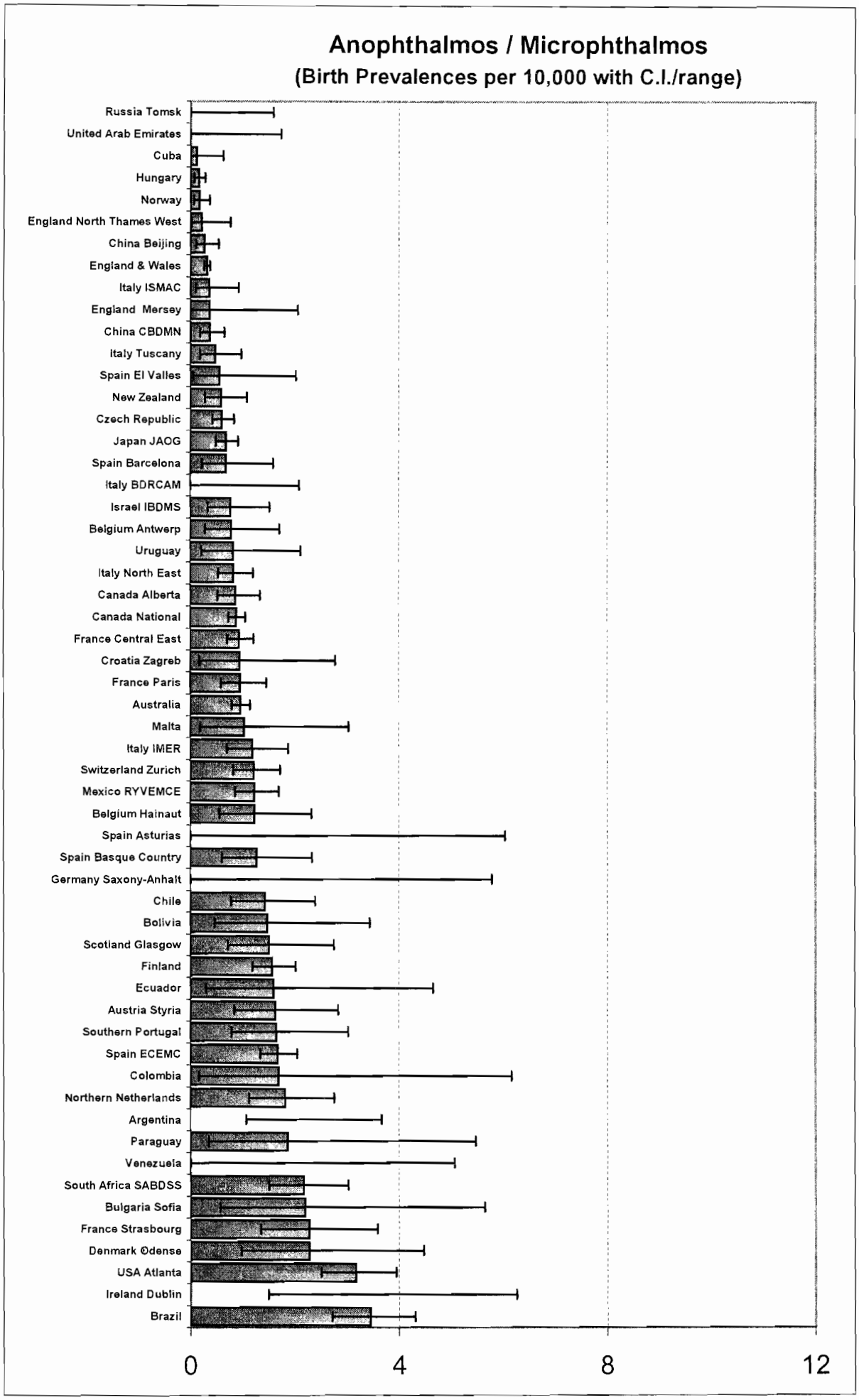
Table 4b: Hydrocephaly, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									22	22.73	12	33.33	
USA Atlanta			23	4.35	25	4.00	32	3.13	31	3.23	38	15.79	
Norway			19	31.58	20	30.00	19	47.37	22	4.55	12	16.67	
Finland							48	35.42	32	25.00	39	46.15	
Denmark Odense	2	0.00	2	50.00	3	33.33	4	0.00	2	0.00	2	0.00	
Scotland Glasgow	6	16.67	5	20.00	5	20.00	7	28.57	5	60.00	4	50.00	
England & Wales			170	56.47	134	50.75	153	54.90	119	48.74	126	39.68	↓
England North Thames West									22	68.18	24	62.50	
England Mersey											12	33.33	
Northern Netherlands			5	0.00	5	20.00	4	25.00	6	0.00	1	0.00	
Germany Saxony-Anhalt	10	40.00	8	50.00	5	60.00	7	14.29	15	60.00	11	45.45	
Belgium Antwerp	5	20.00	7	28.57	3	0.00	4	25.00	7	14.29	9	0.00	
Belgium Hainaut	6	16.67	14	35.71	7	14.29	6	33.33	10	40.00	6	50.00	
Czech Republic			38	47.37	45	46.67	36	47.22	40	32.50	41	41.46	
Hungary			14	7.14	12	8.33	11	0.00	38	44.74	24	25.00	↑
Austria Styria	19	31.58	11	27.27	11	36.36	16	6.25	8	12.50	9	11.11	
Croatia Zagreb	1	0.00	1	0.00	0		2	50.00	1	100.00			
Switzerland Zurich	16	12.50	12	16.67	15	33.33	16	68.75	19	31.58	14	42.86	
Bulgaria Sofia							17	5.88	13	0.00			
France Paris			38	68.42	54	74.07	52	67.31	59	57.63	46	52.17	
France Strasbourg			14	78.57	6	33.33	11	90.91	10	80.00	12	75.00	
France Central East			36	38.89	50	56.00	53	67.92	46	52.17	57	57.89	
Italy North East							24	50.00	13	53.85	12	66.67	
Italy IMER			7	42.86	11	72.73	12	58.33	12	25.00	8	87.50	
Italy Tuscany									8	62.50	5	40.00	
Italy BDRCAM			29	37.93	19	52.63	26	46.15	23	34.78	35	65.71	
Spain Asturias	3	33.33	5	20.00	2	100.00	3	33.33	8	50.00	3	66.67	
Spain Basque Country	8	25.00	12	41.67	4	25.00	7	71.43	8	87.50			
Spain El Valles	2	100.00	0		2	100.00	3	66.67	5	100.00			
Spain Barcelona	4	50.00	14	71.43	5	80.00	3	100.00	7	57.14	6	33.33	
Southern Portugal	2	0.00	1	0.00	2	0.00	5	40.00	4	0.00	6	0.00	
Israel IBDMS							7	14.29	7	57.14	11	63.64	
Russia Tomsk	5	20.00	8	25.00	5	80.00	8	37.50	7	42.86	14	64.29	↑
Australia	131	23.66	131	24.43	134	24.63	110	23.64	138	27.54			

Table 5a: Anophthalmos / Microphthalmos, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	123	1,389,607	0.89	0.74	1.06	
Canada Alberta	93	98	20	231,112	0.87	0.53	1.34	
USA Atlanta	93	98	79	249,434	3.17	2.51	3.95	
Mexico RYVEMCE	93	98	36	294,380	1.22	0.86	1.69	
Cuba	97	98	1	90,011	0.11	0.00	0.63	
Venezuela	93	98	18	89,441	2.01	**0.00**	**5.07**	↓
Colombia	93	94	2	11,844	1.69	0.16	6.16	
Ecuador	93	98	3	18,937	1.58	0.30	4.66	
Brazil	93	98	76	220,452	3.45	2.72	4.31	
Bolivia	93	98	5	34,007	1.47	0.46	3.44	
Paraguay	93	98	3	16,108	1.86	0.35	5.48	
Uruguay	93	98	4	48,771	0.82	0.21	2.11	
Chile	93	98	14	98,320	1.42	0.78	2.39	
Argentina	93	98	75	412,862	1.82	**1.07**	**3.67**	↑
Norway	93	98	6	360,906	0.17	0.06	0.36	
Finland	93	98	58	371,826	1.56	1.18	2.02	
Denmark Odense	93	98	8	35,285	2.27	0.97	4.47	
Scotland Glasgow	93	98	10	66,729	1.50	0.71	2.76	
England & Wales	93	98	123	3,934,009	0.31	0.26	0.37	
England North Thames West	97	98	2	94,949	0.21	0.02	0.77	
England Mersey	98	98	1	27,516	0.36	0.00	2.06	
Ireland Dublin	93	98	38	113,719	3.34	**1.49**	**6.25**	↑
Northern Netherlands	93	98	21	116,337	1.81	1.12	2.76	
Germany Saxony-Anhalt	93	98	7	50,947	1.37	**0.00**	**5.79**	↓
Belgium Antwerp	93	98	6	76,426	0.79	0.28	1.71	
Belgium Hainaut	93	98	9	73,563	1.22	0.55	2.33	
Czech Republic	93	98	36	596,805	0.60	0.42	0.84	
Hungary	93	98	10	650,371	0.15	0.07	0.28	
Austria Styria	93	98	12	73,918	1.62	0.83	2.84	
Croatia Zagreb	93	97	3	31,719	0.95	0.18	2.78	
Switzerland Zurich	93	98	31	255,571	1.21	0.82	1.72	
Bulgaria Sofia	96	97	4	18,230	2.19	0.57	5.64	
France Paris	93	98	21	220,330	0.95	0.59	1.46	
France Strasbourg	93	98	18	79,393	2.27	1.34	3.58	
France Central East	93	98	57	609,089	0.94	0.71	1.21	
Italy North East	93	98	26	316,862	0.82	0.54	1.20	
Italy IMER	93	98	18	151,604	1.19	0.70	1.88	
Italy Tuscany	93	98	7	148,120	0.47	0.19	0.98	
Italy BDRCAM	93	98	20	276,108	0.72	**0.00**	**2.08**	↓
Italy ISMAC	93	98	4	111,286	0.36	0.09	0.92	
Malta	93	98	3	29,021	1.03	0.19	3.04	
Spain ECEMC	93	98	91	547,015	1.66	1.34	2.04	
Spain Asturias	93	98	5	39,492	1.27	**0.00**	**6.04**	↓
Spain Basque Country	93	97	10	78,938	1.27	0.60	2.33	
Spain El Valles	93	97	2	36,006	0.56	0.05	2.03	
Spain Barcelona	93	98	5	73,501	0.68	0.21	1.59	
Southern Portugal	93	98	10	60,872	1.64	0.78	3.02	
Israel IBDMS	93	98	8	103,924	0.77	0.33	1.52	
United Arab Emirates	96	98	0	22,099	0.00	0.00	1.74	
Russia Tomsk	93	98	0	24,160	0.00	0.00	1.59	
Japan JAOG	93	98	42	619,107	0.68	0.49	0.92	
China Beijing	97	98	7	267,071	0.26	0.10	0.54	
China CBDMN	98	98	11	300,394	0.37	0.18	0.66	
Australia	93	97	124	1,295,708	0.96	0.80	1.14	
New Zealand	96	98	10	170,688	0.59	0.28	1.08	
South Africa SABDSS	96	97	34	156,999	2.17	1.50	3.03	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

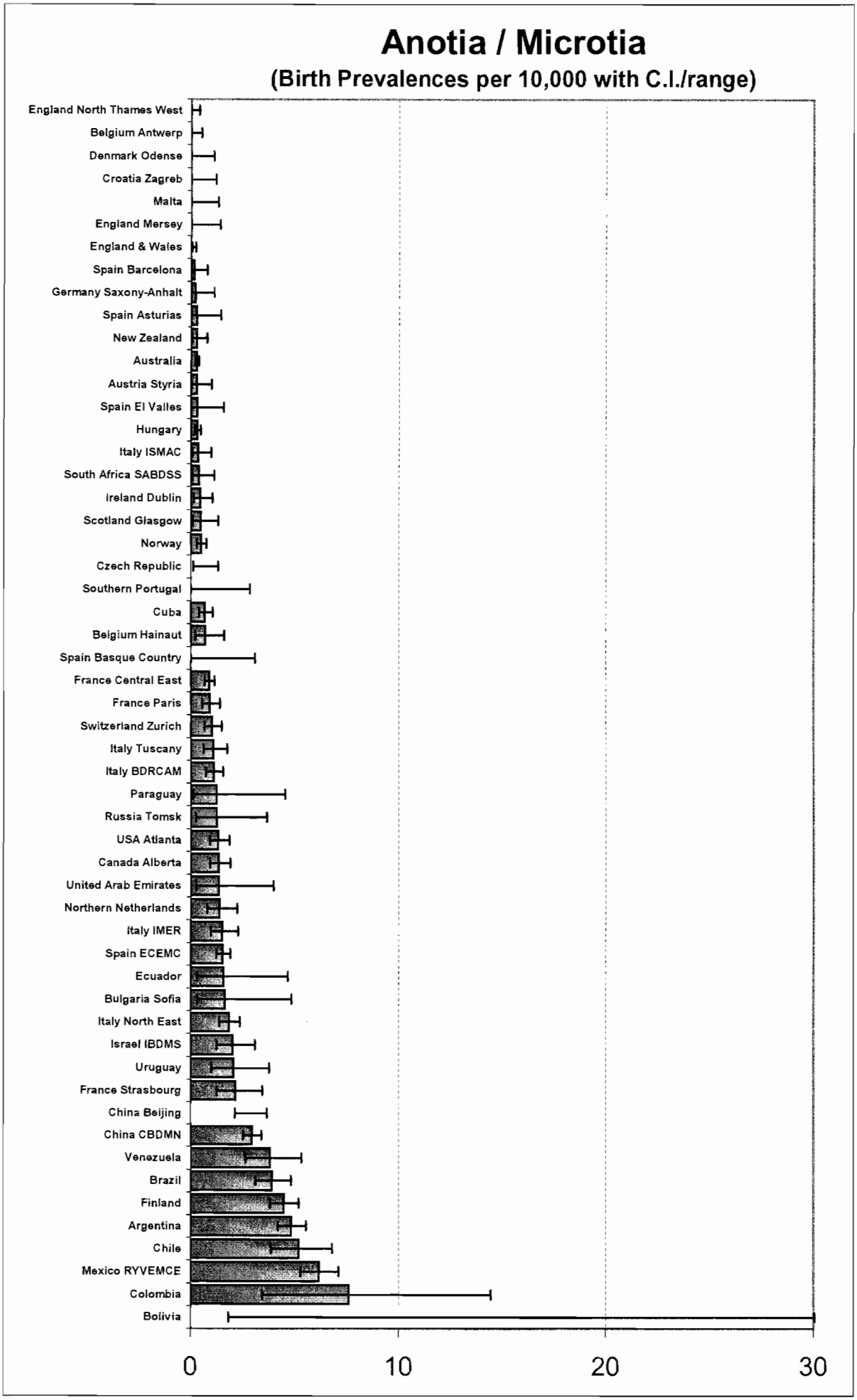
Table 5b: Anophthalmos / Microphthalmos, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									4	0.00	6	33.33	
USA Atlanta			11	0.00	17	0.00	14	0.00	13	0.00	10	0.00	
Norway			0		0		4	25.00	1	0.00	2	0.00	
Finland							11	45.45	8	25.00	18	11.11	
Denmark Odense	1	0.00	4	0.00	2	0.00	0		0		1	0.00	
Scotland Glasgow	2	0.00	5	0.00	2	0.00	0		1	0.00	1	100.00	
England & Wales			27	0.00	25	0.00	19	0.00	18	0.00	16	0.00	
England North Thames West									0		2	0.00	
England Mersey											1	0.00	
Northern Netherlands			5	0.00	1	0.00	5	0.00	3	0.00	1	0.00	
Germany Saxony-Anhalt	4	0.00	1	0.00	1	100.00	1	0.00	4	75.00	0		
Belgium Antwerp	0		2	0.00	1	0.00	1	0.00	1	0.00	1	0.00	
Belgium Hainaut	2	0.00	1	0.00	1	0.00	5	40.00	1	0.00	1	0.00	
Czech Republic							7	0.00	7	0.00	3	0.00	
Hungary					1	0.00	0		2	0.00	3	0.00	
Austria Styria	4	50.00	2	50.00	5	20.00	3	0.00	2	0.00	0		
Croatia Zagreb	0		0		1	0.00	1	0.00	1	0.00			
Switzerland Zurich	7	0.00	5	20.00	6	0.00	5	0.00	8	25.00	3	0.00	
Bulgaria Sofia							2	0.00	2	0.00			
France Paris			8	50.00	11	63.64	7	71.43	7	71.43	7	57.14	
France Strasbourg			2	0.00	5	20.00	9	33.33	5	20.00	4	100.00	
France Central East			14	35.71	16	43.75	16	37.50	10	40.00	20	35.00	
Italy North East							6	33.33	4	0.00	5	20.00	
Italy IMER					4	0.00	2	0.00	3	33.33	2	0.00	
Italy Tuscany									2	0.00	1	0.00	
Italy BDRCAM					3	0.00	1	0.00	4	0.00	4	25.00	
Spain Asturias	0		4	0.00	1	0.00	0		0		0		
Spain Basque Country	3	33.33	2	0.00	0		4	25.00	3	0.00			
Spain El Valles	2	50.00	0		0		0		1	0.00			
Spain Barcelona	0		2	100.00	2	50.00	3	0.00	0		2	50.00	
Southern Portugal	1	0.00	2	0.00	0		1	0.00	2	0.00	4	0.00	
Israel IBDMS									1	0.00	4	0.00	
Russia Tomsk	0		0		0		0		0		0		
Australia	30	6.67	35	2.86	23	0.00	15	13.33	29	10.34			

Table 6a: Anotia / Microtia, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada Alberta	93	98	31	231,112	1.34	0.91	1.90	
USA Atlanta	93	98	33	249,434	1.32	0.91	1.86	
Mexico RYVEMCE	93	98	181	294,380	6.15	5.29	7.11	
Cuba	93	98	18	273,346	0.66	0.39	1.04	
Venezuela	93	98	34	89,441	3.80	2.63	5.31	
Colombia	93	94	9	11,844	7.60	3.45	14.44	
Ecuador	93	98	3	18,937	1.58	0.30	4.66	
Brazil	93	98	86	220,452	3.90	3.12	4.82	
Bolivia	93	98	48	34,007	14.11	**1.82**	**30.04**	↑
Paraguay	93	98	2	16,108	1.24	0.12	4.53	
Uruguay	93	98	10	48,771	2.05	0.98	3.77	
Chile	93	98	51	98,320	5.19	3.86	6.82	
Argentina	93	98	199	412,862	4.82	4.17	5.54	
Norway	93	98	17	360,906	0.47	0.27	0.75	
Finland	93	98	166	371,826	4.46	3.81	5.20	
Denmark Odense	93	98	0	35,285	0.00	0.00	1.09	
Scotland Glasgow	93	98	3	66,729	0.45	0.08	1.32	
England & Wales	95	98	25	2,589,008	0.10	**0.05**	**0.21**	↓
England North Thames West	97	98	0	94,949	0.00	0.00	0.40	
England Mersey	98	98	0	27,516	0.00	0.00	1.40	
Ireland Dublin	93	98	5	113,719	0.44	0.14	1.03	
Northern Netherlands	93	98	16	116,337	1.38	0.78	2.23	
Germany Saxony-Anhalt	93	98	1	50,947	0.20	0.00	1.11	
Belgium Antwerp	93	98	0	76,426	0.00	0.00	0.50	
Belgium Hainaut	93	98	5	73,563	0.68	0.21	1.59	
Czech Republic	94	98	23	475,780	0.48	**0.11**	**1.32**	↑
Hungary	93	98	19	650,371	0.29	0.18	0.46	
Austria Styria	93	98	2	73,918	0.27	0.03	0.99	
Croatia Zagreb	93	97	0	31,719	0.00	0.00	1.21	
Switzerland Zurich	93	98	26	255,571	1.02	0.66	1.49	
Bulgaria Sofia	96	97	3	18,230	1.65	0.31	4.84	
France Paris	93	98	20	220,330	0.91	0.55	1.40	
France Strasbourg	93	98	17	79,393	2.14	1.24	3.43	
France Central East	93	98	53	609,089	0.87	0.65	1.14	
Italy North East	93	98	58	316,862	1.83	1.39	2.37	
Italy IMER	93	98	23	151,604	1.52	0.96	2.28	
Italy Tuscany	93	98	16	148,120	1.08	0.62	1.75	
Italy BDRCAM	93	98	30	276,108	1.09	0.73	1.55	
Italy ISMAC	93	98 (no 96)	3	92,560	0.32	0.06	0.95	
Malta	93	98	0	29,021	0.00	0.00	1.32	
Spain ECEMC	93	98	84	547,015	1.54	1.22	1.90	
Spain Asturias	93	98	1	39,492	0.25	0.00	1.43	
Spain Basque Country	93	97	6	78,938	0.76	**0.00**	**3.08**	↑
Spain El Valles	93	97	1	36,006	0.28	0.00	1.57	
Spain Barcelona	93	98	1	73,501	0.14	0.00	0.77	
Southern Portugal	93	98	3	60,872	0.49	**0.00**	**2.86**	↓
Israel IBDMS	93	98	21	103,924	2.02	1.25	3.09	
United Arab Emirates	96	98	3	22,099	1.36	0.26	3.99	
Russia Tomsk	93	98	3	24,160	1.24	0.23	3.65	
China Beijing	97	98	78	267,071	2.92	**2.12**	**3.65**	
China CBDMN	97	98	175	598,316	2.92	2.51	3.39	
Australia	93	97	35	1,295,708	0.27	0.19	0.38	
New Zealand	96	97	3	115,168	0.26	0.05	0.77	
South Africa SABDSS	97	97	3	79,141	0.38	0.07	1.11	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

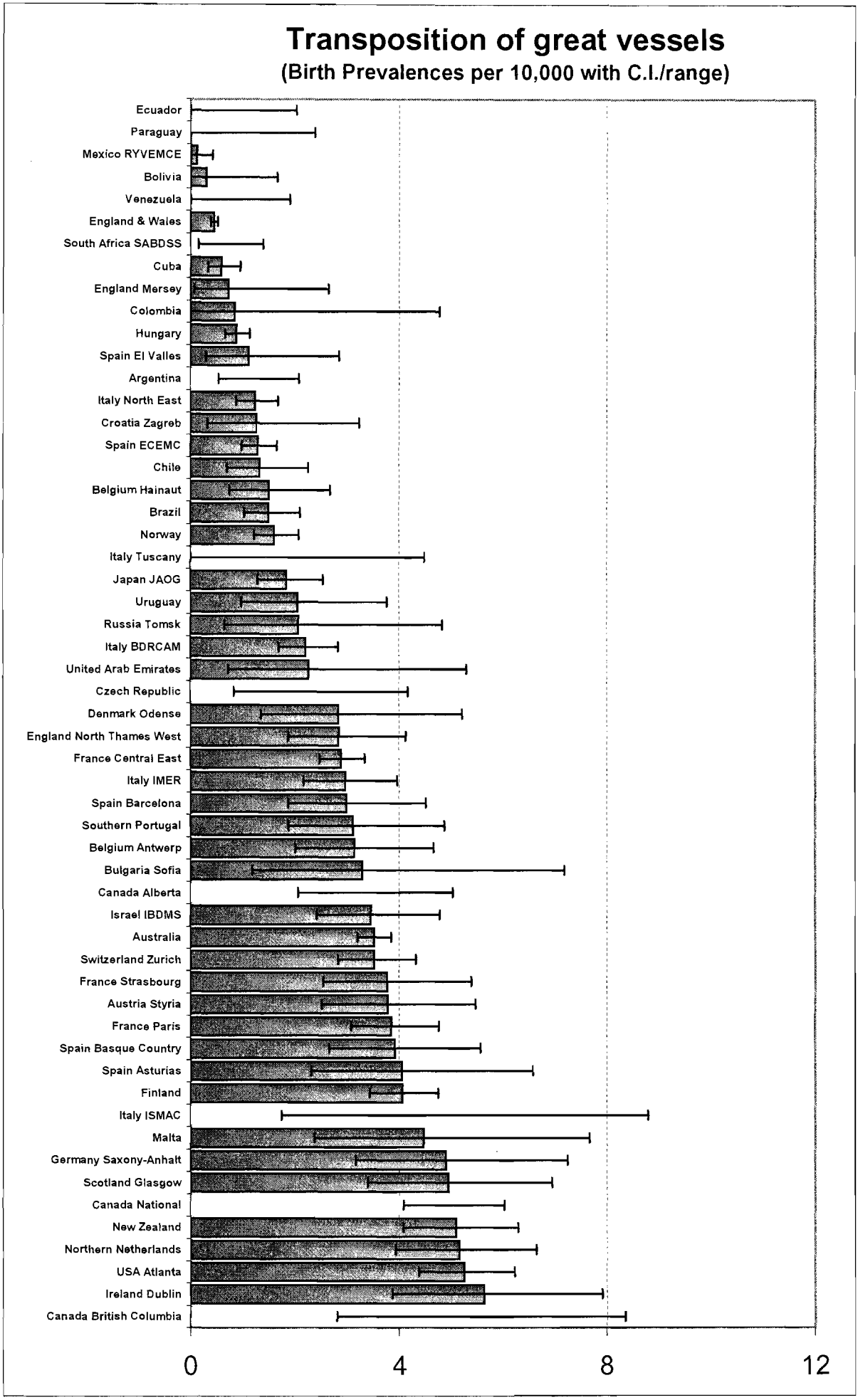
Table 6b: Anotia / Microtia, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									3	0.00	6	16.67	
USA Atlanta			3	0.00	9	0.00	7	0.00	3	0.00	6	16.67	
Norway			5	0.00	3	0.00	2	0.00	3	0.00	3	0.00	
Finland							28	0.00	23	0.00	30	10.00	
Denmark Odense	0		0		0		0		0		0		
Scotland Glasgow	1	0.00	0		0		2	50.00	1	100.00	4	75.00	↕
England & Wales					14	0.00	5	0.00	3	0.00	3	0.00	
England North Thames West									0		1	100.00	
England Mersey											0		
Northern Netherlands			2	0.00	3	0.00	2	0.00	3	0.00	2	0.00	
Germany Saxony-Anhalt	0		1	0.00	0		0		0		0		
Belgium Antwerp	0		0		0		0		0		0		
Belgium Hainaut	2	0.00	0		2	0.00	0		1	0.00	0		
Czech Republic							1	0.00	4	0.00	12	0.00	↑
Hungary					3	0.00	3	0.00	4	0.00	4	0.00	
Austria Styria	1	100.00	1	0.00	0		0		1	0.00	0		
Croatia Zagreb	0		0		0		0		0				
Switzerland Zurich	4	25.00	7	0.00	6	0.00	0		3	0.00	7	0.00	
Bulgaria Sofia							3	33.33	1	0.00			
France Paris			4	25.00	2	50.00	5	40.00	5	20.00	3	33.33	
France Strasbourg			5	20.00	4	25.00	4	50.00	2	0.00	3	0.00	
France Central East			12	0.00	10	20.00	15	26.67	7	0.00	16	37.50	
Italy North East							13	0.00	13	7.69	12	8.33	
Italy IMER					3	0.00	4	0.00	2	0.00	0		
Italy Tuscany									1	0.00	3	0.00	
Italy BDRCAM					3	0.00	9	0.00	5	20.00	5	0.00	
Spain Asturias	0		0		0		1	0.00	0		0		
Spain Basque Country	1	0.00	0		0		0		5	0.00			↑
Spain El Valles	0		0		1	0.00	0		0				
Spain Barcelona	0		1	100.00	0		1	0.00	0		0		
Southern Portugal	1	0.00	0		2	0.00	0		0		0		
Israel IBDMS									3	0.00	1	0.00	
Russia Tomsk	0		0		2	0.00	0		0		1	0.00	
Australia	6	0.00	8	12.5	10	0.00	7	0.00	6	16.67			

Table 7a: Transposition of great vessels, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada National	93	97	706	1,389,607	5.08	**4.09**	**6.02**	↑
Canada Alberta	95	98	52	151,200	3.44	**2.06**	**5.04**	↓
Canada British Columbia	93	98	160	274,542	5.83	**2.81**	**8.35**	↑
USA Atlanta	93	98	131	249,434	5.25	4.39	6.23	
Mexico RYVEMCE	95	98	2	172,231	0.12	0.01	0.42	
Cuba	93	98	16	273,346	0.59	0.33	0.95	
Venezuela	93	98	3	89,441	0.34	**0.00**	**1.90**	↑
Colombia	93	94	1	11,844	0.84	0.00	4.78	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	33	220,452	1.50	1.03	2.10	
Bolivia	93	98	1	34,007	0.29	0.00	1.67	
Paraguay	93	98	0	16,108	0.00	0.00	2.38	
Uruguay	93	98	10	48,771	2.05	0.98	3.77	
Chile	93	98	13	98,320	1.32	0.70	2.26	
Argentina	93	98	48	412,862	1.16	**0.53**	**2.07**	↓
Norway	93	98	58	360,906	1.61	1.22	2.08	
Finland	93	98	151	371,826	4.06	3.44	4.76	
Denmark Odense	93	98	10	35,285	2.83	1.35	5.22	
Scotland Glasgow	93	98	33	66,729	4.95	3.40	6.94	
England & Wales	93	98	177	3,934,009	0.45	0.39	0.52	
England North Thames West	97	98	27	94,949	2.84	1.87	4.14	
England Mersey	98	98	2	27,516	0.73	0.07	2.65	
Ireland Dublin	96	98	33	58,599	5.63	3.87	7.91	
Northern Netherlands	93	98	60	116,337	5.16	3.93	6.64	
Germany Saxony-Anhalt	93	98	25	50,947	4.91	3.17	7.24	
Belgium Antwerp	93	98	24	76,426	3.14	2.01	4.67	
Belgium Hainaut	93	98	11	73,563	1.50	0.74	2.68	
Czech Republic	94	98	121	475,780	2.54	**0.83**	**4.18**	↑
Hungary	93	98	57	650,371	0.88	0.66	1.14	
Austria Styria	93	98	28	73,918	3.79	2.51	5.47	
Croatia Zagreb	93	97	4	31,719	1.26	0.33	3.24	
Switzerland Zurich	93	98	90	255,571	3.52	2.83	4.33	
Bulgaria Sofia	96	97	6	18,230	3.29	1.18	7.18	
France Paris	93	98	85	220,330	3.86	3.08	4.77	
France Strasbourg	93	98	30	79,393	3.78	2.55	5.39	
France Central East	93	98	176	609,089	2.89	2.48	3.35	
Italy North East	93	98	39	316,862	1.23	0.87	1.68	
Italy IMER	93	98	45	151,604	2.97	2.16	3.97	
Italy Tuscany	93	98	27	148,120	1.82	**0.00**	**4.49**	↓
Italy BDRCAM	93	98	61	276,108	2.21	1.69	2.84	
Italy ISMAC	93	98	47	111,286	4.22	**1.74**	**8.80**	↓
Malta	93	98	13	29,021	4.48	2.38	7.66	
Spain ECEMC	93	98 (no 95)	59	459,643	1.28	0.98	1.66	
Spain Asturias	93	98	16	39,492	4.05	2.31	6.58	
Spain Basque Country	93	97	31	78,938	3.93	2.67	5.57	
Spain El Valles	93	97	4	36,006	1.11	0.29	2.86	
Spain Barcelona	93	98	22	73,501	2.99	1.87	4.53	
Southern Portugal	93	98	19	60,872	3.12	1.88	4.88	
Israel IBDMS	93	98	36	103,924	3.46	2.42	4.80	
United Arab Emirates	96	98	5	22,099	2.26	0.71	5.30	
Russia Tomsk	93	98	5	24,160	2.07	0.65	4.85	
Japan JAOG	97	98	36	195,262	1.84	1.29	2.55	
Australia	93	97	456	1,295,708	3.52	3.20	3.86	
New Zealand	96	98	87	170,688	5.10	4.08	6.29	
South Africa SABDSS	93	97	19	336,331	0.56	**0.14**	**1.39**	↑

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

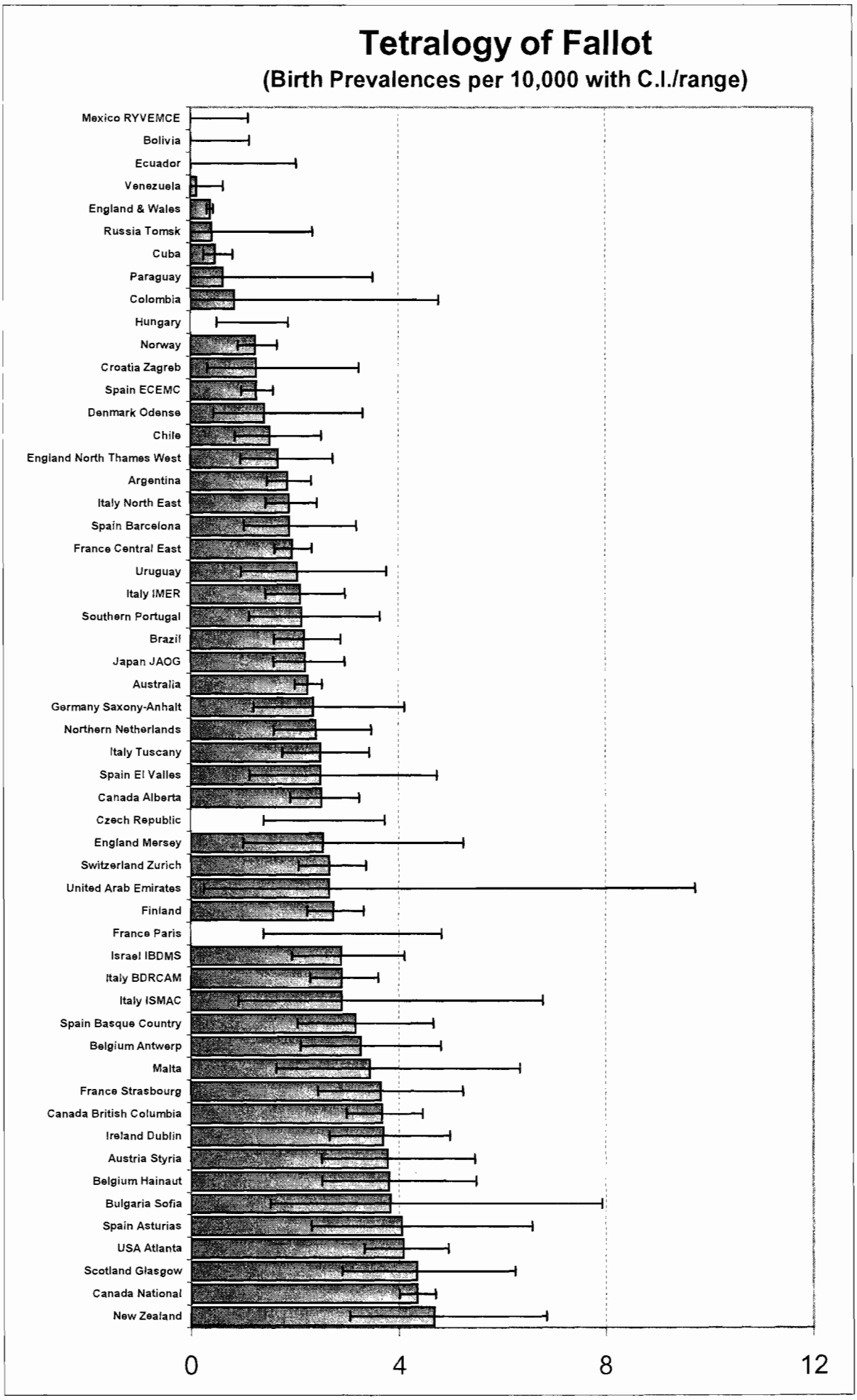
Table 7b: Transposition of great vessels, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									17	0.00	9	11.11	
USA Atlanta			16	0.00	33	3.03	27	0.00	18	5.56	19	0.00	
Norway			9	11.11	14	14.29	10	0.00	13	0.00	7	0.00	
Finland							20	0.00	36	5.56	26	7.69	
Denmark Odense	1	0.00	2	0.00	6	16.67	0		1	0.00	1	0.00	
Scotland Glasgow	6	0.00	6	16.67	8	0.00	6	0.00	5	0.00	3	0.00	
England & Wales			25	8.00	27	3.70	33	0.00	35	2.86	27	0.00	
England North Thames West									22	31.82	13	7.69	
England Mersey											4	50.00	
Northern Netherlands			15	0.00	11	0.00	8	12.50	11	9.09	9	0.00	
Germany Saxony-Anhalt	5	0.00	3	0.00	1	0.00	3	0.00	5	20.00	9	0.00	
Belgium Antwerp	1	0.00	3	0.00	4	0.00	4	0.00	6	0.00	6	0.00	
Belgium Hainaut	3	0.00	2	0.00	2	0.00	3	0.00	0		1	0.00	
Czech Republic							24	16.67	41	7.32	32	9.38	
Hungary					19	0.00	8	0.00	9	0.00	7	14.29	↓
Austria Styria	10	0.00	6	0.00	1	0.00	6	0.00	4	25.00	2	0.00	
Croatia Zagreb	0		1	0.00	2	0.00	0		1	0.00			
Switzerland Zurich	18	11.11	23	0.00	18	5.56	13	0.00	13	15.38	13	23.08	
Bulgaria Sofia							6	16.67	1	0.00			
France Paris			25	24.00	19	21.05	17	29.41	23	21.74	21	38.10	
France Strasbourg			7	42.86	8	37.50	6	16.67	5	60.00	11	45.45	
France Central East			33	9.09	31	6.45	39	10.26	26	7.69	40	20.00	
Italy North East							5	20.00	5	0.00	4	0.00	
Italy IMER					8	0.00	13	0.00	6	0.00	5	0.00	
Italy Tuscany									6	0.00	0		
Italy BDRCAM					7	0.00	12	8.33	12	8.33	13	0.00	
Spain Asturias	4	0.00	1	0.00	1	0.00	3	0.00	3	0.00	4	0.00	
Spain Basque Country	12	0.00	5	0.00	3	0.00	4	0.00	7	0.00			
Spain El Valles	1	0.00	1	0.00	1	0.00	1	0.00	0				
Spain,Barcelona	8	0.00	7	14.29	2	0.00	3	66.67	3	0.00	3	33.33	
Southern Portugal	2	0.00	3	0.00	3	0.00	2	0.00	4	0.00	5	0.00	
Israel IBDMS									5	0.00	11	0.00	
Russia Tomsk	2	0.00	0		0		0		1	0.00	2	0.00	
Australia	90	1.11	101	1.98	98	5.10	106	9.43	86	8.14			

Table 8a: Tetralogy of Fallot, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada National	93	97	605	1,389,607	4.35	4.01	4.71	
Canada Alberta	93	98	58	231,112	2.51	1.91	3.24	
Canada British Columbia	93	98	101	274,542	3.68	3.00	4.47	
USA Atlanta	93	98	102	249,434	4.09	3.33	4.96	
Mexico RYVEMCE	98	98	0	34,476	0.00	0.00	1.11	
Cuba	93	98	13	273,346	0.48	0.25	0.81	
Venezuela	93	98	1	89,441	0.11	0.00	0.63	
Colombia	93	94	1	11,844	0.84	0.00	4.78	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	48	220,452	2.18	1.60	2.89	
Bolivia	93	98	0	34,007	0.00	0.00	1.13	
Paraguay	93	98	1	16,108	0.62	0.00	3.52	
Uruguay	93	98	10	48,771	2.05	0.98	3.77	
Chile	93	98	15	98,320	1.53	0.85	2.52	
Argentina	93	98	77	412,862	1.87	1.47	2.33	
Norway	93	98	45	360,906	1.25	0.91	1.67	
Finland	93	98	102	371,826	2.74	2.24	3.33	
Denmark Odense	93	98	5	35,285	1.42	0.45	3.32	
Scotland Glasgow	93	98	29	66,729	4.35	2.91	6.24	
England & Wales	93	98	148	3,934,009	0.38	0.32	0.44	
England North Thames West	97	98	16	94,949	1.69	0.96	2.74	
England Mersey	98	98	7	27,516	2.54	1.01	5.25	
Ireland Dublin	93	98	42	113,719	3.69	2.66	4.99	
Northern Netherlands	93	98	28	116,337	2.41	1.60	3.48	
Germany Saxony-Anhalt	93	98	12	50,947	2.36	1.21	4.12	
Belgium Antwerp	93	98	25	76,426	3.27	2.11	4.83	
Belgium Hainaut	93	98	28	73,563	3.81	2.53	5.50	
Czech Republic	94	98	120	475,780	2.52	**1.40**	**3.74**	↑
Hungary	93	98	73	650,371	1.12	**0.51**	**1.88**	↑
Austria Styria	93	98	28	73,918	3.79	2.51	5.47	
Croatia Zagreb	93	97	4	31,719	1.26	0.33	3.24	
Switzerland Zurich	93	98	68	255,571	2.66	2.07	3.37	
Bulgaria Sofia	96	97	7	18,230	3.84	1.52	7.93	
France Paris	93	98	61	220,330	2.77	**1.40**	**4.84**	↑
France Strasbourg	93	98	29	79,393	3.65	2.44	5.25	
France Central East	93	98	119	609,089	1.95	1.62	2.34	
Italy North East	93	98	60	316,862	1.89	1.44	2.44	
Italy IMER	93	98	32	151,604	2.11	1.44	2.98	
Italy Tuscany	93	98	37	148,120	2.50	1.76	3.44	
Italy BDRCAM	93	98	80	276,108	2.90	2.30	3.61	
Italy ISMAC	98	98	5	17,248	2.90	0.91	6.79	
Malta	93	98	10	29,021	3.45	1.64	6.34	
Spain ECEMC	93	98	69	547,015	1.26	0.98	1.60	
Spain Asturias	93	98	16	39,492	4.05	2.31	6.58	
Spain Basque Country	93	97	25	78,938	3.17	2.05	4.68	
Spain El Valles	93	97	9	36,006	2.50	1.13	4.75	
Spain Barcelona	93	98	14	73,501	1.90	1.04	3.20	
Southern Portugal	93	98	13	60,872	2.14	1.13	3.65	
Israel IBDMS	93	98	30	103,924	2.89	1.95	4.12	
United Arab Emirates	98	98	2	7,500	2.67	0.25	9.72	
Russia Tomsk	93	98	1	24,160	0.41	0.00	2.34	
Japan JAOG	97	98	43	195,262	2.20	1.59	2.97	
Australia	93	97	292	1,295,708	2.25	2.00	2.53	
New Zealand	98	98	26	55,520	4.68	3.06	6.86	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

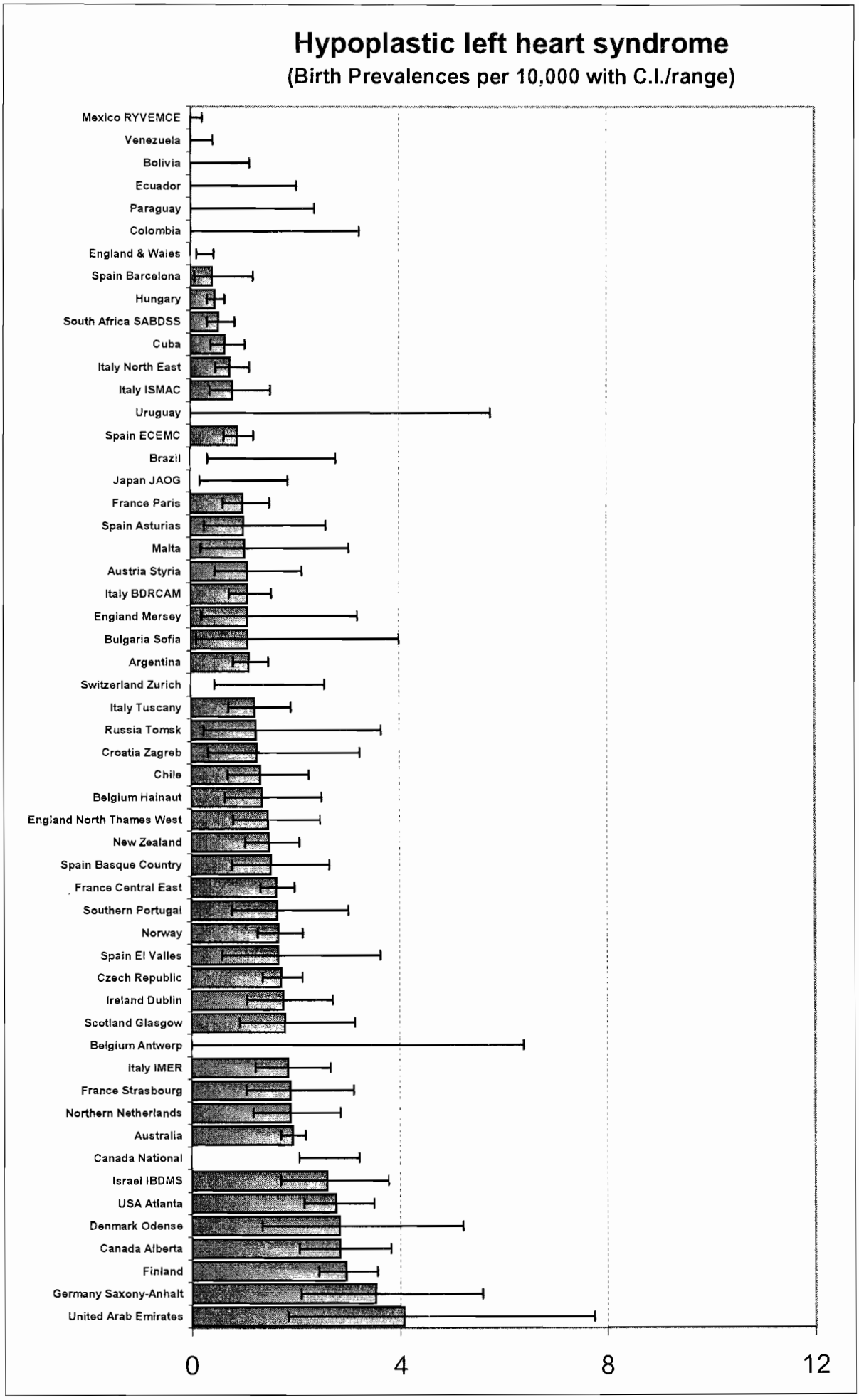
Table 8b: Tetralogy of Fallot, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta											7	0.00	
USA Atlanta											19	0.00	
Norway											12	0.00	
Finland											19	0.00	
Denmark Odense	0		0		1	0.00	1	0.00	2	0.00	1	0.00	
Scotland Glasgow	6	0.00	4	0.00	7	0.00	7	0.00	5	20.00	1	0.00	
England & Wales											30	3.33	
England North Thames West									9	11.11	10	20.00	
England Mersey											7	0.00	
Northern Netherlands											4	0.00	
Germany Saxony-Anhalt	3	0.00	1	0.00	1	0.00	3	0.00	2	50.00	3	0.00	
Belgium Antwerp	3	0.00	4	25.00	4	0.00	1	0.00	8	0.00	6	0.00	
Belgium Hainaut	4	0.00	4	25.00	9	22.22	5	0.00	7	0.00	3	33.33	
Czech Republic											33	15.15	
Hungary											15	6.67	
Austria Styria	6	0.00	3	0.00	2	0.00	4	0.00	6	0.00	7	0.00	
Croatia Zagreb	1	0.00	0		1	0.00	1	0.00	1	0.00			
Switzerland Zurich	13	15.38	11	18.18	20	20.00	12	0.00	10	0.00	11	9.09	
Bulgaria Sofia							4	0.00	3	0.00			
France Paris											22	18.18	
France Strasbourg											5	40.00	
France Central East											24	20.83	
Italy North East											13	0.00	
Italy IMER											8	37.50	
Italy Tuscany											9	0.00	
Italy BDRCAM											8	12.50	
Spain Asturias	1	0.00	4	0.00	2	0.00	3	0.00	4	0.00	2	0.00	
Spain Basque Country	2	0.00	3	0.00	6	0.00	5	0.00	10	10.00			↑
Spain El Valles	3	0.00	0		3	0.00	2	0.00	1	0.00			
Spain Barcelona	2	0.00	3	0.00	6	0.00	2	0.00	3	66.67	0		
Southern Portugal	0		2	0.00	3	0.00	2	0.00	1	0.00	5	0.00	
Israel IBDMS											5	0.00	
Russia Tomsk	1	100.00	1	0.00	1	100.00	1	100.00	0		1	100.00	
Australia	51	1.96	70	4.286	68	8.82	63	6.35	54	0.00			

Table 9a: Hypoplastic left heart syndrome, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	353	1,389,607	2.54	**2.06**	**3.22**	↑
Canada Alberta	95	98	43	151,200	2.84	2.06	3.83	
USA Atlanta	93	98	69	249,434	2.77	2.15	3.50	
Mexico RYVEMCE	95	98	0	172,231	0.00	0.00	0.22	
Cuba	93	98	18	273,346	0.66	0.39	1.04	
Venezuela	93	98	0	89,441	0.00	0.00	0.43	
Colombia	93	94	0	11,844	0.00	0.00	3.24	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	20	220,452	0.91	**0.33**	**2.79**	↑
Bolivia	93	98	0	34,007	0.00	0.00	1.13	
Paraguay	93	98	0	16,108	0.00	0.00	2.38	
Uruguay	93	98	4	48,771	0.82	**0.00**	**5.76**	↑
Chile	93	98	13	98,320	1.32	0.70	2.26	
Argentina	93	98	46	412,862	1.11	0.82	1.49	
Norway	93	98	60	360,906	1.66	1.27	2.14	
Finland	93	98	110	371,826	2.96	2.43	3.57	
Denmark Odense	93	98	10	35,285	2.83	1.35	5.22	
Scotland Glasgow	93	98	12	66,729	1.80	0.92	3.14	
England & Wales	93	98	120	3,934,009	0.31	**0.12**	**0.45**	↑
England North Thames West	97	98	14	94,949	1.47	0.80	2.48	
England Mersey	98	98	3	27,516	1.09	0.21	3.21	
Ireland Dublin	93	98	20	113,719	1.76	1.07	2.72	
Northern Netherlands	93	98	22	116,337	1.89	1.18	2.86	
Germany Saxony-Anhalt	93	98	18	50,947	3.53	2.09	5.59	
Belgium Antwerp	93	98	14	76,426	1.83	**0.00**	**6.38**	↓
Belgium Hainaut	93	98	10	73,563	1.36	0.65	2.50	
Czech Republic	94	98	82	475,780	1.72	1.37	2.14	
Hungary	93	98	30	650,371	0.46	0.31	0.66	
Austria Styria	93	98	8	73,918	1.08	0.46	2.14	
Croatia Zagreb	93	97	4	31,719	1.26	0.33	3.24	
Switzerland Zurich	93	98	29	255,571	1.13	**0.46**	**2.56**	↓
Bulgaria Sofia	96	97	2	18,230	1.10	0.10	4.00	
France Paris	93	98	22	220,330	1.00	0.62	1.51	
France Strasbourg	93	98	15	79,393	1.89	1.05	3.12	
France Central East	93	98	99	609,089	1.63	1.32	1.98	
Italy North East	93	98	24	316,862	0.76	0.48	1.13	
Italy IMER	93	98	28	151,604	1.85	1.23	2.67	
Italy Tuscany	93	98	18	148,120	1.22	0.72	1.92	
Italy BDRCAM	93	98	30	276,108	1.09	0.73	1.55	
Italy ISMAC	93	98	9	111,286	0.81	0.37	1.54	
Malta	93	98	3	29,021	1.03	0.19	3.04	
Spain ECEMC	93	98 (no 95)	41	459,643	0.89	0.64	1.21	
Spain Asturias	93	98	4	39,492	1.01	0.26	2.60	
Spain Basque Country	93	97	12	78,938	1.52	0.78	2.66	
Spain El Valles	93	97	6	36,006	1.67	0.60	3.64	
Spain Barcelona	93	98	3	73,501	0.41	0.08	1.20	
Southern Portugal	93	98	10	60,872	1.64	0.78	3.02	
Israel IBDMS	93	98	27	103,924	2.60	1.71	3.78	
United Arab Emirates	96	98	9	22,099	4.07	1.85	7.74	
Russia Tomsk	93	98	3	24,160	1.24	0.23	3.65	
Japan JAOG	94	98 (no 95-96)	30	307,048	0.98	**0.18**	**1.87**	↑
Australia	93	97	251	1,295,708	1.94	1.70	2.19	
New Zealand	95	98	34	228,479	1.49	1.03	2.08	
South Africa SABDSS	93	97	18	336,331	0.54	0.32	0.85	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

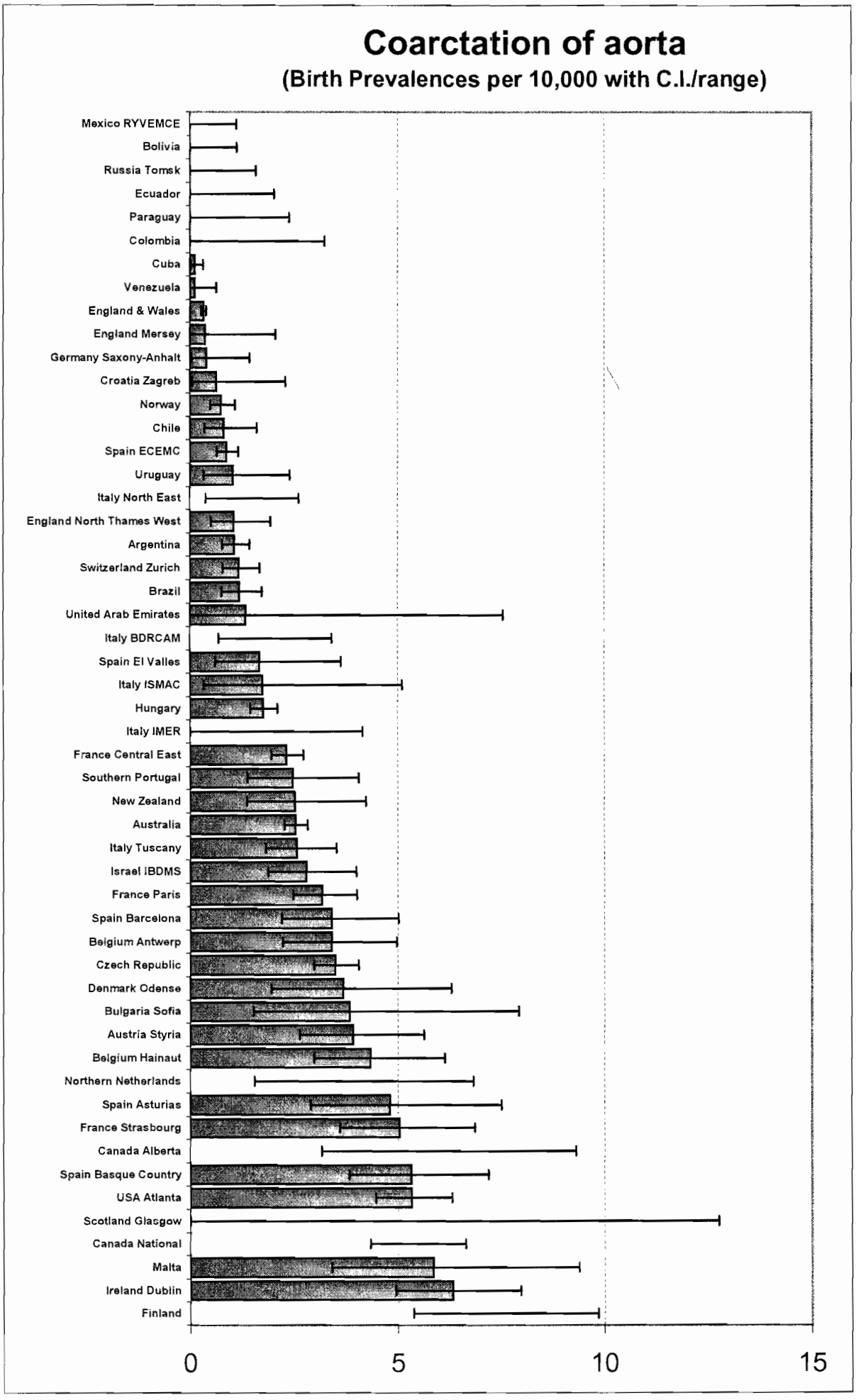
Table 9b: Hypoplastic left heart syndrome, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									7	0.00	9	11.11	
USA Atlanta			10	0.00	11	9.09	12	0.00	14	7.14	16	18.75	
Norway			11	27.27	15	6.67	13	7.69	11	18.18	8	12.50	
Finland							15	6.67	15	0.00	32	12.50	↑
Denmark Odense	2	0.00	2	0.00	2	0.00	2	0.00	1	0.00	1	0.00	
Scotland Glasgow	6	0.00	2	0.00	1	0.00	1	0.00	1	0.00	1	0.00	↓
England & Wales			59	52.54	38	63.16	42	47.62	50	42.00	46	58.70	
England North Thames West									18	55.56	14	57.14	
England Mersey											5	40.00	
Northern Netherlands			5	0.00	5	0.00	2	0.00	0		6	0.00	
Germany Saxony-Anhalt	0		2	0.00	4	0.00	5	0.00	4	0.00	4	25.00	
Belgium Antwerp	1	0.00	8	12.50	1	0.00	0		4	25.00	2	0.00	
Belgium Hainaut	4	0.00	1	100.00	1	0.00	0		1	0.00	4	0.00	
Czech Republic							22	50.00	32	65.63	26	23.08	
Hungary					7	0.00	2	0.00	7	57.14	12	16.67	↑
Austria Styria	0		1	0.00	2	50.00	2	0.00	1	0.00	4	25.00	↑
Croatia Zagreb	0		2	0.00	1	0.00	1	0.00	0				
Switzerland Zurich	11	0.00	5	0.00	7	42.86	7	57.14	6	66.67	5	20.00	
Bulgaria Sofia							2	0.00	0				
France Paris			17	82.35	16	75.00	18	72.22	10	70.00	12	66.67	
France Strasbourg			5	20.00	4	25.00	6	66.67	4	75.00	4	50.00	
France Central East			24	29.17	32	56.25	24	33.33	31	35.48	34	47.06	
Italy North East							9	77.78	4	50.00	6	50.00	
Italy IMER					4	0.00	5	20.00	11	36.36	5	0.00	
Italy Tuscany									3	66.67	2	0.00	
Italy BDRCAM			4	25.00	5	40.00	14	28.57	10	40.00	6	0.00	
Spain Asturias	1	0.00	1	0.00	0		1	0.00	0		1	0.00	
Spain Basque Country	1	0.00	0		4	0.00	3	0.00	4	0.00			
Spain El Valles	2	0.00	2	0.00	0		1	100.00	4	50.00			
Spain Barcelona	0		5	80.00	0		2	50.00	4	75.00	1	100.00	
Southern Portugal	1	0.00	0		2	0.00	4	25.00	1	0.00	3	0.00	
Israel IBDMS									5	20.00	4	0.00	
Russia Tomsk	0		0		1	0.00	0		0		2	0.00	
Australia	63	4.76	50	12.00	39	10.26	64	9.38	63	14.29			

Table 10a: Coarctation of aorta, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	772	1,389,607	5.56	**4.34**	**6.64**	↕
Canada Alberta	93	98	120	231,112	5.19	**3.17**	**9.31**	↕
USA Atlanta	93	98	133	249,434	5.33	4.46	6.32	
Mexico RYVEMCE	98	98	0	34,476	0.00	0.00	1.11	
Cuba	93	98	3	273,346	0.11	0.02	0.32	
Venezuela	93	98	1	89,441	0.11	0.00	0.63	
Colombia	93	94	0	11,844	0.00	0.00	3.24	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	26	220,452	1.18	0.77	1.73	
Bolivia	93	98	0	34,007	0.00	0.00	1.13	
Paraguay	93	98	0	16,108	0.00	0.00	2.38	
Uruguay	93	98	5	48,771	1.03	0.32	2.40	
Chile	93	98	8	98,320	0.81	0.35	1.61	
Argentina	93	98	44	412,862	1.07	0.77	1.43	
Norway	93	98	27	360,906	0.75	0.49	1.09	
Finland	93	98	269	371,826	7.23	**5.38**	**9.84**	↑
Denmark Odense	93	98	13	35,285	3.68	1.95	6.30	
Scotland Glasgow	93	98	37	66,729	5.54	**0.00**	**12.76**	↓
England & Wales	93	98	129	3,934,009	0.33	0.27	0.39	
England North Thames West	97	98	10	94,949	1.05	0.50	1.94	
England Mersey	98	98	1	27,516	0.36	0.00	2.06	
Ireland Dublin	93	98	72	113,719	6.33	4.95	7.97	
Northern Netherlands	93	98	52	116,337	4.47	**1.55**	**6.83**	↓
Germany Saxony-Anhalt	93	98	2	50,947	0.39	0.04	1.43	
Belgium Antwerp	93	98	26	76,426	3.40	2.22	4.98	
Belgium Hainaut	93	98	32	73,563	4.35	2.97	6.14	
Czech Republic	94	98	166	475,780	3.49	2.98	4.06	
Hungary	93	98	114	650,371	1.75	1.45	2.11	
Austria Styria	93	98	29	73,918	3.92	2.63	5.63	
Croatia Zagreb	93	97	2	31,719	0.63	0.06	2.30	
Switzerland Zurich	93	98	30	255,571	1.17	0.79	1.68	
Bulgaria Sofia	96	97	7	18,230	3.84	1.52	7.93	
France Paris	93	98	70	220,330	3.18	2.48	4.01	
France Strasbourg	93	98	40	79,393	5.04	3.60	6.86	
France Central East	93	98	141	609,089	2.31	1.95	2.73	
Italy North East	93	98	33	316,862	1.04	**0.37**	**2.61**	↓
Italy IMER	93	98	31	151,604	2.04	**0.00**	**4.16**	↓
Italy Tuscany	93	98	38	148,120	2.57	1.81	3.52	
Italy BDRCAM	93	98	46	276,108	1.67	**0.69**	**3.41**	↑
Italy ISMAC	98	98	3	17,248	1.74	0.33	5.11	
Malta	93	98	17	29,021	5.86	3.40	9.38	
Spain ECEMC	93	98	48	547,015	0.88	0.65	1.16	
Spain Asturias	93	98	19	39,492	4.81	2.89	7.51	
Spain Basque Country	93	97	42	78,938	5.32	3.83	7.19	
Spain El Valles	93	97	6	36,006	1.67	0.60	3.64	
Spain Barcelona	93	98	25	73,501	3.40	2.20	5.02	
Southern Portugal	93	98	15	60,872	2.46	1.37	4.07	
Israel IBDMS	93	98	29	103,924	2.79	1.87	4.01	
United Arab Emirates	98	98	1	7,500	1.33	0.00	7.55	
Russia Tomsk	93	98	0	24,160	0.00	0.00	1.59	
Australia	93	97	328	1,295,708	2.53	2.26	2.82	
New Zealand	98	98	14	55,520	2.52	1.37	4.23	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

Table 10b: Coarctation of aorta, Terminations of pregnancy (TOP)

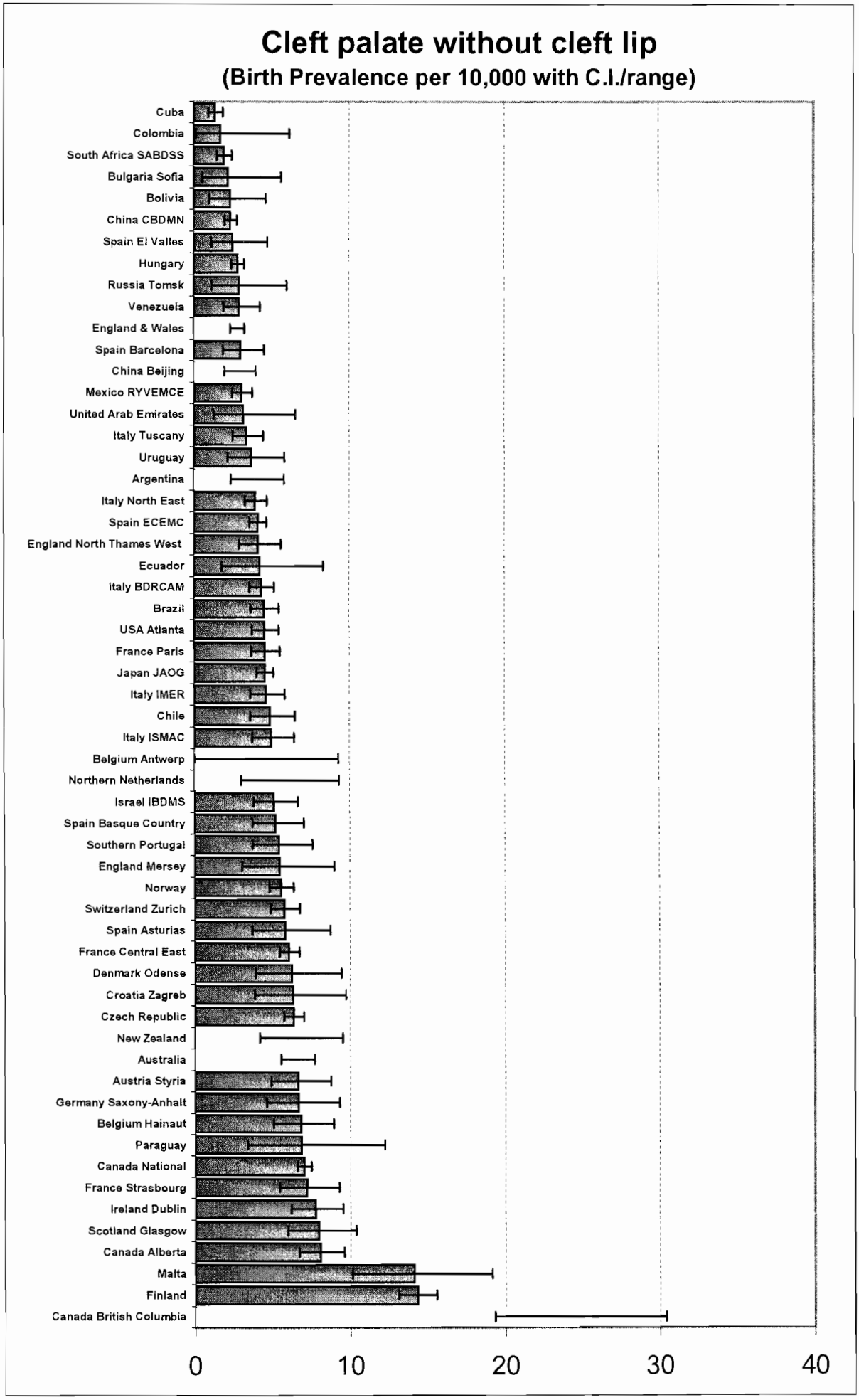
Programme	93		94		95		96		97		98		L+S+ToP Trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta											13	7.69	
USA Atlanta											27	0.00	
Norway											5	0.00	
Finland											48	2.08	
Denmark Odense	0		3	0.00	3	0.00	4	0.00	5	60.00	1	0.00	
Scotland Glasgow	5	20.00	8	0.00	6	0.00	14	0.00	0		5	0.00	
England & Wales											28	3.57	
England North Thames West									11	63.64	7	14.29	
England Mersey											1	0.00	
Northern Netherlands											5	20.00	
Germany Saxony-Anhalt	0		1	0.00	0		1	0.00	0		1	100.00	
Belgium Antwerp	1	0.00	5	0.00	4	0.00	2	0.00	6	0.00	8	0.00	
Belgium Hainaut	3	33.33	7	14.29	2	0.00	6	0.00	6	0.00	10	0.00	
Czech Republic											35	8.57	
Hungary											15	0.00	
Austria Styria	6	0.00	4	0.00	5	20.00	5	0.00	4	0.00	7	14.29	
Croatia Zagreb	0		0		1	0.00	0		1	0.00			
Switzerland Zurich	2	0.00	5	20.00	8	12.50	6	0.00	6	0.00	5	0.00	
Bulgaria Sofia							5	0.00	2	0.00			
France Paris											16	12.50	
France Strasbourg											6	16.67	
France Central East											37	13.51	
Italy North East											2	0.00	
Italy IMER											0		
Italy Tuscany											12	0.00	
Italy BDRCAM											11	27.27	
Spain Asturias	4	25.00	6	0.00	3	0.00	5	0.00	1	0.00	1	0.00	
Spain Basque Country	7	0.00	9	11.11	10	0.00	6	0.00	11	0.00			
Spain El Valles	2	0.00	0		0		4	25.00	1	0.00			
Spain Barcelona	5	0.00	6	16.67	8	0.00	2	0.00	0		5	0.00	
Southern Portugal	0		0		1	0.00	5	0.00	4	0.00	5	0.00	
Israel IBDMS											9	0.00	
Russia Tomsk	0		0		0		0		0		0		
Australia	73	0.00	64	4.69	75	4.00	62	4.84	66	4.55			

Table 11a: Cleft palate without cleft lip, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada National	93	97	975	1,389,607	7.02	6.58	7.47	
Canada Alberta	95	98	122	151,200	8.07	6.70	9.63	
Canada British Columbia*	93	98	695	274,542	25.31	**19.34**	**30.41**	↑
USA Atlanta	93	98	113	249,434	4.53	3.73	5.45	
Mexico RYVEMCE	93	98	90	294,380	3.06	2.46	3.76	
Cuba	93	98	37	273,346	1.35	0.95	1.87	
Venezuela	93	98	26	89,441	2.91	1.90	4.26	
Colombia	93	94	2	11,844	1.69	0.16	6.16	
Ecuador	93	98	8	18,937	4.22	1.80	8.34	
Brazil	93	98	99	220,452	4.49	3.65	5.47	
Bolivia	93	98	8	34,007	2.35	1.00	4.64	
Paraguay	93	98	11	16,108	6.83	3.39	12.23	
Uruguay	93	98	18	48,771	3.69	2.18	5.83	
Chile	93	98	48	98,320	4.88	3.60	6.47	
Argentina	93	98	154	412,862	3.73	**2.37**	**5.82**	↓
Norway	93	98	200	360,906	5.54	4.80	6.36	
Finland	93	98	532	371,826	14.31	13.12	15.58	
Denmark Odense	93	98	22	35,285	6.23	3.90	9.44	
Scotland Glasgow	93	98	53	66,729	7.94	5.95	10.39	
England & Wales	93	98	1,144	3,934,009	2.91	**2.36**	**3.25**	↓
England North Thames West	97	98	39	94,949	4.11	2.92	5.61	
England Mersey	98	98	15	27,516	5.45	3.04	9.00	
Ireland Dublin	93	98	88	113,719	7.74	6.21	9.53	
Northern Netherlands	93	98	59	116,337	5.07	**3.01**	**9.33**	↓
Germany Saxony-Anhalt	93	98	34	50,947	6.67	4.62	9.33	
Belgium Antwerp	93	98	38	76,426	4.97	**0.00**	**9.30**	↑
Belgium Hainaut	93	98	50	73,563	6.80	5.04	8.96	
Czech Republic	93	98	378	596,805	6.33	5.71	7.01	
Hungary	93	98	184	650,371	2.83	2.44	3.27	
Austria Styria	93	98	49	73,918	6.63	4.90	8.76	
Croatia Zagreb	93	97	20	31,719	6.31	3.84	9.74	
Switzerland Zurich	93	98	147	255,571	5.75	4.86	6.76	
Bulgaria Sofia	96	97	4	18,230	2.19	0.57	5.64	
France Paris	93	98	100	220,330	4.54	3.69	5.52	
France Strasbourg	93	98	57	79,393	7.18	5.44	9.30	
France Central East	93	98	369	609,089	6.06	5.46	6.71	
Italy North East	93	98	125	316,862	3.94	3.28	4.70	
Italy IMER	93	98	70	151,604	4.62	3.60	5.83	
Italy Tuscany	93	98	50	148,120	3.38	2.50	4.45	
Italy BDRCAM	93	98	119	276,108	4.31	3.57	5.16	
Italy ISMAC	93	98	55	111,286	4.94	3.72	6.43	
Malta	93	98	41	29,021	14.13	10.13	19.16	
Spain ECEMC	93	98	224	547,015	4.09	3.58	4.67	
Spain Asturias	93	98	23	39,492	5.82	3.69	8.74	
Spain Basque Country	93	97	41	78,938	5.19	3.73	7.05	
Spain El Valles	93	97	9	36,006	2.50	1.13	4.75	
Spain Barcelona	93	98	22	73,501	2.99	1.87	4.53	
Southern Portugal	93	98	33	60,872	5.42	3.73	7.61	
Israel IBDMS	93	98	53	103,924	5.10	3.82	6.67	
United Arab Emirates	96	98	7	22,099	3.17	1.26	6.54	
Russia Tomsk	93	98	7	24,160	2.90	1.15	5.98	
Japan JAOG	93	98	281	619,107	4.54	4.02	5.10	
China Beijing	97	98	81	267,071	3.03	**1.96**	**4.01**	
China CBDMN	97	98	141	598,316	2.36	1.98	2.78	
Australia	93	97	840	1,295,708	6.48	**5.55**	**7.73**	↑
New Zealand	93	98	224	347,440	6.45	**4.15**	**9.55**	↑
South Africa SABDSS	93	97	65	336,331	1.93	1.49	2.46	

* = include also cleft lip figures

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

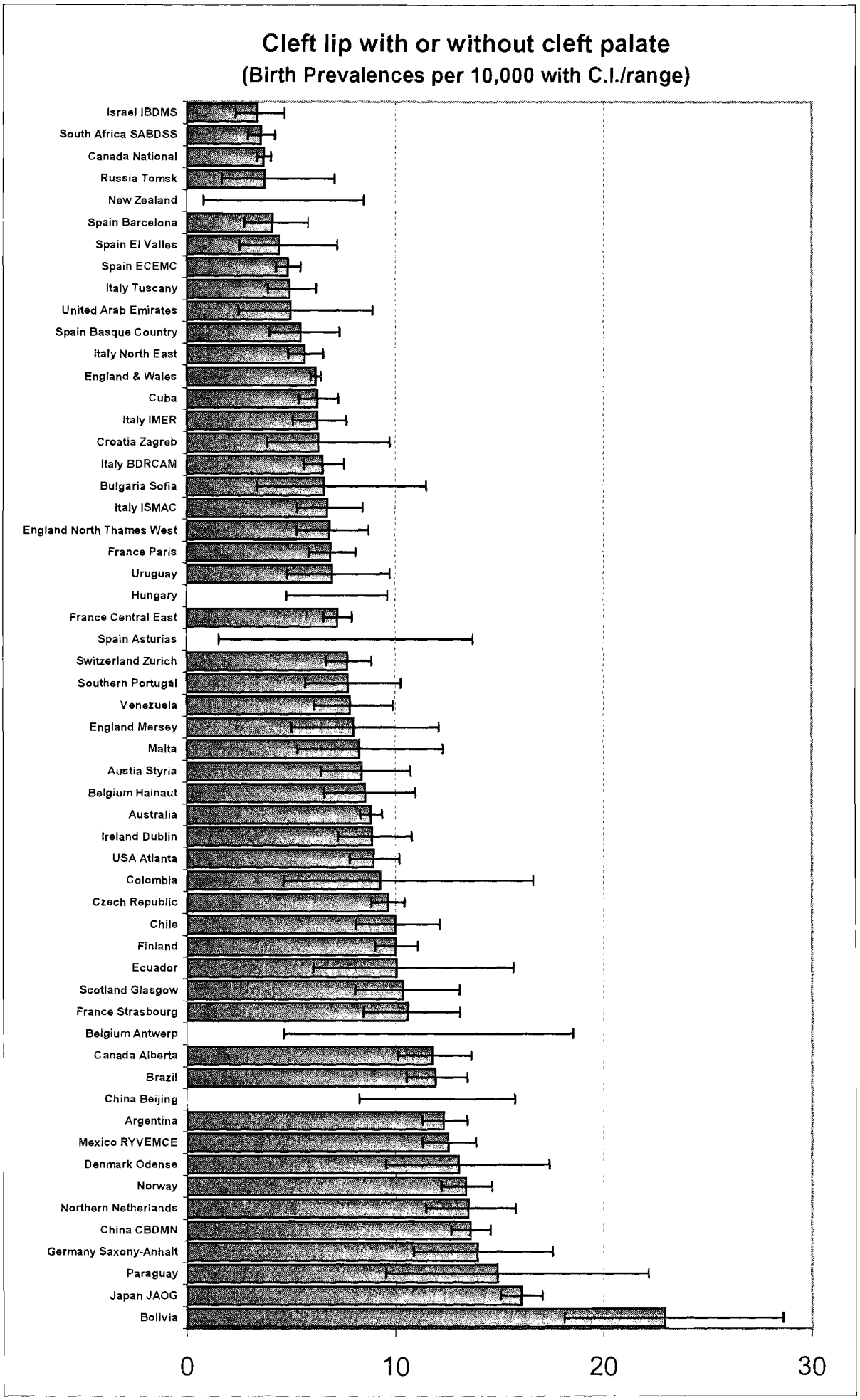
Table 11b: Cleft palate without cleft lip, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP Trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									39	0.00	28	0.00	
USA Atlanta			16	6.25	22	0.00	24	4.17	12	0.00	27	0.00	
Norway			26	0.00	36	0.00	23	0.00	43	0.00	36	0.00	
Finland							73	4.11	80	1.25	93	0.00	
Denmark Odense	4	0.00	8	0.00	2	0.00	4	0.00	3	0.00	1	0.00	
Scotland Glasgow	11	18.18	11	18.18	7	28.57	9	11.11	8	0.00	16	12.50	
England & Wales			187	2.14	190	1.05	154	0.00	198	0.51	203	0.49	
England North Thames West									21	33.33	27	7.41	
England Mersey											15	0.00	
Northern Netherlands			18	0.00	8	12.50	7	0.00	8	0.00	6	0.00	↓
Germany Saxony-Anhalt	5	0.00	3	0.00	7	0.00	2	0.00	9	11.11	9	0.00	
Belgium Antwerp	0		2	0.00	4	0.00	5	0.00	17	0.00	10	0.00	↑
Belgium Hainaut	5	20.00	12	8.33	5	0.00	13	7.69	8	0.00	10	0.00	
Czech Republic					71	0.00	47	0.00	67	0.00	52	0.00	
Hungary					36	0.00	25	0.00	21	0.00	36	0.00	
Austria Styria	8	12.50	14	14.29	8	37.50	7	0.00	11	0.00	7	0.00	
Croatia Zagreb	4	0.00	3	0.00	5	0.00	7	0.00	1	0.00			
Switzerland Zurich	32	3.13	29	10.34	27	11.11	23	8.70	24	0.00	26	19.23	
Bulgaria Sofia							2	0.00	2	0.00			
France Paris			29	31.03	17	41.18	28	32.14	24	12.50	21	38.10	
France Strasbourg			14	14.29	12	0.00	11	9.09	9	33.33	7	0.00	
France Central East			79	8.86	71	8.45	69	17.39	70	12.86	66	7.58	
Italy North East							23	0.00	19	0.00	23	4.35	
Italy IMER					16	0.00	15	0.00	6	0.00	5	0.00	
Italy Tuscany									10	0.00	5	0.00	
Italy BDRCAM					12	8.33	25	0.00	24	0.00	20	0.00	
Spain Asturias	4	0.00	5	0.00	2	0.00	5	0.00	4	0.00	4	25.00	
Spain Basque Country	13	7.69	6	0.00	6	0.00	9	0.00	10	20.00			
Spain El Valles	2	0.00	2	0.00	1	0.00	2	0.00	2	0.00			
Spain Barcelona	3	0.00	3	0.00	7	14.29	5	0.00	2	0.00	4	25.00	
Southern Portugal	5	0.00	4	0.00	5	0.00	5	20.00	10	0.00	5	0.00	
Israel IBDMS									10	10.00	9	0.00	
Russia Tomsk	3	66.67	2	0.00	1	0.00	0		1	0.00	2	0.00	
Australia	164	1.83	156	7.05	205	1.95	187	3.21	157	3.18			

Table 12a: Cleft lip with or without cleft palate, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	512	1,389,607	3.68	3.37	4.02	
Canada Alberta	95	98	178	151,200	11.77	10.11	13.63	
USA Atlanta	93	98	223	249,434	8.94	7.81	10.19	
Mexico RYVEMCE	93	98	369	294,380	12.53	11.29	13.88	
Cuba	93	98	171	273,346	6.26	5.35	7.27	
Venezuela	93	98	70	89,441	7.83	6.10	9.89	
Colombia	93	94	11	11,844	9.29	4.61	16.63	
Ecuador	93	98	19	18,937	10.03	6.03	15.67	
Brazil	93	98	263	220,452	11.93	10.53	13.46	
Bolivia	93	98	78	34,007	22.94	18.13	28.62	
Paraguay	93	98	24	16,108	14.90	9.53	22.17	
Uruguay	93	98	34	48,771	6.97	4.82	9.74	
Chile	93	98	98	98,320	9.97	8.09	12.15	
Argentina	93	98	509	412,862	12.33	11.28	13.45	
Norway	93	98	483	360,906	13.38	12.22	14.63	
Finland	93	98	372	371,826	10.00	9.01	11.07	
Denmark Odense	93	98	46	35,285	13.04	9.54	17.39	
Scotland Glasgow	93	98	69	66,729	10.34	8.04	13.08	
England & Wales	93	98	2,430	3,934,009	6.18	5.93	6.43	
England North Thames West	97	98	65	94,949	6.85	5.28	8.72	
England Mersey	98	98	22	27,516	8.00	5.00	12.11	
Ireland Dublin	93	98	101	113,719	8.88	7.23	10.79	
Northern Netherlands	93	98	157	116,337	13.50	11.47	15.78	
Germany Saxony-Anhalt	93	98	71	50,947	13.94	10.88	17.58	
Belgium Antwerp	93	98	83	76,426	10.86	**4.63**	**18.53**	↓
Belgium Hainaut	93	98	63	73,563	8.56	6.58	10.96	
Czech Republic	93	98	574	596,805	9.62	8.85	10.44	
Hungary	93	98	457	650,371	7.03	**4.76**	**9.62**	↓
Austia Styria	93	98	62	73,918	8.39	6.43	10.75	
Croatia Zagreb	93	97	20	31,719	6.31	3.84	9.74	
Switzerland Zurich	93	98	197	255,571	7.71	6.67	8.86	
Bulgaria Sofia	96	97	12	18,230	6.58	3.38	11.51	
France Paris	93	98	152	220,330	6.90	5.85	8.09	
France Strasbourg	93	98	84	79,393	10.58	8.44	13.10	
France Central East	93	98	440	609,089	7.22	6.56	7.93	
Italy North East	93	98	179	316,862	5.65	4.85	6.54	
Italy IMER	93	98	95	151,604	6.27	5.07	7.66	
Italy Tuscany	93	98	73	148,120	4.93	3.86	6.20	
Italy BDRCAM	93	98	180	276,108	6.52	5.60	7.54	
Italy ISMAC	93	98	75	111,286	6.74	5.30	8.45	
Malta	93	98	24	29,021	8.27	5.29	12.31	
Spain ECEMC	93	98	264	547,015	4.83	4.26	5.44	
Spain Asturias	93	98	29	39,492	7.34	**1.54**	**13.73**	↓
Spain Basque Country	93	97	43	78,938	5.45	3.94	7.34	
Spain El Valles	93	97	16	36,006	4.44	2.53	7.22	
Spain Barcelona	93	98	30	73,501	4.08	2.75	5.83	
Southern Portugal	93	98	47	60,872	7.72	5.67	10.27	
Israel IBDMS	93	98	35	103,924	3.37	2.34	4.68	
United Arab Emirates	96	98	11	22,099	4.98	2.47	8.91	
Russia Tomsk	93	98	9	24,160	3.73	1.69	7.08	
Japan JAOG	93	98	993	619,107	16.04	15.06	17.07	
China Beijing	97	98	325	267,071	12.17	**8.25**	**15.73**	
China CBDMN	97	98	814	598,316	13.60	12.69	14.57	
Australia	93	97	1,144	1,295,708	8.83	8.32	9.36	
New Zealand	93	98	140	347,440	4.03	**0.81**	**8.49**	↑
South Africa SABDSS	93	97	119	336,331	3.54	2.93	4.23	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

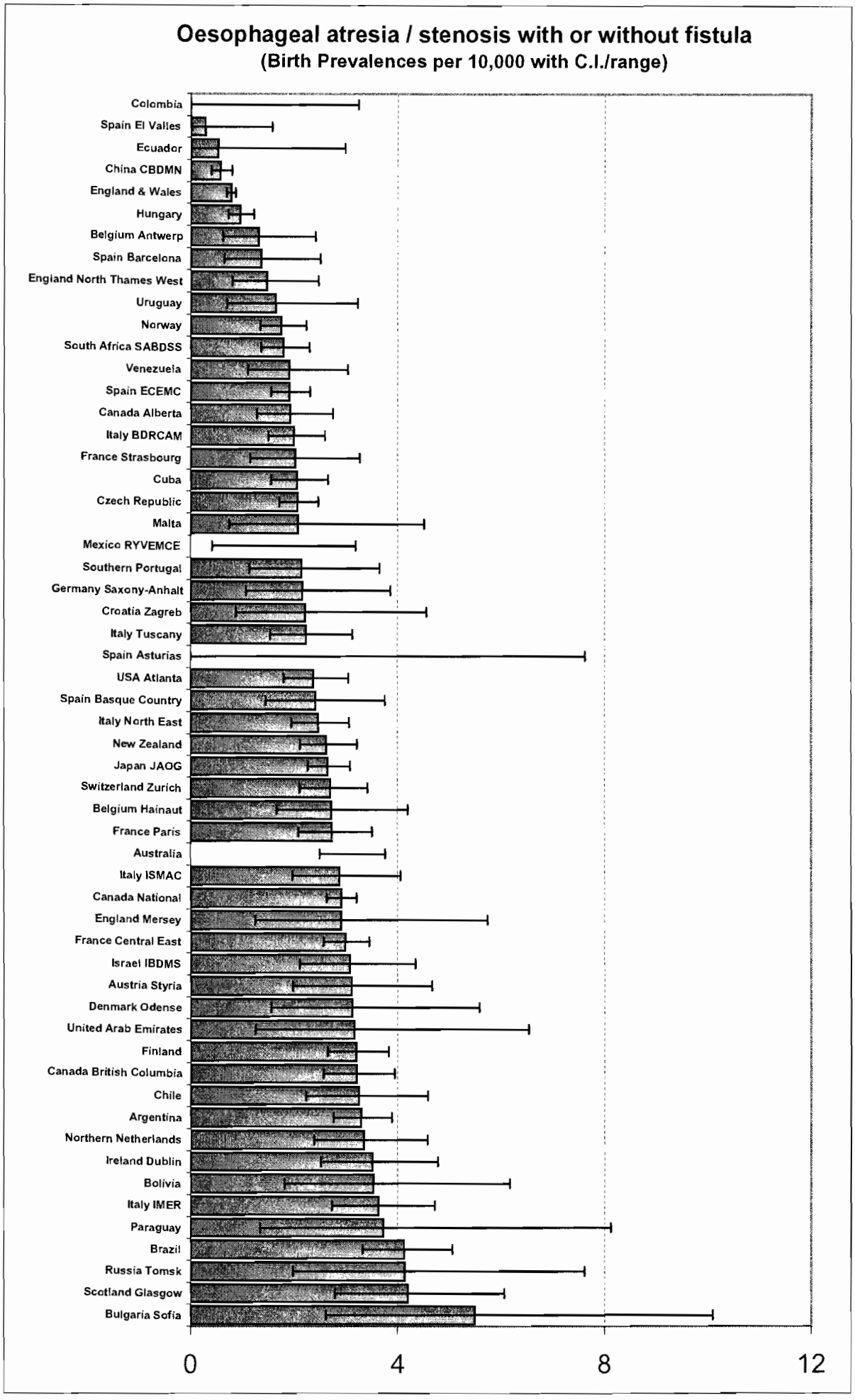
Table 12b: Cleft lip with or without cleft palate, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP Trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									32	0.00	52	9.62	
USA Atlanta			37	0.00	42	4.76	40	0.00	31	0.00	49	8.16	
Norway			101	1.98	72	1.39	87	3.45	81	1.23	76	9.21	
Finland							60	8.33	72	8.33	56	12.50	
Denmark Odense	9	0.00	8	0.00	8	12.50	6	0.00	6	0.00	11	9.09	
Scotland Glasgow	12	8.33	9	0.00	12	0.00	13	7.69	17	5.88	12	25.00	
England & Wales			451	1.77	387	1.03	410	1.22	378	0.79	386	0.00	
England North Thames West									46	21.74	35	17.14	
England Mersey											23	4.35	
Northern Netherlands			37	5.41	33	0.00	24	0.00	24	4.17	26	0.00	
Germany Saxony-Anhalt	9	0.00	12	0.00	11	0.00	12	16.67	20	25.00	16	12.50	
Belgium Antwerp	14	0.00	11	9.09	7	0.00	5	0.00	30	0.00	17	0.00	
Belgium Hainaut	14	7.14	17	0.00	10	20.00	8	25.00	7	0.00	15	20.00	
Czech Republic					107	4.67	73	0.00	95	3.16	80	7.50	
Hungary					86	0.00	66	0.00	48	0.00	62	0.00	
Austria Styria	17	11.76	17	11.76	6	0.00	10	10.00	6	16.67	12	0.00	
Croatia Zagreb	3	0.00	4	0.00	3	0.00	4	0.00	6	0.00			
Switzerland Zurich	31	9.68	39	5.13	46	13.04	31	3.23	41	21.95	35	14.29	
Bulgaria Sofia							7	14.29	6	0.00			
France Paris			45	24.44	29	20.69	34	23.53	38	34.21	40	32.50	
France Strasbourg			24	16.67	14	7.14	16	18.75	21	14.29	13	38.46	
France Central East			78	5.13	83	10.84	99	8.08	72	16.67	86	26.74	
Italy North East							46	17.39	36	22.22	36	22.22	
Italy IMER					9	0.00	18	0.00	19	5.26	12	16.67	
Italy Tuscany									15	0.00	15	26.67	
Italy BDRCAM			39	5.13	32	9.38	27	0.00	41	7.32	25	0.00	
Spain Asturias	6	0.00	9	0.00	10	10.00	2	50.00	2	0.00	2	0.00	↓
Spain Basque Country	11	9.09	6	16.67	6	0.00	15	20.00	12	16.67			
Spain El Valles	5	20.00	5	20.00	0		2	0.00	7	14.29			
Spain Barcelona	8	0.00	3	33.33	9	22.22	5	40.00	7	14.29	6	33.33	
Southern Portugal	5	0.00	9	0.00	7	0.00	9	0.00	8	0.00	9	0.00	
Israel IBDMS									9	11.11	8	0.00	
Russia Tomsk	4	50.00	3	33.33	1	0.00	3	33.33	1	100.00	4	50.00	
Australia	249	3.21	253	5.14	254	6.30	224	7.59	231	5.63			

Table 13a: Oesophageal atresia / stenosis with or without fistula, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada National	93	97	404	1,389,607	2.91	2.63	3.20	
Canada Alberta	95	98	29	151,200	1.92	1.28	2.75	
Canada British Columbia	93	98	88	274,542	3.21	2.57	3.95	
USA Atlanta	93	98	59	249,434	2.37	1.80	3.05	
Mexico RYVEMCE	93	98	62	294,380	2.11	**0.42**	**3.19**	↑
Cuba	93	98	56	273,346	2.05	1.55	2.66	
Venezuela	93	98	17	89,441	1.90	1.10	3.04	
Colombia	93	94	0	11,844	0.00	0.00	3.24	
Ecuador	93	98	1	18,937	0.53	0.00	2.99	
Brazil	93	98	91	220,452	4.13	3.32	5.07	
Bolivia	93	98	12	34,007	3.53	1.81	6.17	
Paraguay	93	98	6	16,108	3.72	1.34	8.13	
Uruguay	93	98	8	48,771	1.64	0.70	3.24	
Chile	93	98	32	98,320	3.25	2.22	4.59	
Argentina	93	98	136	412,862	3.29	2.76	3.90	
Norway	93	98	63	360,906	1.75	1.34	2.23	
Finland	93	98	119	371,826	3.20	2.65	3.83	
Denmark Odense	93	98	11	35,285	3.12	1.55	5.58	
Scotland Glasgow	93	98	28	66,729	4.20	2.79	6.06	
England & Wales	93	98	306	3,934,009	0.78	0.69	0.87	
England North Thames West	97	98	14	94,949	1.47	0.80	2.48	
England Mersey	98	98	8	27,516	2.91	1.24	5.74	
Ireland Dublin	93	98	40	113,719	3.52	2.51	4.79	
Northern Netherlands	93	98	39	116,337	3.35	2.38	4.58	
Germany Saxony-Anhalt	93	98	11	50,947	2.16	1.07	3.87	
Belgium Antwerp	93	98	10	76,426	1.31	0.62	2.41	
Belgium Hainaut	93	98	20	73,563	2.72	1.66	4.20	
Czech Republic	93	98	123	596,805	2.06	1.71	2.46	
Hungary	93	98	62	650,371	0.95	0.73	1.22	
Austria Styria	93	98	23	73,918	3.11	1.97	4.67	
Croatia Zagreb	93	97	7	31,719	2.21	0.87	4.56	
Switzerland Zurich	93	98	69	255,571	2.70	2.10	3.42	
Bulgaria Sofia	96	97	10	18,230	5.49	2.61	10.10	
France Paris	93	98	60	220,330	2.72	2.08	3.50	
France Strasbourg	93	98	16	79,393	2.02	1.15	3.27	
France Central East	93	98	182	609,089	2.99	2.57	3.45	
Italy North East	93	98	78	316,862	2.46	1.95	3.07	
Italy IMER	93	98	55	151,604	3.63	2.73	4.72	
Italy Tuscany	93	98	33	148,120	2.23	1.53	3.13	
Italy BDRCAM	93	98	55	276,108	1.99	1.50	2.59	
Italy ISMAC	93	98	32	111,286	2.88	1.97	4.06	
Malta	93	98	6	29,021	2.07	0.74	4.51	
Spain ECEMC	93	98	104	547,015	1.90	1.55	2.30	
Spain Asturias	93	98	9	39,492	2.28	**0.00**	**7.63**	↓
Spain Basque Country	93	97	19	78,938	2.41	1.45	3.76	
Spain El Valles	93	97	1	36,006	0.28	0.00	1.57	
Spain Barcelona	93	98	10	73,501	1.36	0.65	2.50	
Southern Portugal	93	98	13	60,872	2.14	1.13	3.65	
Israel IBDMS	93	98	32	103,924	3.08	2.10	4.35	
United Arab Emirates	96	98	7	22,099	3.17	1.26	6.54	
Russia Tomsk	93	98	10	24,160	4.14	1.97	7.62	
Japan JAOG	93	98	164	619,107	2.65	2.26	3.09	
China CBDMN	97	98	34	598,316	0.57	0.39	0.79	
Australia	93	97	367	1,295,708	2.83	**2.49**	**3.76**	↓
New Zealand	93	98	91	347,440	2.62	2.11	3.22	
South Africa SABDSS	93	97	60	336,331	1.78	1.36	2.30	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

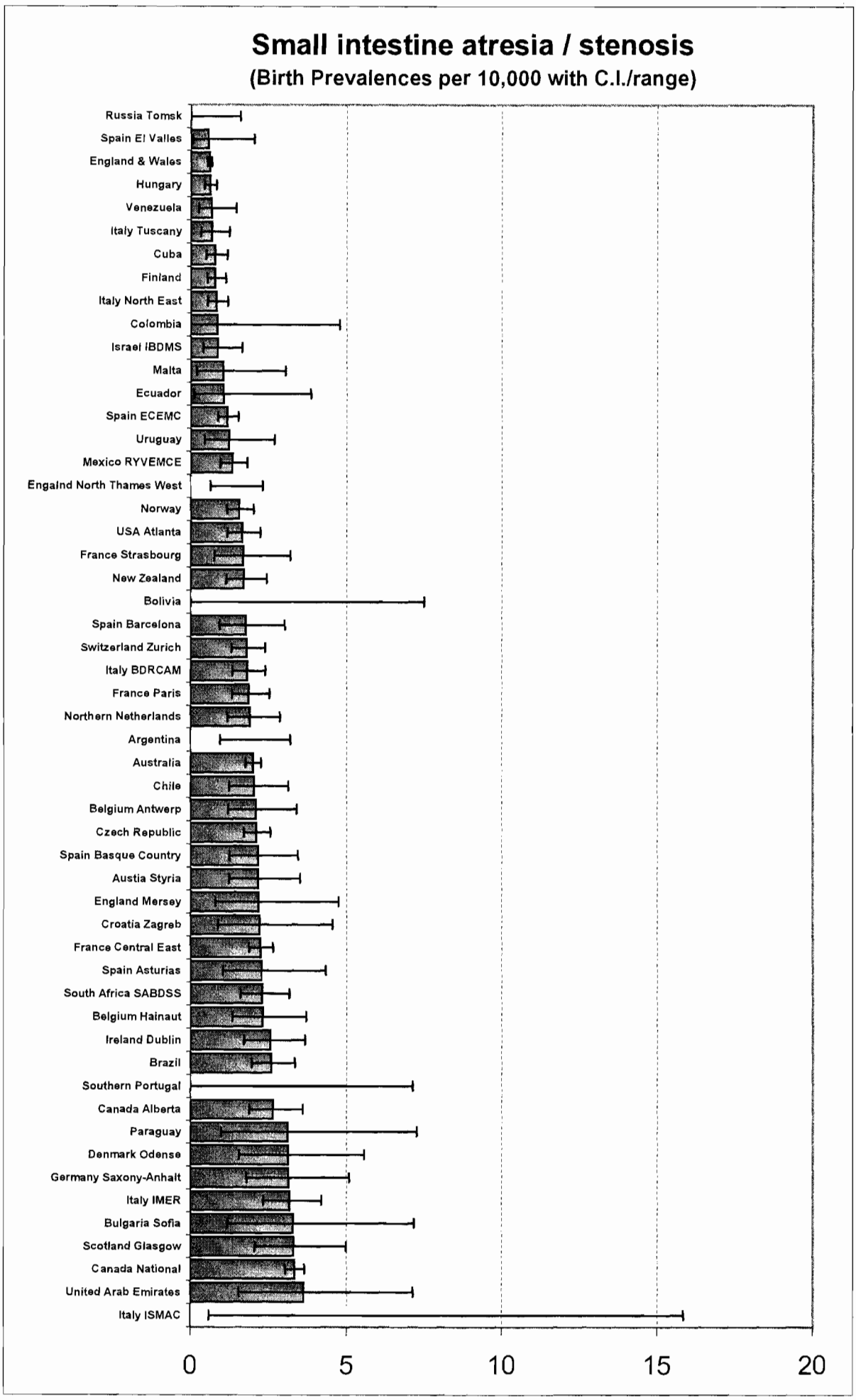
Table 13b: Oesophageal atresia / stenosis with or without fistula, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP Trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									8	0.00	13	15.38	
USA Atlanta			7	0.00	13	0.00	7	0.00	14	0.00	4	0.00	
Norway			12	0.00	6	16.67	12	0.00	6	0.00	15	0.00	
Finland							20	5.00	20	10.00	26	7.69	
Denmark Odense	4	0.00	2	50.00	1	0.00	2	0.00	2	0.00	1	0.00	
Scotland Glasgow	5	0.00	8	0.00	4	0.00	5	0.00	2	0.00	4	0.00	
England & Wales			55	0.00	66	1.52	43	0.00	43	0.00	48	0.00	
England North Thames West									10	40.00	11	27.27	
England Mersey											8	0.00	
Northern Netherlands			5	0.00	5	0.00	6	0.00	12	0.00	6	0.00	
Germany Saxony-Anhalt	1	100.00	0		1	0.00	5	20.00	2	0.00	5	20.00	
Belgium Antwerp	2	50.00	0		3	0.00	1	0.00	2	0.00	3	0.00	
Belgium Hainaut	4	0.00	4	0.00	5	0.00	3	0.00	2	0.00	2	0.00	
Czech Republic					29	0.00	13	0.00	18	0.00	19	0.00	
Hungary					5	0.00	14	0.00	9	0.00	10	0.00	
Austria Styria	7	0.00	1	0.00	6	0.00	5	0.00	0		5	20.00	
Croatia Zagreb	1	0.00	0		0		4	0.00	2	0.00			
Switzerland Zurich	9	11.11	15	6.67	13	15.38	17	5.88	16	12.50	6	0.00	
Bulgaria Sofia							8	0.00	2	0.00			
France Paris			13	38.46	16	31.25	21	28.57	12	8.33	8	12.50	
France Strasbourg			5	20.00	3	0.00	1	0.00	5	20.00	2	0.00	
France Central East			50	22.00	35	14.29	37	16.22	30	20.00	33	3.03	↓
Italy North East							14	7.14	10	0.00	8	0.00	
Italy IMER					10	0.00	9	0.00	11	9.09	2	0.00	
Italy Tuscany									7	14.29	7	0.00	
Italy BDRCAM					9	11.11	12	8.33	12	0.00	6	0.00	
Spain Asturias	3	33.33	2	0.00	5	0.00	0		0		0		↓
Spain Basque Country	3	0.00	1	0.00	2	0.00	5	0.00	8	0.00			↑
Spain El Valles	0		0		0		1	100.00	1	0.00			
Spain Barcelona	2	0.00	2	50.00	1	0.00	4	25.00	1	100.00	3	0.00	
Southern Portugal	2	0.00	1	0.00	4	0.00	1	0.00	2	0.00	3	0.00	
Israel IBDMS									7	0.00	4	0.00	
United Arab Emirates													
Russia Tomsk	2	50.00	1	0.00	0		3	0.00	5	20.00	3	66.67	
Australia	100	2.00	66	1.52	74	1.35	69	4.35	68	4.41			↓

Table 14a: Small intestine atresia / stenosis, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	463	1,389,607	3.33	3.04	3.65	
Canada Alberta	95	98	40	151,200	2.65	1.89	3.60	
USA Atlanta	93	98	41	249,434	1.64	1.18	2.23	
Mexico RYVEMCE	93	98	39	294,380	1.32	0.94	1.81	
Cuba	93	98	21	273,346	0.77	0.47	1.17	
Venezuela	93	98	6	89,441	0.67	0.24	1.46	
Colombia	93	94	1	11,844	0.84	0.00	4.78	
Ecuador	93	98	2	18,937	1.06	0.10	3.85	
Brazil	93	98	57	220,452	2.59	1.96	3.35	
Bolivia	93	98	6	34,007	1.76	**0.00**	**7.51**	↓
Paraguay	93	98	5	16,108	3.10	0.98	7.27	
Uruguay	93	98	6	48,771	1.23	0.44	2.68	
Chile	93	98	20	98,320	2.03	1.24	3.14	
Argentina	93	98	80	412,862	1.94	**0.95**	**3.20**	↓
Norway	93	98	56	360,906	1.55	1.17	2.01	
Finland	93	98	29	371,826	0.78	0.52	1.12	
Denmark Odense	93	98	11	35,285	3.12	1.55	5.58	
Scotland Glasgow	93	98	22	66,729	3.30	2.06	4.99	
England & Wales	93	98	234	3,934,009	0.59	0.52	0.68	
England North Thames West	97	98	14	94,949	1.47	**0.63**	**2.31**	
England Mersey	98	98	6	27,516	2.18	0.78	4.76	
Ireland Dublin	93	98	29	113,719	2.55	1.71	3.66	
Northern Netherlands	93	98	22	116,337	1.89	1.18	2.86	
Germany Saxony-Anhalt	93	98	16	50,947	3.14	1.79	5.10	
Belgium Antwerp	93	98	16	76,426	2.09	1.19	3.40	
Belgium Hainaut	93	98	17	73,563	2.31	1.34	3.70	
Czech Republic	94	98	100	475,780	2.10	1.71	2.56	
Hungary	93	98	40	650,371	0.62	0.44	0.84	
Aústia Styria	93	98	16	73,918	2.16	1.23	3.52	
Croatia Zagreb	93	97	7	31,719	2.21	0.87	4.56	
Switzerland Zurich	93	98	46	255,571	1.80	1.32	2.40	
Bulgaria Sofia	96	97	6	18,230	3.29	1.18	7.18	
France Paris	93	98	41	220,330	1.86	1.33	2.52	
France Strasbourg	95	98	9	53,391	1.69	0.76	3.20	
France Central East	93	98	136	609,089	2.23	1.87	2.64	
Italy North East	93	98	26	316,862	0.82	0.54	1.20	
Italy IMER	93	98	48	151,604	3.17	2.33	4.20	
Italy Tuscany	93	98	10	148,120	0.68	0.32	1.24	
Italy BDRCAM	93	98	50	276,108	1.81	1.34	2.39	
Italy ISMAC	93	98	63	111,286	5.66	**0.58**	**15.84**	↓
Malta	93	98	3	29,021	1.03	0.19	3.04	
Spain ECEMC	93	98 (no 95)	54	459,643	1.17	0.88	1.53	
Spain Asturias	93	98	9	39,492	2.28	1.03	4.33	
Spain Basque Country	93	97	17	78,938	2.15	1.25	3.45	
Spain El Valles	93	97	2	36,006	0.56	0.05	2.03	
Spain Barcelona	93	98	13	73,501	1.77	0.94	3.03	
Southern Portugal	93	98	16	60,872	2.63	**0.00**	**7.14**	↓
Israel IBDMS	93	98	9	103,924	0.87	0.39	1.65	
United Arab Emirates	96	98	8	22,099	3.62	1.55	7.14	
Russia Tomsk	93	98	0	24,160	0.00	0.00	1.59	
Australia	93	97	260	1,295,708	2.01	1.77	2.27	
New Zealand	96	98	29	170,688	1.70	1.14	2.44	
South Africa SABDSS	96	97	36	156,999	2.29	1.61	3.17	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

Table 14b: Small intestine atresia / stenosis, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP Trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									8	0.00	12	8.33	
USA Atlanta			9	0.00	6	0.00	8	0.00	10	0.00	3	0.00	
Norway			7	0.00	12	0.00	11	0.00	6	0.00	13	15.38	
Finland							3	0.00	7	0.00	5	0.00	
Denmark Odense	0		5	20.00	1	0.00	2	0.00	1	0.00	3	0.00	
Scotland Glasgow	3	0.00	4	0.00	5	0.00	3	0.00	5	0.00	3	33.33	
England & Wales			41	9.76	40	5.00	33	0.00	29	0.00	50	0.00	
England North Thames West									4	25.00	12	8.33	
England Mersey											6	0.00	
Northern Netherlands			3	0.00	7	0.00	4	0.00	3	0.00	2	50.00	
Germany Saxony-Anhalt	5	0.00	3	0.00	2	0.00	2	0.00	2	0.00	2	0.00	
Belgium Antwerp	2	0.00	4	0.00	1	0.00	0		6	0.00	3	0.00	
Belgium Hainaut	3	0.00	3	0.00	5	20.00	2	0.00	4	0.00	1	0.00	
Czech Republic							17	0.00	20	0.00	25	0.00	
Hungary					10	0.00	3	0.00	5	0.00	4	0.00	
Austria Styria	3	0.00	0		3	0.00	3	0.00	4	0.00	3	0.00	
Croatia Zagreb	2	0.00	1	0.00	1	0.00	1	0.00	2	0.00			
Switzerland Zurich	11	9.09	7	14.29	9	11.11	14	0.00	4	0.00	5	20.00	
Bulgaria Sofia							4	0.00	2	0.00			
France Paris			8	50.00	17	41.18	7	28.57	5	0.00	9	11.11	
France Strasbourg					5	20.00	2	50.00	2	0.00	4	50.00	
France Central East			24	16.67	18	5.56	20	15.00	24	8.33	37	2.70	↑
Italy North East							4	0.00	4	0.00	5	0.00	
Italy IMER					9	0.00	10	0.00	10	0.00	4	50.00	
Italy Tuscany									1	0.00	1	0.00	
Italy BDRCAM					12	16.67	14	0.00	8	25.00	9	0.00	
Spain Asturias	4	0.00	2	0.00	1	0.00	1	0.00	1	0.00	0		↓
Spain Basque Country	2	0.00	2	0.00	5	0.00	5	0.00	3	0.00			
Spain El Valles	1	0.00	0		1	0.00	1	100.00	0				
Spain Barcelona	2	0.00	3	0.00	1	0.00	4	0.00	2	50.00	2	0.00	
Southern Portugal	0		2	0.00	5	0.00	4	0.00	3	0.00	2	0.00	
Israel IBDMS									1	0.00	2	0.00	
Russia Tomsk	0		1	100.00	0		1	100.00	0		0		
Australia	53	0.00	54	1.85	48	0.00	47	2.13	62	3.23			

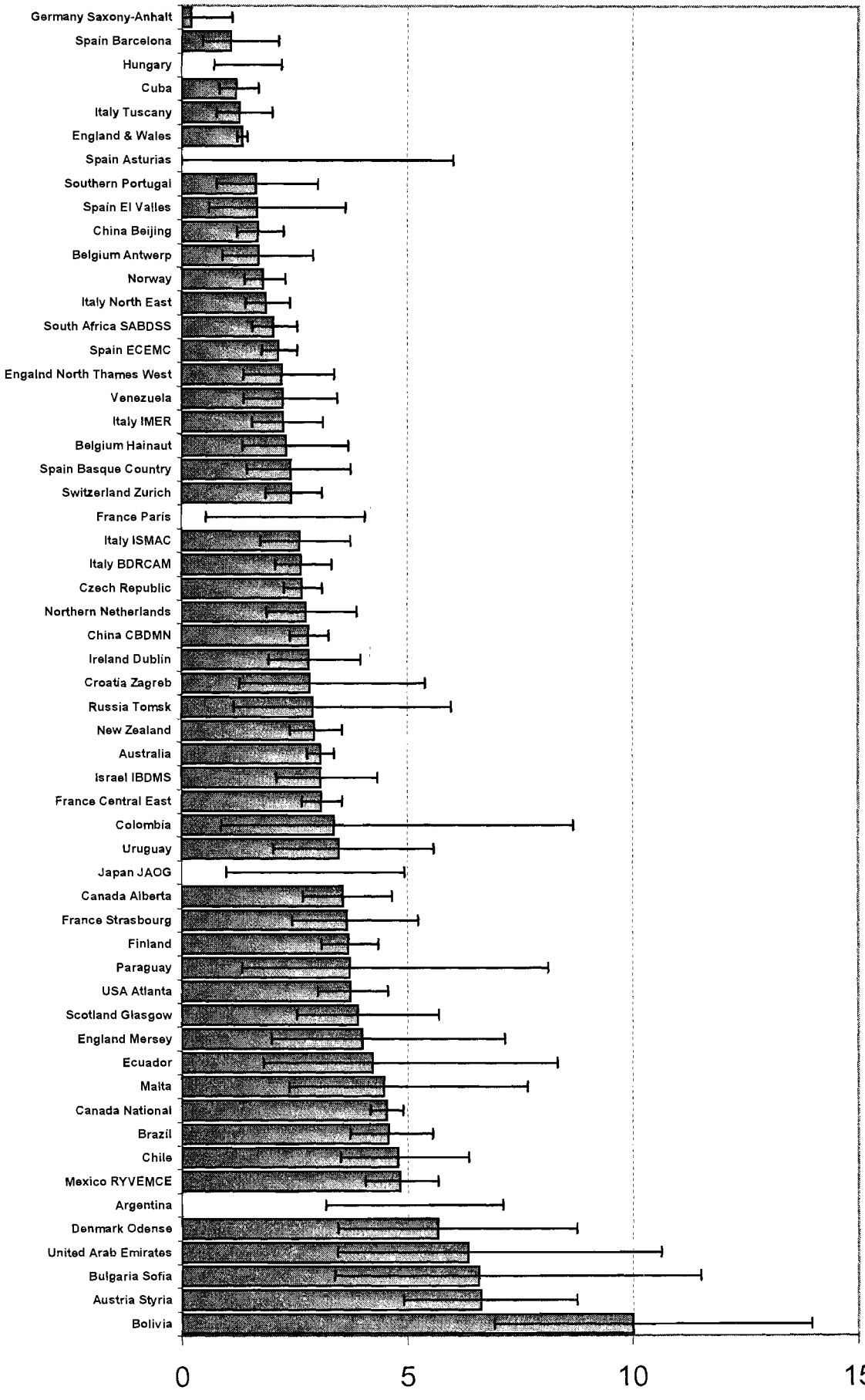
Table 15a: Anorectal atresia / stenosis, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	630	1,389,607	4.53	4.19	4.90	
Canada Alberta	95	98	54	151,200	3.57	2.68	4.66	
USA Atlanta	93	98	93	249,434	3.73	3.01	4.57	
Mexico RYVEMCE	93	98	142	294,380	4.82	4.06	5.69	
Cuba	93	98	33	273,346	1.21	0.83	1.70	
Venezuela	93	98	20	89,441	2.24	1.36	3.45	
Colombia	93	94	4	11,844	3.38	0.88	8.68	
Ecuador	93	98	8	18,937	4.22	1.80	8.34	
Brazil	93	98	101	220,452	4.58	3.73	5.57	
Bolivia	93	98	34	34,007	10.00	6.92	13.97	
Paraguay	93	98	6	16,108	3.72	1.34	8.13	
Uruguay	93	98	17	48,771	3.49	2.03	5.58	
Chile	93	98	47	98,320	4.78	3.51	6.36	
Argentina	93	98	208	412,862	5.04	**3.19**	**7.12**	↑
Norway	93	98	65	360,906	1.80	1.39	2.30	
Finland	93	98	137	371,826	3.68	3.09	4.36	
Denmark Odense	93	98	20	35,285	5.67	3.46	8.76	
Scotland Glasgow	93	98	26	66,729	3.90	2.54	5.71	
England & Wales	93	98	525	3,934,009	1.33	1.22	1.45	
England North Thames West	97	98	21	94,949	2.21	1.37	3.38	
England Mersey	98	98	11	27,516	4.00	1.98	7.16	
Ireland Dublin	93	98	32	113,719	2.81	1.92	3.97	
Northern Netherlands	93	98	32	116,337	2.75	1.88	3.88	
Germany Saxony-Anhalt	93	98	1	50,947	0.20	0.00	1.11	
Belgium Antwerp	93	98	13	76,426	1.70	0.90	2.91	
Belgium Hainaut	93	98	17	73,563	2.31	1.34	3.70	
Czech Republic	93	98	159	596,805	2.66	2.27	3.11	
Hungary	93	98	74	650,371	1.14	**0.71**	**2.21**	↓
Austria Styria	93	98	49	73,918	6.63	4.90	8.76	
Croatia Zagreb	93	97	9	31,719	2.84	1.29	5.39	
Switzerland Zurich	93	98	62	255,571	2.43	1.86	3.11	
Bulgaria Sofia	96	97	12	18,230	6.58	3.38	11.51	
France Paris	93	98	56	220,330	2.54	**0.54**	**4.07**	↓
France Strasbourg	93	98	29	79,393	3.65	2.44	5.25	
France Central East	93	98	188	609,089	3.09	2.66	3.56	
Italy North East	93	98	59	316,862	1.86	1.42	2.40	
Italy IMER	93	98	34	151,604	2.24	1.55	3.13	
Italy Tuscany	93	98	19	148,120	1.28	0.77	2.00	
Italy BDRCAM	93	98	73	276,108	2.64	2.07	3.32	
Italy ISMAC	93	98	29	111,286	2.61	1.74	3.74	
Malta	93	98	13	29,021	4.48	2.38	7.66	
Spain ECEMC	93	98	117	547,015	2.14	1.77	2.56	
Spain Asturias	93	98	6	39,492	1.52	**0.00**	**6.04**	↓
Spain Basque Country	93	97	19	78,938	2.41	1.45	3.76	
Spain El Valles	93	97	6	36,006	1.67	0.60	3.64	
Spain Barcelona	93	98	8	73,501	1.09	0.46	2.15	
Southern Portugal	93	98	10	60,872	1.64	0.78	3.02	
Israel IBDMS	93	98	32	103,924	3.08	2.10	4.35	
United Arab Emirates	96	98	14	22,099	6.34	3.45	10.63	
Russia Tomsk	93	98	7	24,160	2.90	1.15	5.98	
Japan JAOG	93	98	221	619,107	3.57	**0.99**	**4.93**	↑
China Beijing	97	98	45	267,071	1.68	1.23	2.25	
China CBDMN	97	98	168	598,316	2.81	2.40	3.27	
Australia	93	97	398	1,295,708	3.07	2.78	3.39	
New Zealand	93	98	102	347,440	2.94	2.39	3.56	
South Africa SABDSS	93	97	68	336,331	2.02	1.57	2.56	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).

Anorectal atresia / stenosis

(Birth Prevalences per 10,000 with C.I./range)



Note: Where the bars are not displayed, the line represents the range.

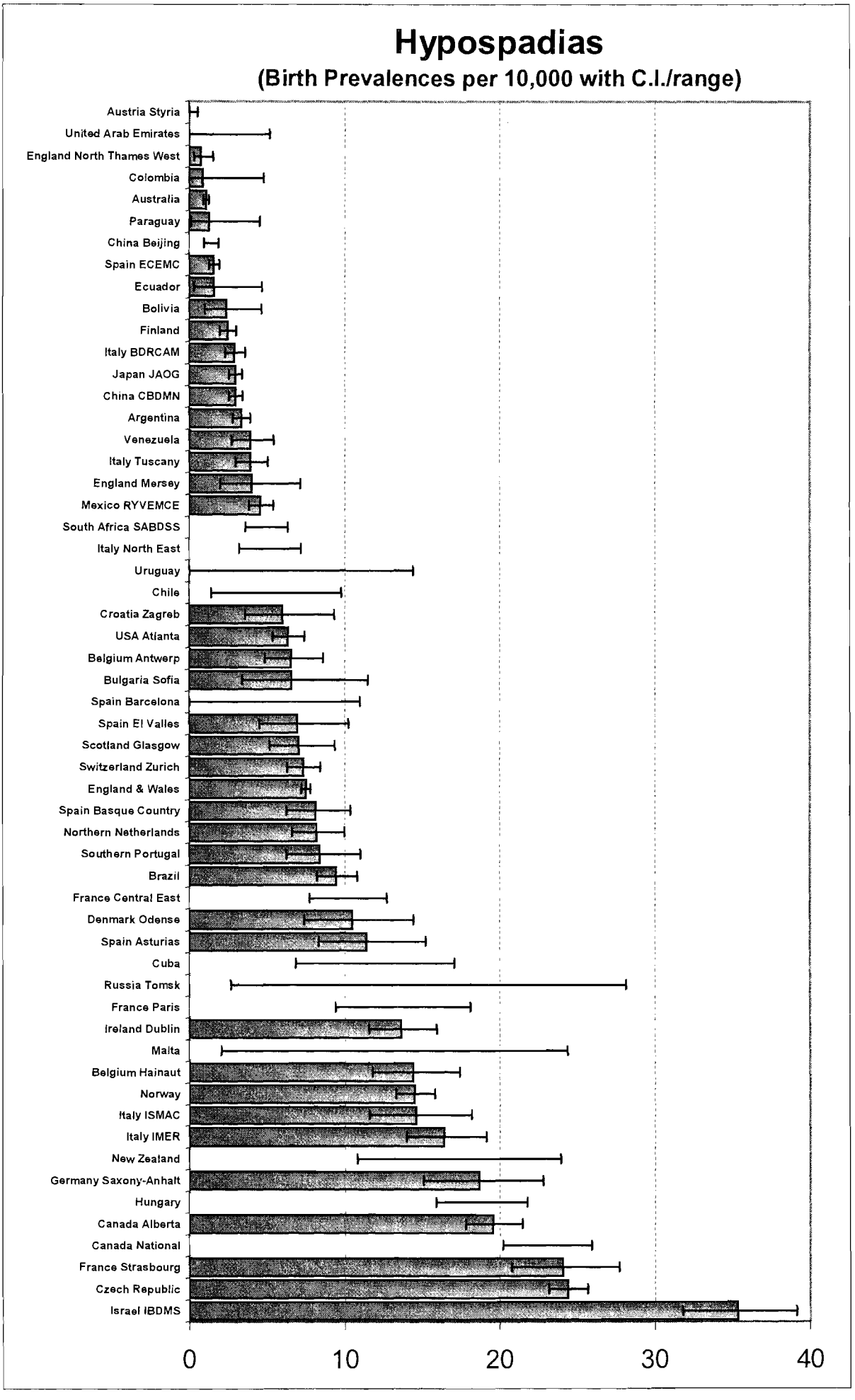
Table 15b: Anorectal atresia / stenosis, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP Trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									15	13.33	20	45.00	
USA Atlanta			17	0.00	11	0.00	9	0.00	19	10.53	18	0.00	
Norway			12	0.00	5	0.00	11	0.00	11	18.18	17	17.65	
Finland							31	16.13	28	10.71	34	20.59	
Denmark Odense	5	0.00	5	20.00	5	0.00	2	0.00	3	0.00	1	0.00	
Scotland Glasgow	8	0.00	7	14.29	4	0.00	7	42.86	2	0.00	3	33.33	
England & Wales			78	0.00	95	0.00	87	1.15	79	0.00	75	0.00	
England North Thames West									13	30.77	17	29.41	
Engalnd Mersey											13	15.38	
Northern Netherlands			6	16.67	6	0.00	8	0.00	5	0.00	9	11.11	
Germany Saxony-Anhalt	0		1	0.00	0		0		0		0		
Belgium Antwerp	1	0.00	3	0.00	1	0.00	2	0.00	1	0.00	5	0.00	
Belgium Hainaut	3	33.33	1	100.00	4	25.00	4	50.00	4	0.00	7	14.29	
Czech Republic							31	0.00	22	0.00	29	0.00	
Hungary					9	0.00	12	0.00	9	0.00	7	0.00	
Austria Styria	9	0.00	7	14.29	15	20.00	9	0.00	2	0.00	12	8.33	
Croatia Zagreb	2	0.00	0		2	0.00	0		6	16.67			
Switzerland Zurich	14	28.57	10	30.00	17	23.53	13	15.38	16	18.75	8	0.00	
Bulgaria Sofia							8	0.00	5	20.00			
France Paris			15	40.00	21	28.57	11	36.36	5	60.00	15	33.33	
France Strasbourg			1	100.00	6	16.67	13	30.77	10	50.00	11	45.45	↑
France Central East			38	18.42	38	28.95	53	16.98	29	10.34	41	21.95	
Italy North East							15	13.33	11	18.18	12	33.33	
Italy IMER					6	0.00	4	0.00	9	0.00	2	50.00	
Italy Tuscany									3	0.00	2	0.00	
Italy BDRCAM					17	23.53	12	33.33	14	7.14	19	15.79	
Spain Asturias	0		4	0.00	2	0.00	1	100.00	0		0		
Spain Basque Country	5	20.00	3	33.33	5	0.00	1	0.00	7	0.00			
Spain El Valles	3	33.33	1	0.00	1	0.00	0		2	0.00			
Spain Barcelona	2	50.00	3	33.33	0		3	0.00	3	33.33	0		
Southern Portugal	2	0.00	1	0.00	2	0.00	2	0.00	2	0.00	1	0.00	
Israel IBDMS									5	0.00	5	0.00	
Russia Tomsk	3	0.00	0		1	0.00	3	0.00	0		0		
Australia	93	8.60	88	13.64	93	9.68	90	8.89	77	7.79			

Table 16a: Hypospadias, Live and Still births (L+S)

Programme	years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	3,244	1,389,607	23.34	**20.20**	**25.92**	↕
Canada Alberta	93	98	452	231,112	19.56	17.80	21.45	
USA Atlanta	93	98	158	249,434	6.33	5.39	7.40	
Mexico RYVEMCE	93	98	134	294,380	4.55	3.81	5.39	
Cuba	93	98	324	273,346	11.85	**6.85**	**17.09**	↓
Venezuela	93	98	35	89,441	3.91	2.72	5.44	
Colombia	93	94	1	11,844	0.84	0.00	4.78	
Ecuador	93	98	3	18,937	1.58	0.30	4.66	
Brazil	93	98	208	220,452	9.44	8.20	10.81	
Bolivia	93	98	8	34,007	2.35	1.00	4.64	
Paraguay	93	98	2	16,108	1.24	0.12	4.53	
Uruguay	93	98	23	48,771	4.72	**0.00**	**14.41**	↕
Chile	93	98	49	98,320	4.98	**1.41**	**9.79**	↕
Argentina	93	98	137	412,862	3.32	2.79	3.92	
Norway	93	98	524	360,906	14.52	13.30	15.82	
Finland	93	98	91	371,826	2.45	1.97	3.00	
Denmark Odense	93	98	37	35,285	10.49	7.38	14.45	
Scotland Glasgow	93	98	47	66,729	7.04	5.17	9.37	
England & Wales	94	98	2,445	3,257,122	7.51	7.21	7.81	
England North Thames West	97	98	7	94,949	0.74	0.29	1.52	
England Mersey	98	98	11	27,516	4.00	1.98	7.16	
Ireland Dublin	93	98	155	113,719	13.63	11.57	15.95	
Northern Netherlands	93	98	95	116,337	8.17	6.61	9.98	
Germany Saxony-Anhalt	93	98	95	50,947	18.65	15.09	22.79	
Belgium Antwerp	93	98	50	76,426	6.54	4.85	8.62	
Belgium Hainaut	93	98	106	73,563	14.41	11.80	17.43	
Czech Republic	93	98	1,455	596,805	24.38	23.14	25.67	
Hungary	93	98	1,261	650,371	19.39	**15.90**	**21.79**	↓
Austria Styria	93	98	0	73,918	0.00	0.00	0.52	
Croatia Zagreb	93	97	19	31,719	5.99	3.60	9.36	
Switzerland Zurich	93	98	187	255,571	7.32	6.31	8.44	
Bulgaria Sofia	96	97	12	18,230	6.58	3.38	11.51	
France Paris	93	98	281	220,330	12.75	**9.40**	**18.10**	↓
France Strasbourg	93	98	191	79,393	24.06	20.77	27.72	
France Central East	93	98	638	609,089	10.47	**7.73**	**12.73**	↕
Italy North East	93	98	147	316,862	4.64	**3.18**	**7.19**	↕
Italy IMER	93	98 (no 94-95)	163	99,359	16.41	13.98	19.12	
Italy Tuscany	93	98	58	148,120	3.92	2.97	5.06	
Italy BDRCAM	93	98	80	276,108	2.90	2.30	3.61	
Italy ISMAC	96	98	80	54,769	14.61	11.58	18.18	
Malta	93	98	41	29,021	14.13	**2.06**	**24.38**	↕
Spain ECEMC	93	98	85	547,015	1.55	1.24	1.92	
Spain Asturias	93	98	45	39,492	11.39	8.31	15.25	
Spain Basque Country	93	97	64	78,938	8.11	6.24	10.35	
Spain El Valles	93	97	25	36,006	6.94	4.49	10.25	
Spain Barcelona	93	98	49	73,501	6.67	**0.00**	**10.99**	↓
Southern Portugal	93	98	51	60,872	8.38	6.24	11.01	
Israel IBDMS	93	98	367	103,924	35.31	31.79	39.12	
United Arab Emirates	96	96	0	7,412	0.00	0.00	5.18	
Russia Tomsk	93	98	30	24,160	12.42	**2.65**	**28.14**	↕
Japan JAOG	93	98	182	619,107	2.94	2.53	3.40	
China Beijing	97	98	38	267,071	1.42	**0.94**	**1.86**	
China CBDMN	97	98	177	598,316	2.96	2.54	3.43	
Australia	93	97	139	1,295,708	1.07	0.90	1.27	
New Zealand	93	98 (no 94-95)	401	232,214	17.27	**10.80**	**23.96**	↕
South Africa SABDSS	93	97 (no 94-95)	99	216,862	4.57	**3.60**	**6.35**	↕

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

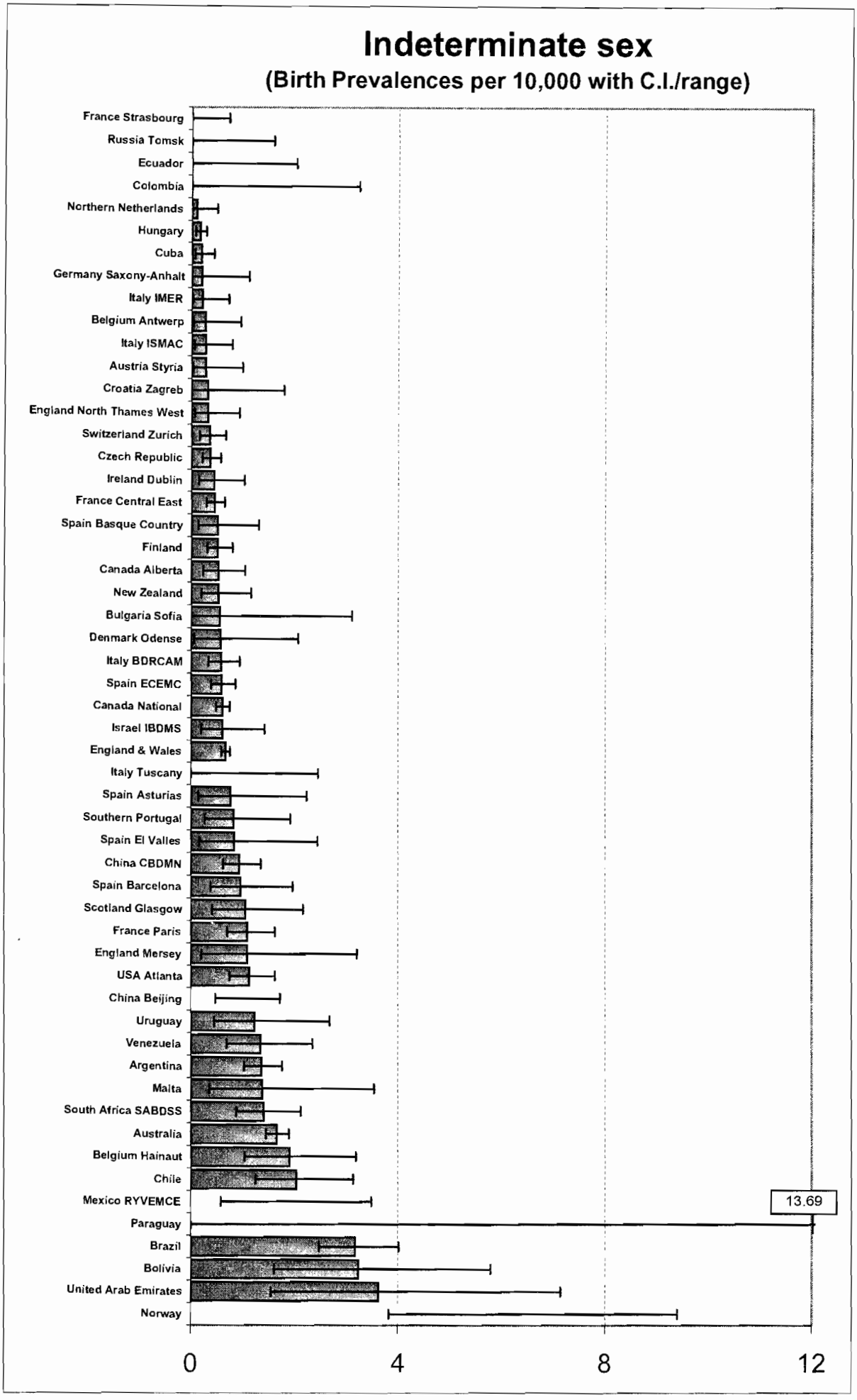
Table 16b: Hypospadias, Terminations of Pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									72	1.39	59	1.69	
USA Atlanta							32	0.00	27	0.00	35	0.00	
Norway							79	0.00	82	0.00	89	0.00	
Finland							14	0.00	21	0.00	15	0.00	
Denmark Odense	1	0.00	5	0.00	6	0.00	7	0.00	12	0.00	6	0.00	↑
Scotland Glasgow	10	10.00	8	12.50	10	0.00	9	11.11	6	0.00	7	0.00	
England & Wales							466	0.00	493	0.00	494	0.20	
England North Thames West									2	0.00	5	0.00	
England Mersey											11	0.00	
Northern Netherlands							19	0.00	16	0.00	12	0.00	
Germany Saxony-Anhalt	22	0.00	13	7.69	16	0.00	14	0.00	17	0.00	14	0.00	↓
Belgium Antwerp	3	0.00	8	0.00	11	0.00	5	20.00	17	0.00	7	0.00	
Belgium Hainaut	26	0.00	17	0.00	12	0.00	18	5.56	17	0.00	18	5.56	
Czech Republic							235	0.00	233	0.00	208	0.00	
Hungary							168	0.00	167	0.00	193	0.00	↑
Austria Styria	0		0		0		0		0		0		
Croatia Zagreb	1	0.00	4	0.00	4	0.00	4	0.00	6	0.00			
Switzerland Zurich	34	2.94	40	0.00	29	6.90	42	0.00	21	0.00	24	0.00	
Bulgaria Sofia							5	0.00	7	0.00			
France Paris									40	0.00	50	2.00	
France Strasbourg							27	3.70	28	0.00	28	0.00	
France Central East							127	0.79	130	0.00	118	2.54	
Italy North East							23	0.00	24	4.17	17	0.00	
Italy IMER							51	0.00	53	0.00	21	0.00	
Italy Tuscany									5	0.00	8	0.00	
Italy BDRCAM							15	0.00	12	0.00	10	0.00	
Spain Asturias	10	0.00	10	0.00	8	0.00	5	0.00	7	0.00	5	0.00	
Spain Basque Country	12	0.00	17	0.00	12	0.00	17	0.00	7	14.29			
Spain El Valles	9	0.00	7	0.00	2	0.00	6	0.00	1	0.00			↓
Spain Barcelona	14	0.00	10	0.00	10	10.00	6	0.00	12	16.67	0		↓
Southern Portugal	4	0.00	6	0.00	2	0.00	11	0.00	14	0.00	14	0.00	
Israel IBDMS									56	0.00	65	0.00	
Russia Tomsk	4	75.00	3	0.00	7	0.00	6	0.00	4	0.00	9	0.00	
Australia	37	0.00	20	0.00	29	0.00	31	0.00	22	0.00			

Table 17a: Indeterminate sex, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	84	1,389,607	0.60	0.48	0.75	
Canada Alberta	95	98	8	151,200	0.53	0.23	1.04	
USA Atlanta	93	98	28	249,434	1.12	0.75	1.62	
Mexico RYVEMCE	93	98	67	294,380	2.28	**0.58**	**3.49**	↓
Cuba	93	98	5	273,346	0.18	0.06	0.43	
Venezuela	93	98	12	89,441	1.34	0.69	2.35	
Colombia	93	94	0	11,844	0.00	0.00	3.24	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	70	220,452	3.18	2.47	4.01	
Bolivia	93	98	11	34,007	3.23	1.61	5.79	
Paraguay	93	98	5	16,108	3.10	**0.00**	**13.69**	↓
Uruguay	93	98	6	48,771	1.23	0.44	2.68	
Chile	93	98	20	98,320	2.03	1.24	3.14	
Argentina	93	98	56	412,862	1.36	1.02	1.76	
Norway	93	98	227	360,906	6.29	**3.82**	**9.41**	↑
Finland	93	98	19	371,826	0.51	0.31	0.80	
Denmark Odense	93	98	2	35,285	0.57	0.05	2.07	
Scotland Glasgow	93	98	7	66,729	1.05	0.42	2.17	
England & Wales	93	98	263	3,934,009	0.67	0.59	0.75	
England North Thames West	97	98	3	94,949	0.32	0.06	0.93	
England Mersey	98	98	3	27,516	1.09	0.21	3.21	
Ireland Dublin	93	98	5	113,719	0.44	0.14	1.03	
Northern Netherlands	93	98	1	116,337	0.09	0.00	0.49	
Germany Saxony-Anhalt	93	98	1	50,947	0.20	0.00	1.11	
Belgium Antwerp	93	98	2	76,426	0.26	0.02	0.95	
Belgium Hainaut	93	98	14	73,563	1.90	1.04	3.19	
Czech Republic	94	98	17	475,780	0.36	0.21	0.57	
Hungary	93	98	10	650,371	0.15	0.07	0.28	
Austria Styria	93	98	2	73,918	0.27	0.03	0.99	
Croatia Zagreb	93	97	1	31,719	0.32	0.00	1.79	
Switzerland Zurich	93	98	9	255,571	0.35	0.16	0.67	
Bulgaria Sofia	96	97	1	18,230	0.55	0.00	3.11	
France Paris	93	98	24	220,330	1.09	0.70	1.62	
France Strasbourg	95	98	0	53,391	0.00	0.00	0.72	
France Central East	93	98	27	609,089	0.44	0.29	0.64	
Italy IMER	95	98	2	101,185	0.20	0.02	0.72	
Italy Tuscany	93	98	11	148,120	0.74	**0.00**	**2.45**	↓
Italy BDRCAM	93	98	16	276,108	0.58	0.33	0.94	
Italy ISMAC	93	98	3	111,286	0.27	0.05	0.79	
Malta	93	98	4	29,021	1.38	0.36	3.54	
Spain ECEMC	93	98 (no 95)	27	459,643	0.59	0.39	0.85	
Spain Asturias	93	98	3	39,492	0.76	0.14	2.23	
Spain Basque Country	93	97	4	78,938	0.51	0.13	1.30	
Spain El Valles	93	97	3	36,006	0.83	0.16	2.45	
Spain Barcelona	93	98	7	73,501	0.95	0.38	1.97	
Southern Portugal	93	98	5	60,872	0.82	0.26	1.92	
Israel IBDMS	93	97	5	82,573	0.61	0.19	1.42	
United Arab Emirates	96	98	8	22,099	3.62	1.55	7.14	
Russia Tomsk	93	98	0	24,160	0.00	0.00	1.59	
China Beijing	97	98	30	267,071	1.12	**0.47**	**1.72**	
China CBDMN	98	98	28	300,394	0.93	0.62	1.35	
Australia	93	97	215	1,295,708	1.66	1.44	1.90	
New Zealand	97	98	6	113,254	0.53	0.19	1.16	
South Africa SABDSS	96	97	22	156,999	1.40	0.88	2.12	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

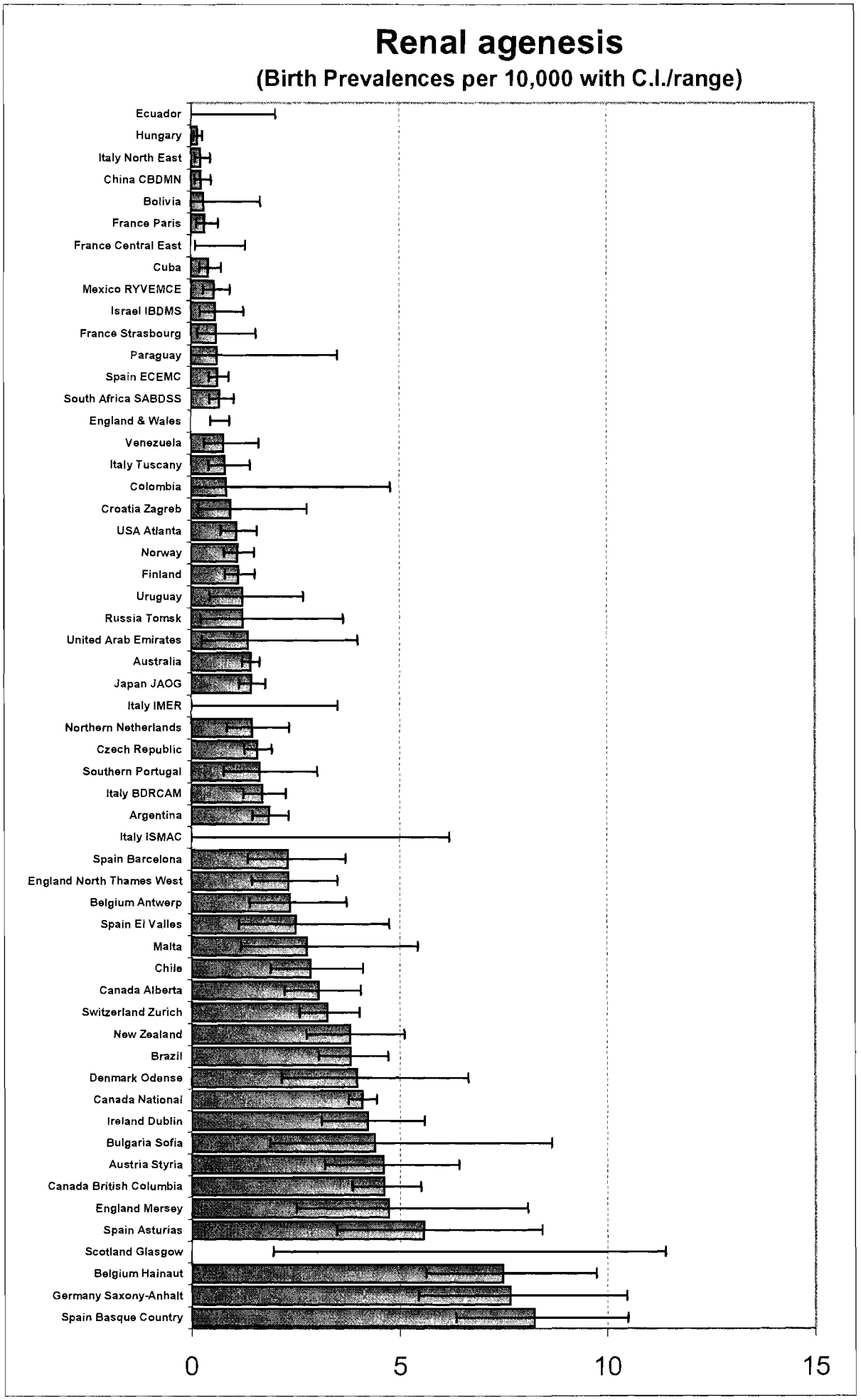
Table 17b: Indeterminate sex, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									3	0.00	5	40.00	
USA Atlanta			2	0.00	6	0.00	3	0.00	5	20.00	10	0.00	
Norway			53	32.08	77	25.97	47	29.79	43	0.00	47	25.53	
Finland							7	0.00	4	50.00	4	50.00	
Denmark Odense	1	0.00	1	0.00	0		0		0		0		
Scotland Glasgow	1	0.00	5	20.00	2	50.00	1	0.00	0		1	100.00	
England & Wales			40	2.50	38	0.00	44	0.00	50	0.00	50	0.00	
England North Thames West									1	0.00	2	0.00	
England Mersey											4	25.00	
Northern Netherlands			0		0		0		0		1	0.00	
Germany Saxony-Anhalt	0		0		0		0		0		2	50.00	
Belgium Antwerp	0		1	0.00	0		1	0.00	0		0		
Belgium Hainaut	5	20.00	0		1	0.00	5	20.00	4	0.00	1	0.00	
Czech Republic							4	0.00	4	0.00	3	0.00	
Hungary					2	0.00	1	0.00	1	0.00	3	0.00	
Austria Styria	2	0.00	0		1	100.00	0		0		0		
Croatia Zagreb	0		0		1	0.00	0		0				
Switzerland Zurich	4	75.00	1	0.00	2	50.00	2	0.00	4	25.00	3	66.67	
Bulgaria Sofia							1	0.00	0				
France Paris			8	12.50	5	0.00	4	50.00	1	0.00	7	28.57	
France Strasbourg					0		0		1	100.00	0		
France Central East			12	75.00	7	28.57	5	40.00	3	33.33	12	25.00	
Italy IMER					0		0		2	0.00	0		
Italy Tuscany									0		1	0.00	
Italy BDRCAM					4	0.00			4	0.00	4	0.00	
Spain Asturias	0		1	0.00	1	0.00	0		1	0.00	0		
Spain Basque Country	3	33.33	0		0		1	0.00	1	0.00			
Spain El Valles	0		0		1	0.00	2	0.00	0				
Spain Barcelona	0		2	50.00	2	0.00	1	0.00	2	0.00	2	50.00	
Southern Portugal	1	0.00	0		2	0.00	1	0.00	0		1	0.00	
Israel IBDMS									1	0.00			
Russia Tomsk	0		0		0		0		0		0		
Australia	57	26.32	58	15.52	57	15.79	46	8.70	41	17.07			

Table 18a: Renal agenesis, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	569	1,389,607	4.09	3.77	4.45	
Canada Alberta	95	98	46	151,200	3.04	2.23	4.06	
Canada British Columbia	93	98	127	274,542	4.63	3.86	5.50	
USA Atlanta	93	98	27	249,434	1.08	0.71	1.57	
Mexico RYVEMCE	94	98	13	238,101	0.55	0.29	0.93	
Cuba	93	98	11	273,346	0.40	0.20	0.72	
Venezuela	93	98	7	89,441	0.78	0.31	1.62	
Colombia	93	94	1	11,844	0.84	0.00	4.78	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	84	220,452	3.81	3.04	4.72	
Bolivia	93	98	1	34,007	0.29	0.00	1.67	
Paraguay	93	98	1	16,108	0.62	0.00	3.52	
Uruguay	93	98	6	48,771	1.23	0.44	2.68	
Chile	93	98	28	98,320	2.85	1.89	4.12	
Argentina	93	98	77	412,862	1.87	1.47	2.33	
Norway	93	98	40	360,906	1.11	0.79	1.51	
Finland	93	98	42	371,826	1.13	0.81	1.53	
Denmark Odense	93	98	14	35,285	3.97	2.16	6.66	
Scotland Glasgow	93	98	38	66,729	5.69	**1.95**	**11.40**	↓
England & Wales	93	98	275	3,934,009	0.70	**0.46**	**0.92**	↓
England North Thames West	97	98	22	94,949	2.32	1.45	3.51	
England Mersey	98	98	13	27,516	4.72	2.51	8.08	
Ireland Dublin	93	98	48	113,719	4.22	3.11	5.60	
Northern Netherlands	93	98	17	116,337	1.46	0.85	2.34	
Germany Saxony-Anhalt	93	98	39	50,947	7.66	5.44	10.46	
Belgium Antwerp	93	98	18	76,426	2.36	1.39	3.72	
Belgium Hainaut	93	98	55	73,563	7.48	5.63	9.73	
Czech Republic	93	98	94	596,805	1.58	1.27	1.93	
Hungary	93	98	9	650,371	0.14	0.06	0.26	
Austria Styria	93	98	34	73,918	4.60	3.18	6.43	
Croatia Zagreb	93	97	3	31,719	0.95	0.18	2.78	
Switzerland Zurich	93	98	83	255,571	3.25	2.59	4.03	
Bulgaria Sofia	96	97	8	18,230	4.39	1.87	8.66	
France Paris	93	98	7	220,330	0.32	0.13	0.66	
France Strasbourg	94	98	4	66,261	0.60	0.16	1.55	
France Central East	93	98	22	609,089	0.36	**0.10**	**1.30**	↓
Italy North East	93	98	7	316,862	0.22	0.09	0.46	
Italy IMER	93	98	22	151,604	1.45	**0.00**	**3.51**	↑
Italy Tuscany	93	98	12	148,120	0.81	0.42	1.42	
Italy BDRCAM	93	98	47	276,108	1.70	1.25	2.26	
Italy ISMAC	93	98	21	111,286	1.89	**0.00**	**6.21**	↓
Malta	93	98	8	29,021	2.76	1.18	5.44	
Spain ECEMC	93	98 (no 95)	29	459,643	0.63	0.42	0.91	
Spain Asturias	93	98	22	39,492	5.57	3.49	8.44	
Spain Basque Country	93	97	65	78,938	8.23	6.35	10.49	
Spain El Valles	93	97	9	36,006	2.50	1.13	4.75	
Spain Barcelona	93	98	17	73,501	2.31	1.34	3.70	
Southern Portugal	93	98	10	60,872	1.64	0.78	3.02	
Israel IBDMS	93	98	6	103,924	0.58	0.21	1.26	
United Arab Emirates	96	98	3	22,099	1.36	0.26	3.99	
Russia Tomsk	93	98	3	24,160	1.24	0.23	3.65	
Japan JAOG	93	98	89	619,107	1.44	1.15	1.77	
China CBDMN	98	98	7	300,394	0.23	0.09	0.48	
Australia	93	97	184	1,295,708	1.42	1.22	1.64	
New Zealand	97	98	43	113,254	3.80	2.75	5.11	
South Africa SABDSS	93	97	23	336,331	0.68	0.43	1.03	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

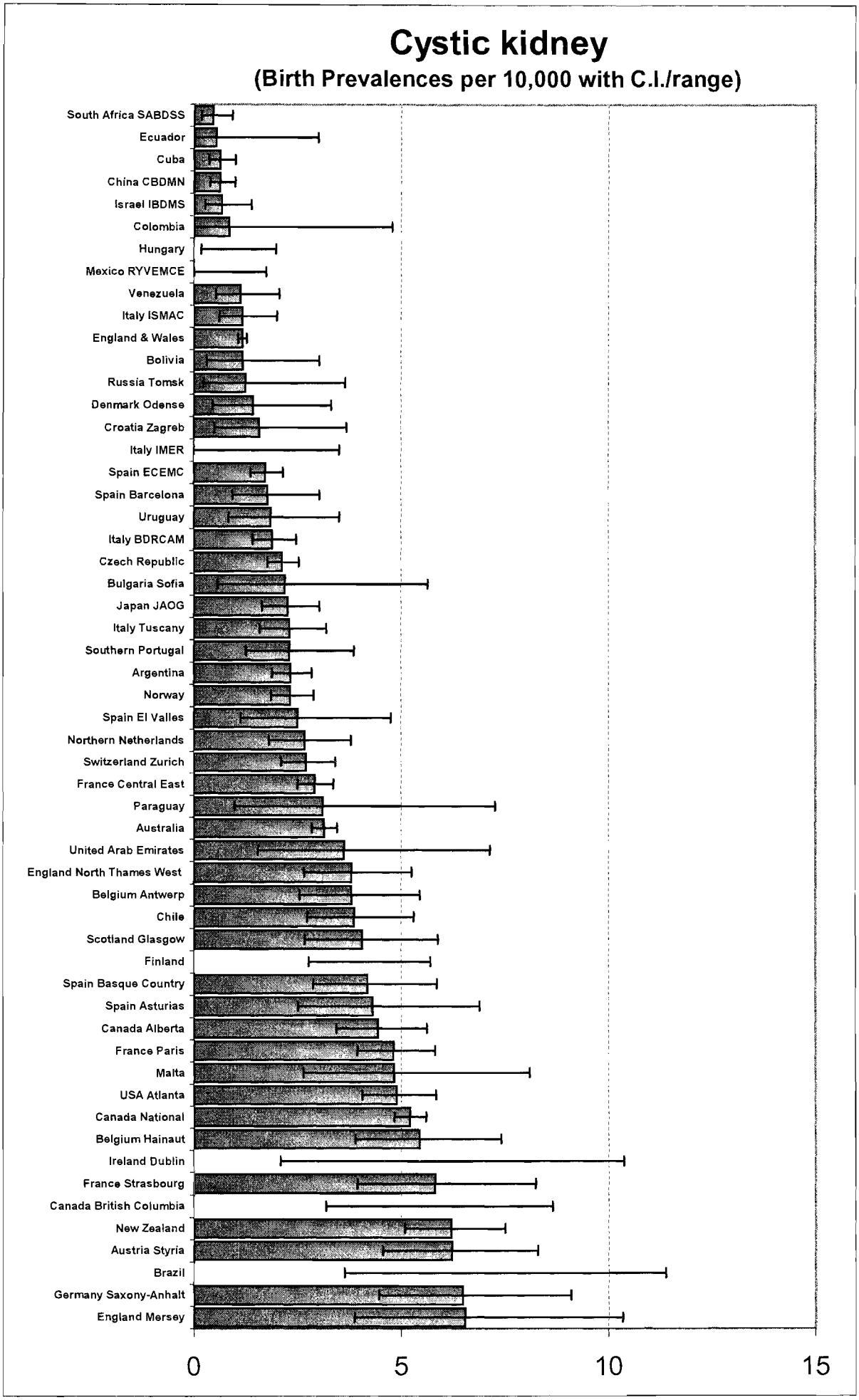
Table 18b: Renal agenesis, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									7	0.00	15	20.00	
USA Atlanta			6	50.00	5	0.00	9	11.11	5	40.00	5	20.00	
Norway			9	44.44	11	18.18	6	50.00	9	22.22	11	27.27	
Finland							11	45.45	13	46.15	14	71.43	
Denmark Odense	5	0.00	4	25.00	4	25.00	2	0.00	1	0.00	0		↓
Scotland Glasgow	11	45.45	14	7.14	10	20.00	7	14.29	6	50.00	4	50.00	↓
England & Wales			84	42.86	68	44.12	75	42.67	64	53.13	59	0.00	
England NorthThamesWest									31	54.84	23	65.22	
England Mersey											21	38.10	
Northern Netherlands			6	33.33	5	20.00	0		2	0.00	3	0.00	
Germany Saxony-Anhalt	5	20.00	5	20.00	6	16.67	7	0.00	11	18.18	13	23.08	
Belgium Antwerp	3	66.67	2	50.00	2	0.00	5	40.00	7	28.57	8	25.00	
Belgium Hainaut	15	26.67	16	18.75	15	33.33	10	20.00	7	0.00	7	14.29	↓
Czech Republic			20	50.00	25	40.00	26	19.23	21	38.10	26	26.92	
Hungary					1	0.00	2	0.00	2	0.00	1	0.00	
Austria Styria	13	7.69	5	20.00	8	0.00	5	0.00	2	0.00	4	25.00	↓
Croatia Zagreb	1	0.00	0		0		0		2	0.00			
Switzerland Zurich	18	11.11	23	26.09	27	37.04	15	26.67	21	42.86	17	41.18	
Bulgaria Sofia							4	0.00	4	0.00			
France Paris			16	93.75	18	88.89	12	100.00	8	87.50	11	72.73	
France Strasbourg			3	66.67	4	50.00	5	100.00	5	100.00	5	80.00	
France Central East			14	7.14	15	93.33	17	82.35	16	93.75	13	92.31	
Italy North East							4	50.00	4	50.00	4	75.00	
Italy IMER			1	100.00	3	66.67	5	20.00	9	11.11	8	25.00	↑
Italy Tuscany									3	33.33	2	50.00	
Italy BDRCAM			9	22.22	18	38.89	13	53.85	15	33.33	17	52.94	
Spain Asturias	2	0.00	6	0.00	7	14.29	5	40.00	3	0.00	5	60.00	
Spain Basque Country	23	30.43	16	37.50	16	31.25	18	22.22	18	22.22			
Spain El Valles	5	40.00	6	33.33	0		2	50.00	2	50.00			
Spain Barcelona	3	33.33	10	60.00	5	40.00	4	75.00	4	25.00	4	0.00	
Southern Portugal	1	0.00	1	0.00	1	0.00	2	0.00	2	50.00	5	20.00	
Israel IBDMS									0		3	0.00	
Russia Tomsk	3	33.33	1	0.00	0		0		0		0		↓
Australia	43	23.26	44	27.27	41	17.07	56	14.29	50	26.00			

Table 19a: Cystic kidney, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	723	1,389,607	5.20	4.83	5.60	
Canada Alberta	95	98	67	151,200	4.43	3.43	5.63	
Canada British Columbia	93	98	160	274,542	5.83	**3.18**	**8.65**	↑
USA Atlanta	93	98	122	249,434	4.89	4.06	5.84	
Mexico RYVEMCE	93	98	28	294,380	0.95	**0.00**	**1.74**	↓
Cuba	93	98	17	273,346	0.62	0.36	1.00	
Venezuela	93	98	10	89,441	1.12	0.53	2.06	
Colombia	93	94	1	11,844	0.84	0.00	4.78	
Ecuador	93	98	1	18,937	0.53	0.00	2.99	
Brazil	93	98	139	220,452	6.31	**3.64**	**11.39**	↑
Bolivia	93	98	4	34,007	1.18	0.31	3.02	
Paraguay	93	98	5	16,108	3.10	0.98	7.27	
Uruguay	93	98	9	48,771	1.85	0.84	3.51	
Chile	93	98	38	98,320	3.86	2.73	5.30	
Argentina	93	98	96	412,862	2.33	1.88	2.84	
Norway	93	98	84	360,906	2.33	1.86	2.88	
Finland	93	98	151	371,826	4.06	**2.77**	**5.71**	↑
Denmark Odense	93	98	5	35,285	1.42	0.45	3.32	
Scotland Glasgow	93	98	27	66,729	4.05	2.66	5.89	
England & Wales	93	98	460	3,934,009	1.17	1.06	1.28	
England North Thames West	97	98	36	94,949	3.79	2.65	5.25	
Engalnd Mersey	98	98	18	27,516	6.54	3.87	10.34	
Ireland Dublin	93	98	63	113,719	5.54	**2.08**	**10.38**	↓
Northern Netherlands	93	98	31	116,337	2.66	1.81	3.78	
Germany Saxony-Anhalt	93	98	33	50,947	6.48	4.46	9.10	
Belgium Antwerp	93	98	29	76,426	3.79	2.54	5.45	
Belgium Hainaut	93	98	40	73,563	5.44	3.88	7.40	
Czech Republic	93	98	127	596,805	2.13	1.77	2.53	
Hungary	93	98	55	650,371	0.85	**0.18**	**1.98**	↑
Austria Styria	93	98	46	73,918	6.22	4.55	8.30	
Croatia Zagreb	93	97	5	31,719	1.58	0.50	3.69	
Switzerland Zurich	93	98	69	255,571	2.70	2.10	3.42	
Bulgaria Sofia	96	97	4	18,230	2.19	0.57	5.64	
France Paris	93	98	106	220,330	4.81	3.94	5.82	
France Strasbourg	95	98	31	53,391	5.81	3.94	8.24	
France Central East	93	98	177	609,089	2.91	2.49	3.37	
Italy IMER	93	98	26	151,604	1.71	**0.00**	**3.51**	↑
Italy Tuscany	93	98	34	148,120	2.30	1.59	3.21	
Italy BDRCAM	93	98	52	276,108	1.88	1.41	2.47	
Italy ISMAC	93	98	13	111,286	1.17	0.62	2.00	
Malta	93	98	14	29,021	4.82	2.63	8.10	
Spain ECEMC	93	98 (no 95)	79	459,643	1.72	1.36	2.14	
Spain Asturias	93	98	17	39,492	4.30	2.50	6.89	
Spain Basque Country	93	97	33	78,938	4.18	2.88	5.87	
Spain El Valles	93	97	9	36,006	2.50	1.13	4.75	
Spain Barcelona	93	98	13	73,501	1.77	0.94	3.03	
Southern Portugal	93	98	14	60,872	2.30	1.25	3.86	
Israel IBDMS	93	98	7	103,924	0.67	0.27	1.39	
United Arab Emirates	96	98	8	22,099	3.62	1.55	7.14	
Russia Tomsk	93	98	3	24,160	1.24	0.23	3.65	
Japan JAOG	97	98	44	195,262	2.25	1.64	3.02	
China CBDMN	98	98	19	300,394	0.63	0.38	0.99	
Australia	93	97	406	1,295,708	3.13	2.84	3.45	
New Zealand	96	98	106	170,688	6.21	5.08	7.51	
South Africa SABDSS	96	97	7	156,999	0.45	0.18	0.92	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

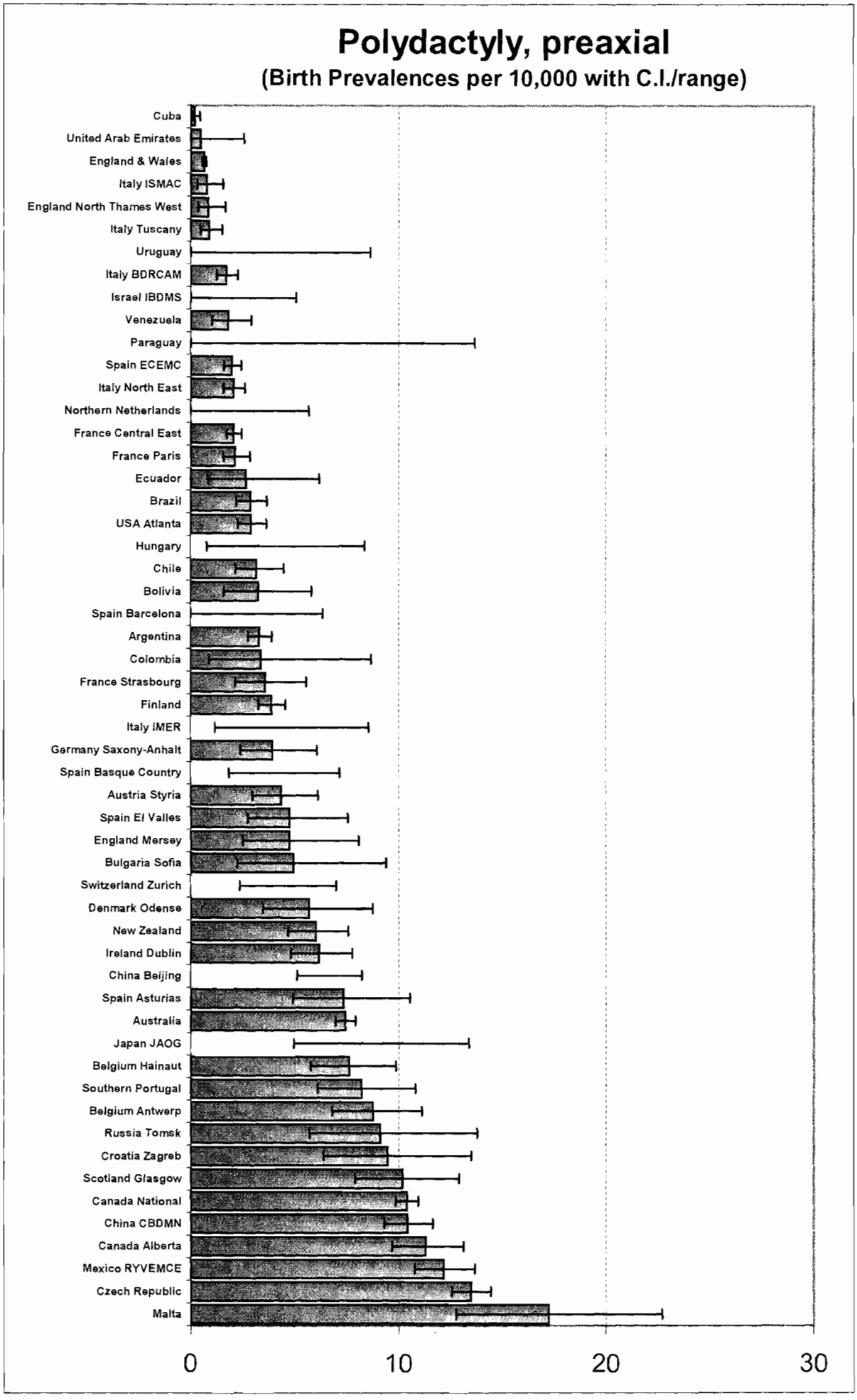
Table 19b: Cystic kidney, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									18	5.56	16	6.25	
USA Atlanta			21	0.00	18	0.00	21	0.00	22	0.00	20	0.00	
Norway			12	16.67	12	16.67	12	8.33	21	9.52	19	5.26	↑
Finland							32	15.63	49	30.61	26	26.92	
Denmark Odense	0		0		0		2	0.00	2	0.00	1	0.00	
Scotland Glasgow	8	25.00	10	50.00	3	33.33	5	20.00	9	33.33	5	20.00	
England & Wales			95	28.42	136	36.03	98	27.55	83	0.00	116	27.59	
England North Thames West									29	48.28	33	36.36	
UK Mersey											22	18.18	
Northern Netherlands			9	22.22	7	14.29	4	0.00	4	0.00	6	0.00	
Germany Saxony-Anhalt	1	0.00	10	10.00	8	25.00	3	0.00	7	28.57	11	18.18	
Belgium Antwerp	3	33.33	7	0.00	5	20.00	3	0.00	9	33.33	7	0.00	
Belgium Hainaut	8	12.50	8	25.00	11	54.55	9	33.33	11	36.36	15	40.00	
Czech Republic			19	26.32	38	47.37	34	32.35	26	23.08	31	16.13	
Hungary					2	0.00	5	0.00	25	20.00	20	10.00	↑
Austria Styria	14	21.43	9	22.22	12	0.00	7	28.57	8	0.00	5	40.00	
Croatia Zagreb	2	0.00	1	0.00	0		0		2	0.00			
Switzerland Zurich	19	31.58	21	28.57	19	31.58	14	14.29	12	25.00	12	41.67	
Bulgaria Sofia							3	33.33	2	0.00			
France Paris			37	43.24	25	64.00	29	48.28	53	49.06	24	29.17	
France Strasbourg					11	18.18	11	36.36	16	31.25	8	50.00	
France Central East			30	26.67	34	32.35	40	30.00	50	22.00	49	34.69	↑
Italy IMER					2	50.00	11	18.18	13	38.46	8	25.00	↑
Italy Tuscany									9	22.22	6	50.00	
Italy BDRCAM			10	50.00	10	40.00	10	20.00	17	35.29	17	29.41	
Spain Asturias	6	33.33	4	25.00	6	16.67	5	60.00	4	25.00	0		
Spain Basque Country	9	33.33	9	33.33	5	20.00	7	0.00	14	28.57			
Spain El Valles	3	66.67	2	50.00	4	25.00	4	25.00	2	50.00			
Spain Barcelona	3	0.00	5	40.00	1	100.00	4	25.00	3	0.00	2	50.00	
Southern Portugal	1	0.00	3	0.00	5	40.00	3	0.00	1	0.00	3	0.00	
Israel IBDMS									1	0.00	4	0.00	
Russia Tomsk	2	50.00	1	0.00	0		1	0.00	0		5	100.00	
Australia	77	9.09	89	15.73	99	17.17	99	7.07	103	15.53			↑

Table 20a: Polydactyly preaxial, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada National	93	97	1,444	1,389,607	10.39	9.86	10.94	
Canada Alberta	95	98	171	151,200	11.31	9.68	13.14	
USA Atlanta	93	98	72	249,434	2.89	2.26	3.63	
Mexico RYVEMCE	93	98 (no 94)	278	228,510	12.17	10.78	13.68	
Cuba	93	98	5	273,346	0.18	0.06	0.43	
Venezuela	93	98	16	89,441	1.79	1.02	2.91	
Colombia	93	94	4	11,844	3.38	0.88	8.68	
Ecuador	93	98	5	18,937	2.64	0.83	6.18	
Brazil	93	98	63	220,452	2.86	2.20	3.66	
Bolivia	93	98	11	34,007	3.23	1.61	5.79	
Paraguay	93	98	3	16,108	1.86	**0.00**	**13.69**	↑
Uruguay	93	98	6	48,771	1.23	**0.00**	**8.65**	↑
Chile	93	98	31	98,320	3.15	2.14	4.48	
Argentina	93	98	136	412,862	3.29	2.76	3.90	
Finland	93	98	144	371,826	3.87	3.27	4.56	
Denmark Odense	93	98	20	35,285	5.67	3.46	8.76	
Scotland Glasgow	93	98	68	66,729	10.19	7.91	12.92	
England & Wales	95	98	164	2,589,008	0.63	0.54	0.74	
England North Thames West	97	98	8	94,949	0.84	0.36	1.66	
England Mersey	98	98	13	27,516	4.72	2.51	8.08	
Ireland Dublin	93	98	70	113,719	6.16	4.80	7.78	
Northern Netherlands	93	98	24	116,337	2.06	**0.00**	**5.67**	↓
Germany Saxony-Anhalt	93	98	20	50,947	3.93	2.39	6.06	
Belgium Antwerp	93	98	67	76,426	8.77	6.79	11.13	
Belgium Hainaut	93	98	56	73,563	7.61	5.75	9.88	
Czech Republic	93	98	805	596,805	13.49	12.57	14.45	
Hungary	93	98	203	650,371	3.12	**0.78**	**8.37**	↑
Austria Styria	93	98	32	73,918	4.33	2.96	6.11	
Croatia Zagreb	93	97	30	31,719	9.46	6.38	13.50	
Switzerland Zurich	93	98	135	255,571	5.28	**2.35**	**6.99**	↓
Bulgaria Sofia	96	97	9	18,230	4.94	2.24	9.38	
France Paris	93	98	47	220,330	2.13	1.57	2.84	
France Strasbourg	95	98	19	53,391	3.56	2.14	5.56	
France Central East	93	98	126	609,089	2.07	1.72	2.46	
Italy North East	93	98	65	316,862	2.05	1.58	2.61	
Italy IMER	93	98	59	151,604	3.89	**1.16**	**8.56**	↓
Italy Tuscany	93	98	13	148,120	0.88	0.47	1.50	
Italy BDRCAM	93	98	47	276,108	1.70	1.25	2.26	
Italy ISMAC	93	98 (no 96)	7	92,560	0.76	0.30	1.56	
Malta	93	98	50	29,021	17.23	12.78	22.71	
Spain ECEMC	93	98 (no 95)	91	459,643	1.98	1.59	2.43	
Spain Asturias	93	98	29	39,492	7.34	4.91	10.55	
Spain Basque Country	93	97	33	78,938	4.18	**1.85**	**7.16**	↓
Spain El Valles	93	97	17	36,006	4.72	2.74	7.56	
Spain Barcelona	93	98	24	73,501	3.27	**0.00**	**6.34**	↓
Southern Portugal	93	98	50	60,872	8.21	6.09	10.83	
Israel IBDMS	93	98	18	103,924	1.73	**0.00**	**5.06**	↓
United Arab Emirates	96	98	1	22,099	0.45	0.00	2.56	
Russia Tomsk	93	98	22	24,160	9.11	5.70	13.79	
Japan JAOG	93	98	463	619,107	7.48	**4.95**	**13.41**	↓
China Beijing	97	98	180	267,071	6.74	**5.11**	**8.23**	
China CBDMN	98	98	313	300,394	10.42	9.30	11.64	
Australia	93	97	963	1,295,708	7.43	6.97	7.92	
New Zealand	96	97	69	115,168	5.99	4.66	7.58	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

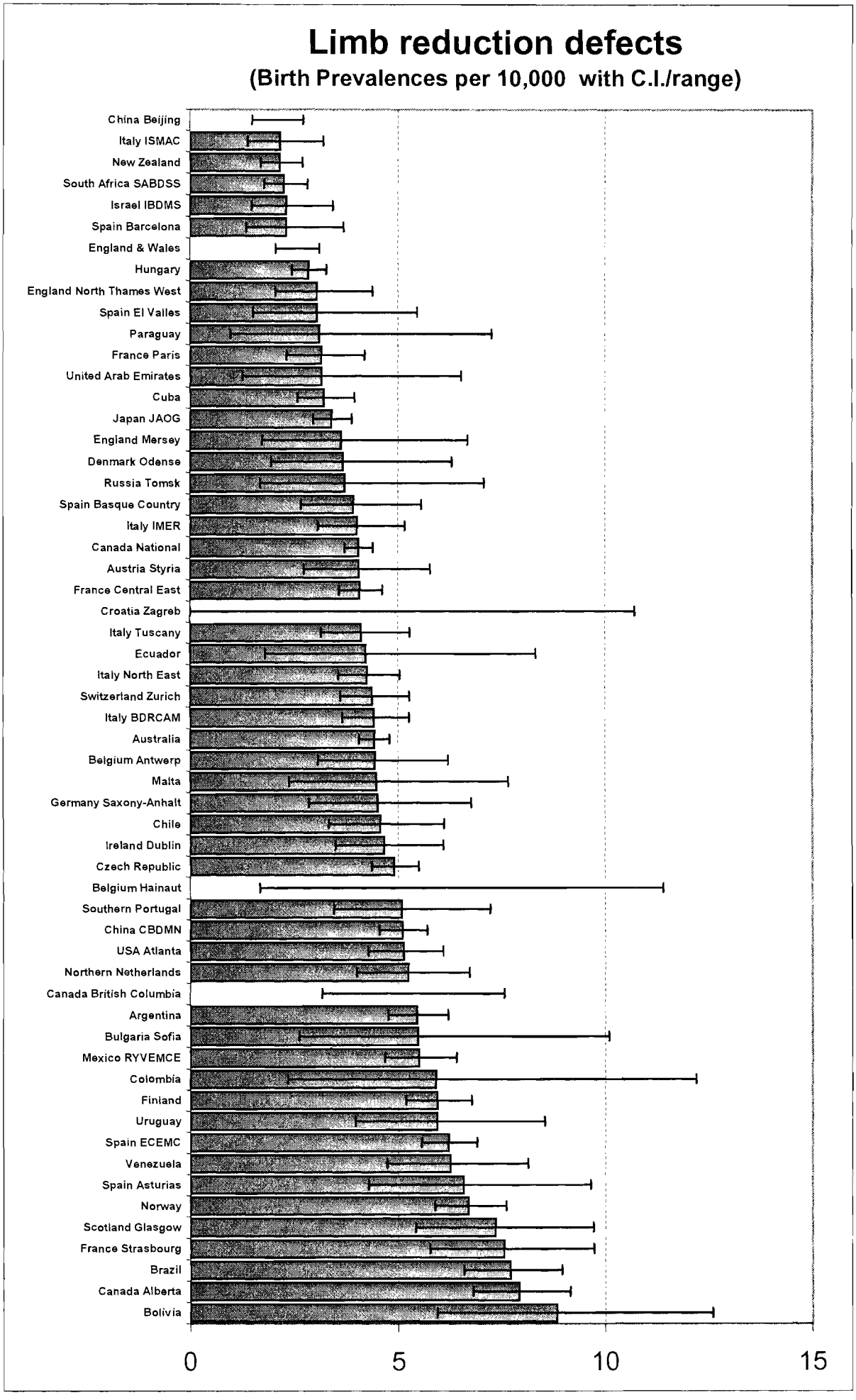
Table 20b: Polydactyly preaxial, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									39	0.00	48	10.42	
USA Atlanta			20	0.00	11	0.00			6	0.00	10	0.00	↓
Finland							29	3.45	31	3.23	19	15.79	
Denmark Odense	3	0.00	6	0.00	3	0.00	2	0.00	2	0.00	4	0.00	
Scotland Glasgow	8	12.50	14	7.14	8	0.00	18	0.00	15	6.67	10	20.00	
England & Wales					36	0.00	44	0.00	37	0.00			
England North Thames West									7	71.43	14	57.14	
England Mersey											13	0.00	
Northern Netherlands			5	0.00	2	0.00			5	0.00	0		
Germany Saxony-Anhalt	2	0.00	4	0.00	6	0.00	0		4	0.00	4	0.00	
Belgium Antwerp	5	0.00	14	0.00	10	0.00	11	0.00	10	10.00	18	0.00	
Belgium Hainaut	11	27.27	10	0.00	12	0.00	11	9.09	8	0.00	10	20.00	
Czech Republic							132	0.00	123	0.00	102	0.00	
Hungary					16	0.00	17	0.00	69	0.00	82	0.00	
Austria Styria	8	12.50	10	10.00	7	0.00	4	0.00	2	0.00	4	25.00	↓
Croatia Zagreb	7	0.00	5	0.00	5	0.00	7	0.00	6	0.00			
Switzerland Zurich	35	14.29	34	0.00	27	14.81	25	12.00	25	32.00	13	30.77	↓
Bulgaria Sofia							6	0.00	3	0.00			
France Paris			8	12.50	9	0.00	7	14.29	13	0.00	7	0.00	
France Strasbourg					7	14.29	4	0.00	6	16.67	4	0.00	
France Central East			18	11.11	34	5.88	17	0.00	25	8.00	23	8.70	
Italy North East							13	0.00	14	7.14	8	12.50	
Italy IMER					7	0.00	5	0.00	23	8.70	2	0.00	
Italy Tuscany									2	0.00	3	0.00	
Italy BDRCAM			8	12.50	8	0.00	11	0.00	11	0.00	6	0.00	
Spain Asturias	6	0.00	6	0.00	7	14.29	7	0.00	2	0.00	2	0.00	
Spain Basque Country	5	20.00	13	15.38	13	15.38	9	55.56	3	0.00			
Spain El Valles	5	0.00	6	16.67	3	0.00	3	33.33	2	0.00			
Spain Barcelona	8	0.00	8	0.00	3	0.00	5	20.00	2	50.00	1	100.00	↓
Southern Portugal	3	0.00	6	0.00	8	0.00	12	8.33	9	0.00	13	0.00	
Israel IBDMS									2	0.00	3	0.00	
Russia Tomsk	6	50.00	3	0.00	4	0.00	2	0.00	5	0.00	5	0.00	
Australia	204	4.90	192	7.29	220	5.91	194	6.19	211	4.27			

Table 21a: Limb reduction defects, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada National	93	97	563	1,389,607	4.05	3.72	4.40	
Canada Alberta	93	98	183	231,112	7.92	6.81	9.15	
Canada British Columbia	93	98	149	274,542	5.43	**3.18**	**7.57**	↑
USA Atlanta	93	98	128	249,434	5.13	4.28	6.10	
Mexico RYVEMCE	93	98	162	294,380	5.50	4.69	6.42	
Cuba	93	98	88	273,346	3.22	2.58	3.97	
Venezuela	93	98	56	89,441	6.26	4.73	8.13	
Colombia	93	94	7	11,844	5.91	2.34	12.20	
Ecuador	93	98	8	18,937	4.22	1.80	8.34	
Brazil	93	98	170	220,452	7.71	6.60	8.96	
Bolivia	93	98	30	34,007	8.82	5.95	12.59	
Paraguay	93	98	5	16,108	3.10	0.98	7.27	
Uruguay	93	98	29	48,771	5.95	3.98	8.54	
Chile	93	98	45	98,320	4.58	3.34	6.12	
Argentina	93	98	225	412,862	5.45	4.76	6.21	
Norway	93	98	242	360,906	6.71	5.89	7.61	
Finland	93	98	221	371,826	5.94	5.19	6.78	
Denmark Odense	93	98	13	35,285	3.68	1.95	6.30	
Scotland Glasgow	93	98	49	66,729	7.34	5.43	9.71	
England & Wales	93	98	1,111	3,934,009	2.82	**2.06**	**3.12**	↓
England North Thames West	97	98	29	94,949	3.05	2.04	4.39	
England Mersey	98	98	10	27,516	3.63	1.73	6.69	
Ireland Dublin	93	98	53	113,719	4.66	3.49	6.10	
Northern Netherlands	93	98	61	116,337	5.24	4.01	6.73	
Germany Saxony-Anhalt	93	98	23	50,947	4.51	2.86	6.77	
Belgium Antwerp	93	98	34	76,426	4.45	3.08	6.22	
Belgium Hainaut	93	98	37	73,563	5.03	**1.68**	**11.41**	↓
Czech Republic	93	98	293	596,805	4.91	4.36	5.50	
Hungary	93	98	185	650,371	2.84	2.45	3.29	
Austria Styria	93	98	30	73,918	4.06	2.74	5.79	
Croatia Zagreb	93	97	13	31,719	4.10	**0.00**	**10.72**	↓
Switzerland Zurich	93	98	112	255,571	4.38	3.61	5.27	
Bulgaria Sofia	96	97	10	18,230	5.49	2.61	10.10	
France Paris	95	98	47	148,593	3.16	2.32	4.21	
France Strasbourg	93	98	60	79,393	7.56	5.77	9.73	
France Central East	93	98	249	609,089	4.09	3.60	4.63	
Italy North East	93	98	135	316,862	4.26	3.57	5.04	
Italy IMER	93	98	61	151,604	4.02	3.08	5.17	
Italy Tuscany	93	98	61	148,120	4.12	3.15	5.29	
Italy BDRCAM	93	98	122	276,108	4.42	3.67	5.28	
Italy ISMAC	93	98	24	111,286	2.16	1.38	3.21	
Malta	93	98	13	29,021	4.48	2.38	7.66	
Spain ECEMC	93	98	340	547,015	6.22	5.57	6.91	
Spain Asturias	93	98	26	39,492	6.58	4.30	9.65	
Spain Basque Country	93	97	31	78,938	3.93	2.67	5.57	
Spain El Valles	93	97	11	36,006	3.06	1.52	5.47	
Spain Barcelona	93	98	17	73,501	2.31	1.34	3.70	
Southern Portugal	93	98	31	60,872	5.09	3.46	7.23	
Israel IBDMS	93	98	24	103,924	2.31	1.48	3.44	
United Arab Emirates	96	98	7	22,099	3.17	1.26	6.54	
Russia Tomsk	93	98	9	24,160	3.73	1.69	7.08	
Japan JAOG	93	98	211	619,107	3.41	2.96	3.90	
China Beijing	97	98	57	267,071	2.13	**1.49**	**2.72**	
China CBDMN	97	98	305	598,316	5.10	4.54	5.70	
Australia	93	97	574	1,295,708	4.43	4.08	4.81	
New Zealand	93	98	75	347,440	2.16	1.70	2.71	
South Africa SABDSS	93	97	76	336,331	2.26	1.78	2.83	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

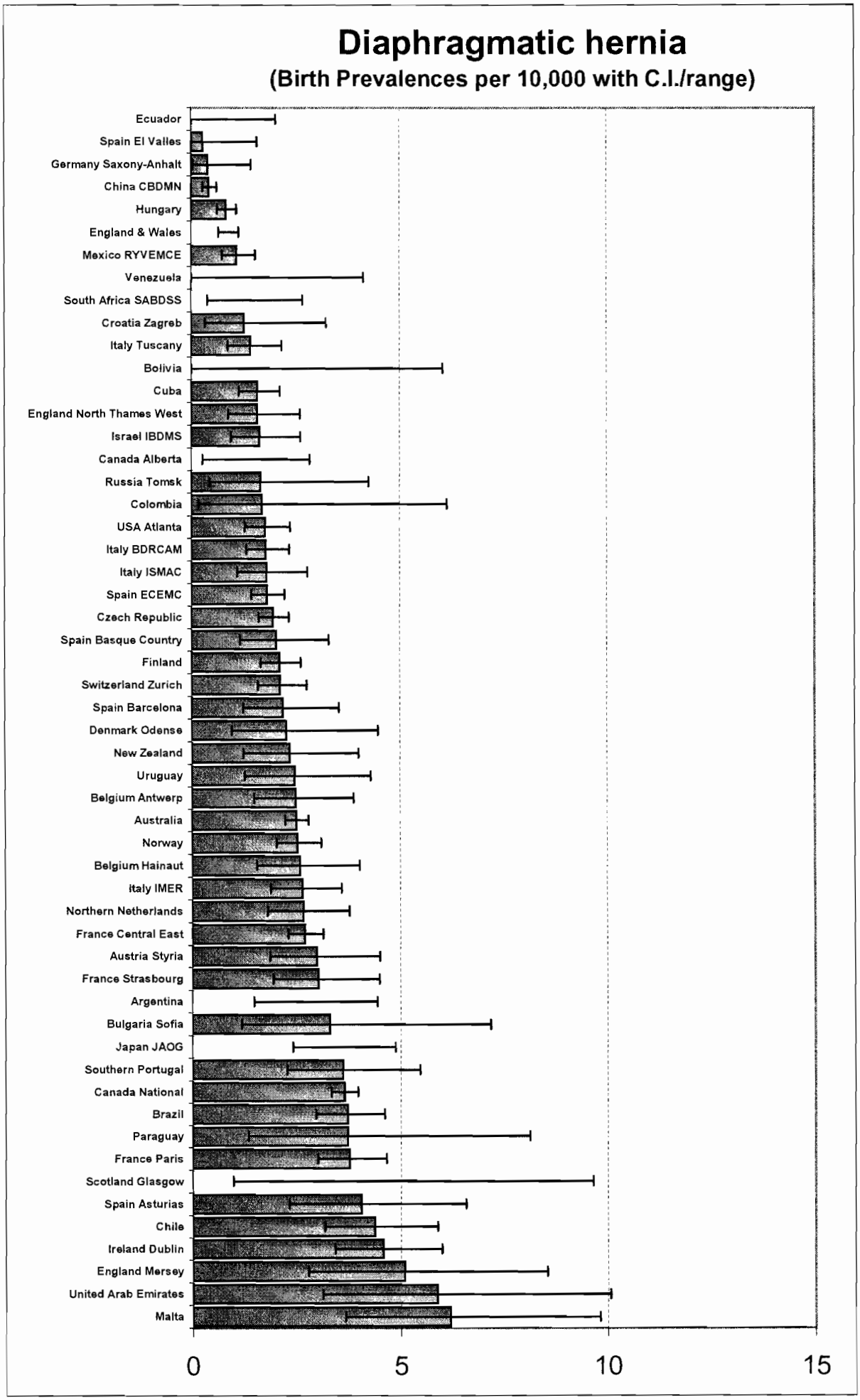
Table 21b: Limb reduction defects, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									27	7.41	49	32.65	
USA Atlanta			20	0.00	29	0.00	22	0.00	20	10.00	23	4.35	
Norway			38	5.26	51	1.96	38	5.26	36	5.56	43	4.65	
Finland							48	10.42	39	23.08	37	5.41	
Denmark Odense	1	0.00	3	33.33	5	20.00	3	0.00	1	0.00	3	33.33	
Scotland Glasgow	12	0.00	13	30.77	7	14.29	13	23.08	11	9.09	8	75.00	
England & Wales			210	6.67	186	2.69	201	3.98	150	11.33	210	6.19	
England North Thames West									21	42.86	28	39.29	
England Mersey											15	33.33	
Northern Netherlands			17	0.00	8	0.00	8	0.00	12	8.33	9	0.00	
Germany Saxony-Anhalt	1	0.00	4	25.00	4	25.00	5	20.00	8	25.00	7	14.29	
Belgium Antwerp	5	0.00	6	33.33	4	0.00	4	0.00	10	10.00	8	0.00	
Belgium Hainaut	8	12.50	15	6.67	4	50.00	5	0.00	4	0.00	6	16.67	
Czech Republic					54	0.00	39	15.38	45	6.67	39	0.00	
Hungary			22	4.55	36	0.00	40	0.00	30	6.67	29	13.79	
Austria Styria	7	42.86	7	28.57	10	30.00	5	20.00	9	22.22	3	0.00	
Croatia Zagreb	7	0.00	1	0.00	3	0.00	0		2	0.00			↓
Switzerland Zurich	31	29.03	28	10.71	18	38.89	25	24.00	22	18.18	23	26.09	
Bulgaria Sofia							3	0.00	7	0.00			
France Paris					25	44.00	20	60.00	21	47.62	22	36.36	
France Strasbourg			10	30.00	19	31.58	18	33.33	20	25.00	12	33.33	
France Central East			49	32.65	54	24.07	55	25.45	51	21.57	68	26.47	
Italy North East							26	11.54	33	30.30	22	13.64	
Italy IMER			14	14.29	7	0.00	11	0.00	13	7.69	7	0.00	
Italy Tuscany									5	0.00	10	10.00	
Italy BDRCAM			25	8.00	23	13.04	16	0.00	27	18.52	26	19.23	
Spain Asturias	6	0.00	4	0.00	7	28.57	2	0.00	6	0.00	3	0.00	
Spain Basque Country	7	0.00	5	40.00	7	0.00	12	16.67	5	20.00			
Spain El Valles	1	0.00	2	0.00	5	0.00	3	33.33	1	0.00			
Spain Barcelona	4	0.00	7	28.57	3	0.00	3	66.67	3	66.67	4	25.00	
Southern Portugal	1	0.00	2	0.00	8	0.00	6	16.67	5	0.00	10	0.00	
Israel IBDMS									2	0.00	4	0.00	
Russia Tomsk	2	0.00	0		2	0.00	3	33.33	1	0.00	3	33.33	
Australia	130	7.69	118	13.56	145	11.72	126	11.90	140	19.29			

Table 22a: Diaphragmatic hernia, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	506	1,389,607	3.64	3.33	3.97	
Canada Alberta	95	98	25	151,200	1.65	**0.27**	**2.84**	↓
USA Atlanta	93	98	44	249,434	1.76	1.28	2.37	
Mexico RYVEMCE	93	98	32	294,380	1.09	0.74	1.53	
Cuba	93	98	43	273,346	1.57	1.14	2.12	
Venezuela	93	98	10	89,441	1.12	**0.00**	**4.14**	↓
Colombia	93	94	2	11,844	1.69	0.16	6.16	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	82	220,452	3.72	2.96	4.62	
Bolivia	93	98	5	34,007	1.47	**0.00**	**6.06**	↑
Paraguay	93	98	6	16,108	3.72	1.34	8.13	
Uruguay	93	98	12	48,771	2.46	1.27	4.30	
Chile	93	98	43	98,320	4.37	3.16	5.89	
Argentina	93	98	129	412,862	3.12	**1.48**	**4.45**	↑
Norway	93	98	91	360,906	2.52	2.03	3.10	
Finland	93	98	78	371,826	2.10	1.66	2.62	
Denmark Odense	93	98	8	35,285	2.27	0.97	4.47	
Scotland Glasgow	93	98	27	66,729	4.05	**0.98**	**9.64**	↓
England & Wales	93	98	353	3,934,009	0.90	**0.66**	**1.14**	↓
England North Thames West	97	98	15	94,949	1.58	0.88	2.61	
England Mersey	98	98	14	27,516	5.09	2.77	8.54	
Ireland Dublin	93	98	52	113,719	4.57	3.41	6.00	
Northern Netherlands	93	98	31	116,337	2.66	1.81	3.78	
Germany Saxony-Anhalt	93	98	2	50,947	0.39	0.04	1.43	
Belgium Antwerp	93	98	19	76,426	2.49	1.49	3.88	
Belgium Hainaut	93	98	19	73,563	2.58	1.55	4.03	
Czech Republic	93	98	116	596,805	1.94	1.61	2.33	
Hungary	93	98	54	650,371	0.83	0.62	1.08	
Austria Styria	93	98	22	73,918	2.98	1.86	4.51	
Croatia Zagreb	93	97	4	31,719	1.26	0.33	3.24	
Switzerland Zurich	93	98	54	255,571	2.11	1.59	2.76	
Bulgaria Sofia	96	97	6	18,230	3.29	1.18	7.18	
France Paris	93	98	83	220,330	3.77	3.00	4.67	
France Strasbourg	93	98	24	79,393	3.02	1.93	4.50	
France Central East	93	98	164	609,089	2.69	2.30	3.14	
Italy IMER	93	98	40	151,604	2.64	1.88	3.59	
Italy Tuscany	93	98	21	148,120	1.42	0.88	2.17	
Italy BDRCAM	93	98	49	276,108	1.77	1.31	2.35	
Italy ISMAC	93	98	20	111,286	1.80	1.10	2.78	
Malta	93	98	18	29,021	6.20	3.67	9.81	
Spain ECEMC	93	98 (no 95)	83	459,643	1.81	1.44	2.24	
Spain Asturias	93	98	16	39,492	4.05	2.31	6.58	
Spain Basque Country	93	97	16	78,938	2.03	1.16	3.29	
Spain El Valles	93	97	1	36,006	0.28	0.00	1.57	
Spain Barcelona	93	98	16	73,501	2.18	1.24	3.54	
Southern Portugal	93	98	22	60,872	3.61	2.26	5.47	
Israel IBDMS	93	98	17	103,924	1.64	0.95	2.62	
United Arab Emirates	96	98	13	22,099	5.88	3.12	10.07	
Russia Tomsk	93	98	4	24,160	1.66	0.43	4.26	
Japan JAOG	93	98	211	619,107	3.41	**2.41**	**4.88**	↑
China CBDMN	97	98	25	598,316	0.42	0.27	0.62	
Australia	93	97	324	1,295,708	2.50	2.24	2.79	
New Zealand	98	98	13	55,520	2.34	1.24	4.01	
South Africa SABDSS	93	97	38	336,331	1.13	**0.38**	**2.67**	↓

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

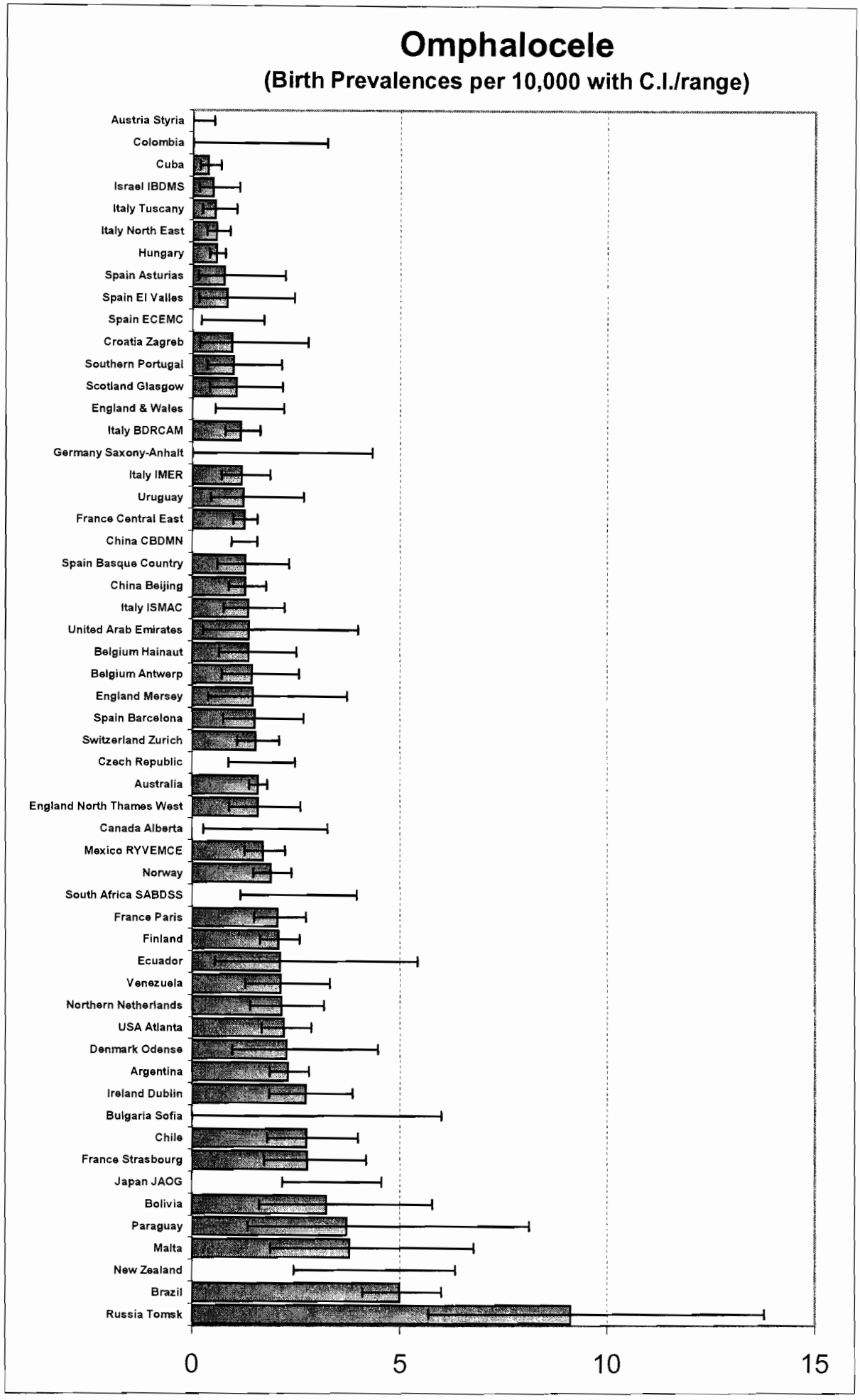
Table 22b: Diaphragmatic hernia, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									3	0.00	10	0.00	
USA Atlanta			6	0.00	3	0.00	12	0.00	9	11.11	8	12.50	
Norway			19	5.26	17	5.88	13	7.69	22	4.55	22	18.18	
Finland							11	0.00	17	23.53	21	23.81	
Denmark Odense	2	0.00	1	0.00	3	0.00	0		2	0.00	0		
Scotland Glasgow	6	66.67	11	0.00	5	0.00	8	25.00	2	0.00	2	50.00	↓
England & Wales			82	20.73	51	15.69	62	20.97	82	12.20	65	27.69	
England North Thames West									8	25.00	15	40.00	
England Mersey											15	6.67	
Northern Netherlands			2	0.00	5	0.00	4	0.00	11	18.18	8	12.50	↑
Germany Saxony-Anhalt	0		0		0		0		1	0.00	1	0.00	
Belgium Antwerp	1	0.00	5	0.00	1	0.00	2	0.00	3	0.00	8	12.50	
Belgium Hainaut	5	20.00	7	57.14	8	50.00	4	25.00	3	0.00	4	50.00	
Czech Republic					20	25.00	21	4.76	28	17.86	24	25.00	
Hungary					8	0.00	4	0.00	16	31.25	15	13.33	↑
Austria Styria	6	16.67	1	0.00	3	33.33	6	0.00	3	0.00	5	0.00	
Croatia Zagreb	1	0.00	0		1	0.00	1	0.00	1	0.00			
Switzerland Zurich	14	7.14	9	11.11	14	14.29	8	0.00	5	20.00	13	30.77	
Bulgaria Sofia							4	0.00	2	0.00			
France Paris			16	31.25	21	42.86	20	35.00	22	22.73	25	16.00	
France Strasbourg			8	37.50	7	14.29	3	33.33	5	20.00	5	40.00	
France Central East			38	18.42	32	15.63	34	14.71	25	16.00	36	16.67	
Italy IMER					6	0.00	11	0.00	2	0.00	4	25.00	
Italy Tuscany									5	0.00	2	0.00	
Italy BDRCAM			13	15.38	12	16.67	8	12.50	10	40.00	13	15.38	
Spain Asturias	6	33.33	4	25.00	5	0.00	4	25.00	0		3	66.67	
Spain Basque Country	4	0.00	6	33.33	3	0.00	2	0.00	3	0.00			
Spain El Valles	0		0		0		0		3	66.67			↑
Spain Barcelona	3	0.00	4	50.00	5	20.00	4	50.00	3	33.33	3	0.00	
Southern Portugal	1	0.00	2	0.00	3	33.33	3	0.00	6	0.00	8	0.00	
Israel IBDMS									3	33.33	5	20.00	
Russia Tomsk	1	100.00	1	0.00	1	100.00	0		1	0.00	3	33.33	
Australia	61	11.48	70	12.86	84	10.71	84	9.52	70	17.14			

Table 23a: Omphalocele, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada Alberta	93	98	38	231,112	1.64	**0.27**	**3.26**	↑
USA Atlanta	93	98	55	249,434	2.20	1.66	2.87	
Mexico RYVEMCE	93	98	50	294,380	1.70	1.26	2.24	
Cuba	93	98	10	273,346	0.37	0.17	0.67	
Venezuela	93	98	19	89,441	2.12	1.28	3.32	
Colombia	93	94	0	11,844	0.00	0.00	3.24	
Ecuador	93	98	4	18,937	2.11	0.55	5.43	
Brazil	93	98	110	220,452	4.99	4.10	6.01	
Bolivia	93	98	11	34,007	3.23	1.61	5.79	
Paraguay	93	98	6	16,108	3.72	1.34	8.13	
Uruguay	93	98	6	48,771	1.23	0.44	2.68	
Chile	93	98	27	98,320	2.75	1.81	4.00	
Argentina	93	98	95	412,862	2.30	1.86	2.81	
Norway	93	98	68	360,906	1.88	1.46	2.39	
Finland	93	98	77	371,826	2.07	1.63	2.59	
Denmark Odense	93	98	8	35,285	2.27	0.97	4.47	
Scotland Glasgow	93	98	7	66,729	1.05	0.42	2.17	
England & Wales	93	98	449	3,934,009	1.14	**0.55**	**2.20**	↓
England North Thames West	97	98	15	94,949	1.58	0.88	2.61	
England Mersey	98	98	4	27,516	1.45	0.38	3.74	
Ireland Dublin	93	98	31	113,719	2.73	1.85	3.87	
Northern Netherlands	93	98	25	116,337	2.15	1.39	3.17	
Germany Saxony-Anhalt	93	98	6	50,947	1.18	**0.00**	**4.34**	↓
Belgium Antwerp	93	98	11	76,426	1.44	0.71	2.58	
Belgium Hainaut	93	98	10	73,563	1.36	0.65	2.50	
Czech Republic	93	98	92	596,805	1.54	**0.88**	**2.48**	↓
Hungary	93	98	37	650,371	0.57	0.40	0.78	
Austria Styria	93	98	0	73,918	0.00	0.00	0.52	
Croatia Zagreb	93	97	3	31,719	0.95	0.18	2.78	
Switzerland Zurich	93	98	39	255,571	1.53	1.08	2.09	
Bulgaria Sofia	96	97	5	18,230	2.74	**0.00**	**6.01**	
France Paris	93	98	45	220,330	2.04	1.49	2.73	
France Strasbourg	93	98	22	79,393	2.77	1.73	4.20	
France Central East	93	98	76	609,089	1.25	0.98	1.56	
Italy North East	93	98	18	316,862	0.57	0.34	0.90	
Italy IMER	93	98	18	151,604	1.19	0.70	1.88	
Italy Tuscany	93	98	8	148,120	0.54	0.23	1.07	
Italy BDRCAM	93	98	32	276,108	1.16	0.79	1.64	
Italy ISMAC	93	98	15	111,286	1.35	0.75	2.22	
Malta	93	98	11	29,021	3.79	1.88	6.79	
Spain ECEMC	93	98	51	547,015	0.93	**0.21**	**1.72**	↓
Spain Asturias	93	98	3	39,492	0.76	0.14	2.23	
Spain Basque Country	93	97	10	78,938	1.27	0.60	2.33	
Spain El Valles	93	97	3	36,006	0.83	0.16	2.45	
Spain Barcelona	93	98	11	73,501	1.50	0.74	2.68	
Southern Portugal	93	98	6	60,872	0.99	0.35	2.15	
Israel IBDMS	93	98	5	103,924	0.48	0.15	1.13	
United Arab Emirates	96	98	3	22,099	1.36	0.26	3.99	
Russia Tomsk	93	98	22	24,160	9.11	5.70	13.79	
Japan JAOG	93	98	199	619,107	3.21	**2.17**	**4.57**	↑
China Beijing	97	98	34	267,071	1.27	0.88	1.78	
China CBDMN	97	98	75	598,316	1.25	**0.94**	**1.56**	
Australia	93	97	204	1,295,708	1.57	1.37	1.81	
New Zealand	93	94	53	118,961	4.46	**2.44**	**6.34**	
South Africa SABDSS	93	97	64	336,331	1.90	**1.16**	**3.97**	↓

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

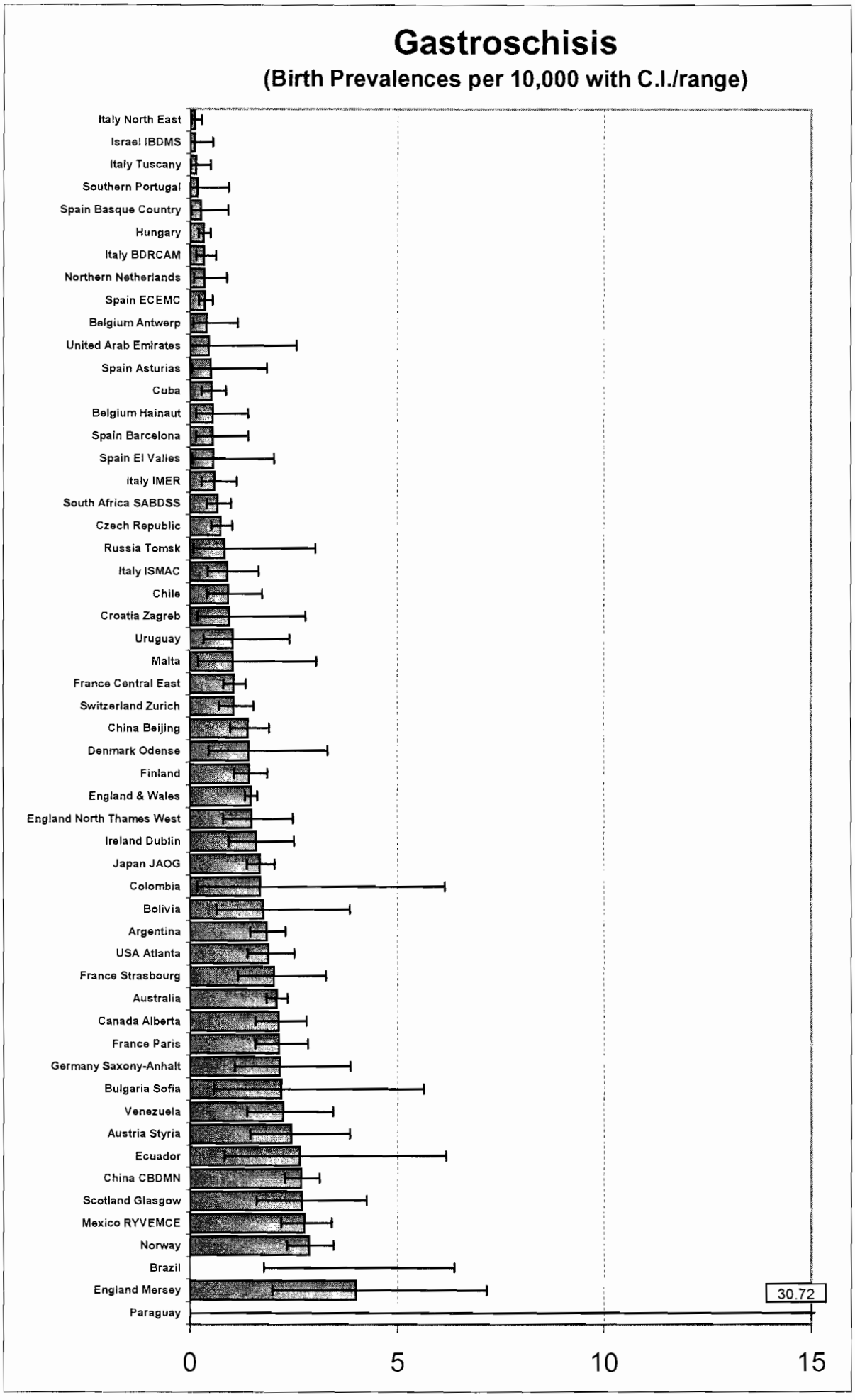
Table 23b: Omphalocele, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									13	7.69	11	36.36	
USA Atlanta			14	0.00	8	0.00	6	0.00	12	16.67	11	18.18	
Norway			17	0.00	10	10.00	18	22.22	11	0.00	12	41.67	
Finland							18	61.11	18	55.56	27	44.44	
Denmark Odense	0		1	0.00	2	100.00	1	0.00	4	0.00	2	0.00	
Scotland Glasgow	6	66.67	2	0.00	2	100.00	3	66.67	4	50.00	2	100.00	
England & Wales			134	4.48	70	28.57	57	26.32	57	21.05	51	31.37	↓
England North Thames West									16	56.25	22	63.64	
England Mersey											6	33.33	
Northern Netherlands			9	33.33	4	0.00	7	0.00	3	0.00	3	0.00	
Germany Saxony-Anhalt	3	0.00	0		0		3	0.00	5	100.00	2	100.00	
Belgium Antwerp	1	0.00	0		4	25.00	1	0.00	5	20.00	3	33.33	
Belgium Hainaut	5	60.00	1	100.00	2	50.00	3	33.33	3	33.33	5	40.00	
Czech Republic			33	66.67	34	47.06	27	40.74	16	50.00	19	52.63	↓
Hungary			10	10.00	2	0.00	8	0.00	13	46.15	9	44.44	
Austria Styria	0		0		0		0		0		0		
Croatia Zagreb	0		0		0		1	0.00	2	0.00			↑
Switzerland Zurich	9	22.22	16	37.50	10	60.00	14	35.71	14	64.29	8	50.00	
Bulgaria Sofia							2	100.00	6	16.67			
France Paris			12	50.00	20	40.00	17	64.71	15	53.33	21	66.67	
France Strasbourg			7	42.86	9	44.44	8	37.50	5	40.00	3	66.67	
France Central East			18	50.00	22	59.09	26	61.54	29	31.03	27	44.44	
Italy North East							9	55.56	9	66.67	10	70.00	
Italy IMER			7	28.57	1	0.00	3	0.00	4	50.00	2	50.00	
Italy Tuscany									0		3	100.00	
Italy BDRCAM			8	12.50	7	28.57	9	77.78	15	33.33	8	75.00	
Spain Asturias	1	100.00	0		2	50.00	1	0.00	2	50.00	2	100.00	
Spain Basque Country	6	50.00	6	66.67	5	80.00	4	100.00	7	42.86			
Spain El Valles	2	50.00	2	100.00	0		1	100.00	3	33.33			
Spain Barcelona	1	0.00	3	0.00	1	0.00	4	75.00	4	25.00	4	50.00	
Southern Portugal	0		0		1	0.00	1	0.00	1	0.00	3	0.00	
Israel IBDMS									1	100.00	1	0.00	
Russia Tomsk	3	100.00	3	0.00	2	0.00	8	12.50	4	0.00	7	14.29	
Australia	70	32.86	54	44.44	67	34.33	61	31.15	58	29.31			

Table 24a: Gastroschisis, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence	95% CI		L+S trend
	from	to			x 10,000	lower	upper	
Canada Alberta	93	98	49	231,112	2.12	1.57	2.80	
USA Atlanta	93	98	47	249,434	1.88	1.38	2.51	
Mexico RYVEMCE	93	98	81	294,380	2.75	2.18	3.42	
Cuba	93	98	14	273,346	0.51	0.28	0.86	
Venezuela	93	98	20	89,441	2.24	1.36	3.45	
Colombia	93	94	2	11,844	1.69	0.16	6.16	
Ecuador	93	98	5	18,937	2.64	0.83	6.18	
Brazil	93	98	76	220,452	3.45	**1.77**	**6.38**	↑
Bolivia	93	98	6	34,007	1.76	0.63	3.85	
Paraguay	93	98	9	16,108	5.59	**0.00**	**30.72**	↑
Uruguay	93	98	5	48,771	1.03	0.32	2.40	
Chile	93	98	9	98,320	0.92	0.42	1.74	
Argentina	93	98	76	412,862	1.84	1.45	2.30	
Norway	93	98	103	360,906	2.85	2.33	3.46	
Finland	93	98	53	371,826	1.43	1.07	1.86	
Denmark Odense	93	98	5	35,285	1.42	0.45	3.32	
Scotland Glasgow	93	98	18	66,729	2.70	1.60	4.26	
England & Wales	95	98	380	2,589,008	1.47	1.32	1.62	
England North Thames West	97	98	14	94,949	1.47	0.80	2.48	
England Mersey	98	98	11	27,516	4.00	1.98	7.16	
Ireland Dublin	93	98	18	113,719	1.58	0.94	2.50	
Northern Netherlands	93	98	4	116,337	0.34	0.09	0.88	
Germany Saxony-Anhalt	93	98	11	50,947	2.16	1.07	3.87	
Belgium Antwerp	93	98	3	76,426	0.39	0.07	1.15	
Belgium Hainaut	93	98	4	73,563	0.54	0.14	1.40	
Czech Republic	94	98	35	475,780	0.74	0.51	1.02	
Hungary	93	98	21	650,371	0.32	0.20	0.49	
Austria Styria	93	98	18	73,918	2.44	1.44	3.85	
Croatia Zagreb	93	97	3	31,719	0.95	0.18	2.78	
Switzerland Zurich	93	98	27	255,571	1.06	0.70	1.54	
Bulgaria Sofia	96	97	4	18,230	2.19	0.57	5.64	
France Paris	93	98	47	220,330	2.13	1.57	2.84	
France Strasbourg	93	98	16	79,393	2.02	1.15	3.27	
France Central East	93	98	64	609,089	1.05	0.81	1.34	
Italy North East	93	98	3	316,862	0.09	0.02	0.28	
Italy IMER	93	98	9	151,604	0.59	0.27	1.13	
Italy Tuscany	93	98	2	148,120	0.14	0.01	0.49	
Italy BDRCAM	93	98	9	276,108	0.33	0.15	0.62	
Italy ISMAC	93	98	10	111,286	0.90	0.43	1.65	
Malta	93	98	3	29,021	1.03	0.19	3.04	
Spain ECEMC	93	98	19	547,015	0.35	0.21	0.54	
Spain Asturias	93	98	2	39,492	0.51	0.05	1.85	
Spain Basque Country	93	97	2	78,938	0.25	0.02	0.92	
Spain El Valles	93	97	2	36,006	0.56	0.05	2.03	
Spain Barcelona	93	98	4	73,501	0.54	0.14	1.40	
Southern Portugal	93	98	1	60,872	0.16	0.00	0.93	
Israel IBDMS	93	98	1	103,924	0.10	0.00	0.55	
United Arab Emirates	96	98	1	22,099	0.45	0.00	2.56	
Russia Tomsk	93	98	2	24,160	0.83	0.08	3.02	
Japan JAOG	93	98	104	619,107	1.68	1.37	2.04	
China Beijing	97	98	37	267,071	1.39	0.97	1.91	
China CBDMN	97	98	160	598,316	2.67	2.28	3.12	
Australia	93	97	269	1,295,708	2.08	1.84	2.34	
South Africa SABDSS	93	97	22	336,331	0.65	0.41	0.99	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

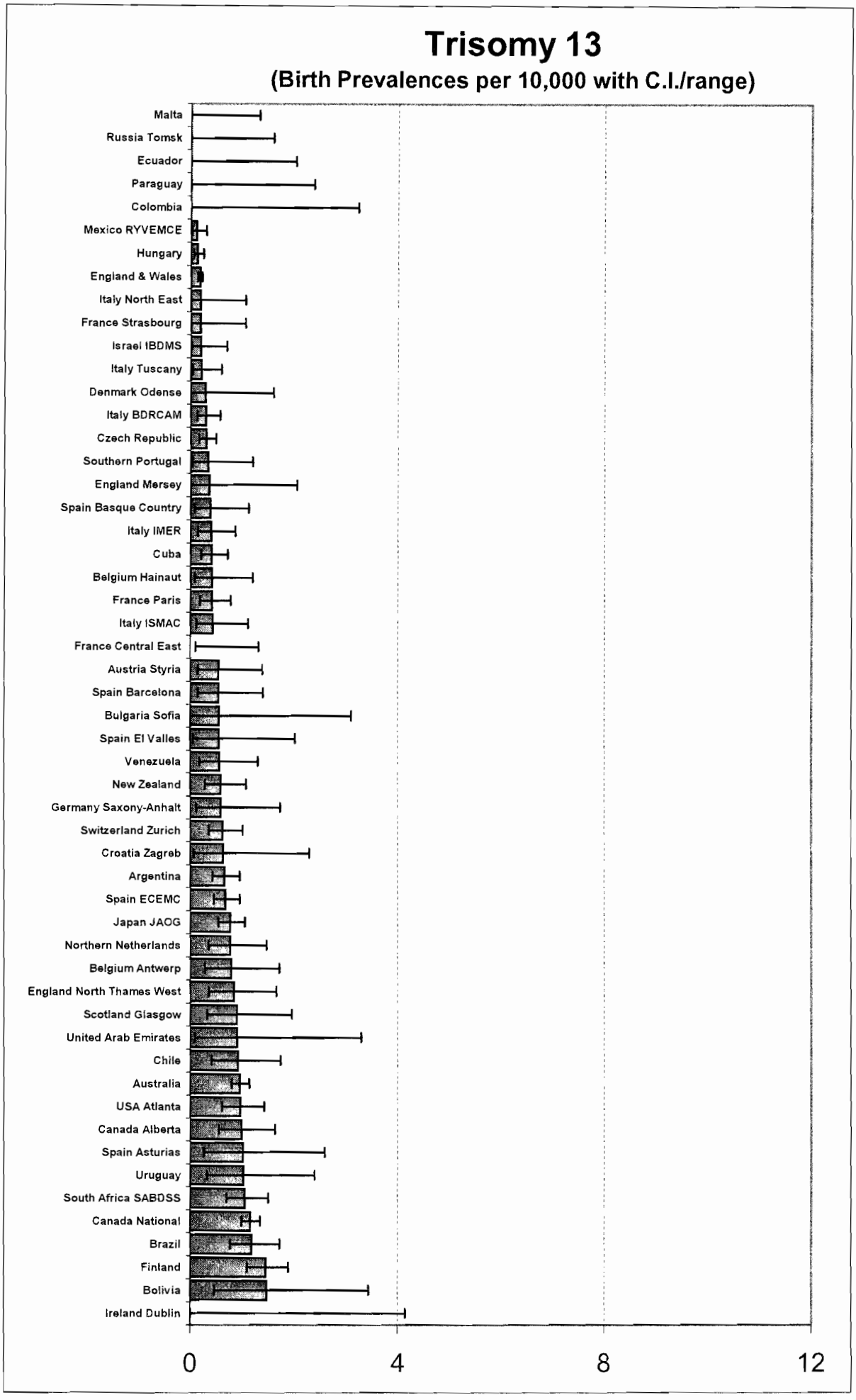
Table 24b: Gastroschisis, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									13	15.38	9	0.00	
USA Atlanta			11	9.09	9	0.00	7	0.00	5	20.00	10	10.00	
Norway			18	5.56	14	0.00	18	0.00	19	0.00	19	5.26	
Finland							13	38.46	15	13.33	20	45.00	
Denmark Odense	1	0.00	1	0.00	0		0		2	50.00	2	0.00	
Scotland Glasgow	3	33.33	2	0.00	1	0.00	8	12.50	3	0.00	3	0.00	
England & Wales					98	9.18	101	3.96	97	6.19	105	1.90	
England North Thames West									6	33.33	12	16.67	
England Mersey											14	21.43	
Northern Netherlands			0		2	100.00	1	0.00	2	50.00	2	0.00	
Germany Saxony-Anhalt	1	0.00	2	0.00	1	0.00	5	60.00	3	0.00	3	33.33	
Belgium Antwerp	1	0.00	0		0		0		2	0.00	1	100.00	
Belgium Hainaut	1	100.00	2	50.00	2	0.00	1	100.00	2	50.00	0		
Czech Republic					36	80.56	22	81.82	25	72.00	31	74.19	
Hungary			5	60.00	4	0.00	3	0.00	6	50.00	8	50.00	
Austria Styria	6	16.67	4	25.00	2	50.00	1	0.00	3	0.00	5	0.00	
Croatia Zagreb	1	0.00	0		0		1	0.00	1	0.00			
Switzerland Zurich	6	33.33	7	14.29	6	66.67	8	0.00	8	37.50	3	33.33	
Bulgaria Sofia							3	0.00	1	0.00			
France Paris			6	33.33	12	8.33	11	9.09	7	28.57	11	9.09	
France Strasbourg			5	20.00	8	37.50	5	40.00	1	0.00	1	0.00	
France Central East			9	11.11	13	15.38	9	33.33	13	15.38	19	21.05	
Italy North East							2	50.00	4	75.00	1	100.00	
Italy IMER					1	0.00	1	0.00	2	0.00	1	0.00	
Italy Tuscany									0		1	100.00	
Italy BDRCAM			3	33.33	2	0.00	2	50.00	5	60.00	4	75.00	
Spain Asturias	1	100.00	1	0.00	0		1	100.00	1	100.00	1	0.00	
Spain Basque Country	0		0		1	100.00	1	100.00	3	33.33			↑
Spain El Valles	1	100.00	0		0		2	50.00	1	0.00			
Spain Barcelona	0		1	0.00	1	0.00	2	50.00	0		1	0.00	
Southern Portugal	0		0		0		0		1	0.00	0		
Israel IBDMS									0		0		
Russia Tomsk	1	100.00	1	0.00	1	100.00	2	50.00	0		1	100.00	
Australia	56	5.36	48	16.67	54	3.70	57	1.75	70	2.86			

Table 25a: Trisomy 13, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	161	1,389,607	1.16	0.99	1.35	
Canada Alberta	95	98	15	151,200	0.99	0.55	1.64	
USA Atlanta	93	98	24	249,434	0.96	0.62	1.43	
Mexico RYVEMCE	93	98	3	294,380	0.10	0.02	0.30	
Cuba	93	98	11	273,346	0.40	0.20	0.72	
Venezuela	93	98	5	89,441	0.56	0.18	1.31	
Colombia	93	94	0	11,844	0.00	0.00	3.24	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	26	220,452	1.18	0.77	1.73	
Bolivia	93	98	5	34,007	1.47	0.46	3.44	
Paraguay	93	98	0	16,108	0.00	0.00	2.38	
Uruguay	93	98	5	48,771	1.03	0.32	2.40	
Chile	93	98	9	98,320	0.92	0.42	1.74	
Argentina	93	98	27	412,862	0.65	0.43	0.95	
Finland	93	98	54	371,826	1.45	1.09	1.89	
Denmark Odense	93	98	1	35,285	0.28	0.00	1.61	
Scotland Glasgow	93	98	6	66,729	0.90	0.32	1.96	
England & Wales	93	98	68	3,934,009	0.17	0.13	0.22	
England North Thames West	97	98	8	94,949	0.84	0.36	1.66	
England Mersey	98	98	1	27,516	0.36	0.00	2.06	
Ireland Dublin	93	98	21	113,719	1.85	**0.00**	**4.15**	↑
Northern Netherlands	93	98	9	116,337	0.77	0.35	1.47	
Germany Saxony-Anhalt	93	98	3	50,947	0.59	0.11	1.73	
Belgium Antwerp	93	98	6	76,426	0.79	0.28	1.71	
Belgium Hainaut	93	98	3	73,563	0.41	0.08	1.20	
Czech Republic	94	98	14	475,780	0.29	0.16	0.49	
Hungary	93	98	8	650,371	0.12	0.05	0.24	
Austria Styria	93	98	4	73,918	0.54	0.14	1.39	
Croatia Zagreb	93	97	2	31,719	0.63	0.06	2.30	
Switzerland Zurich	93	98	16	255,571	0.63	0.36	1.02	
Bulgaria Sofia	96	97	1	18,230	0.55	0.00	3.11	
France Paris	93	98	9	220,330	0.41	0.19	0.78	
France Strasbourg	95	98	1	53,391	0.19	0.00	1.06	
France Central East	93	98	27	609,089	0.44	**0.10**	**1.31**	↓
Italy North East	98	98	1	53,421	0.19	0.00	1.06	
Italy IMER	93	98	6	151,604	0.40	0.14	0.86	
Italy Tuscany	93	98	3	148,120	0.20	0.04	0.60	
Italy BDRCAM	93	98	8	276,108	0.29	0.12	0.57	
Italy ISMAC	93	98 (no 96)	4	92,560	0.43	0.11	1.11	
Malta	93	98	0	29,021	0.00	0.00	1.32	
Spain ECEMC	93	98 (no 95)	31	459,643	0.67	0.46	0.96	
Spain Asturias	93	98	4	39,492	1.01	0.26	2.60	
Spain Basque Country	93	97	3	78,938	0.38	0.07	1.12	
Spain El Valles	93	97	2	36,006	0.56	0.05	2.03	
Spain Barcelona	93	98	4	73,501	0.54	0.14	1.40	
Southern Portugal	93	98	2	60,872	0.33	0.03	1.20	
Israel IBDMS	93	98	2	103,924	0.19	0.02	0.70	
United Arab Emirates	96	98	2	22,099	0.91	0.09	3.30	
Russia Tomsk	93	98	0	24,160	0.00	0.00	1.59	
Japan JAOG	94	98	39	507,984	0.77	0.55	1.05	
Australia	93	97	124	1,295,708	0.96	0.80	1.14	
New Zealand	96	98	10	170,688	0.59	0.28	1.08	
South Africa SABDSS	94	97	29	276,468	1.05	0.70	1.51	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

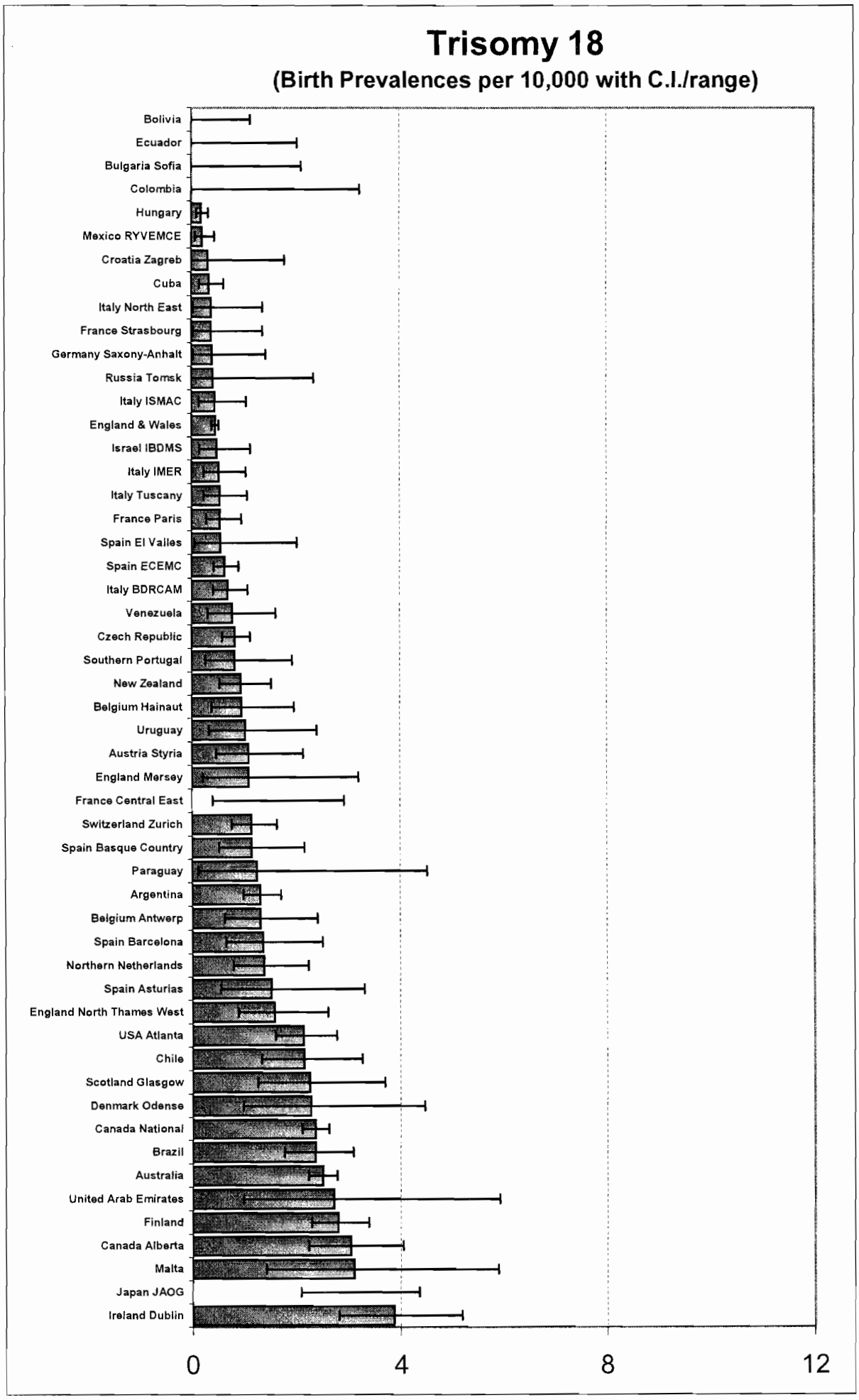
Table 25b: Trisomy 13, Terminations of pregnancy (TOP)

Programme	93		94		95		96		97		98		L+S+ToP Trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									4	25.00	9	55.56	
USA Atlanta			0		8	25.00	3	33.33	9	11.11	6	33.33	
Finland							14	42.86	12	25.00	11	45.45	
Denmark Odense	1	0.00	0		0		0		0		1	100.00	
Scotland Glasgow	1	0.00	1	0.00	0		1	0.00	3	33.33	2	50.00	
England & Wales			32	65.63	37	81.08	50	82.00	48	75.00	46	67.39	↑
EnglandNorth Thames West									10	50.00	9	66.67	
England Mersey											6	83.33	
Northern Netherlands			3	0.00	1	0.00	2	0.00	2	0.00	0		
Germany Saxony-Anhalt	1	0.00	0		1	100.00	1	100.00	3	100.00	3	33.33	
Belgium Antwerp	1	0.00	2	0.00	1	0.00	0		1	0.00	1	0.00	
Belgium Hainaut	2	100.00	1	100.00	4	75.00	2	50.00	0		2	50.00	
Czech Republic			9	66.67	11	90.91	28	78.57	8	75.00	21	90.48	↑
Hungary					2	0.00	0		3	66.67	5	60.00	
Austria Styria	4	50.00	2	100.00	1	0.00	2	100.00	3	100.00	1	0.00	
Croatia Zagreb	0		2	0.00	0		0		0				
Switzerland Zurich	7	57.14	7	42.86	7	71.43	4	25.00	15	80.00	7	85.71	
Bulgaria Sofia							1	0.00	0				
France Paris			8	75.00	7	85.71	16	93.75	14	78.57	12	91.67	
France Strasbourg					3	100.00	3	100.00	1	0.00	3	100.00	
France Central East			10	70.00	7	85.71	13	76.92	21	80.95	25	88.00	↑
Italy North East											3	66.67	
Italy IMER			3	33.33	3	100.00	2	100.00	4	50.00	1	100.00	
Italy Tuscany									0		3	33.33	
Italy BDRCAM			4	50.00	4	50.00	1	0.00	5	80.00	2	100.00	
Spain Asturias	1	0.00	1	0.00	1	100.00	1	0.00	1	0.00	1	100.00	
Spain Basque Country	1	100.00	4	75.00	1	100.00	5	80.00	1	0.00			
Spain El Valles	0		2	100.00	2	50.00	1	100.00	2	50.00			
Spain Barcelona	2	50.00	1	100.00	2	50.00	4	75.00	1	100.00	2	50.00	
Southern Portugal	0		0		0		1	0.00	0		1	0.00	
Israel IBDMS									0		1	100.00	
Russia Tomsk	0		0		0		0		0		0		
Australia	50	44.00	40	45.00	52	51.92	42	40.48	46	47.83			

Table 26a: Trisomy 18, Live and Still births

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	327	1,389,607	2.35	2.11	2.62	
Canada Alberta	95	98	46	151,200	3.04	2.23	4.06	
USA Atlanta	93	98	53	249,434	2.12	1.59	2.78	
Mexico RYVEMCE	93	98	6	294,380	0.20	0.07	0.44	
Cuba	93	98	9	273,346	0.33	0.15	0.63	
Venezuela	93	98	7	89,441	0.78	0.31	1.62	
Colombia	93	94	0	11,844	0.00	0.00	3.24	
Ecuador	93	98	0	18,937	0.00	0.00	2.03	
Brazil	93	98	52	220,452	2.36	1.76	3.09	
Bolivia	93	98	0	34,007	0.00	0.00	1.13	
Paraguay	93	98	2	16,108	1.24	0.12	4.53	
Uruguay	93	98	5	48,771	1.03	0.32	2.40	
Chile	93	98	21	98,320	2.14	1.32	3.27	
Argentina	93	98	54	412,862	1.31	0.98	1.71	
Finland	93	98	104	371,826	2.80	2.29	3.39	
Denmark Odense	93	98	8	35,285	2.27	0.97	4.47	
Scotland Glasgow	93	98	15	66,729	2.25	1.25	3.71	
England & Wales	93	98	178	3,934,009	0.45	0.39	0.52	
England North Thames West	97	98	15	94,949	1.58	0.88	2.61	
England Mersey	98	98	3	27,516	1.09	0.21	3.21	
Ireland Dublin	93	98	44	113,719	3.87	2.81	5.19	
Northern Netherlands	93	98	16	116,337	1.38	0.78	2.23	
Germany Saxony-Anhalt	93	98	2	50,947	0.39	0.04	1.43	
Belgium Antwerp	93	98	10	76,426	1.31	0.62	2.41	
Belgium Hainaut	93	98	7	73,563	0.95	0.38	1.96	
Czech Republic	94	98	39	475,780	0.82	0.58	1.12	
Hungary	93	98	12	650,371	0.18	0.09	0.32	
Austria Styria	93	98	8	73,918	1.08	0.46	2.14	
Croatia Zagreb	93	97	1	31,719	0.32	0.00	1.79	
Switzerland Zurich	93	98	29	255,571	1.13	0.76	1.63	
Bulgaria Sofia	96	97	0	18,230	0.00	0.00	2.11	
France Paris	93	98	12	220,330	0.54	0.28	0.95	
France Strasbourg	95	98	2	53,391	0.37	0.04	1.37	
France Central East	93	98	68	609,089	1.12	**0.39**	**2.92**	↓
Italy North East	98	98	2	53,421	0.37	0.04	1.37	
Italy IMER	93	98	8	151,604	0.53	0.23	1.04	
Italy Tuscany	93	98	8	148,120	0.54	0.23	1.07	
Italy BDRCAM	93	98	19	276,108	0.69	0.41	1.07	
Italy ISMAC	93	98	5	111,286	0.45	0.14	1.05	
Malta	93	98	9	29,021	3.10	1.41	5.89	
Spain ECEMC	93	98 (no 95)	29	459,643	0.63	0.42	0.91	
Spain Asturias	93	98	6	39,492	1.52	0.55	3.32	
Spain Basque Country	93	97	9	78,938	1.14	0.52	2.17	
Spain El Valles	93	97	2	36,006	0.56	0.05	2.03	
Spain Barcelona	93	98	10	73,501	1.36	0.65	2.50	
Southern Portugal	93	98	5	60,872	0.82	0.26	1.92	
Israel IBDMS	93	98	5	103,924	0.48	0.15	1.13	
United Arab Emirates	96	98	6	22,099	2.72	0.98	5.92	
Russia Tomsk	93	98	1	24,160	0.41	0.00	2.34	
Japan JAOG	94	98	161	507,984	3.17	**2.07**	**4.36**	↑
Australia	93	97	323	1,295,708	2.49	2.23	2.78	
New Zealand	96	98	16	170,688	0.94	0.53	1.52	

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



Note: Where the bars are not displayed, the line represents the range.

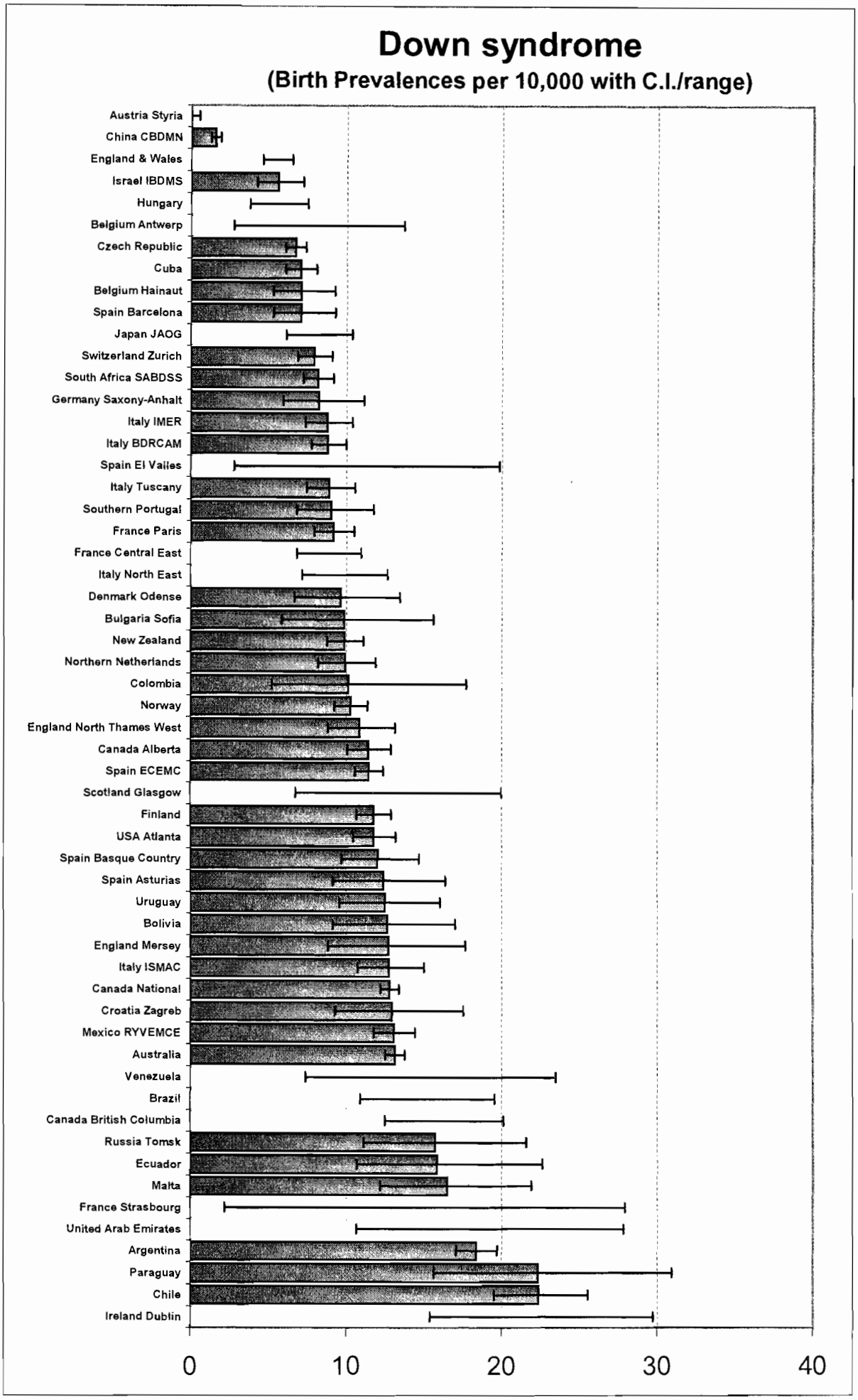
Table 26b: Trisomy 18, Terminations of pregnancy

Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									17	23.53	13	38.46	
USA Atlanta			8	37.50	9	0.00	6	0.00	13	7.69	11	18.18	
Finland							37	40.54	27	59.26	37	54.05	
Denmark Odense	1	100.00	1	0.00	3	0.00	1	100.00	5	40.00	3	66.67	
Scotland Glasgow	8	37.50	3	33.33	5	20.00	4	50.00	2	50.00	5	80.00	
England & Wales			97	76.29	93	67.74	115	70.43	124	75.81	118	77.12	↑
England North Thames West									33	75.76	31	77.42	
England Mersey											11	72.73	
Northern Netherlands			1	100.00	4	25.00	6	0.00	7	57.14	7	42.86	↑
Germany Saxony-Anhalt	0		1	0.00	3	100.00	1	0.00	2	100.00	0		
Belgium Antwerp	1	0.00	2	0.00	1	0.00	1	100.00	4	75.00	7	28.57	
Belgium Hainaut	2	50.00	3	66.67	2	50.00	2	100.00	4	25.00	2	50.00	
Czech Republic			17	64.71	26	65.38	13	23.08	16	81.25	12	8.33	
Hungary					2	50.00	3	0.00	7	85.71	11	63.64	↑
Austria Styria	4	75.00	6	50.00	4	75.00	4	50.00	4	75.00	3	100.00	
Croatia Zagreb	0		0		0		0		1	0.00			
Switzerland Zurich	15	53.33	11	54.55	14	71.43	13	76.92	15	66.67	19	73.68	
Bulgaria Sofia							1	100.00	0				
France Paris			32	93.75	25	96.00	29	89.66	21	76.19	37	97.30	
France Strasbourg					5	100.00	6	66.67	2	100.00	4	100.00	
France Central East			27	70.37	41	73.17	33	81.82	53	81.13	33	87.88	
Italy North East											8	75.00	
Italy IMER			4	75.00	8	75.00	2	50.00	5	80.00	4	50.00	
Italy Tuscany									13	92.31	8	87.50	
Italy BDRCAM			8	62.50	9	55.56	9	66.67	6	66.67	12	66.67	
Spain Asturias	8	62.50	1	100.00	3	33.33	2	100.00	2	50.00	3	100.00	
Spain Basque Country	9	66.67	6	83.33	7	85.71	6	50.00	8	87.50			
Spain El Valles	2	50.00	0		1	0.00	2	100.00	1	100.00			
Spain Barcelona	8	62.50	3	33.33	8	50.00	3	100.00	2	100.00	5	80.00	
Southern Portugal	0		0		3	66.67	1	0.00	2	0.00	1	0.00	
Israel IBDMS									4	50.00	0		
Russia Tomsk	0		0		0		1	100.00	0		2	50.00	
Australia	105	32.38	106	49.06	130	36.92	119	52.10	119	50.42			

Table 27a: Down syndrome, Live and Still births (L+S)

Programme	Years		Cases	Births	Birth Prevalence x 10,000	95% CI		L+S trend
	from	to				lower	upper	
Canada National	93	97	1,778	1,389,607	12.79	12.21	13.40	
Canada Alberta	93	98	264	231,112	11.42	10.09	12.89	
Canada British Columbia	93	98	415	274,542	15.12	**12.51**	**20.12**	↑
USA Atlanta	93	98	292	247,920	11.78	10.47	13.21	
Mexico RYVEMCE	93	98	385	294,380	13.08	11.80	14.45	
Cuba	93	98	192	273,346	7.02	6.07	8.09	
Venezuela	93	98	127	89,441	14.20	**7.39**	**23.46**	↑
Colombia	93	94	12	11,844	10.13	5.21	17.71	
Ecuador	93	98	30	18,937	15.84	10.68	22.62	
Brazil	93	98	331	220,452	15.01	**10.91**	**19.56**	↑
Bolivia	93	98	43	34,007	12.64	9.15	17.03	
Paraguay	93	98	36	16,108	22.35	15.64	30.94	
Uruguay	93	98	61	48,771	12.51	9.57	16.06	
Chile	93	98	220	98,320	22.38	19.52	25.53	
Argentina	93	98	758	412,862	18.36	17.08	19.71	
Norway	93	98	371	360,906	10.28	9.26	11.38	
Finland	93	98	437	371,826	11.75	10.68	12.91	
Denmark Odense	93	98	34	35,285	9.64	6.67	13.46	
Scotland Glasgow	93	98	77	66,729	11.54	**6.73**	**20.01**	↑
England & Wales	93	98	2,115	3,934,009	5.38	**4.59**	**6.48**	↑
England North Thames West	97	98	103	94,949	10.85	8.85	13.15	
England Mersey	98	98	35	27,516	12.72	8.85	17.69	
Ireland Dublin	93	98	260	113,719	22.86	**15.38**	**29.71**	↑
Northern Netherlands	93	98	115	115,807	9.93	8.20	11.92	
Germany Saxony-Anhalt	93	98	42	50,947	8.24	5.94	11.14	
Belgium Antwerp	93	98	49	76,426	6.41	**2.75**	**13.68**	↓
Belgium Hainaut	93	98	52	73,563	7.07	5.28	9.27	
Czech Republic	93	98	400	596,805	6.70	6.06	7.39	
Hungary	93	98	364	650,371	5.60	**3.77**	**7.50**	↓
Austria Styria	93	98	0	73,918	0.00	0.00	0.52	
Croatia Zagreb	93	97	41	31,719	12.93	9.27	17.53	
Switzerland Zurich	93	98	202	255,571	7.90	6.85	9.07	
Bulgaria Sofia	96	97	18	18,230	9.87	5.84	15.61	
France Paris	93	98	202	220,330	9.17	7.95	10.52	
France Strasbourg	93	98	140	79,393	17.63	**2.20**	**27.95**	↓
France Central East	93	98	564	609,089	9.26	**6.83**	**10.98**	↓
Italy North East	93	98	303	316,862	9.56	**7.15**	**12.67**	↓
Italy IMER	93	98	133	151,604	8.77	7.35	10.40	
Italy Tuscany	93	98	132	148,120	8.91	7.46	10.57	
Italy BDRCAM	93	98	243	276,108	8.80	7.73	9.98	
Italy ISMAC	93	98	142	111,286	12.76	10.75	15.04	
Malta	93	98	48	29,021	16.54	12.19	21.93	
Spain ECEMC	93	98	626	547,015	11.44	10.56	12.38	
Spain Asturias	93	98	49	39,492	12.41	9.18	16.40	
Spain Basque Country	93	97	95	78,938	12.03	9.74	14.71	
Spain El Valles	93	97	32	36,006	8.89	**2.77**	**19.82**	↓
Spain Barcelona	93	98	52	73,501	7.07	5.28	9.28	
Southern Portugal	93	98	55	60,872	9.04	6.81	11.76	
Israel IBDMS	93	98	58	103,924	5.58	4.24	7.21	
United Arab Emirates	96	98	39	22,099	17.65	**10.67**	**27.83**	↓
Russia Tomsk	93	98	38	24,160	15.73	11.13	21.59	
Japan JAOG	93	98	471	619,107	7.61	**6.12**	**10.38**	↑
China CBDMN	97	98	93	598,316	1.55	1.25	1.90	
Australia	93	97	1,702	1,295,708	13.14	12.52	13.77	
New Zealand	94	98	283	285,914	9.90	8.78	11.12	
South Africa SABDSS	93	97	274	336,331	8.15	7.21	9.17	↓

Note: Bold characters do not represent the Confidence Interval but the range (just for heterogenous prevalences).



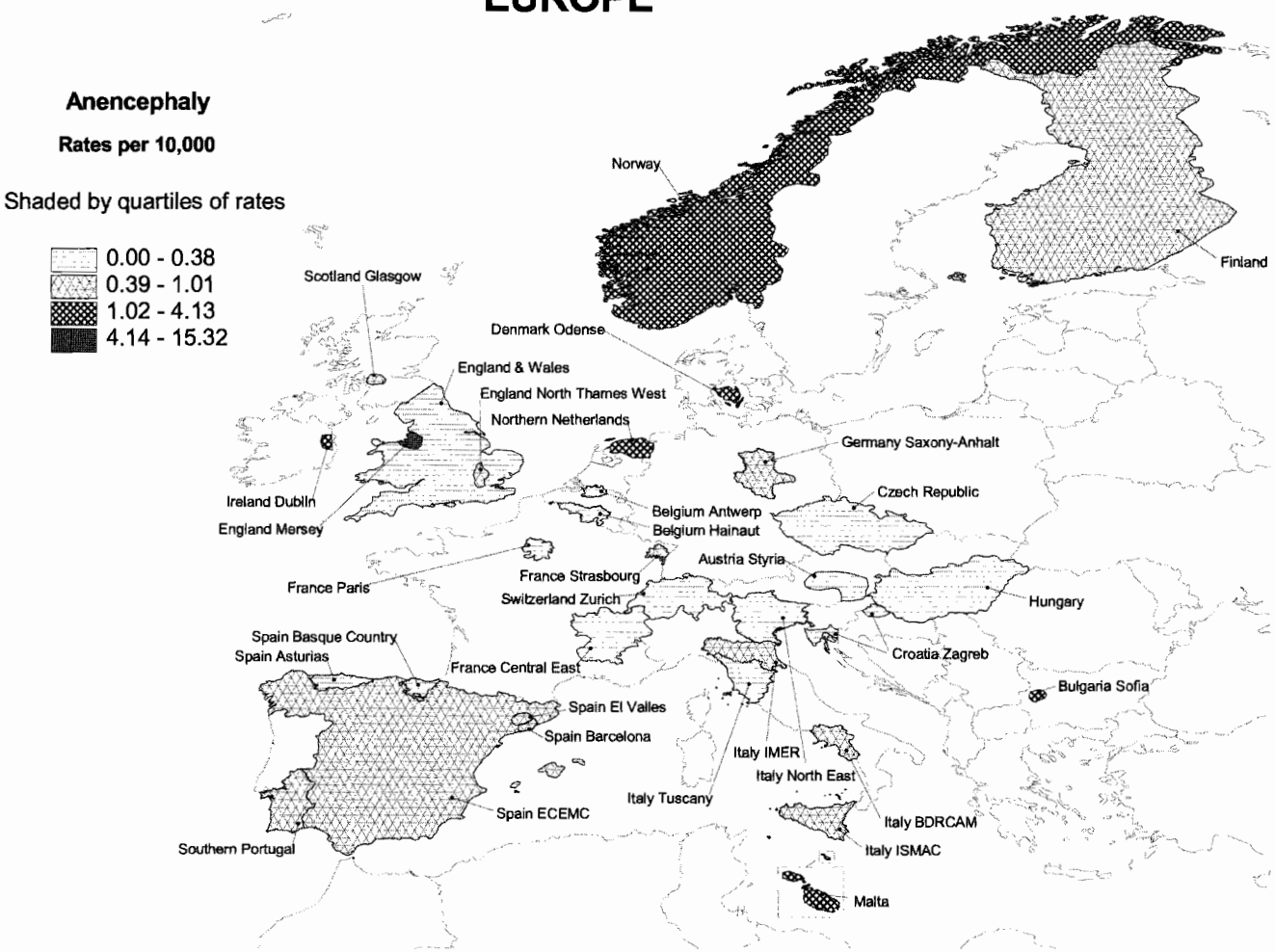
Note: Where the bars are not displayed, the line represents the range.

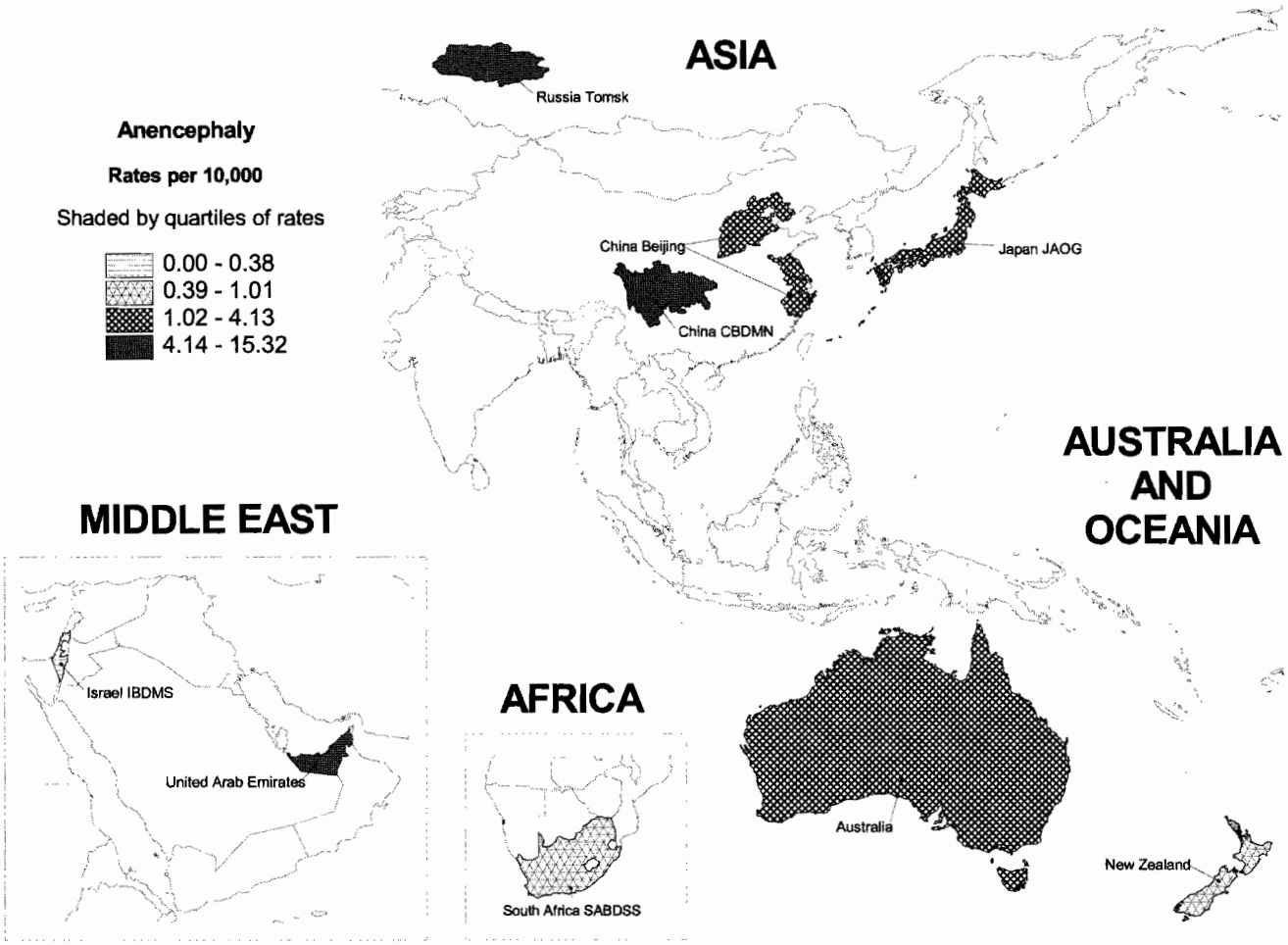
Table 27b: Down syndrome, Terminations of pregnancy (TOP)

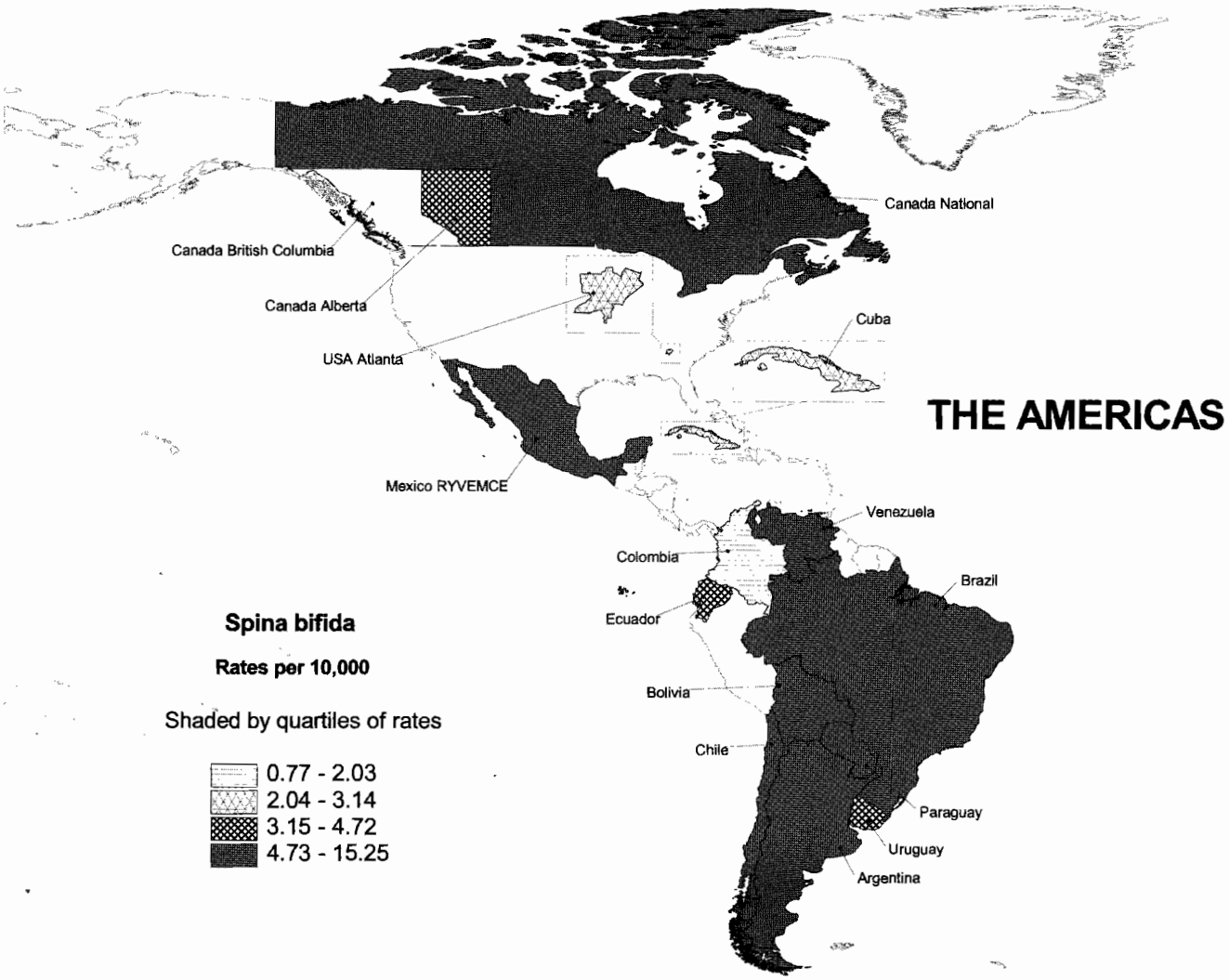
Programme	93		94		95		96		97		98		L+S+ToP trend
	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	Total	% ToP	
Canada Alberta									57	28.07	69	24.64	
USA Atlanta	51	7.84	74	25.68	69	33.33	83	42.17	66	31.82	77	33.77	
Norway			56	14.29	74	10.81	72	9.72	70	10.00	73	15.07	
Finland	141	39.72	161	48.45	141	41.84	139	54.68	137	56.20	128	50.00	
Denmark Odense	6	33.33	12	58.33	3	0.00	4	0.00	16	31.25	11	36.36	
Scotland Glasgow	13	38.46	29	31.03	17	35.29	17	52.94	28	21.43	14	42.86	
England & Wales	567	45.15	591	46.53	617	48.78	674	47.03	740	43.38	744	46.77	↑
England North Thames West									107	52.34	111	53.15	
England Mersey											56	37.50	
Northern Netherlands	27	33.33	24	54.17	29	31.03	33	24.24	34	29.41	25	32.00	
Germany Saxony-Anhalt	4	0.00	6	16.67	12	50.00	15	53.33	16	50.00	17	29.41	↑
Belgium Antwerp	6	0.00	17	11.76	4	25.00	4	25.00	19	31.58	25	64.00	
Belgium Hainaut	17	41.18	18	72.22	20	70.00	18	33.33	12	50.00	34	61.76	
Czech Republic	138	34.06	139	41.01	116	39.66	120	58.33	119	61.34	159	61.64	↑
Hungary	121	45.45	88	1.14	81	13.58	59	1.69	56	32.14	64	29.69	↓
Austria Styria	0		0		0		0		0		1	100.00	
Croatia Zagreb	11	0.00	6	0.00	8	0.00	6	0.00	10	0.00			
Switzerland Zurich	70	50.00	68	48.53	63	49.21	63	42.86	82	48.78	47	53.19	
Bulgaria Sofia							11	0.00	8	12.50			
France Paris	104	63.46	99	66.67	105	75.24	130	72.31	145	80.00	142	71.83	↑
France Strasbourg	35	37.14	37	37.84	49	34.69	38	39.47	63	41.27	27	88.89	
France Central East	178	38.76	165	36.97	194	53.09	209	53.11	222	58.56	214	67.29	↑
Italy North East	81	22.22	85	41.18	103	42.72	94	44.68	86	53.49	70	44.29	
Italy IMER	48	54.17	43	44.19	57	52.63	59	61.02	44	52.27	45	64.44	
Italy Tuscany	35	17.14	39	38.46	40	30.00	41	58.54	42	57.14	42	61.90	
Italy BDRCAM	59	25.42	51	35.29	63	30.16	66	34.85	63	46.03	72	37.50	
Spain Asturias	13	7.69	6	33.33	11	18.18	10	60.00	16	31.25	15	40.00	
Spain Basque Country	31	22.58	32	59.38	38	55.26	40	50.00	45	53.33			
Spain El Valles	24	41.67	10	80.00	13	61.54	20	65.00	18	77.78			
Spain Barcelona	28	39.29	16	37.50	17	58.82	18	66.67	24	75.00	18	66.67	
Southern Portugal	5	0.00	9	0.00	7	0.00	10	0.00	15	6.67	10	0.00	
Israel IBDMS	8	0.00	8	0.00	11	9.09	10	20.00	21	19.05	10	30.00	
Russia Tomsk	12	41.67	6	16.67	6	16.67	10	10.00	7	14.29	8	25.00	
Australia	484	24.38	463	30.02	478	23.43	474	33.75528	523	36.52			


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
THE AMERICAS
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Anencephaly
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.38
0.39 - 1.01
1.02 - 4.13
4.14 - 15.32

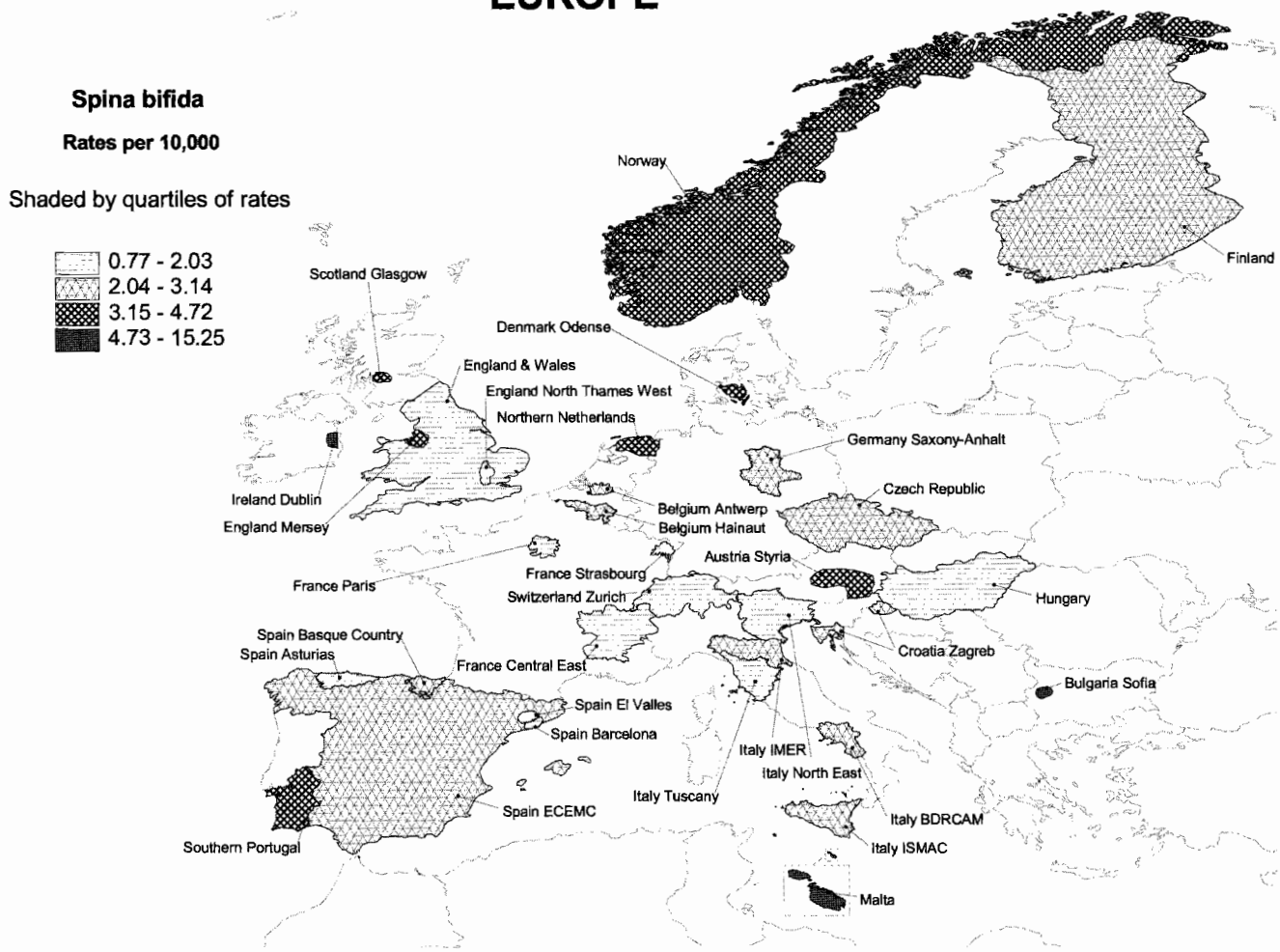
EUROPE

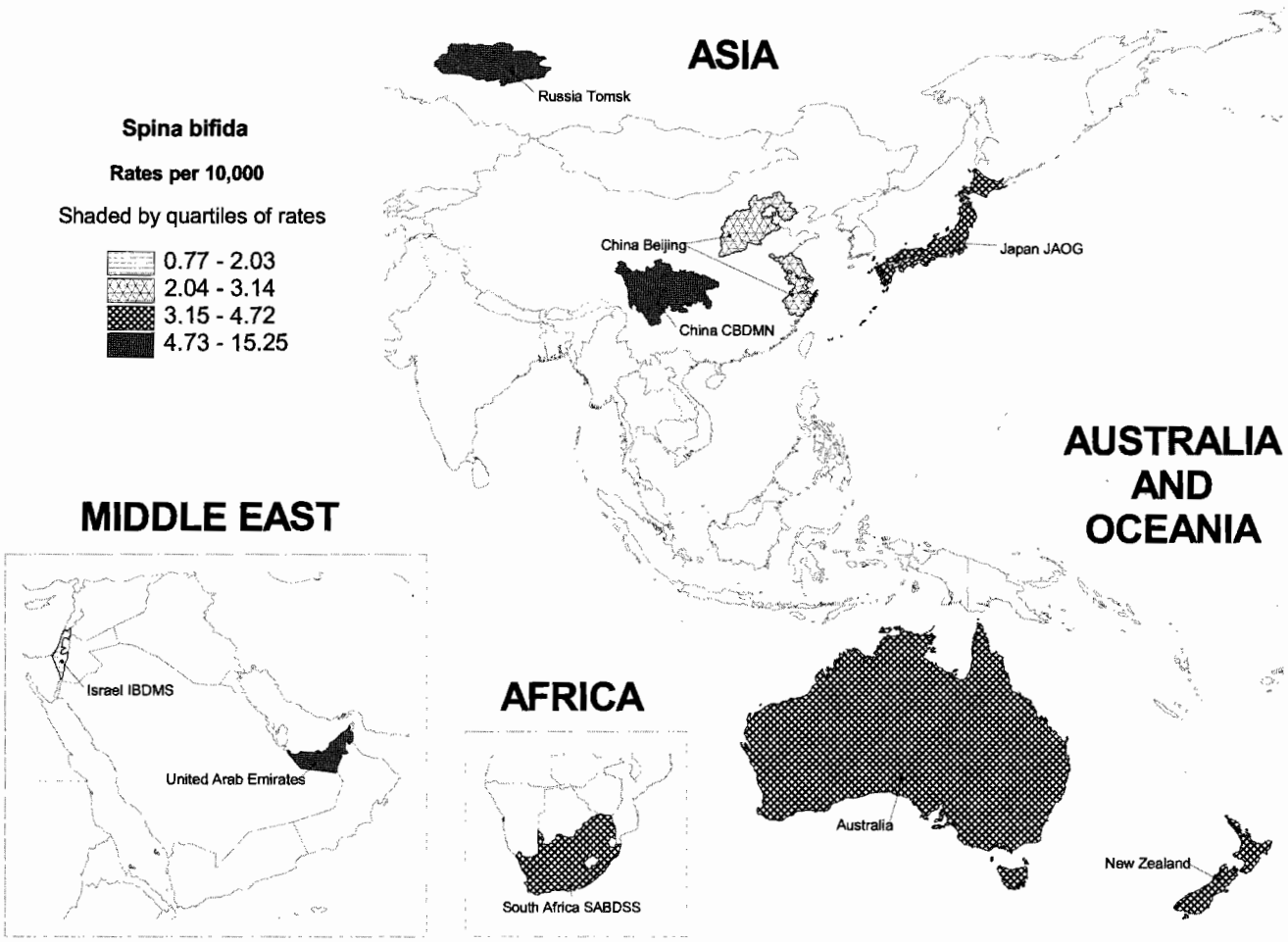

Anencephaly
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.38
0.39 - 1.01
1.02 - 4.13
4.14 - 15.32
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

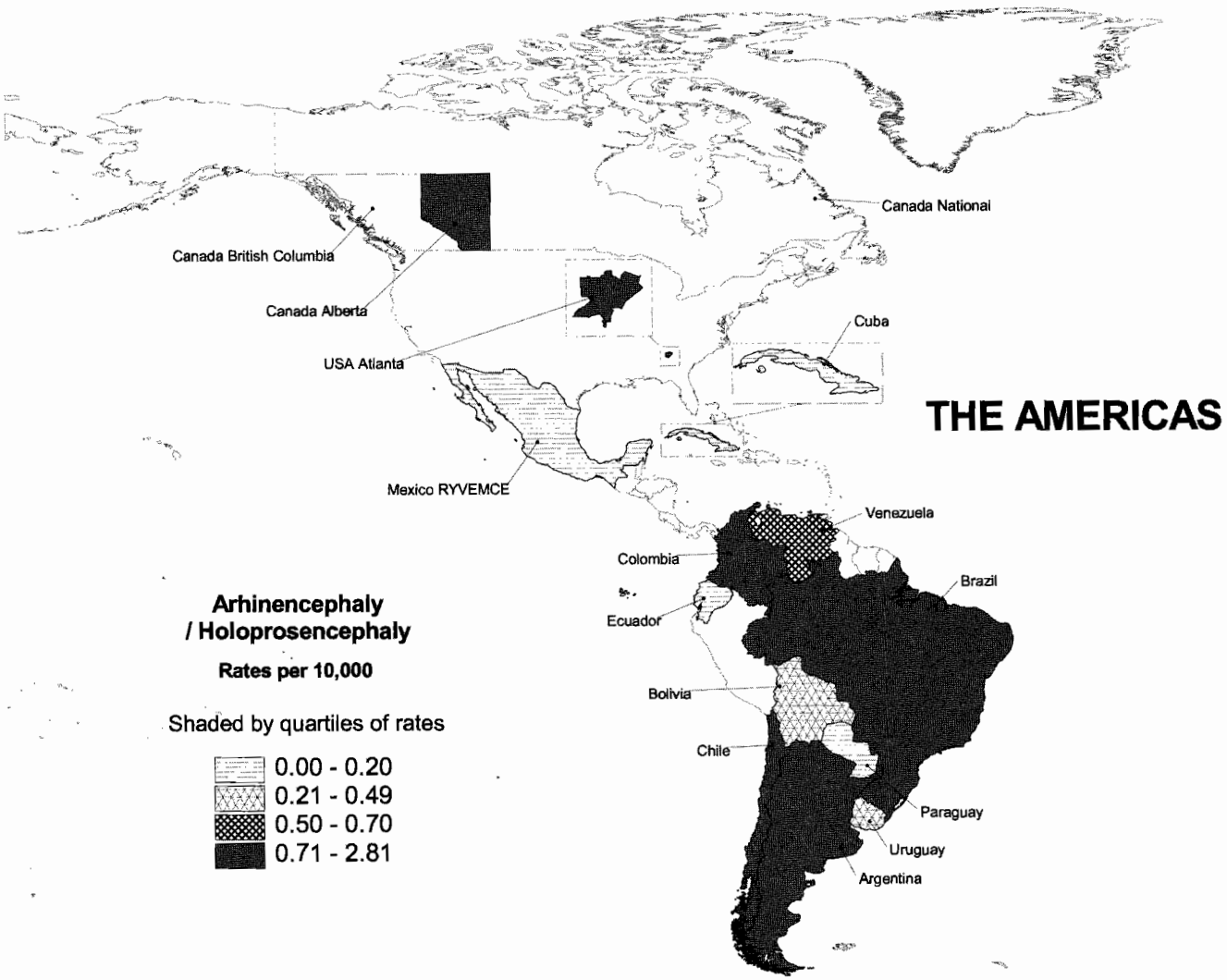

Anencephaly
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.38
0.39 - 1.01
1.02 - 4.13
4.14 - 15.32
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Spina bifida
Rates per 10,000
Shaded by quartiles of rates
0.77 - 2.03
2.04 - 3.14
3.15 - 4.72
4.73 - 15.25

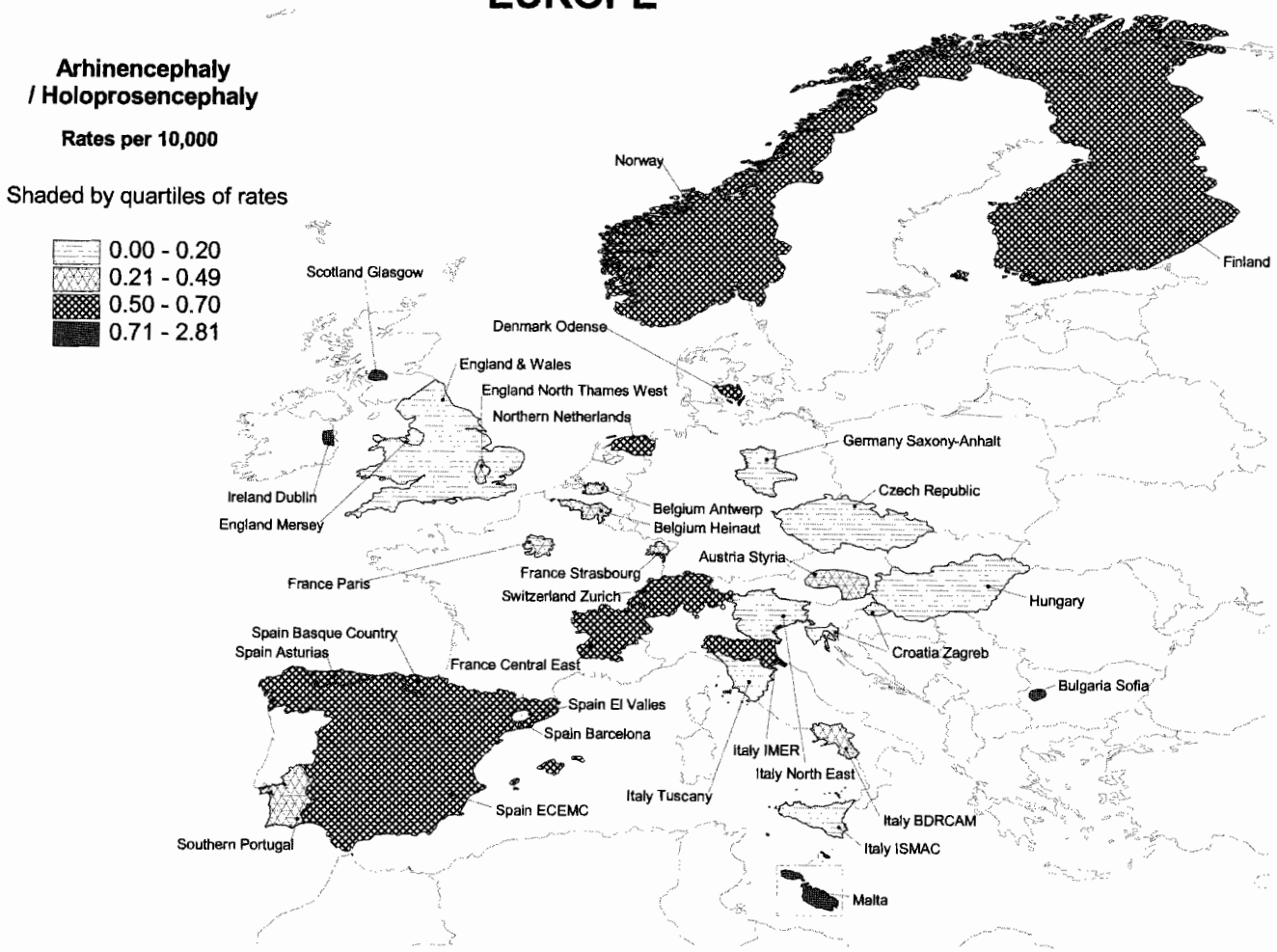
EUROPE

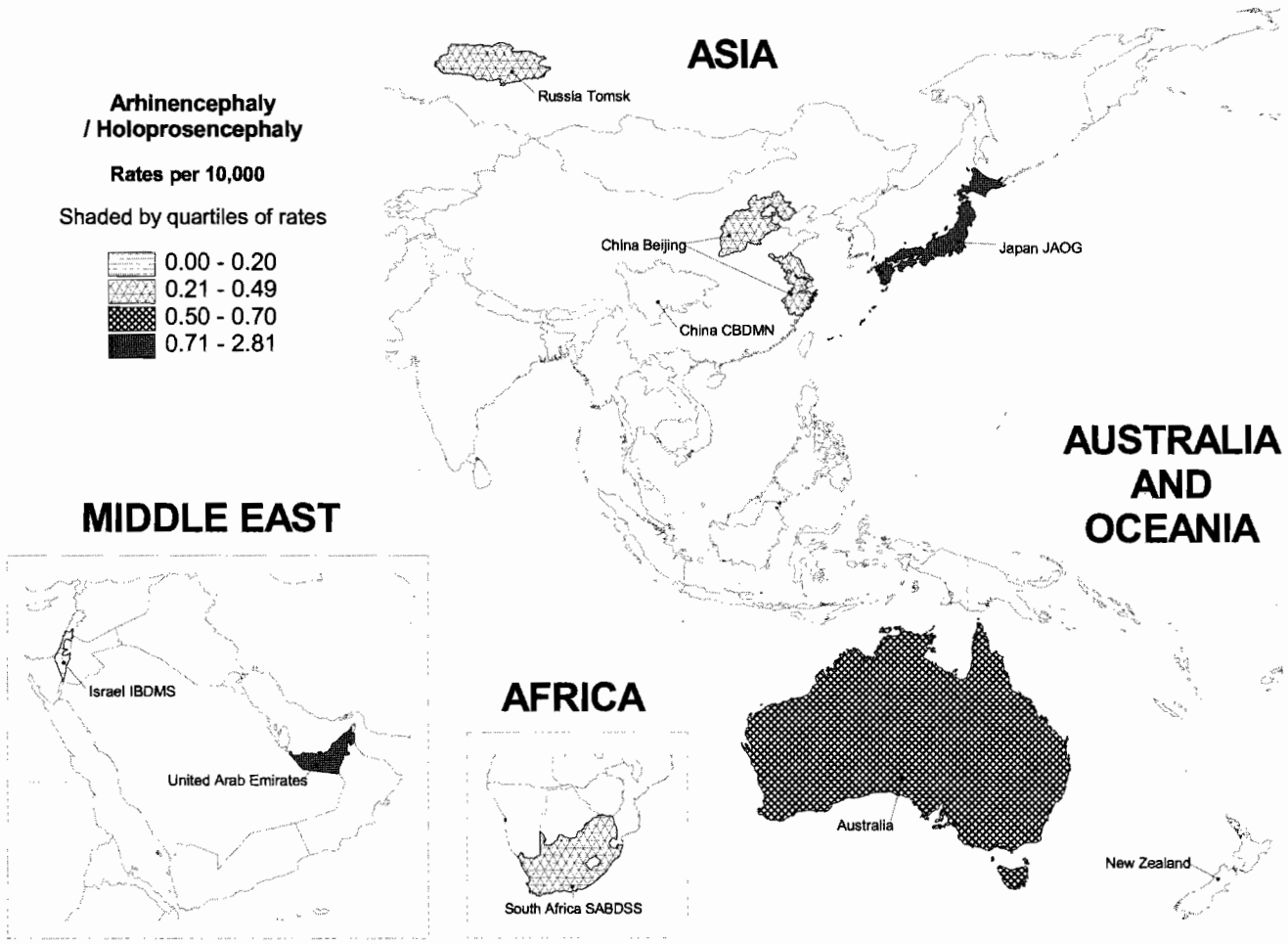

Spina bifida
Rates per 10,000
Shaded by quartiles of rates
0.77 - 2.03
2.04 - 3.14
3.15 - 4.72
4.73 - 15.25
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Paris
France Strasbourg
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

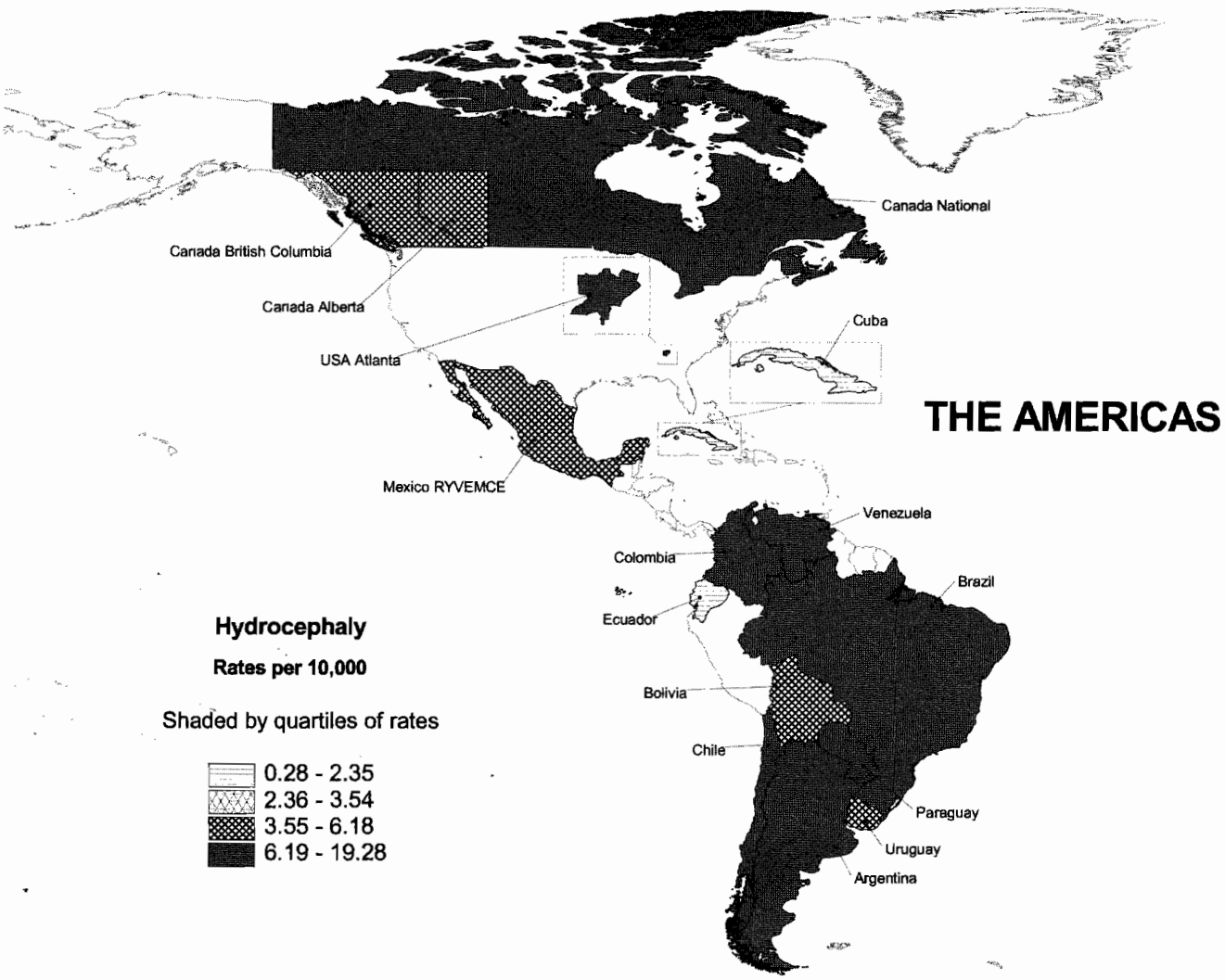

Spina bifida
Rates per 10,000
Shaded by quartiles of rates
0.77 - 2.03
2.04 - 3.14
3.15 - 4.72
4.73 - 15.25
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
THE AMERICAS
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Arhinencephaly
/ Holoprosencephaly
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.20
0.21 - 0.49
0.50 - 0.70
0.71 - 2.81

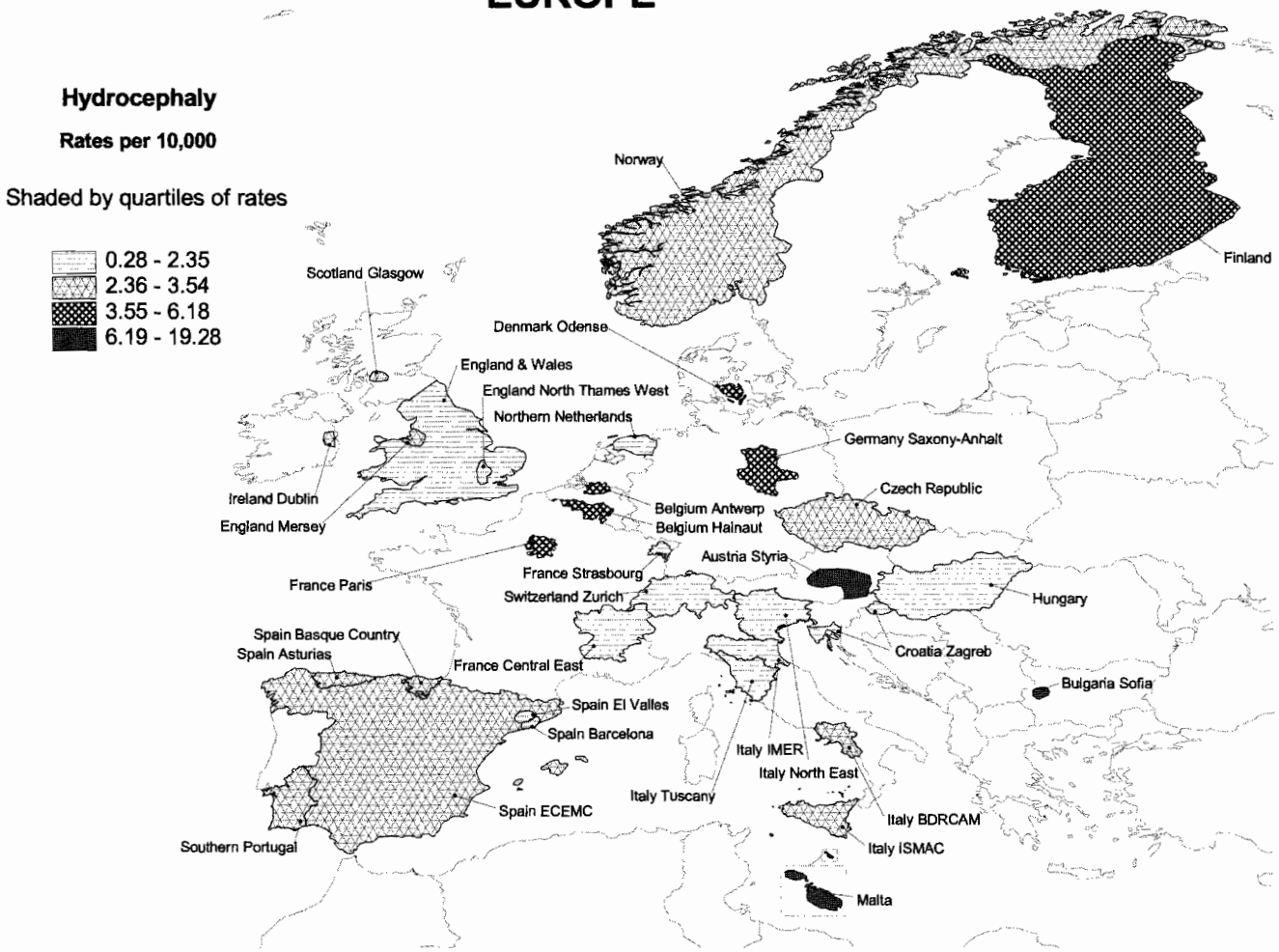
EUROPE

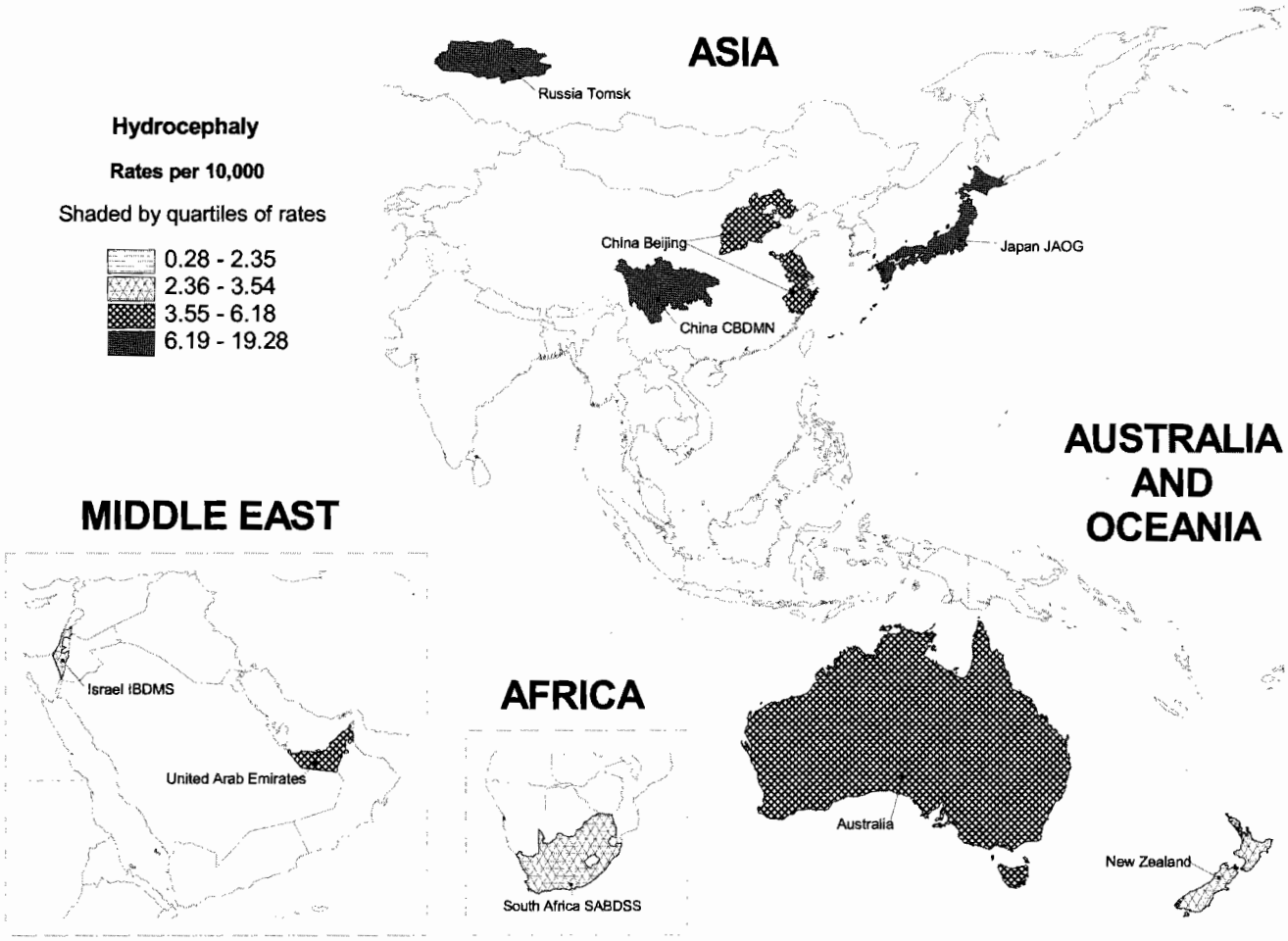

Arhinencephaly
/ Holoprosencephaly
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.20
0.21 - 0.49
0.50 - 0.70
0.71 - 2.81
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Ireland Dublin
England Mersey
Czech Republic
Belgium Antwerp
Belgium Heinaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

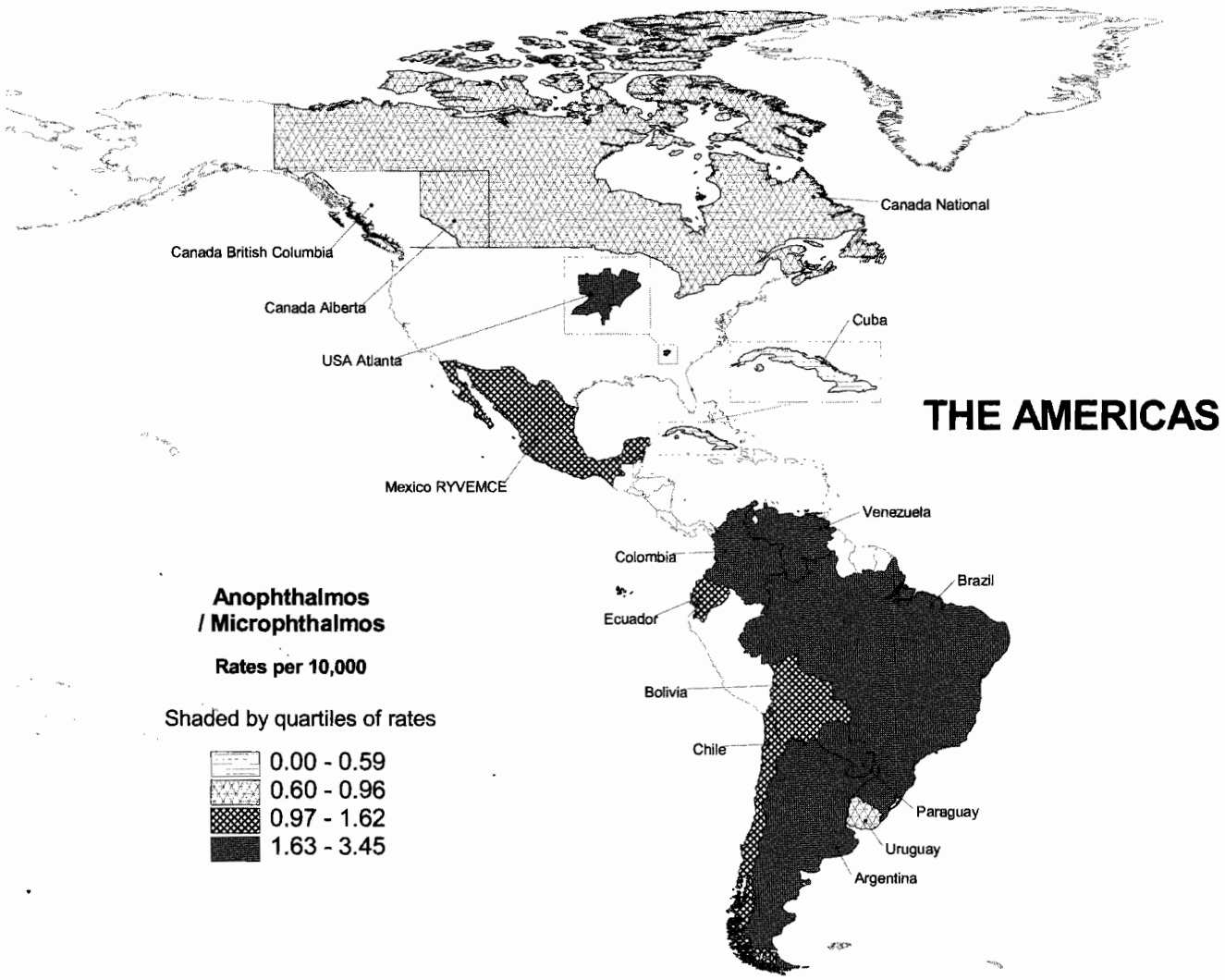

Arhinencephaly
/ Holoprosencephaly
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.20
0.21 - 0.49
0.50 - 0.70
0.71 - 2.81
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA
AND
OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Hydrocephaly
Rates per 10,000
Shaded by quartiles of rates
0.28 - 2.35
2.36 - 3.54
3.55 - 6.18
6.19 - 19.28

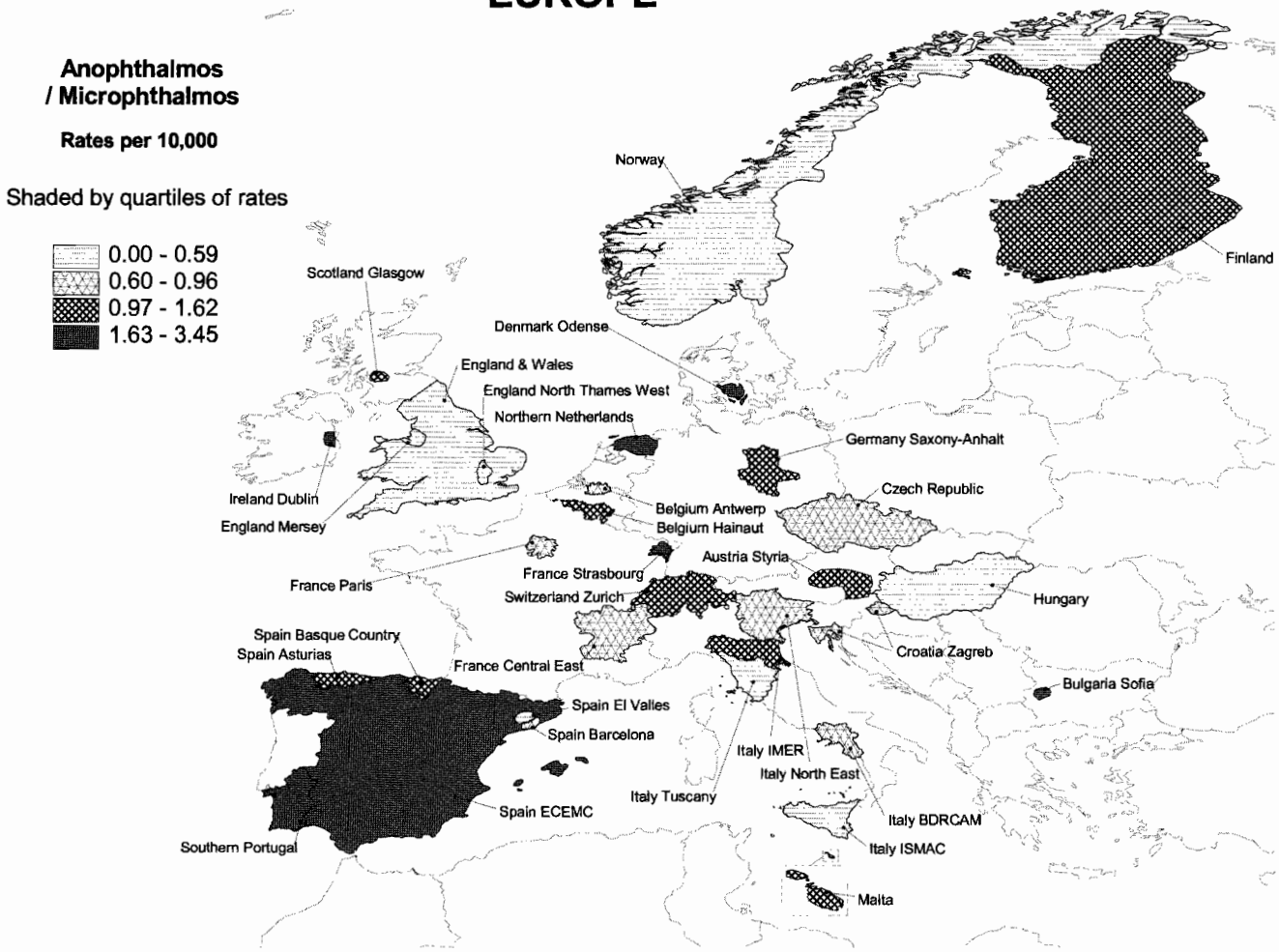
EUROPE

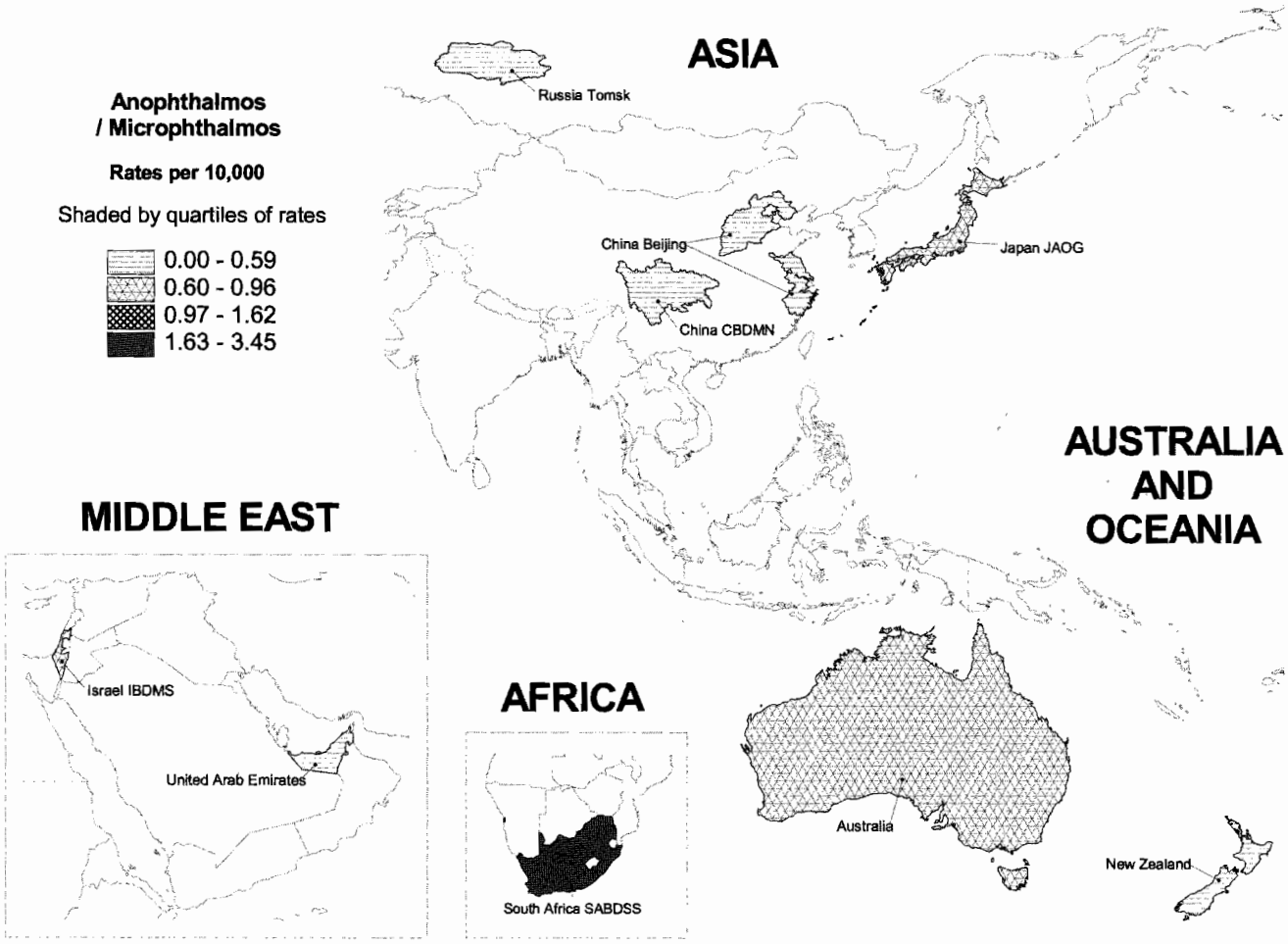

Hydrocephaly
Rates per 10,000
Shaded by quartiles of rates
0.28 - 2.35
2.36 - 3.54
3.55 - 6.18
6.19 - 19.28
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta


Hydrocephaly
Rates per 10,000
Shaded by quartiles of rates
0.28 - 2.35
2.36 - 3.54
3.55 - 6.18
6.19 - 19.28
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Anophthalmos
/ Microphthalmos
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.59
0.60 - 0.96
0.97 - 1.62
1.63 - 3.45

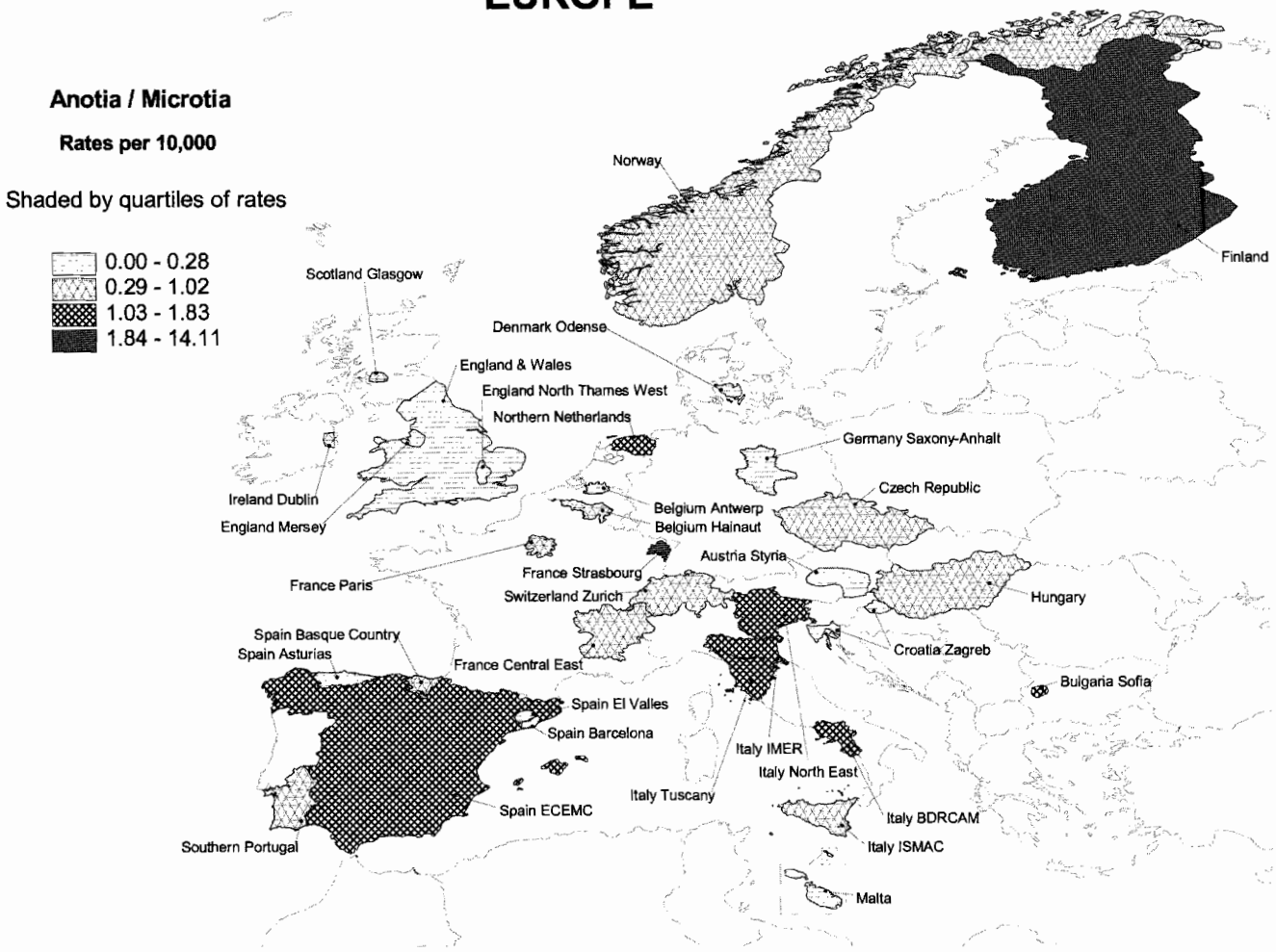
EUROPE

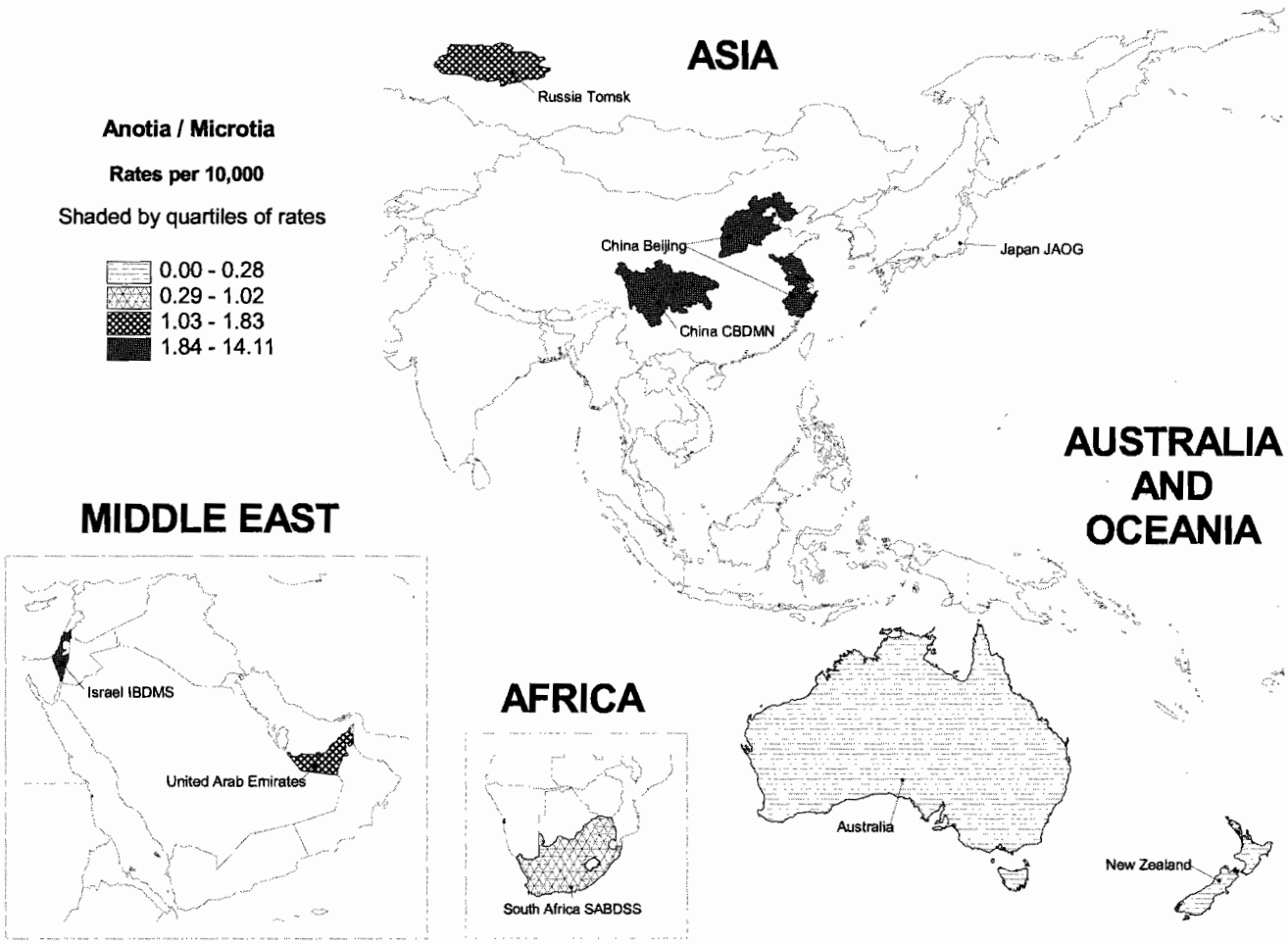

Anophthalmos
/ Microphthalmos
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.59
0.60 - 0.96
0.97 - 1.62
1.63 - 3.45
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Paris
France Strasbourg
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

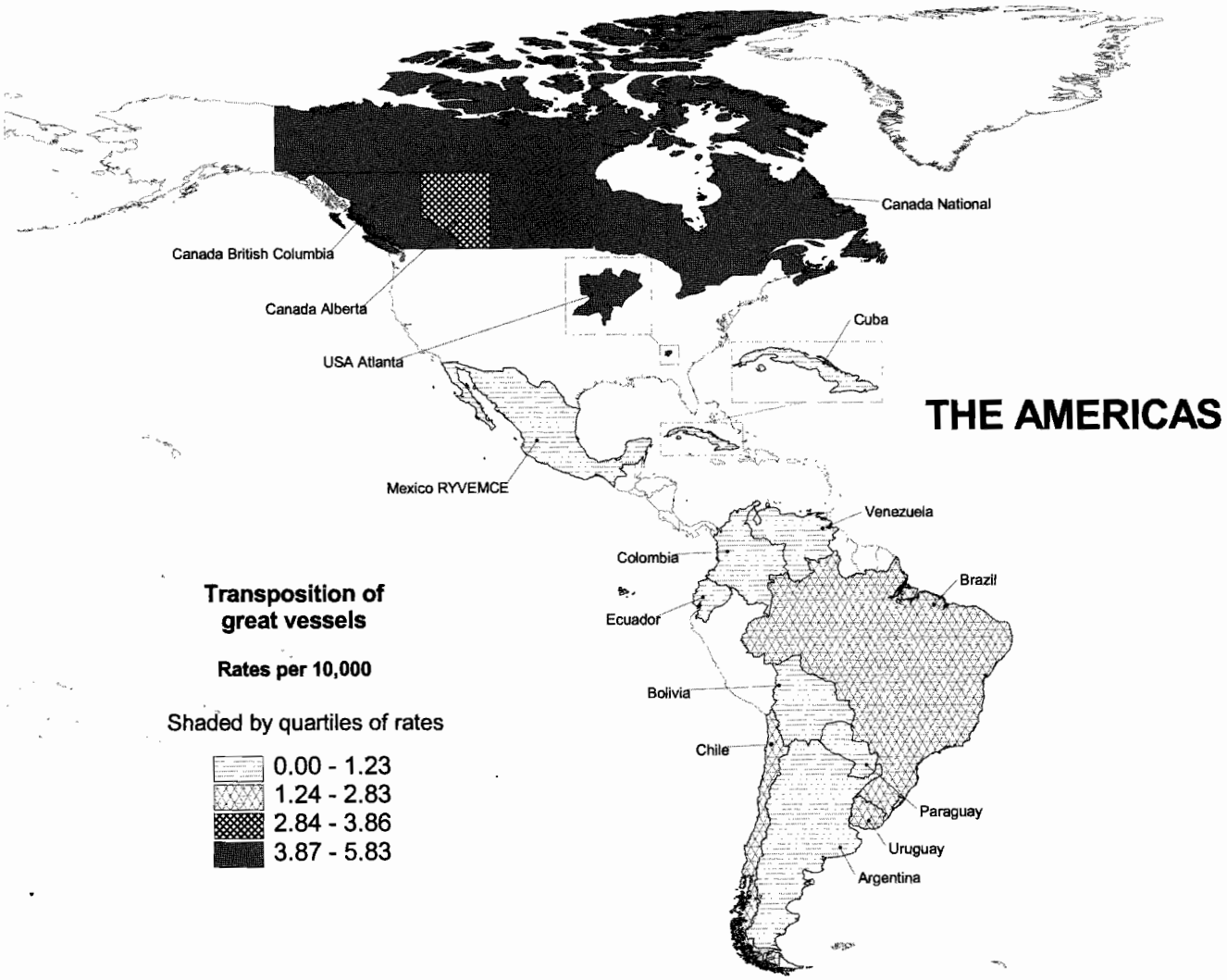

Anophthalmos
/ Microphthalmos
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.59
0.60 - 0.96
0.97 - 1.62
1.63 - 3.45
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA
AND
OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
THE AMERICAS
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Anotia / Microtia
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.28
0.29 - 1.02
1.03 - 1.83
1.84 - 14.11

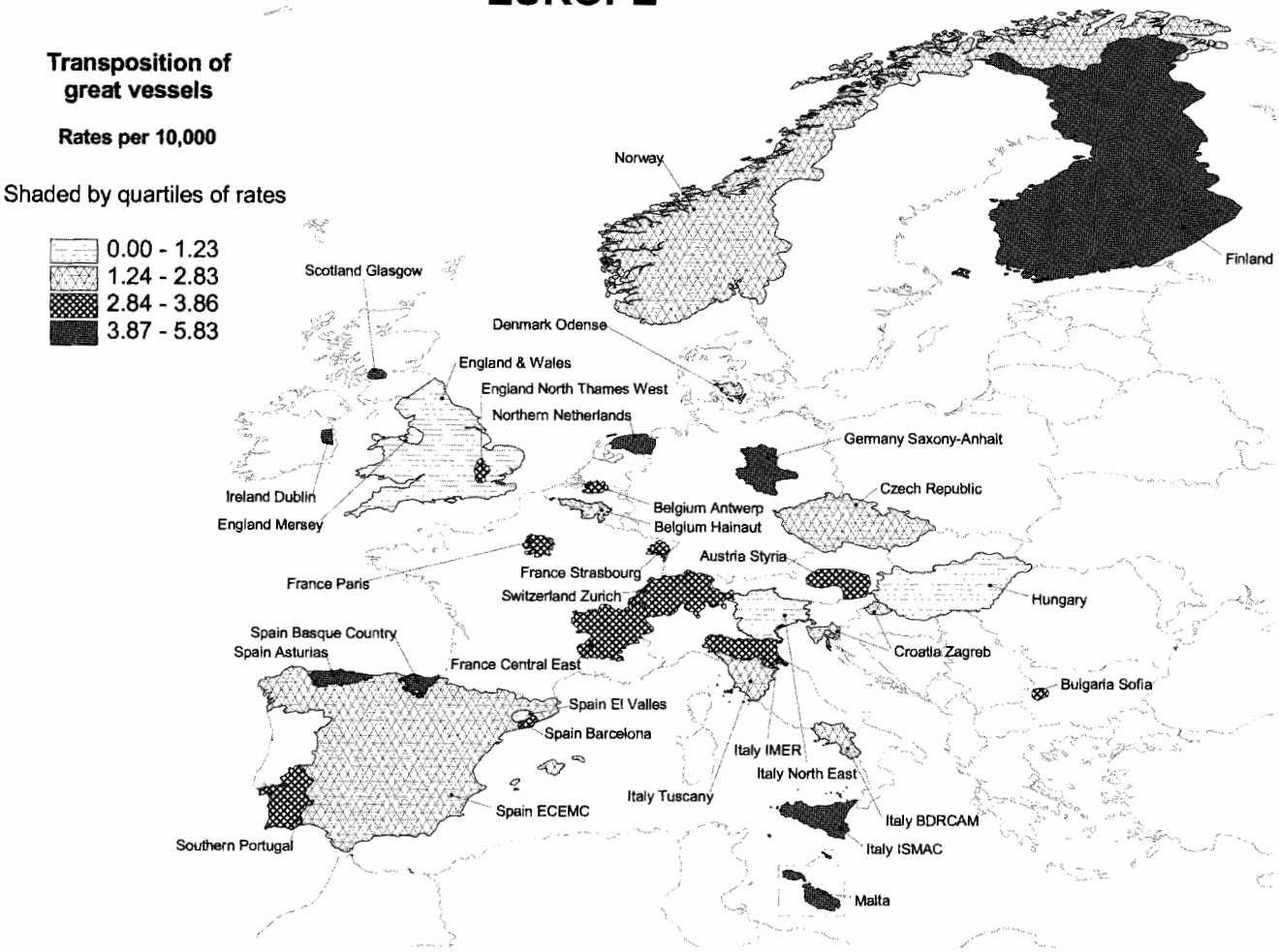
EUROPE

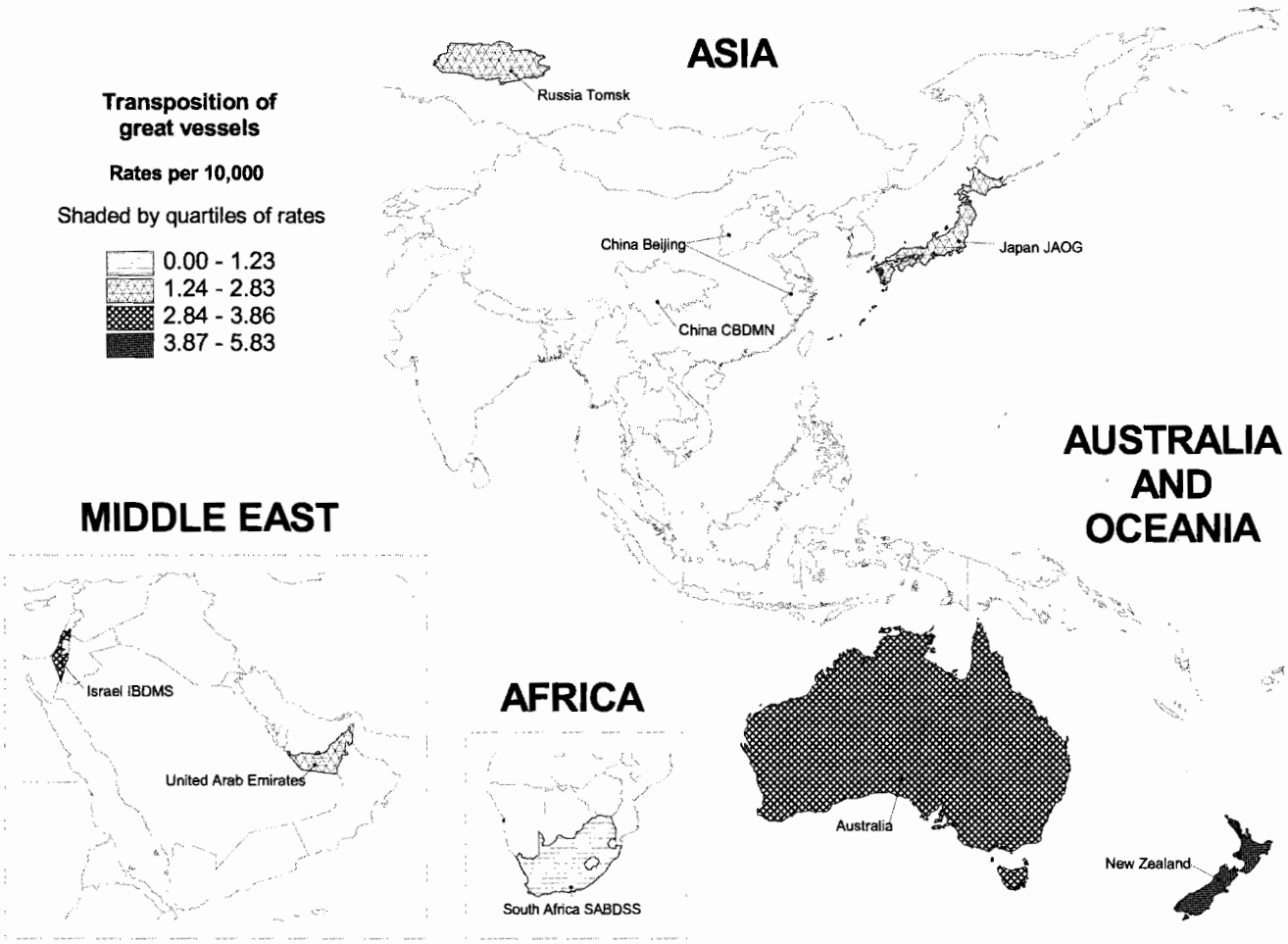

Anotia / Microtia
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.28
0.29 - 1.02
1.03 - 1.83
1.84 - 14.11
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

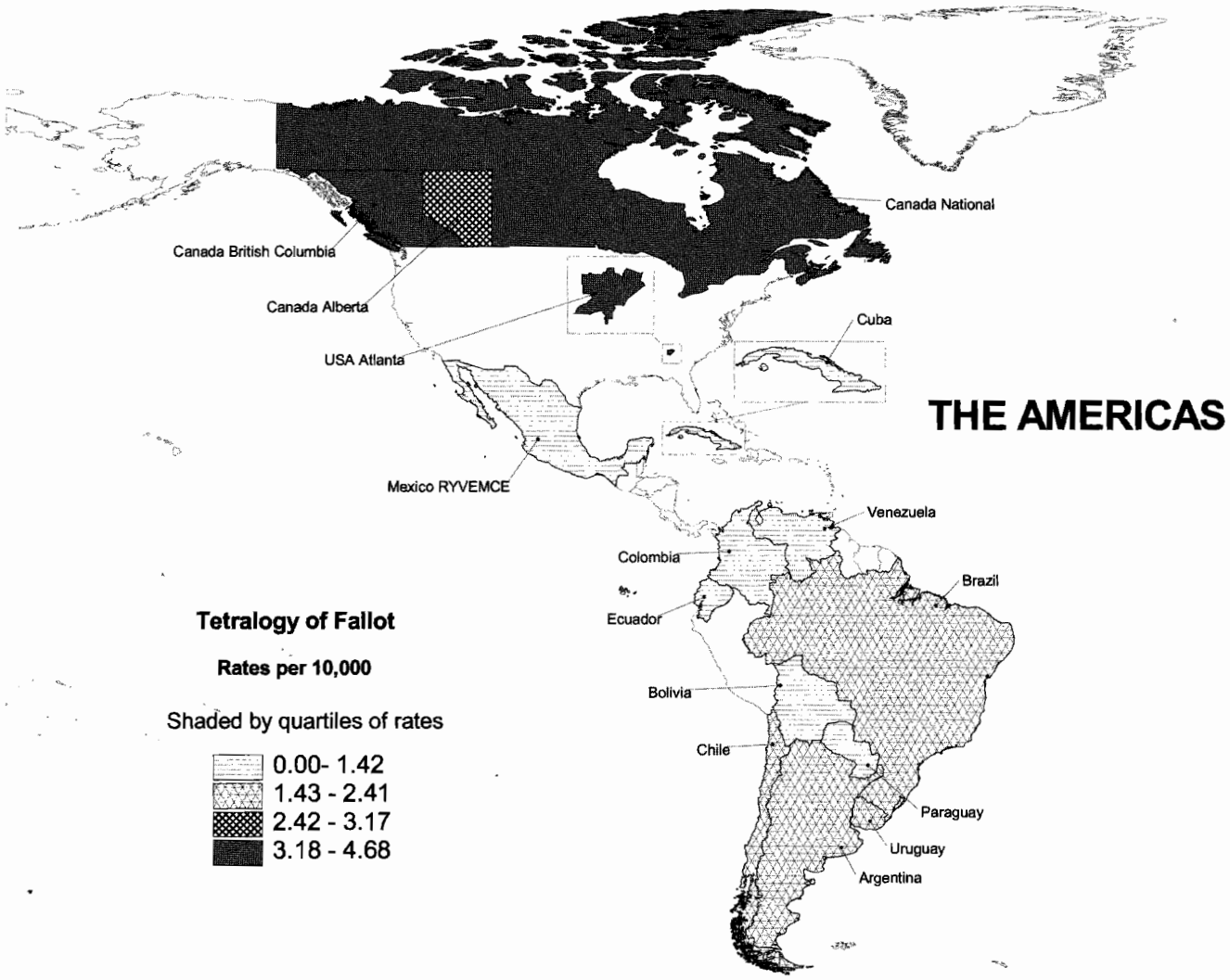

Anotia / Microtia
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.28
0.29 - 1.02
1.03 - 1.83
1.84 - 14.11
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Transposition of great vessels
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.23
1.24 - 2.83
2.84 - 3.86
3.87 - 5.83

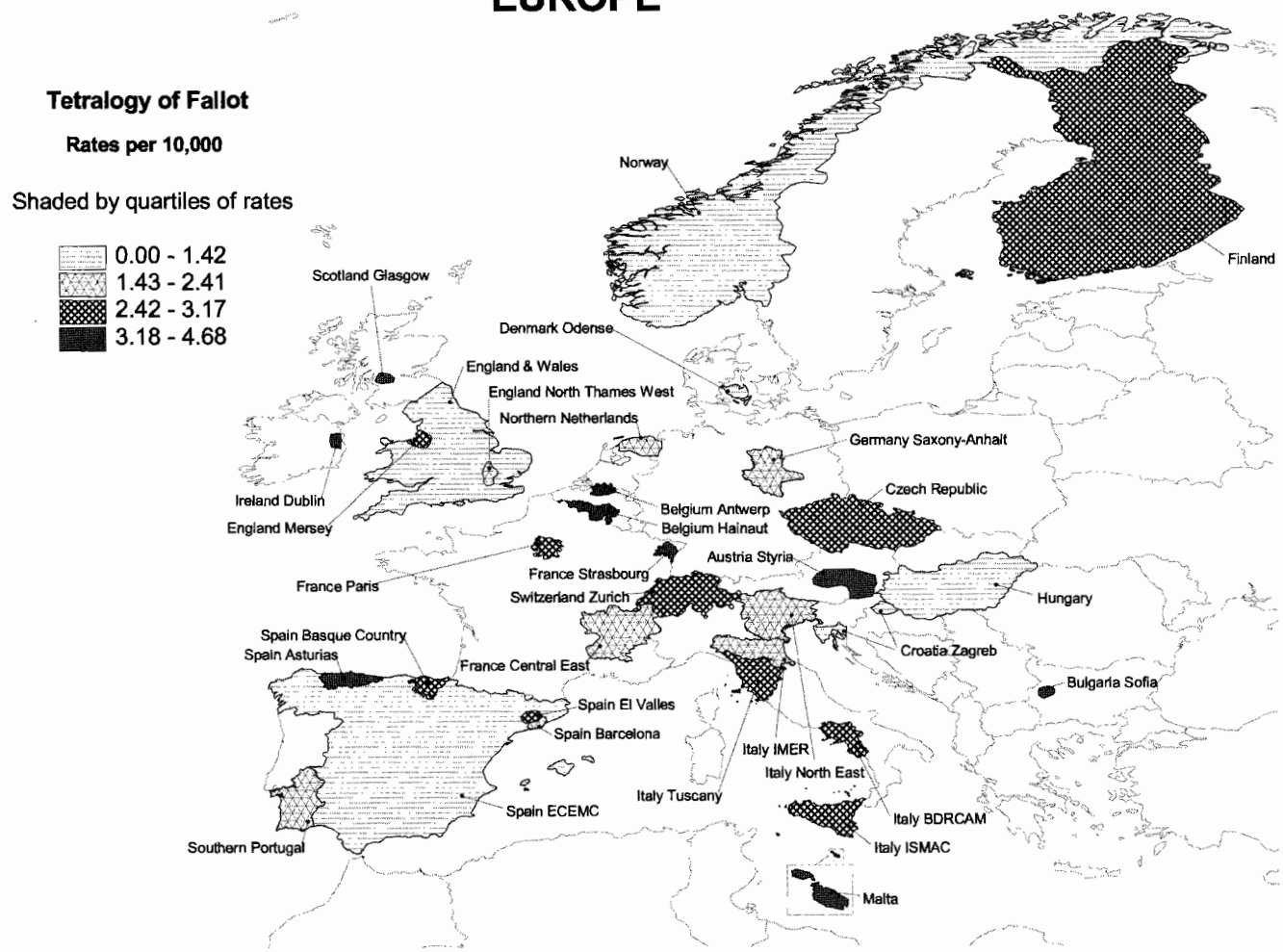
EUROPE

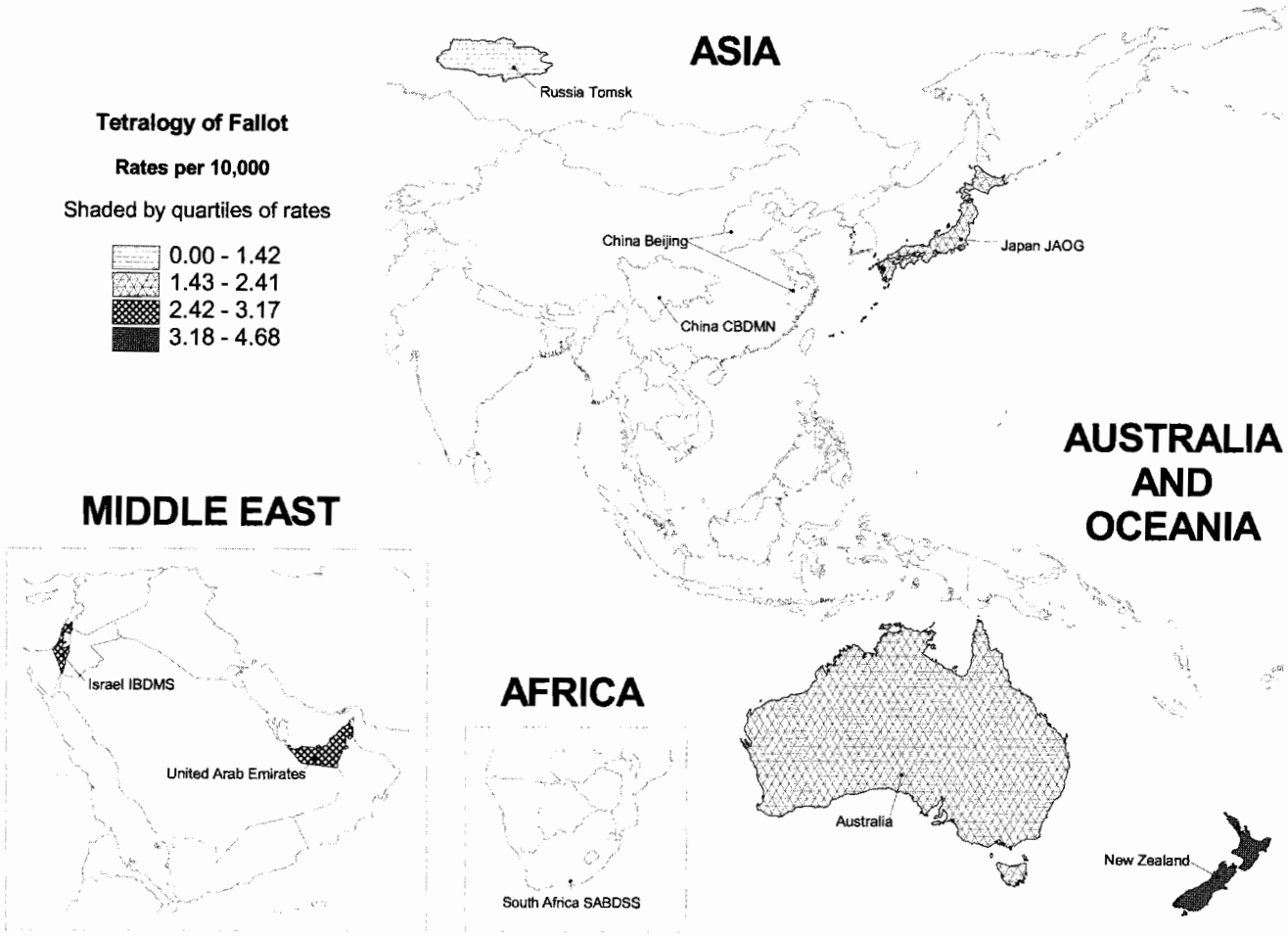

Transposition of great vessels
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.23
1.24 - 2.83
2.84 - 3.86
3.87 - 5.83
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

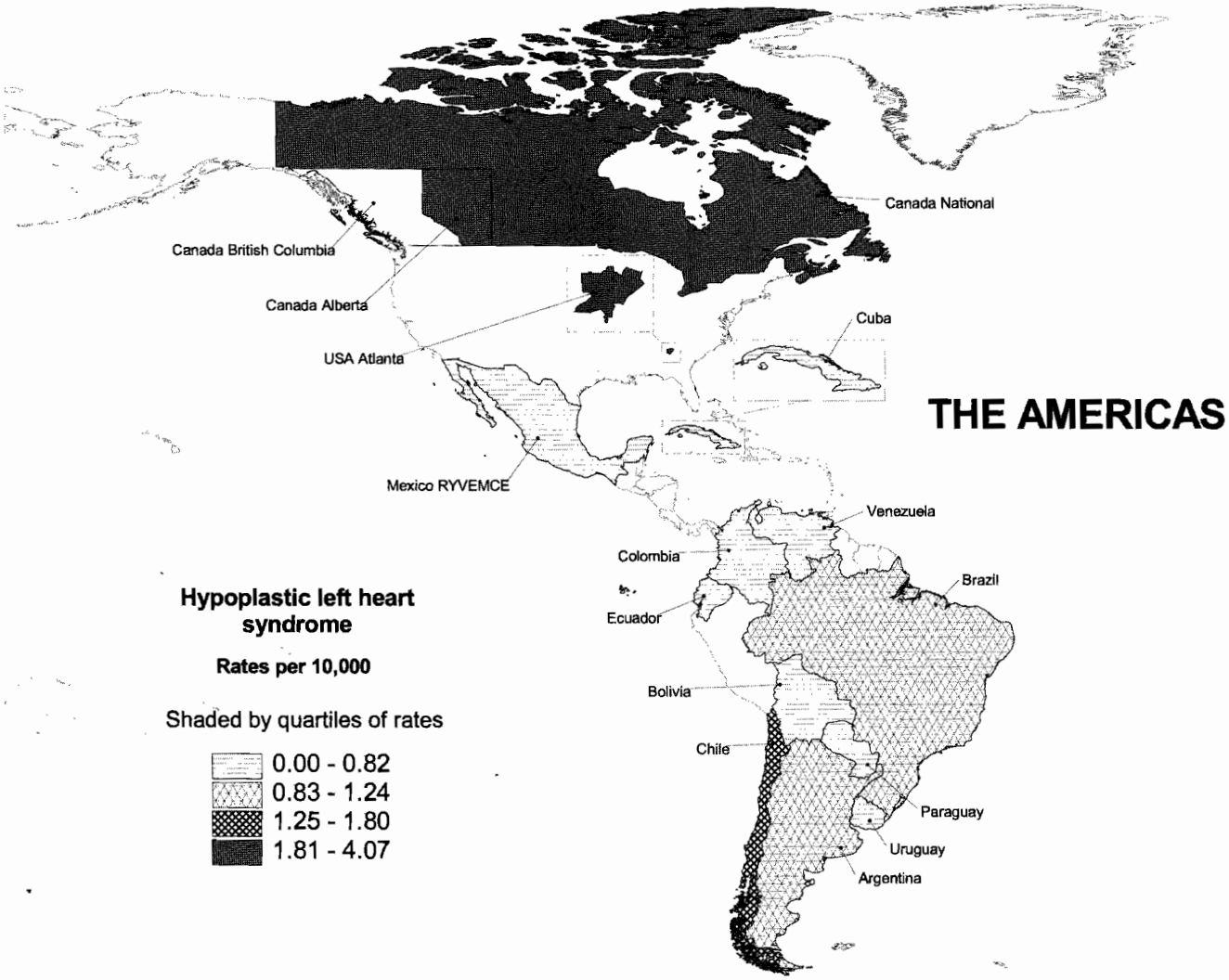

Transposition of great vessels
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.23
1.24 - 2.83
2.84 - 3.86
3.87 - 5.83
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Tetralogy of Fallot
Rates per 10,000
Shaded by quartiles of rates
0.00- 1.42
1.43 - 2.41
2.42 - 3.17
3.18 - 4.68

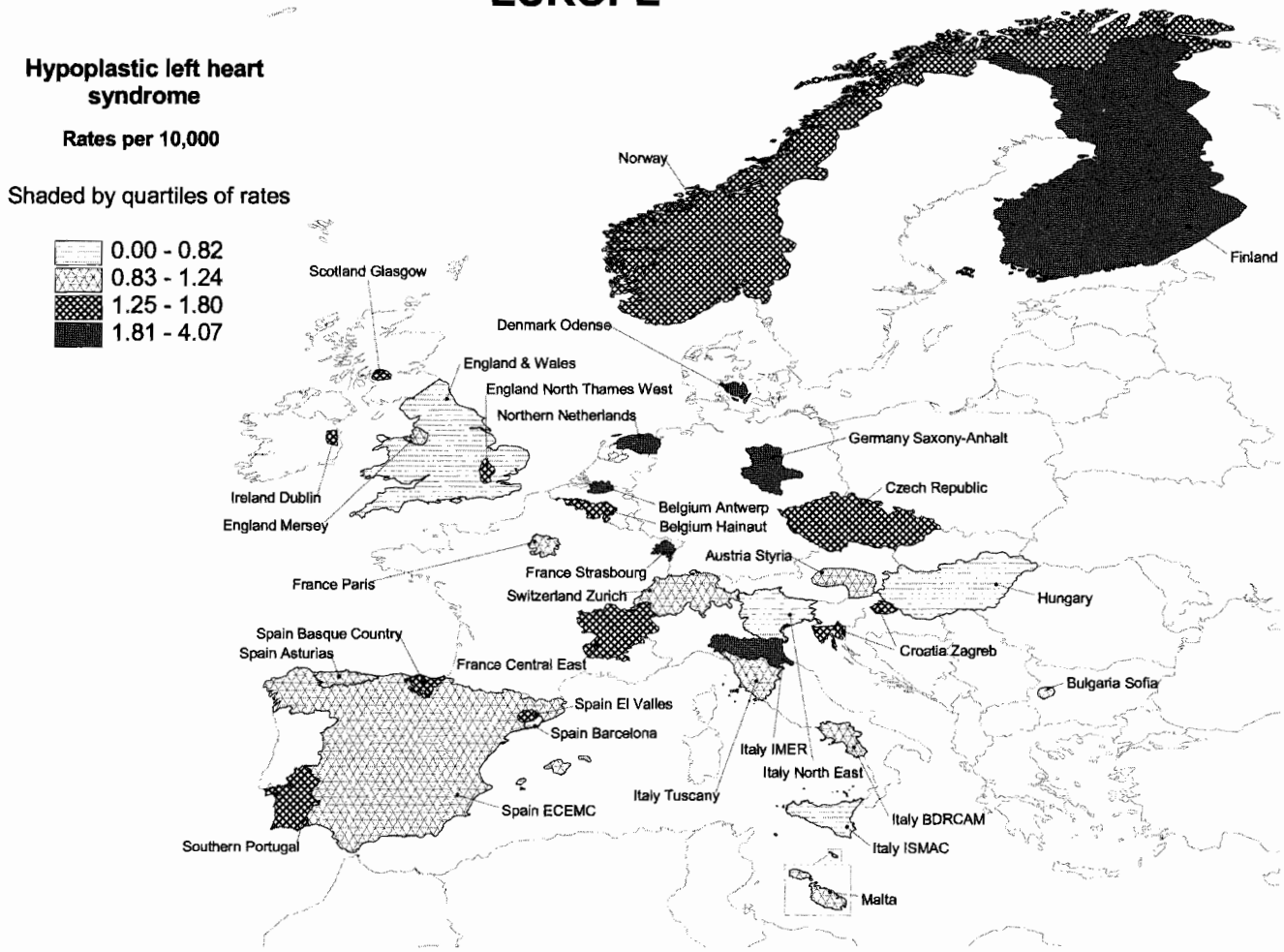
EUROPE

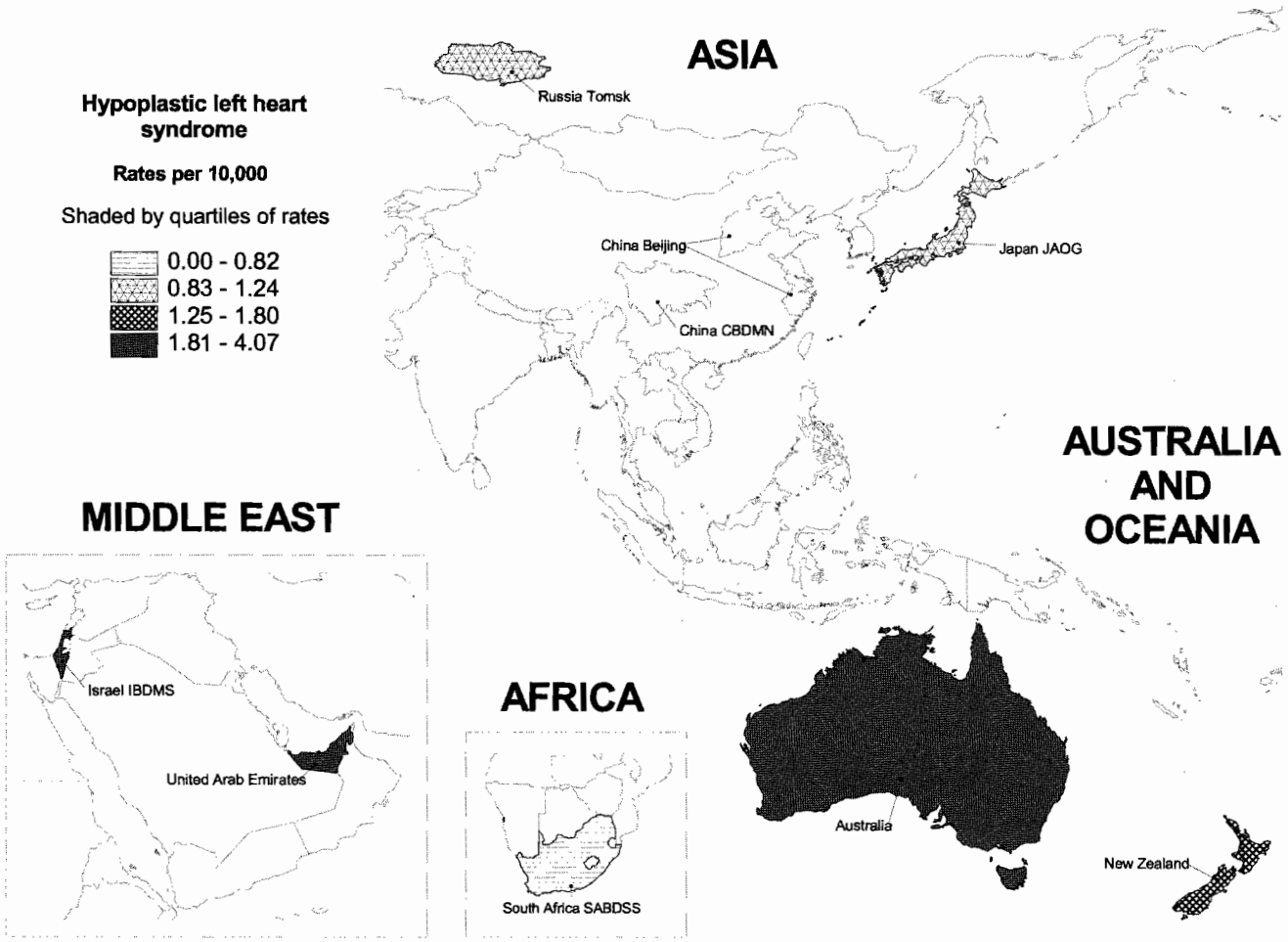

Tetralogy of Fallot
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.42
1.43 - 2.41
2.42 - 3.17
3.18 - 4.68
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

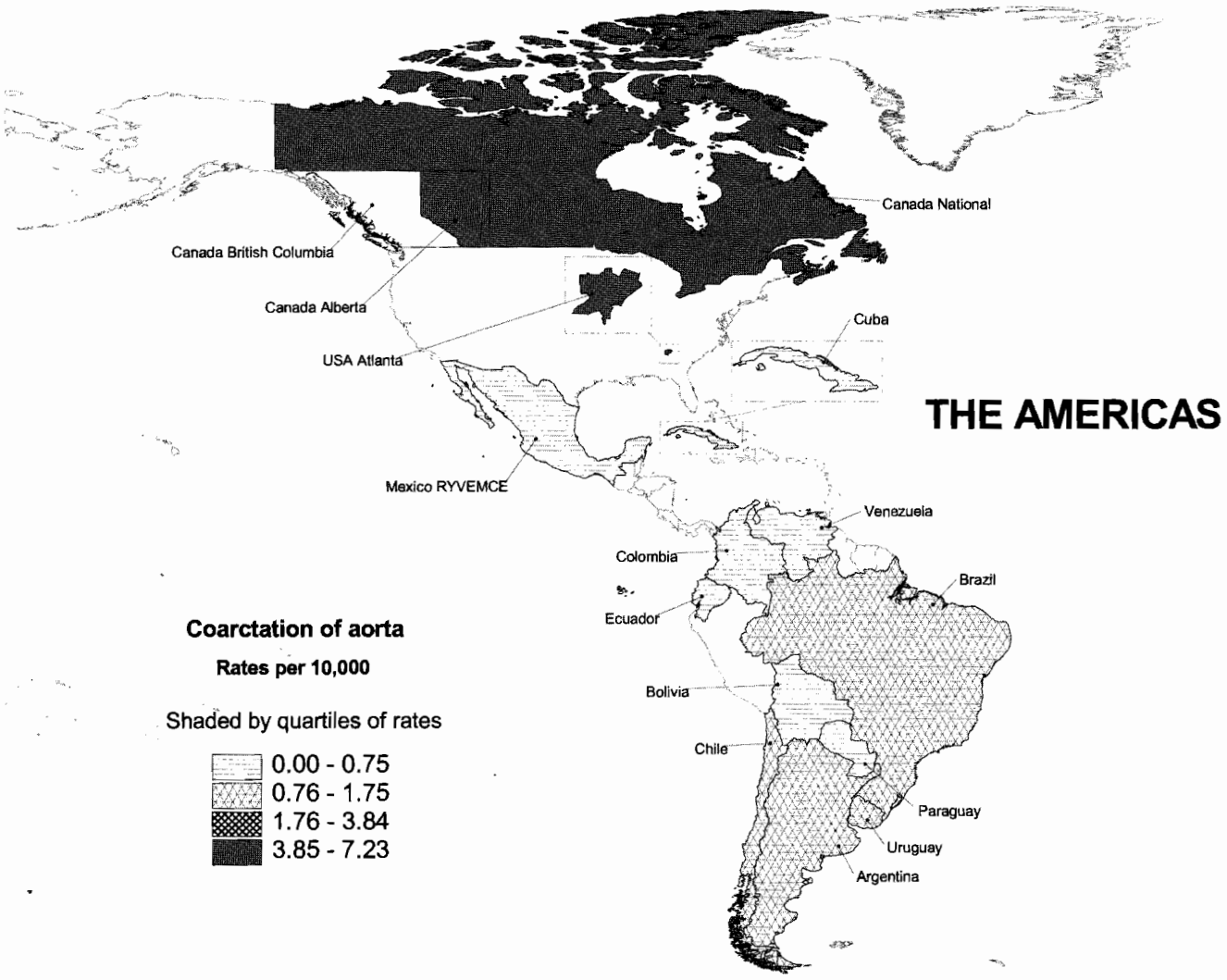

Tetralogy of Fallot
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.42
1.43 - 2.41
2.42 - 3.17
3.18 - 4.68
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Hypoplastic left heart syndrome
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.82
0.83 - 1.24
1.25 - 1.80
1.81 - 4.07

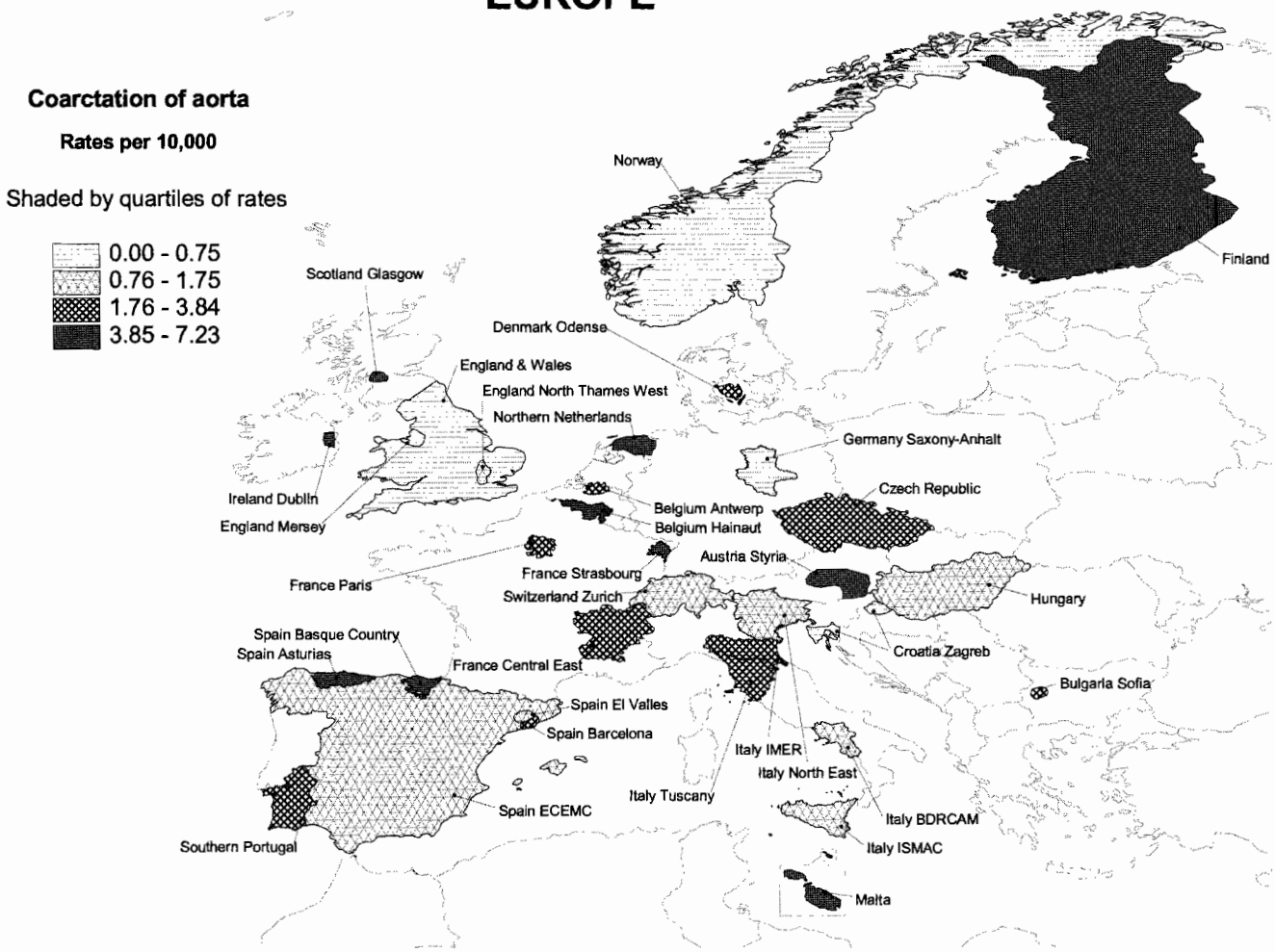
EUROPE

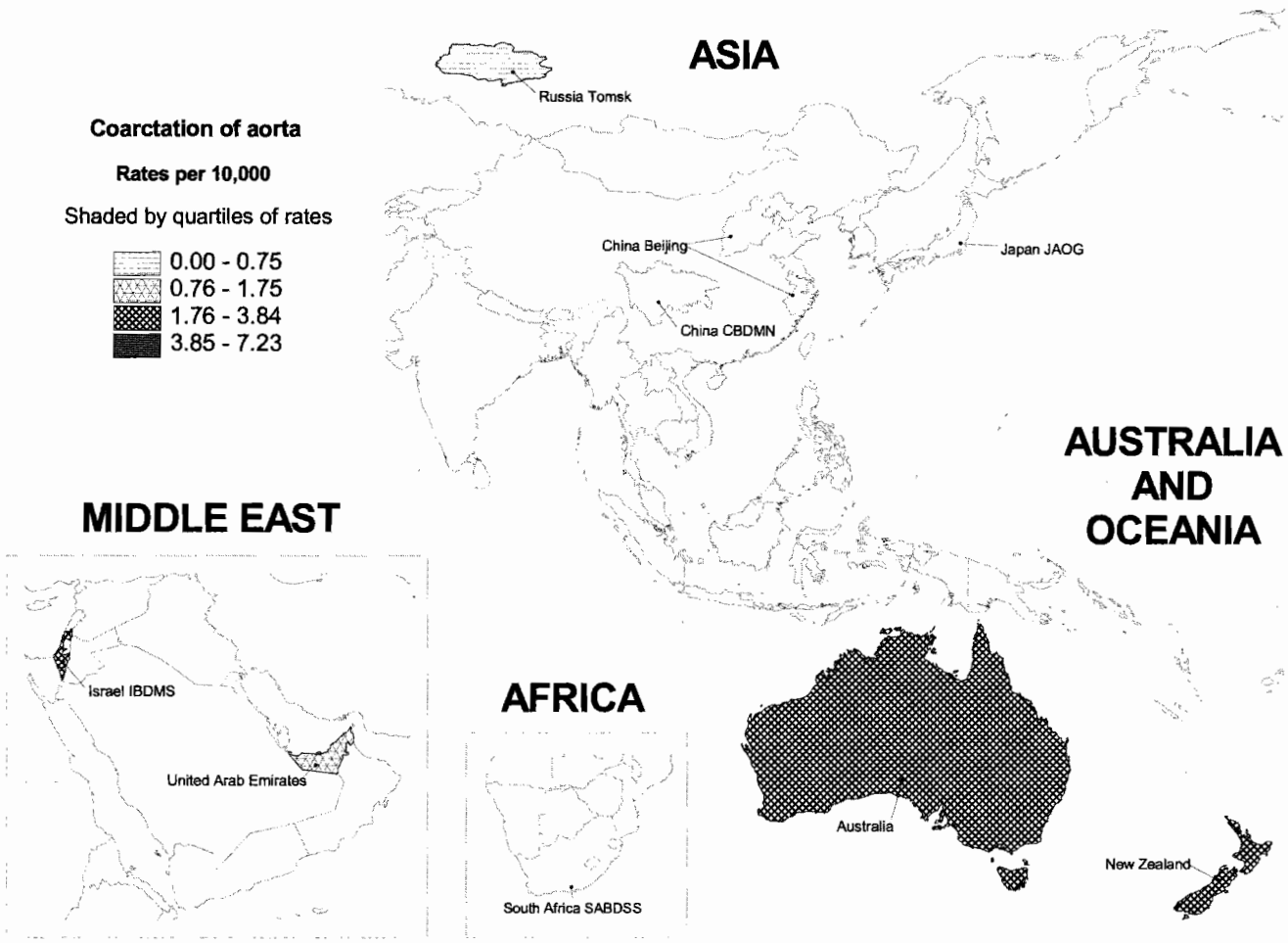

Hypoplastic left heart syndrome
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.82
0.83 - 1.24
1.25 - 1.80
1.81 - 4.07
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

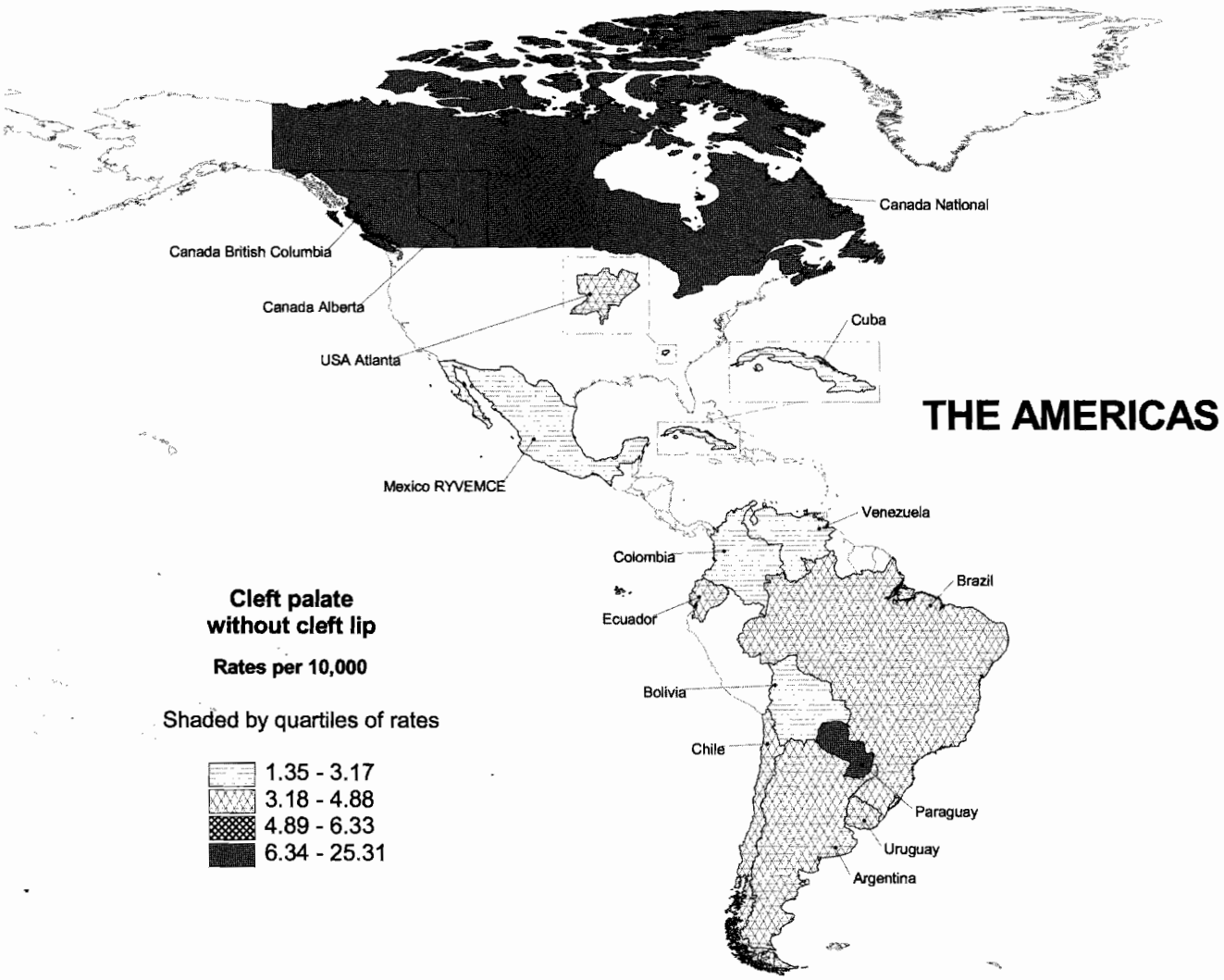

Hypoplastic left heart syndrome
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.82
0.83 - 1.24
1.25 - 1.80
1.81 - 4.07
ASIA
Russia Tomsk
China Beijing
Japan JAOG
China CBDMN
AUSTRALIA AND OCEANIA
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS
Australia
New Zealand


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Coarctation of aorta
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.75
0.76 - 1.75
1.76 - 3.84
3.85 - 7.23

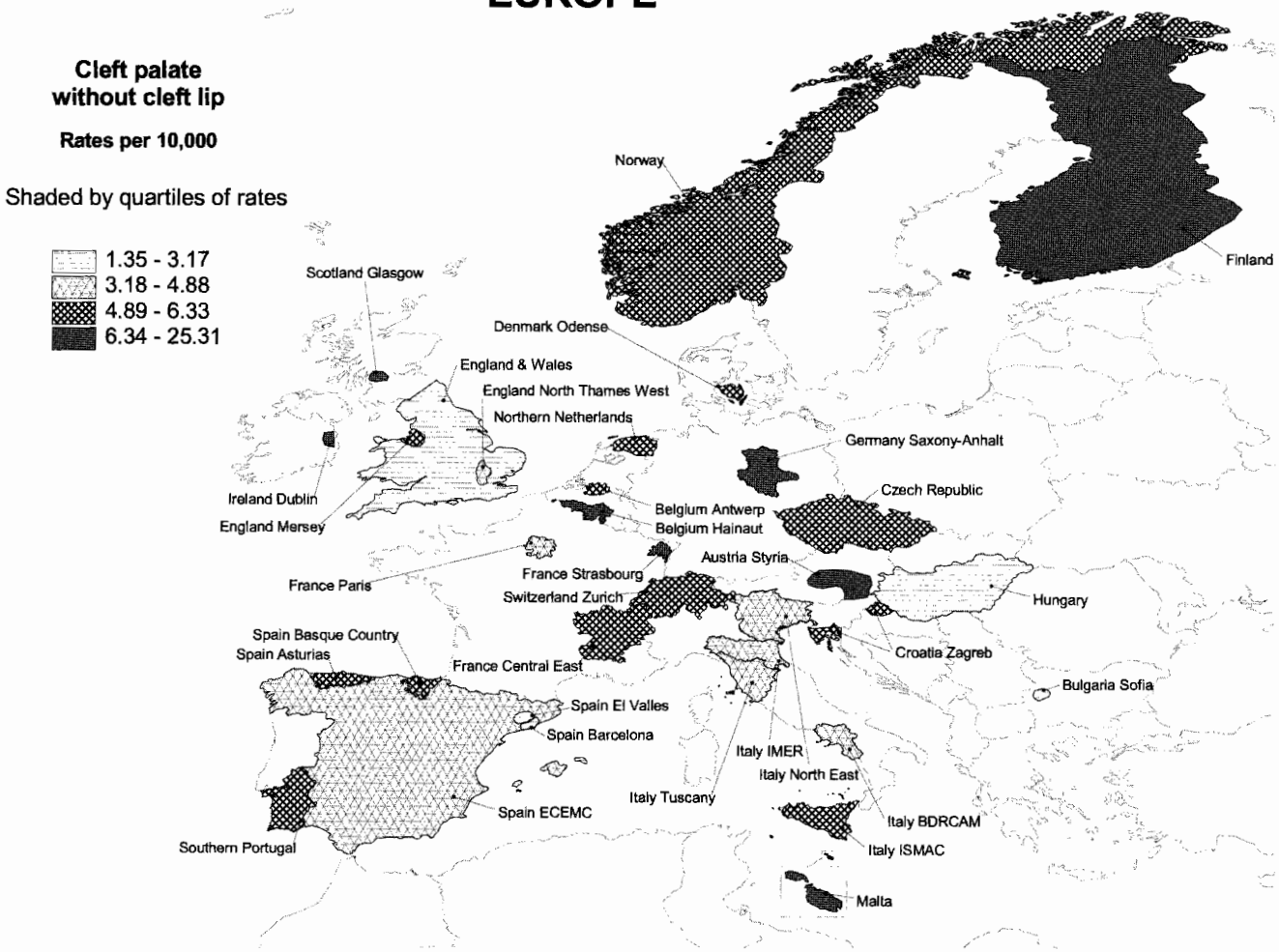
EUROPE

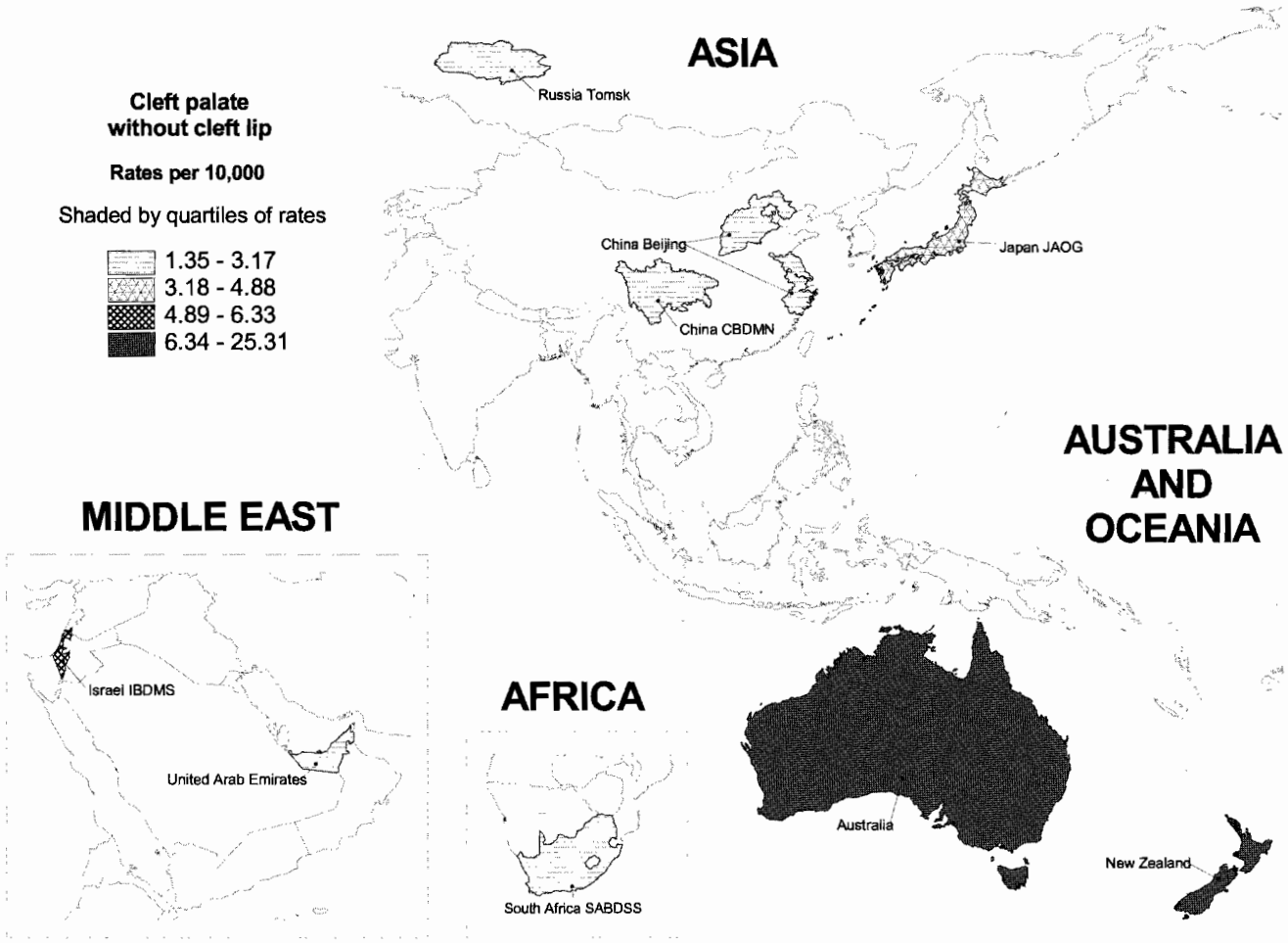

Coarctation of aorta
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.75
0.76 - 1.75
1.76 - 3.84
3.85 - 7.23
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Ireland Dublin
England Mersey
Czech Republic
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
Croatia Zagreb
France Central East
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

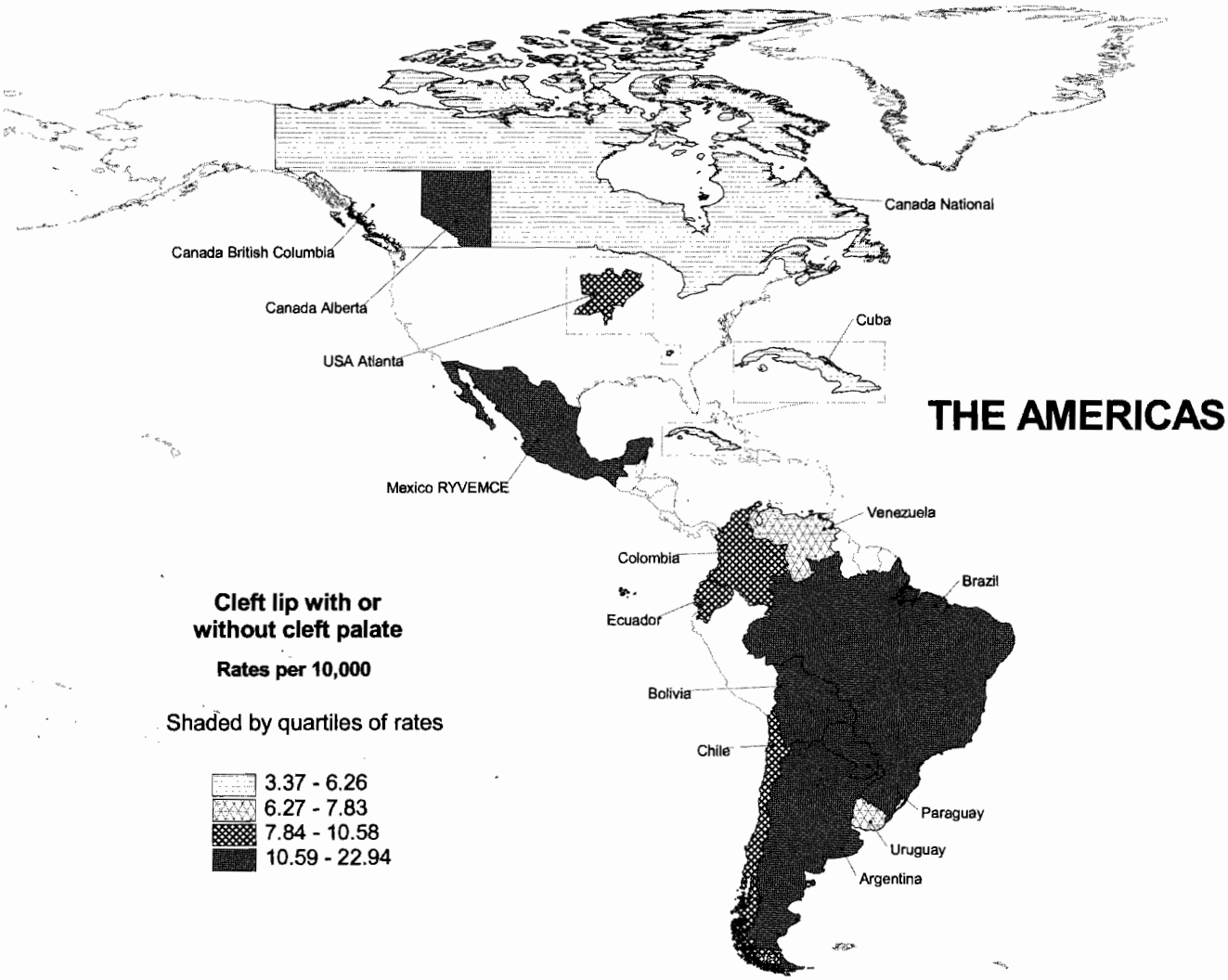

Coarctation of aorta
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.75
0.76 - 1.75
1.76 - 3.84
3.85 - 7.23
ASIA
Russia Tomsk
China Beijing
Japan JAOG
China CBDMN
AUSTRALIA AND OCEANIA
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS
Australia
New Zealand


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Cleft palate
without cleft lip
Rates per 10,000
Shaded by quartiles of rates
1.35 - 3.17
3.18 - 4.88
4.89 - 6.33
6.34 - 25.31

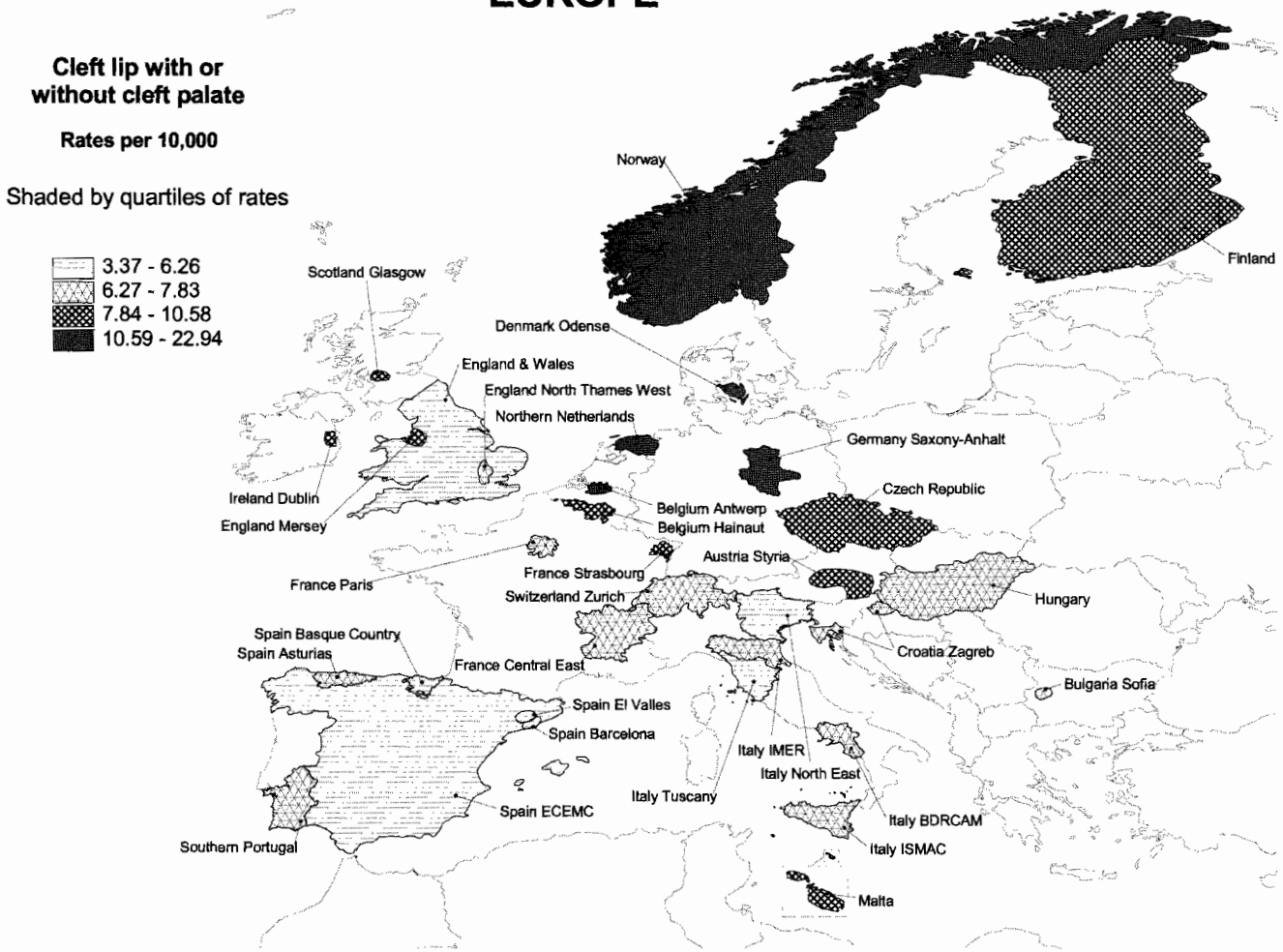
EUROPE

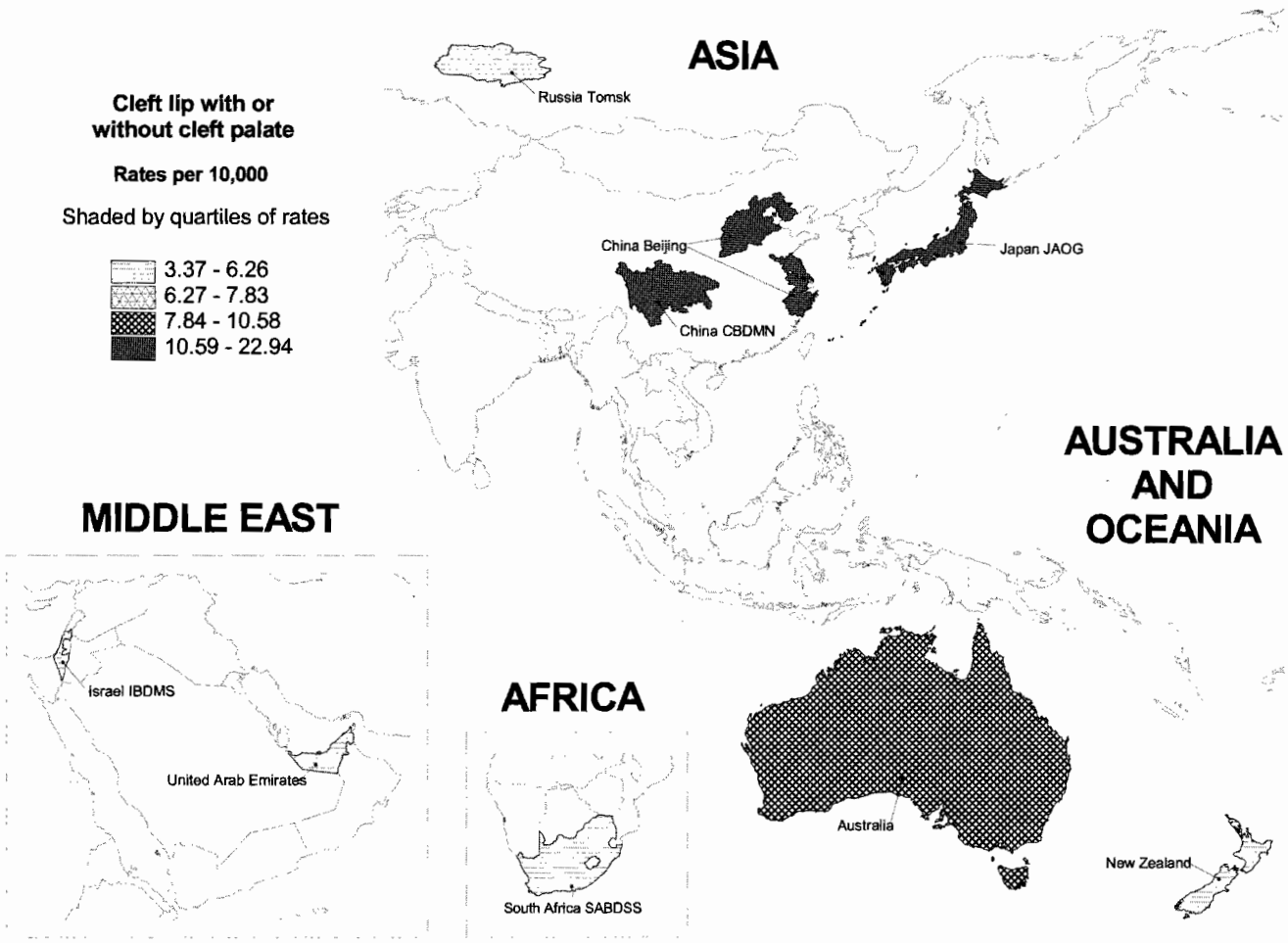

Cleft palate
without cleft lip
Rates per 10,000
Shaded by quartiles of rates
1.35 - 3.17
3.18 - 4.88
4.89 - 6.33
6.34 - 25.31
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Paris
France Strasbourg
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

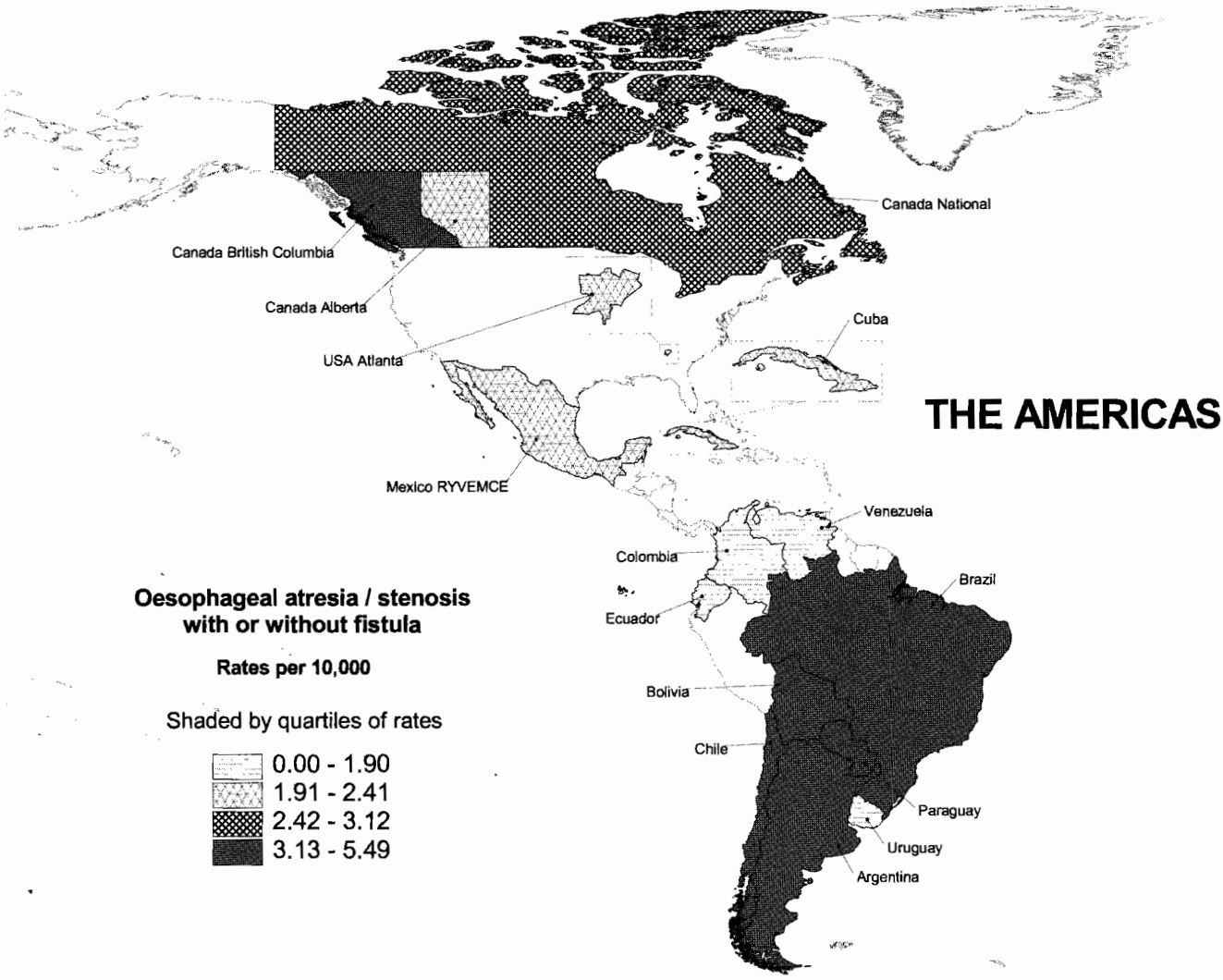

Cleft palate
without cleft lip
Rates per 10,000
Shaded by quartiles of rates
1.35 - 3.17
3.18 - 4.88
4.89 - 6.33
6.34 - 25.31
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA
AND
OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


THE AMERICAS
Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Cleft lip with or without cleft palate
Rates per 10,000
Shaded by quartiles of rates
3.37 - 6.26
6.27 - 7.83
7.84 - 10.58
10.59 - 22.94

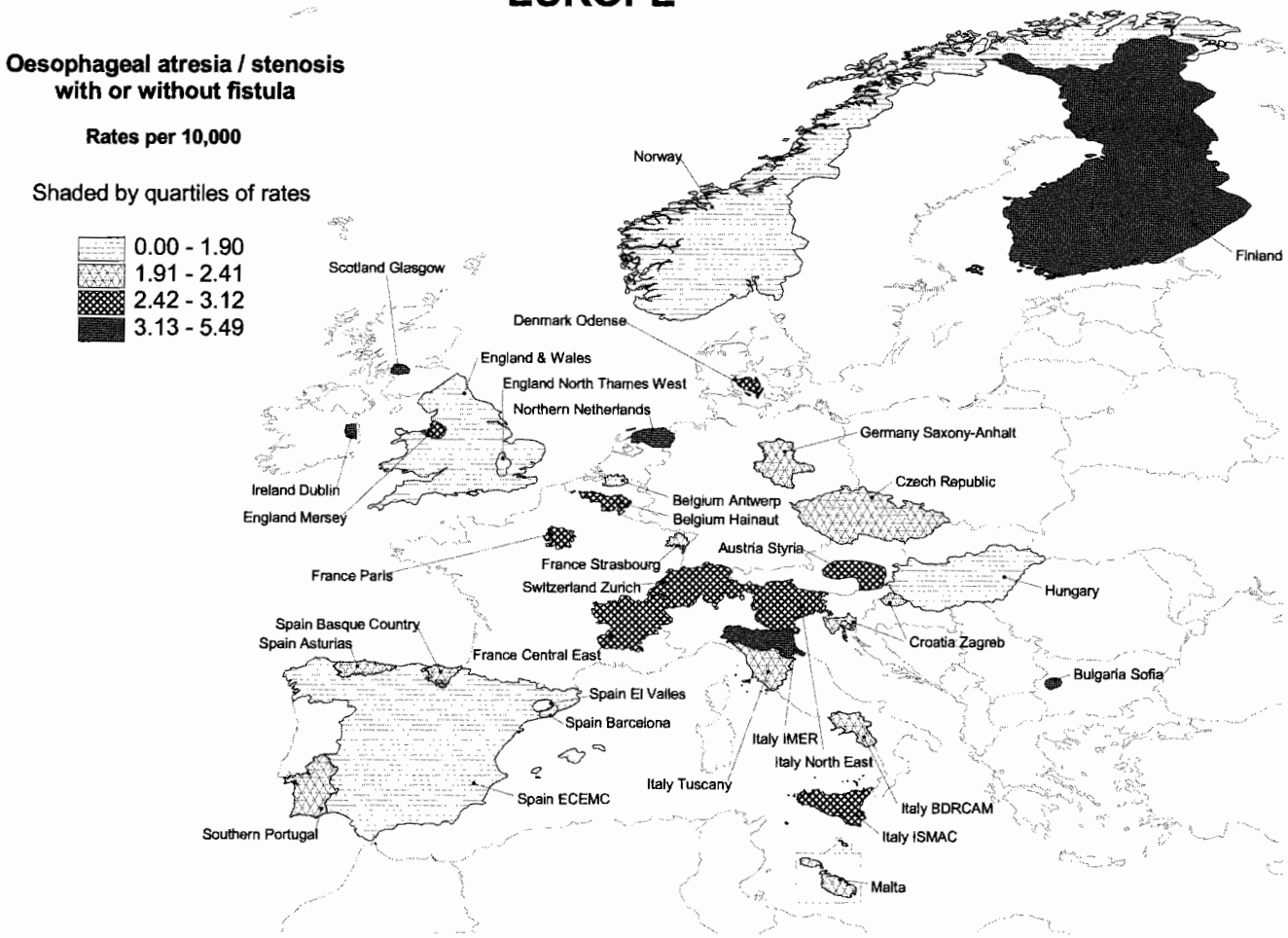
EUROPE

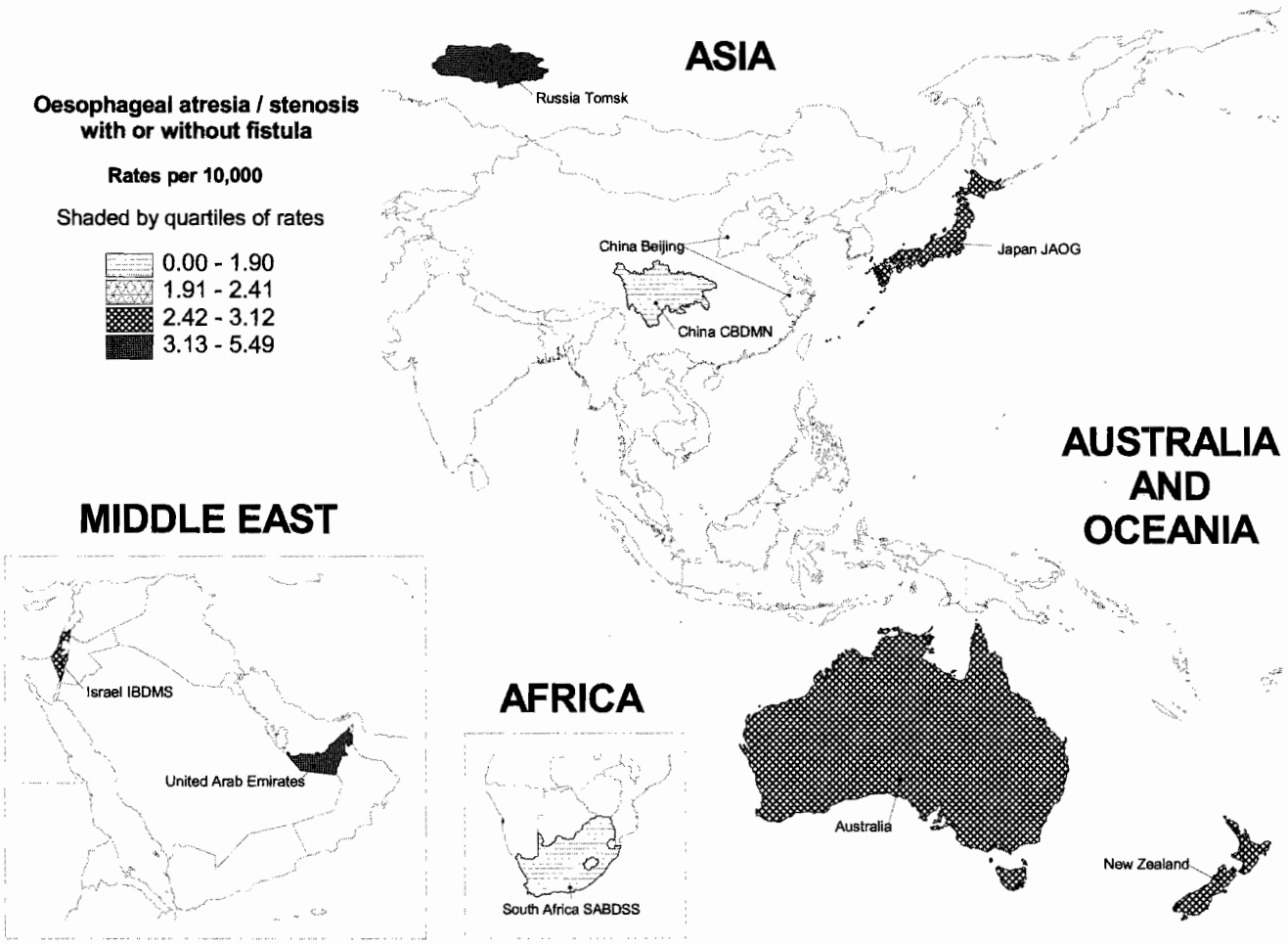

Cleft lip with or without cleft palate
Rates per 10,000
Shaded by quartiles of rates
3.37 - 6.26
6.27 - 7.83
7.84 - 10.58
10.59 - 22.94
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

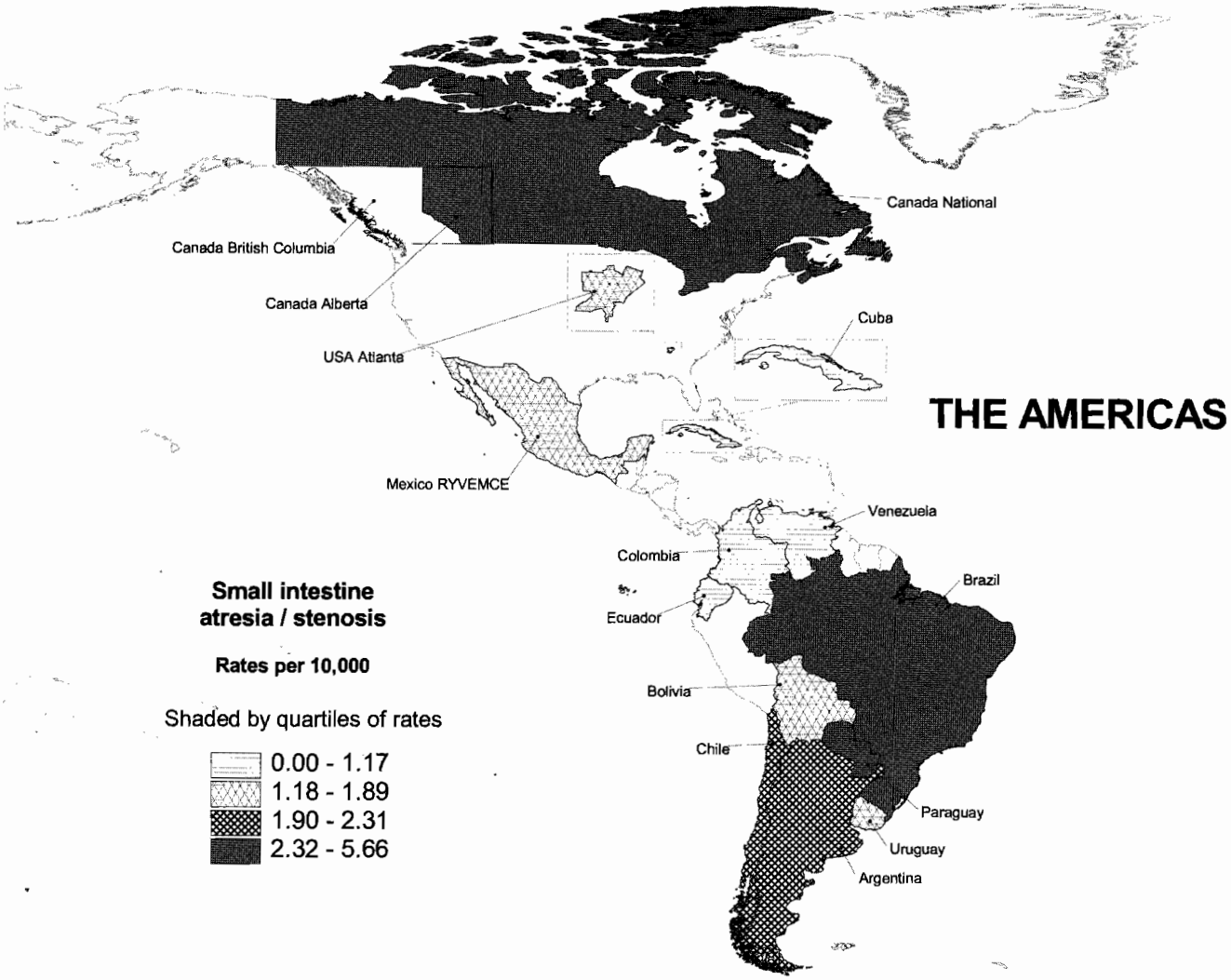

Cleft lip with or without cleft palate
Rates per 10,000
Shaded by quartiles of rates
3.37 - 6.26
6.27 - 7.83
7.84 - 10.58
10.59 - 22.94
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
THE AMERICAS
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Oesophageal atresia / stenosis with or without fistula
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.90
1.91 - 2.41
2.42 - 3.12
3.13 - 5.49

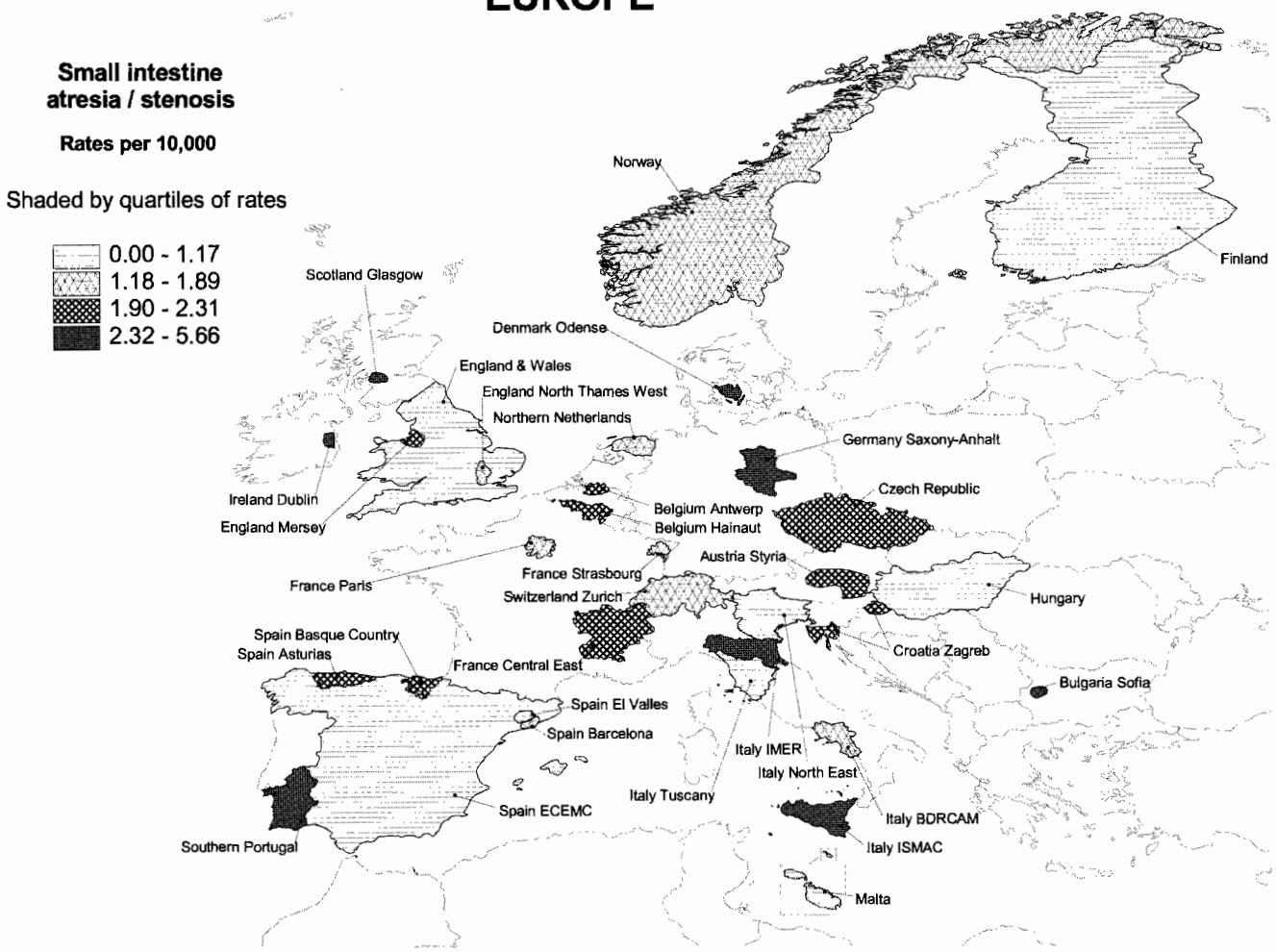
EUROPE

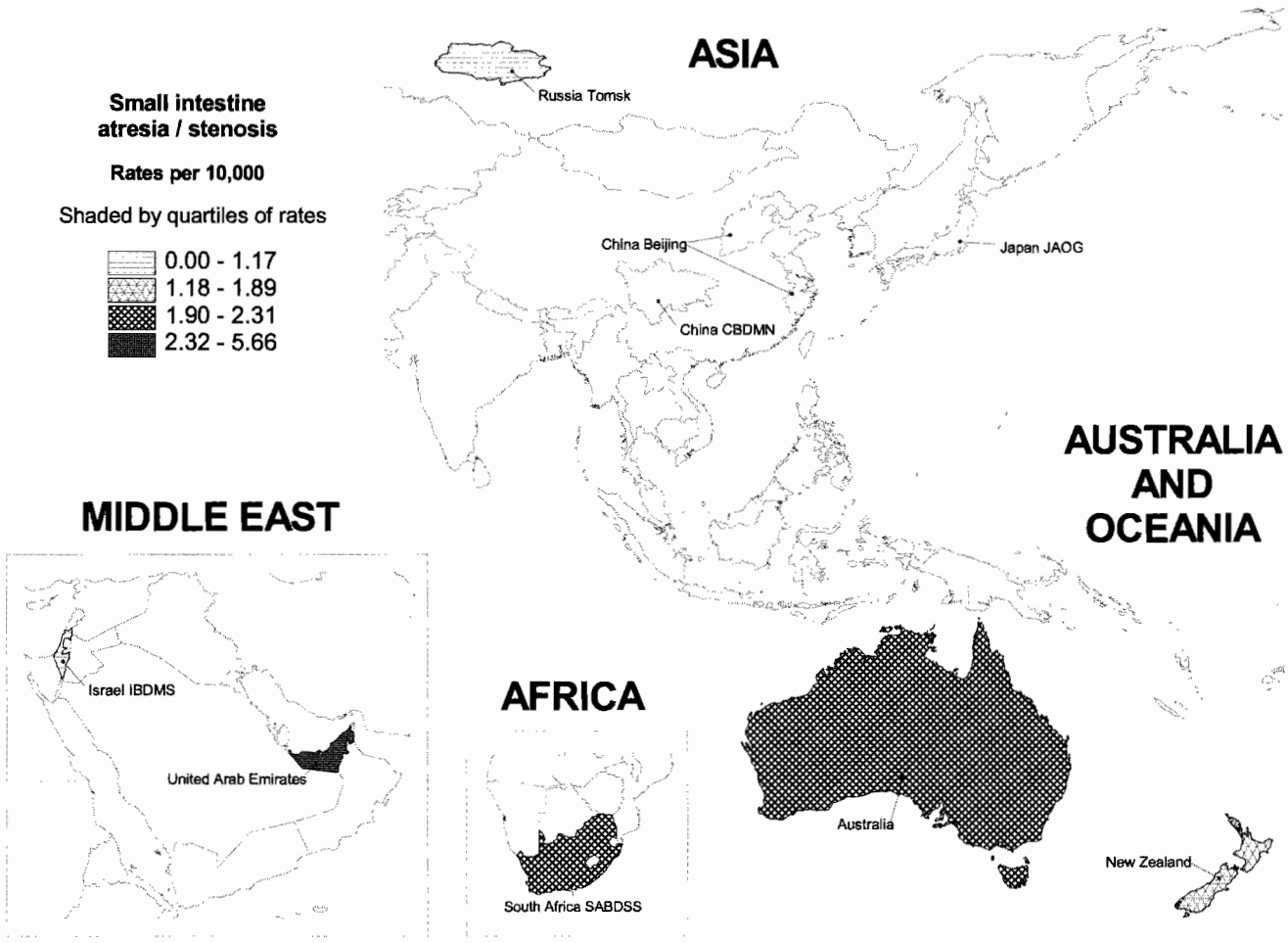

Oesophageal atresia / stenosis with or without fistula
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.90
1.91 - 2.41
2.42 - 3.12
3.13 - 5.49
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Paris
France Strasbourg
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

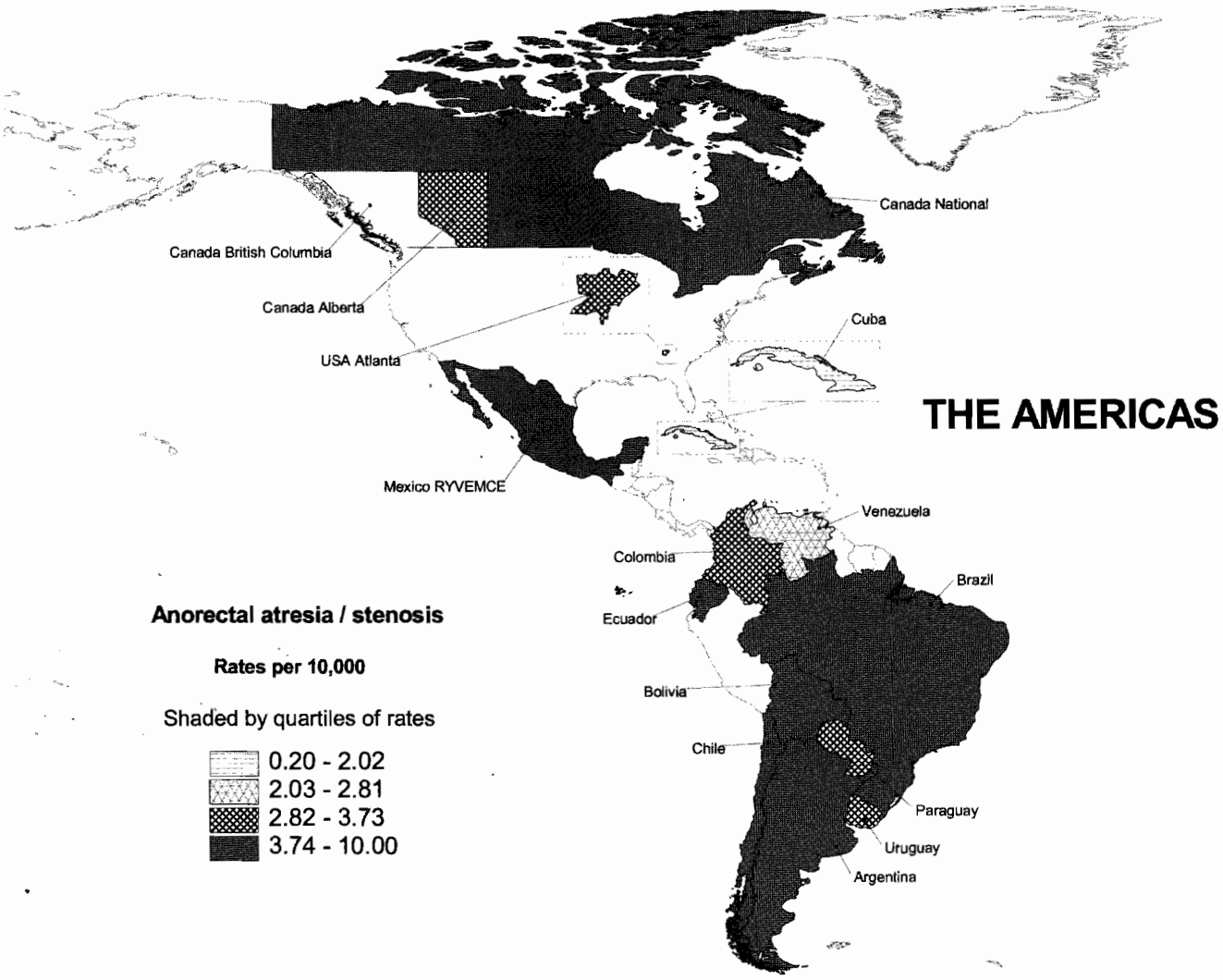

Oesophageal atresia / stenosis with or without fistula
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.90
1.91 - 2.41
2.42 - 3.12
3.13 - 5.49
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


THE AMERICAS
Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Small intestine atresia / stenosis
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.17
1.18 - 1.89
1.90 - 2.31
2.32 - 5.66

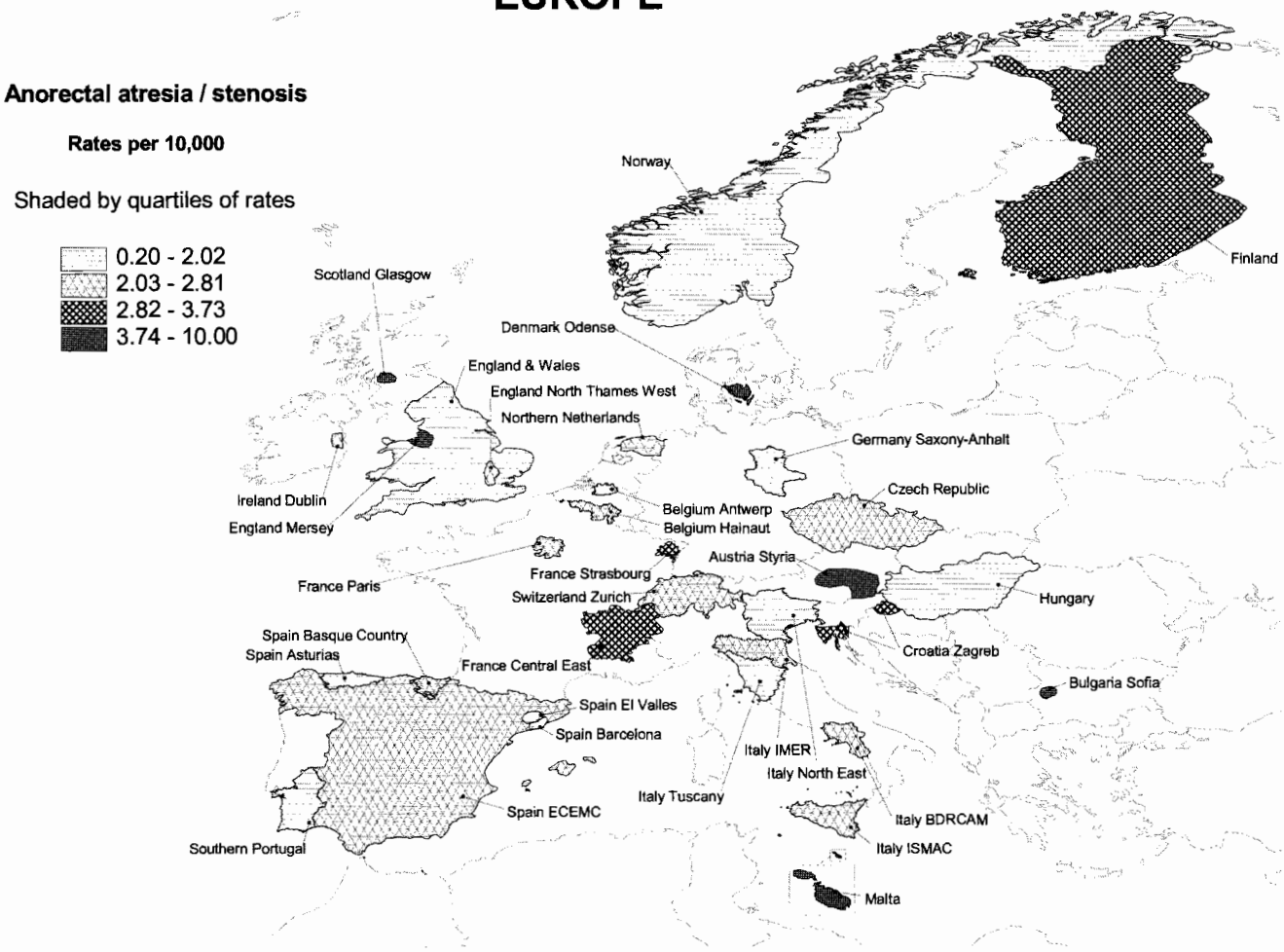
EUROPE

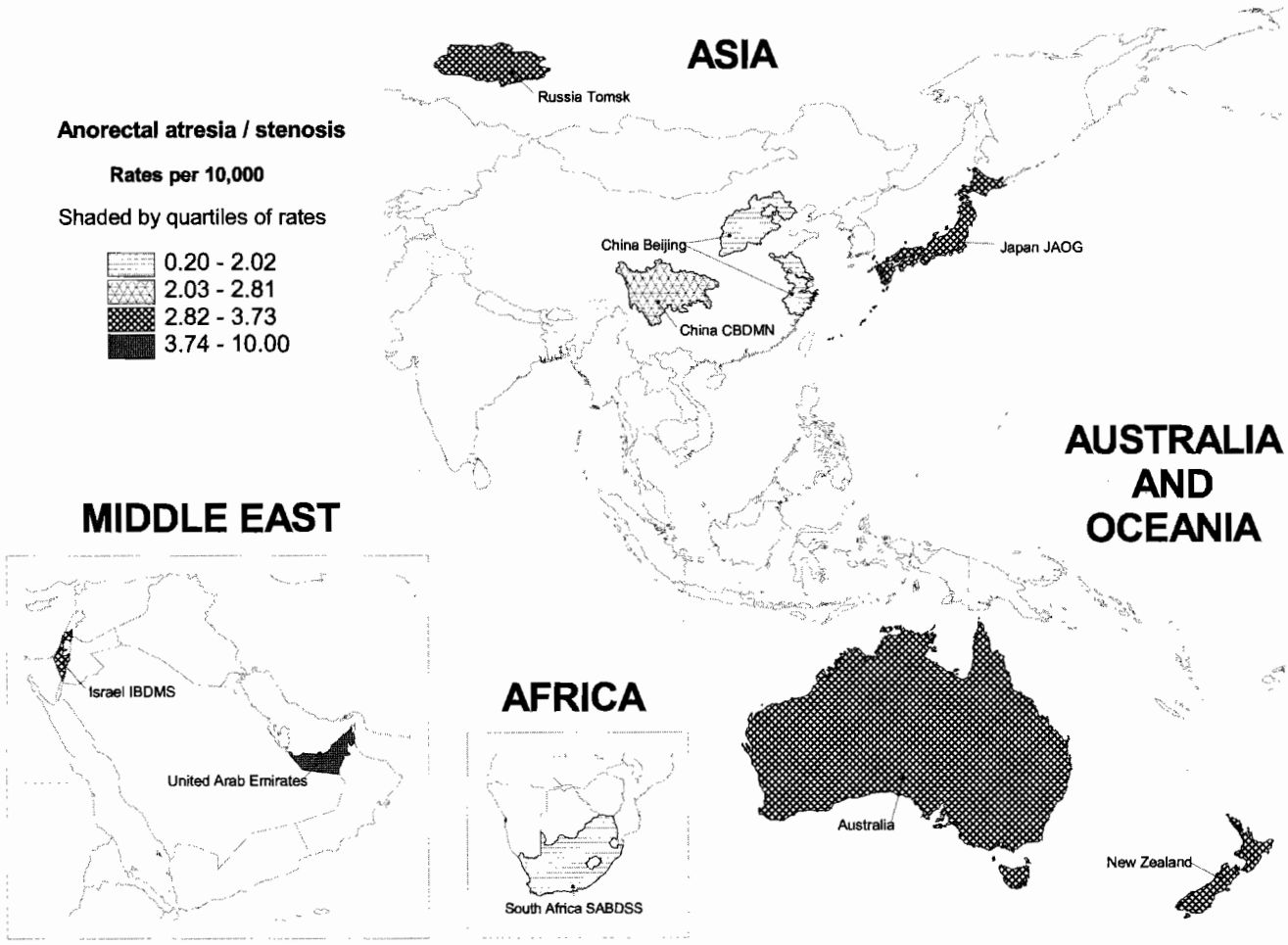

Small intestine atresia / stenosis
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.17
1.18 - 1.89
1.90 - 2.31
2.32 - 5.66
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Czech Republic
France Paris
France Strasbourg
Austria Styria
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

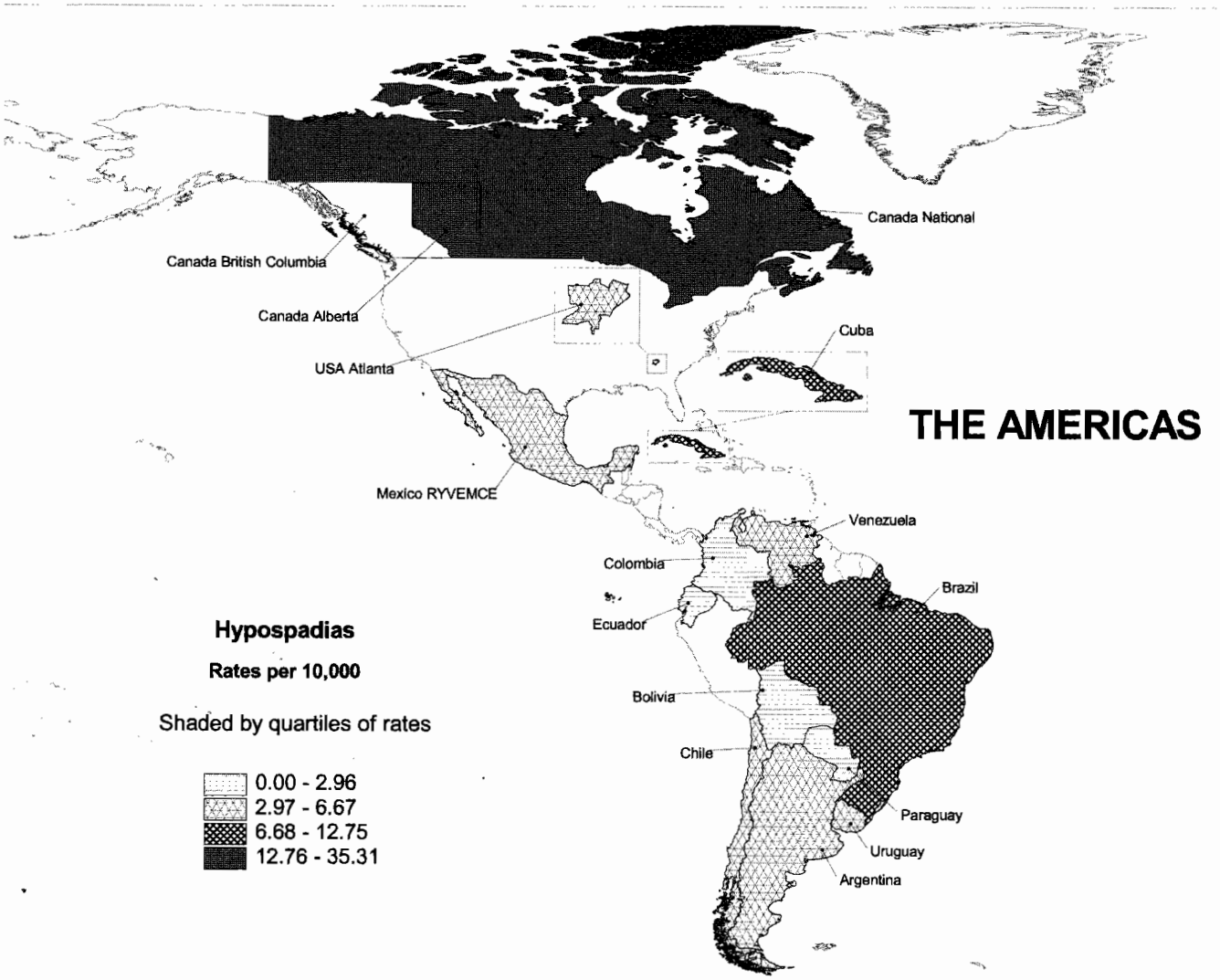

Small intestine atresia / stenosis
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.17
1.18 - 1.89
1.90 - 2.31
2.32 - 5.66
ASIA
Russia Tomsk
China Beijing
Japan JAOG
China CBDMN
AUSTRALIA AND OCEANIA
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS
Australia
New Zealand


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
THE AMERICAS
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Anorectal atresia / stenosis
Rates per 10,000
Shaded by quartiles of rates
0.20 - 2.02
2.03 - 2.81
2.82 - 3.73
3.74 - 10.00

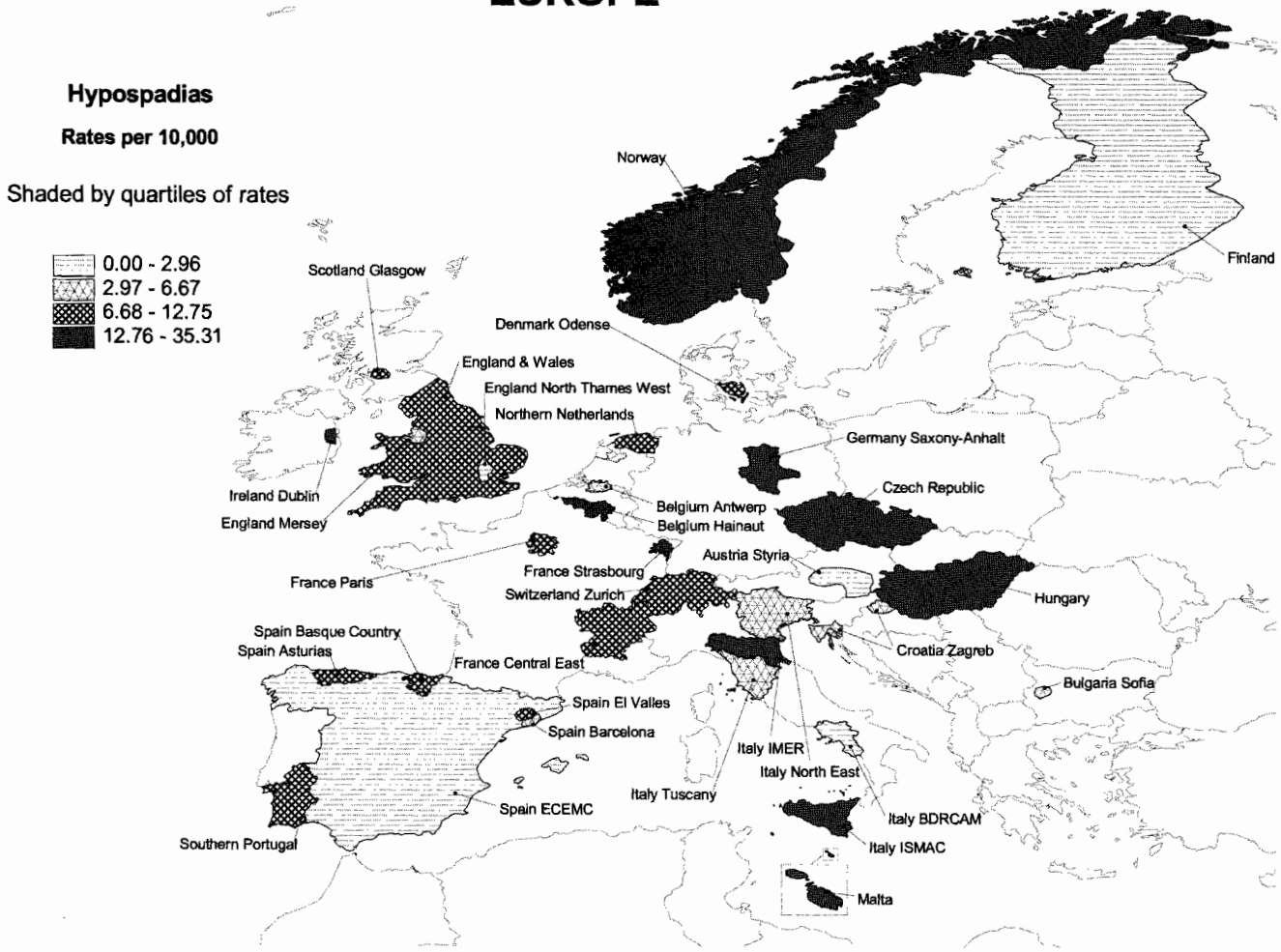
EUROPE

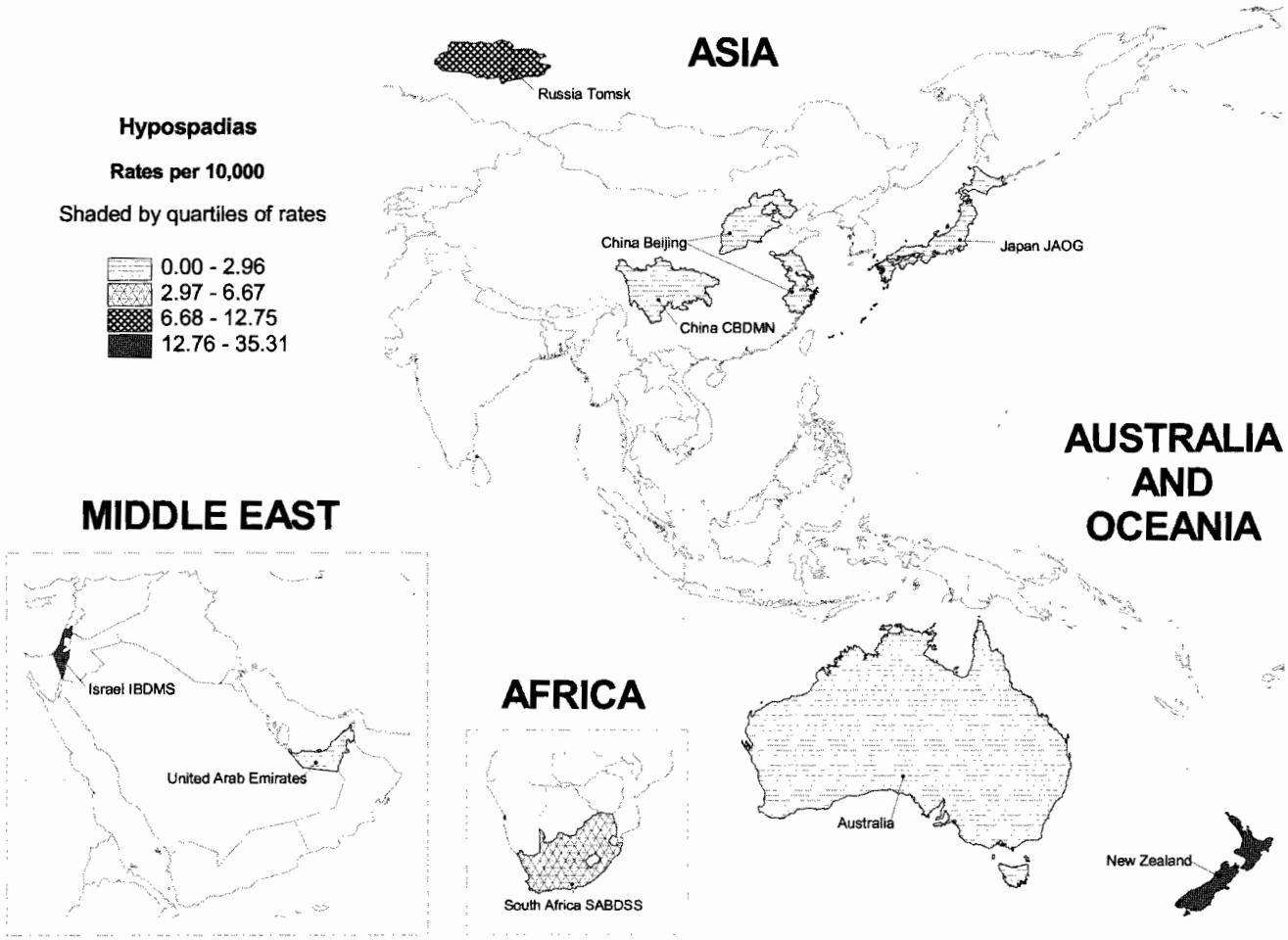

Anorectal atresia / stenosis
Rates per 10,000
Shaded by quartiles of rates
0.20 - 2.02
2.03 - 2.81
2.82 - 3.73
3.74 - 10.00
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Paris
France Strasbourg
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

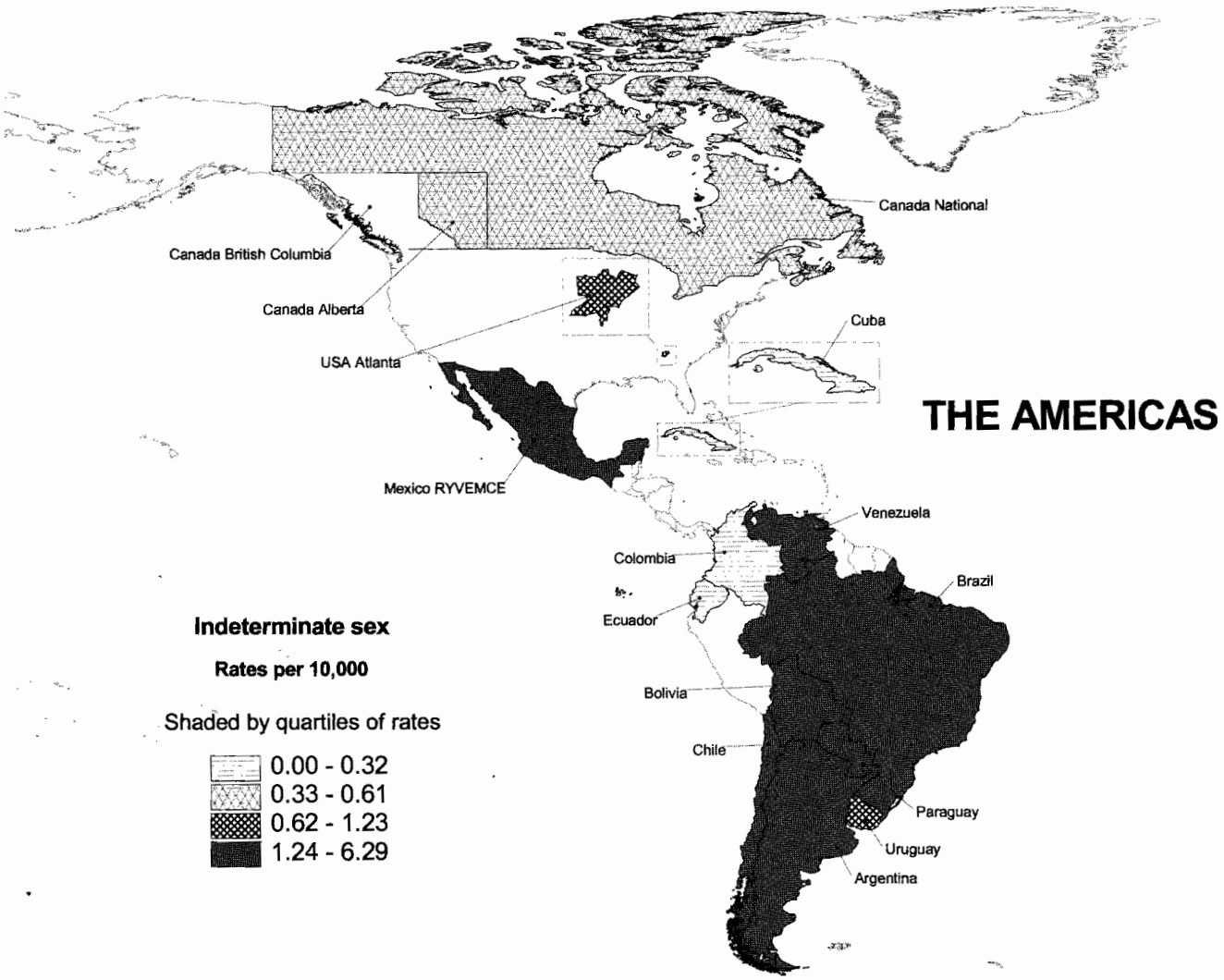

Anorectal atresia / stenosis
Rates per 10,000
Shaded by quartiles of rates
0.20 - 2.02
2.03 - 2.81
2.82 - 3.73
3.74 - 10.00
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


THE AMERICAS
Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Hypospadias
Rates per 10,000
Shaded by quartiles of rates
0.00 - 2.96
2.97 - 6.67
6.68 - 12.75
12.76 - 35.31

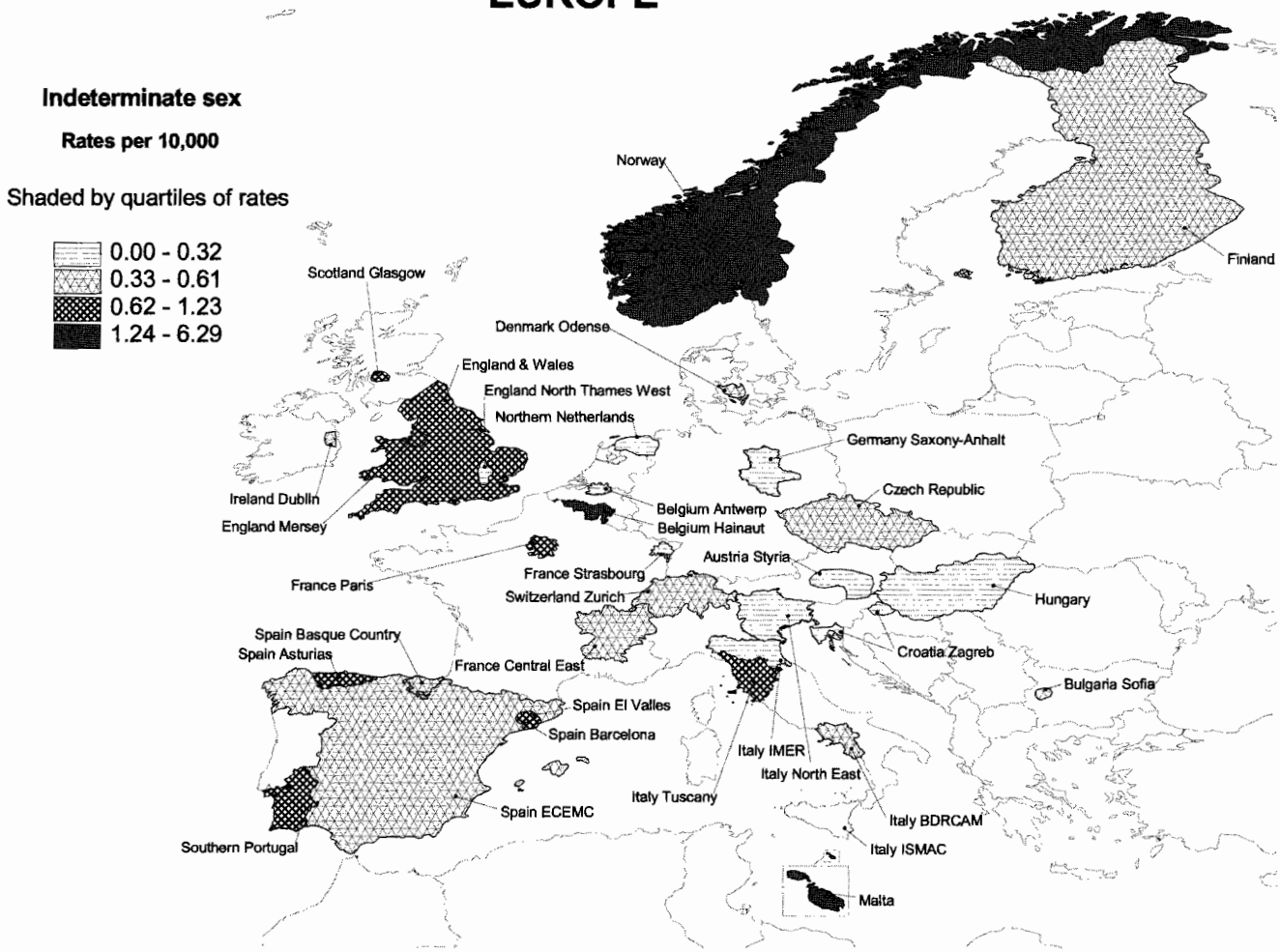
EUROPE

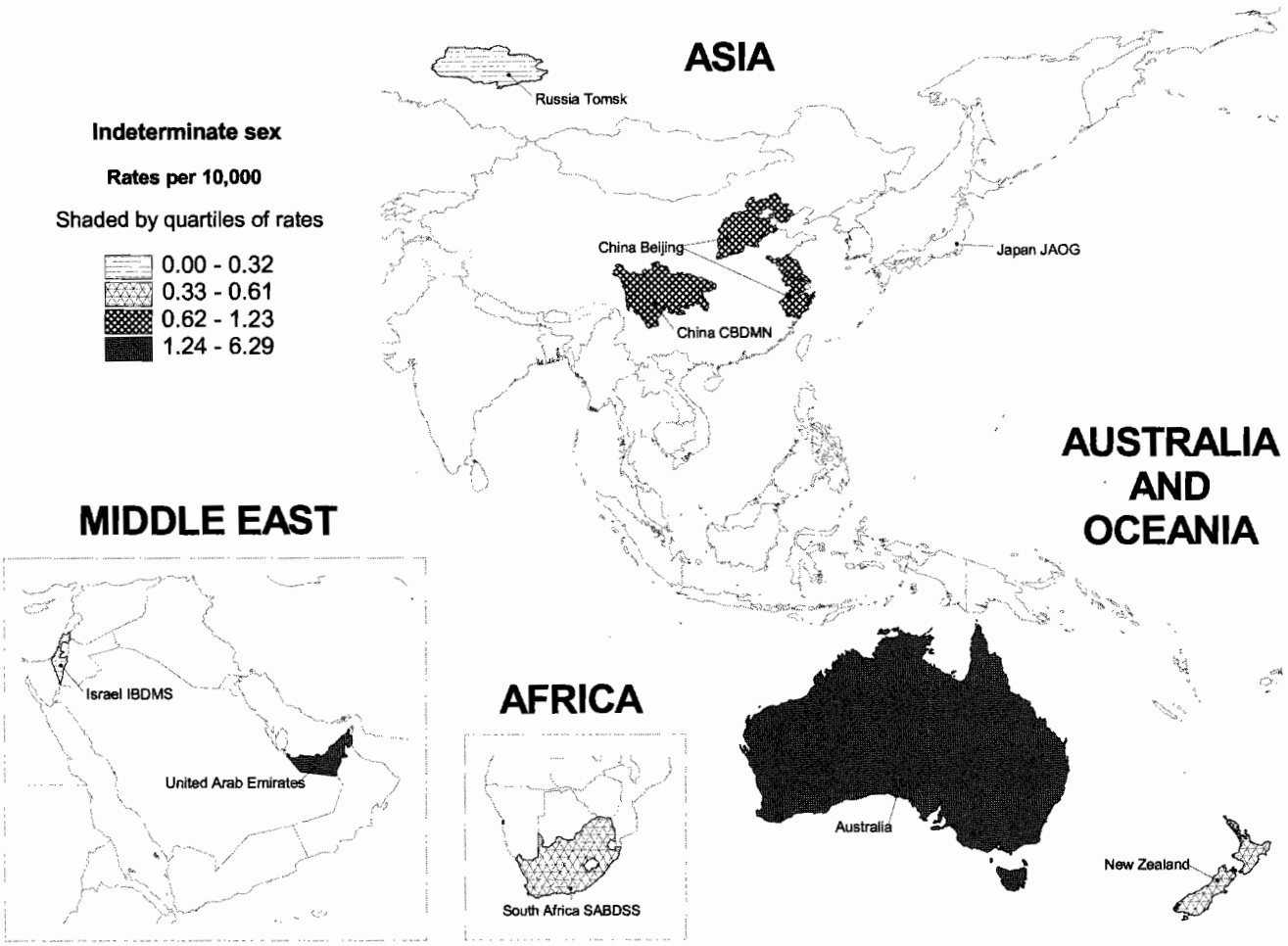

Hypospadias
Rates per 10,000
Shaded by quartiles of rates
0.00 - 2.96
2.97 - 6.67
6.68 - 12.75
12.76 - 35.31
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

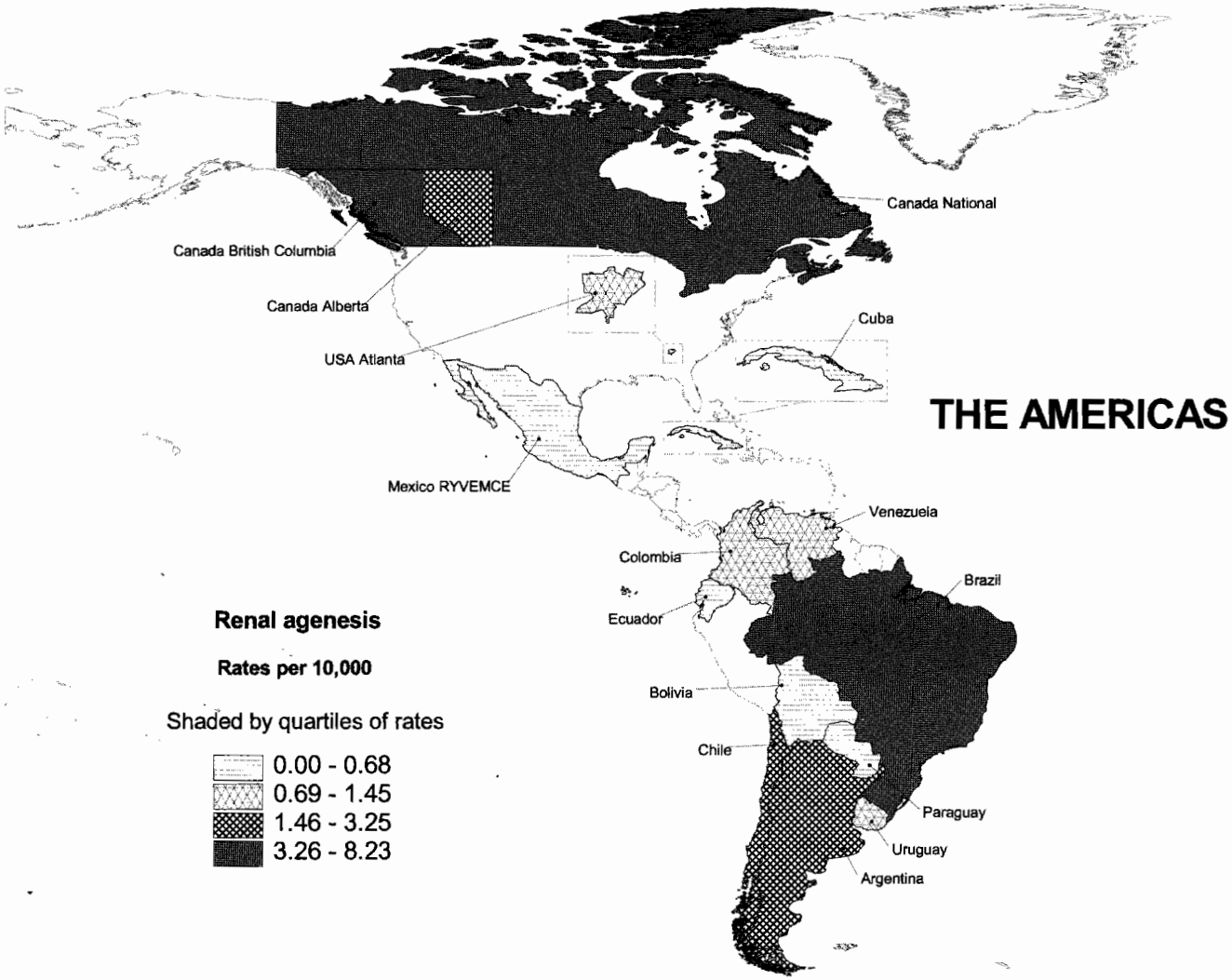

Hypospadias
Rates per 10,000
Shaded by quartiles of rates
0.00 - 2.96
2.97 - 6.67
6.68 - 12.75
12.76 - 35.31
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Indeterminate sex
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.32
0.33 - 0.61
0.62 - 1.23
1.24 - 6.29

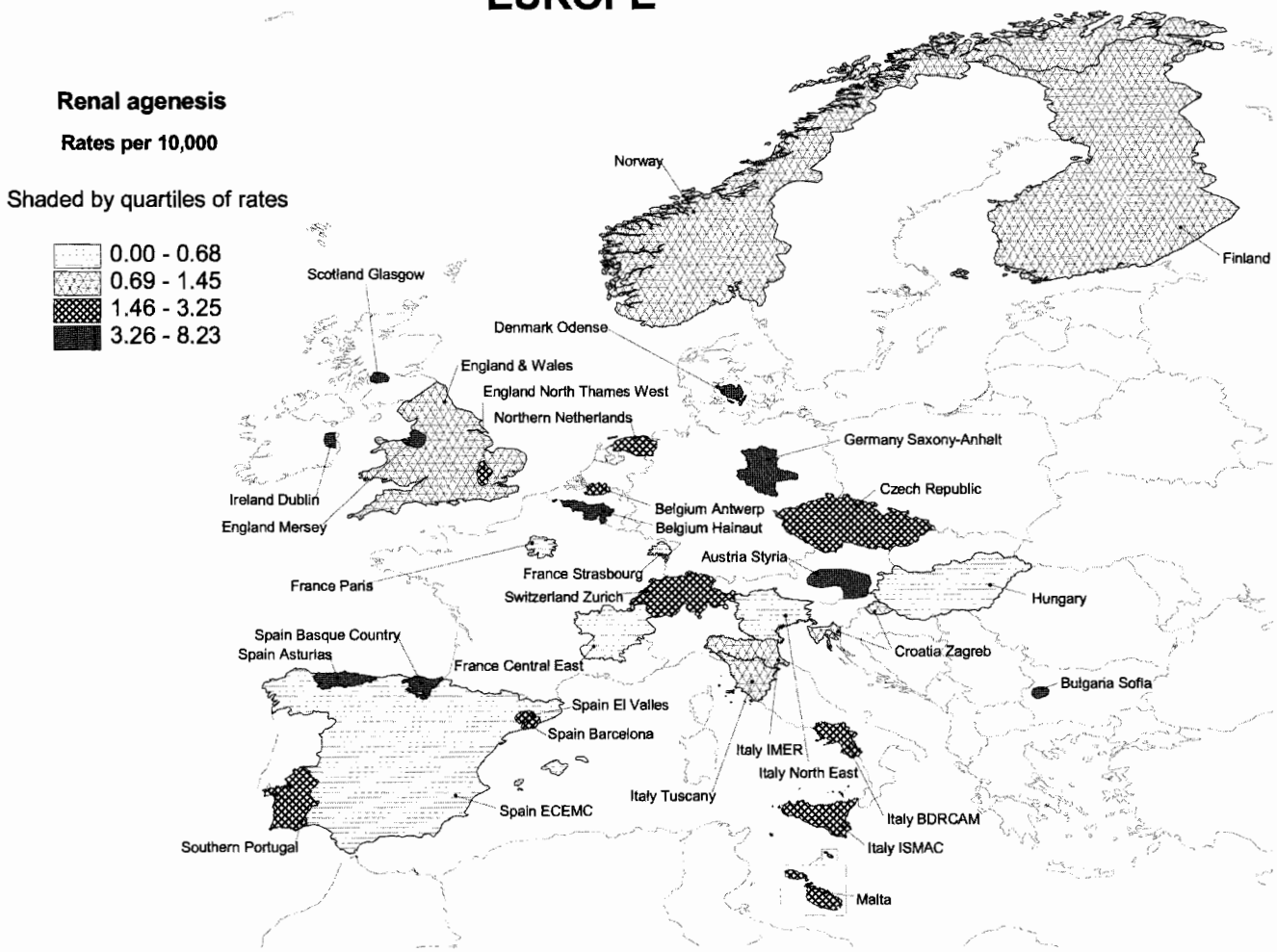
EUROPE

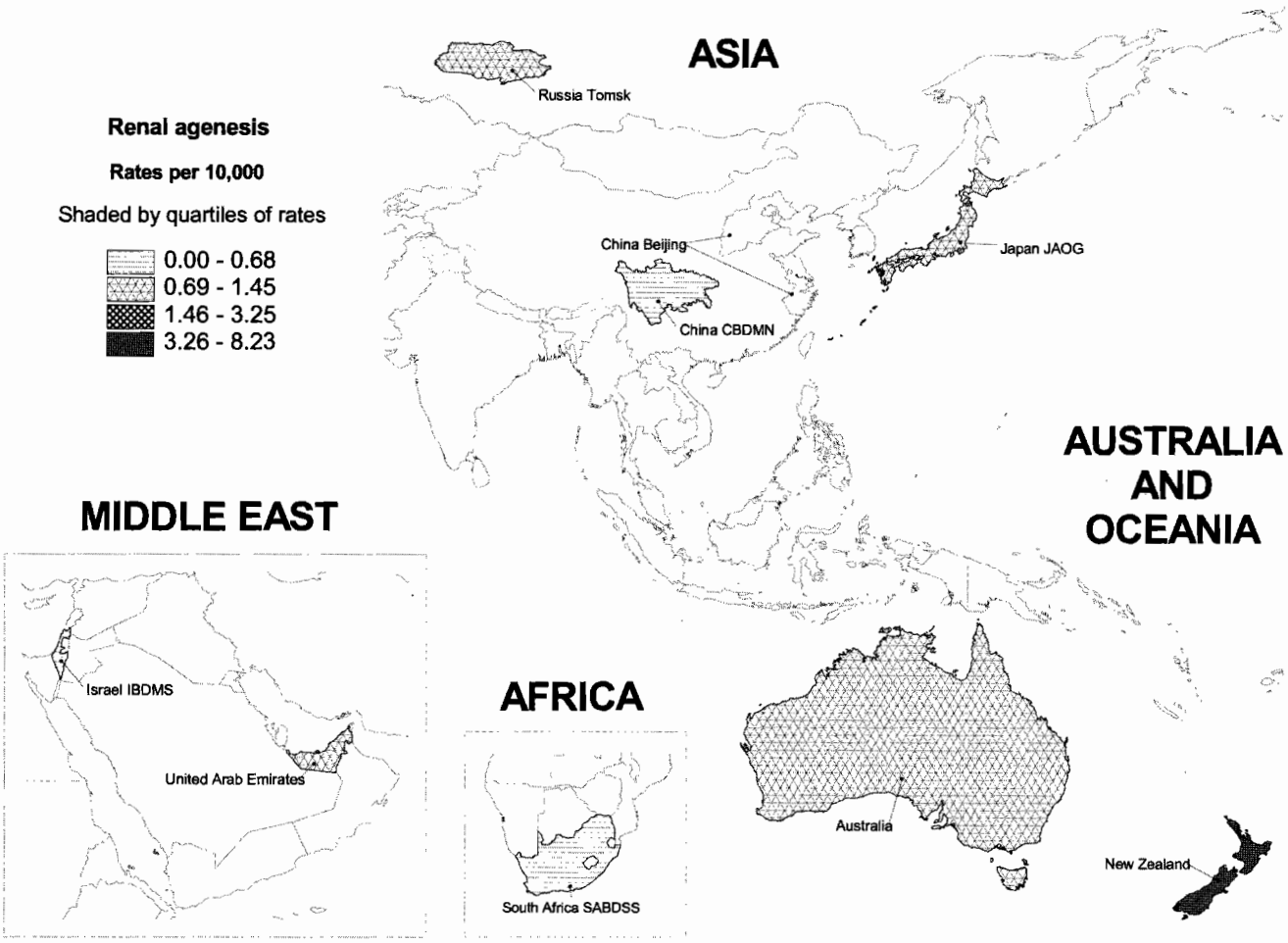

Indeterminate sex
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.32
0.33 - 0.61
0.62 - 1.23
1.24 - 6.29
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Paris
France Strasbourg
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

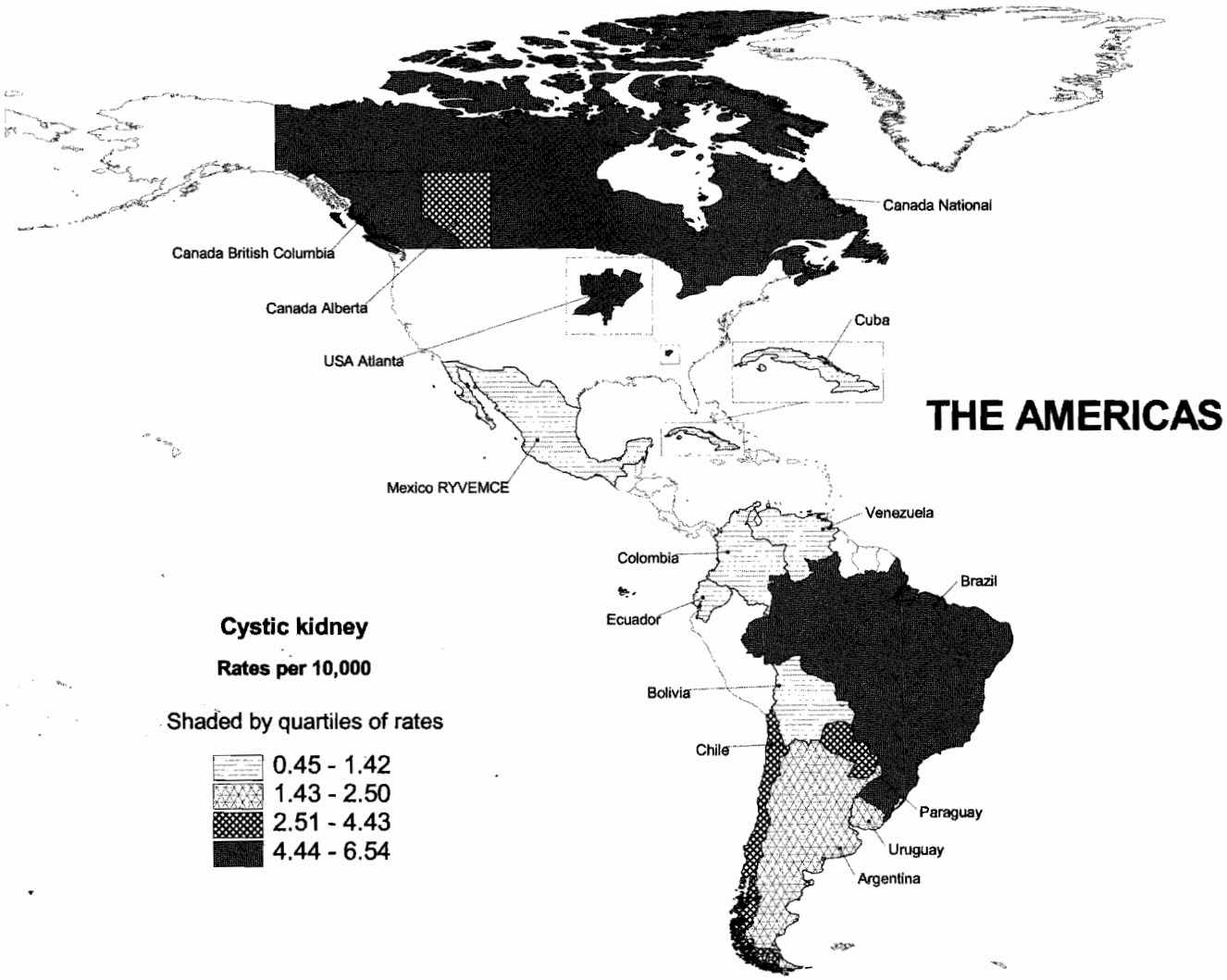

Indeterminate sex
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.32
0.33 - 0.61
0.62 - 1.23
1.24 - 6.29
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Renal agenesis
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.68
0.69 - 1.45
1.46 - 3.25
3.26 - 8.23

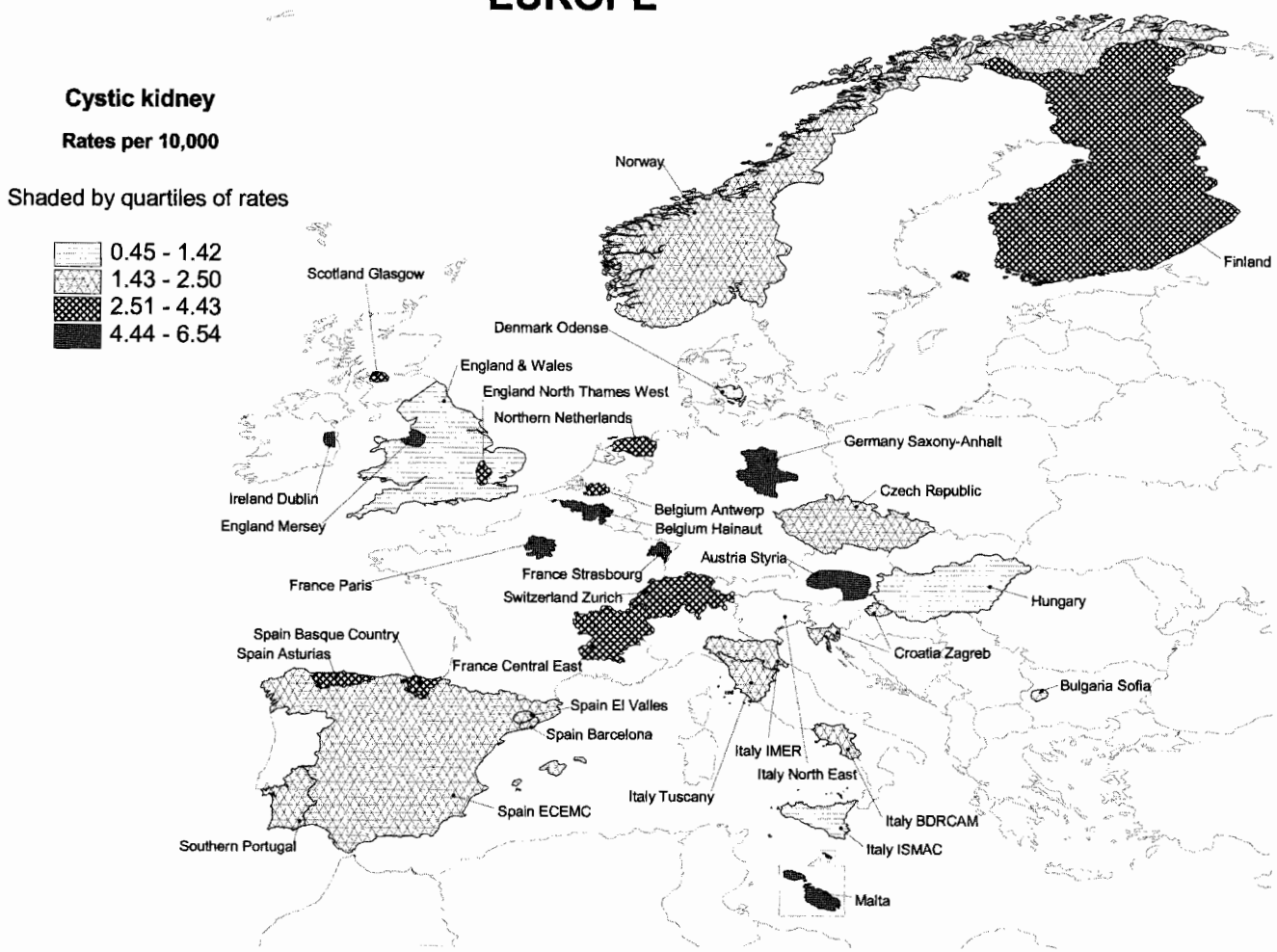
EUROPE

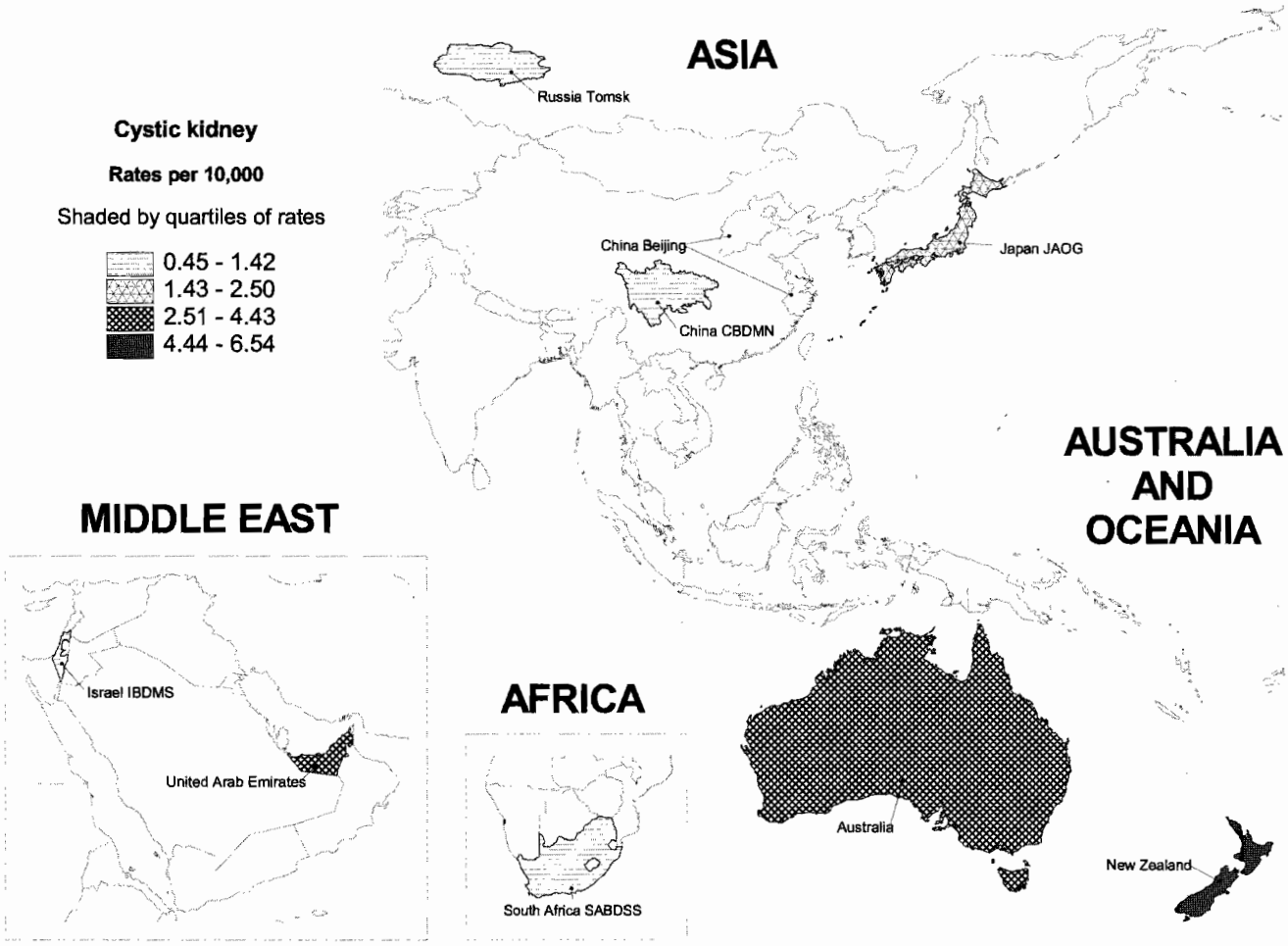

Renal agenesis
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.68
0.69 - 1.45
1.46 - 3.25
3.26 - 8.23
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Czech Republic
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

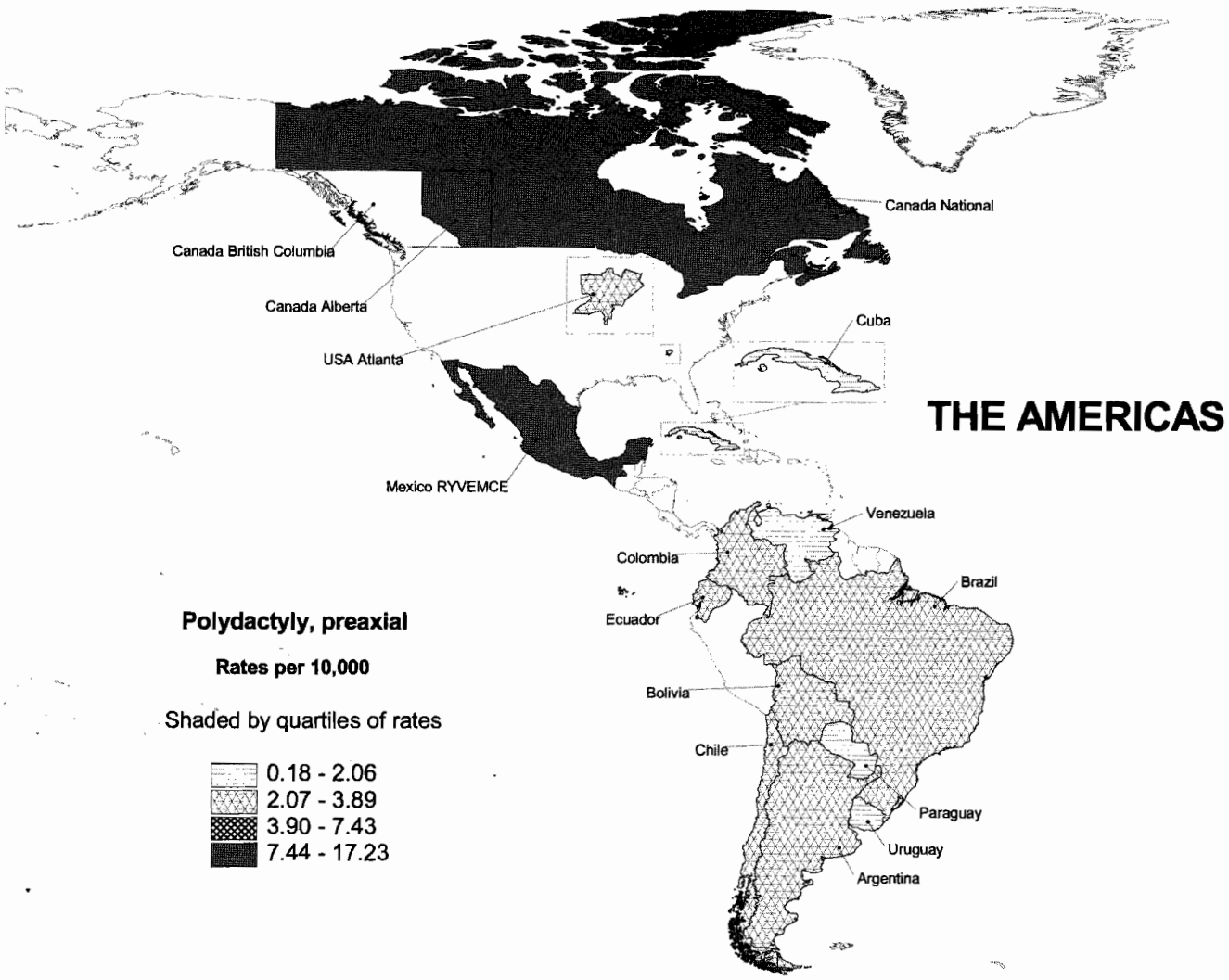

Renal agenesis
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.68
0.69 - 1.45
1.46 - 3.25
3.26 - 8.23
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Cystic kidney
Rates per 10,000
Shaded by quartiles of rates
0.45 - 1.42
1.43 - 2.50
2.51 - 4.43
4.44 - 6.54

EUROPE


Cystic kidney
Rates per 10,000
Shaded by quartiles of rates
0.45 - 1.42
1.43 - 2.50
2.51 - 4.43
4.44 - 6.54
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta


Cystic kidney
Rates per 10,000
Shaded by quartiles of rates
0.45 - 1.42
1.43 - 2.50
2.51 - 4.43
4.44 - 6.54
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


THE AMERICAS
Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Polydactyly, preaxial
Rates per 10,000
Shaded by quartiles of rates
0.18 - 2.06
2.07 - 3.89
3.90 - 7.43
7.44 - 17.23

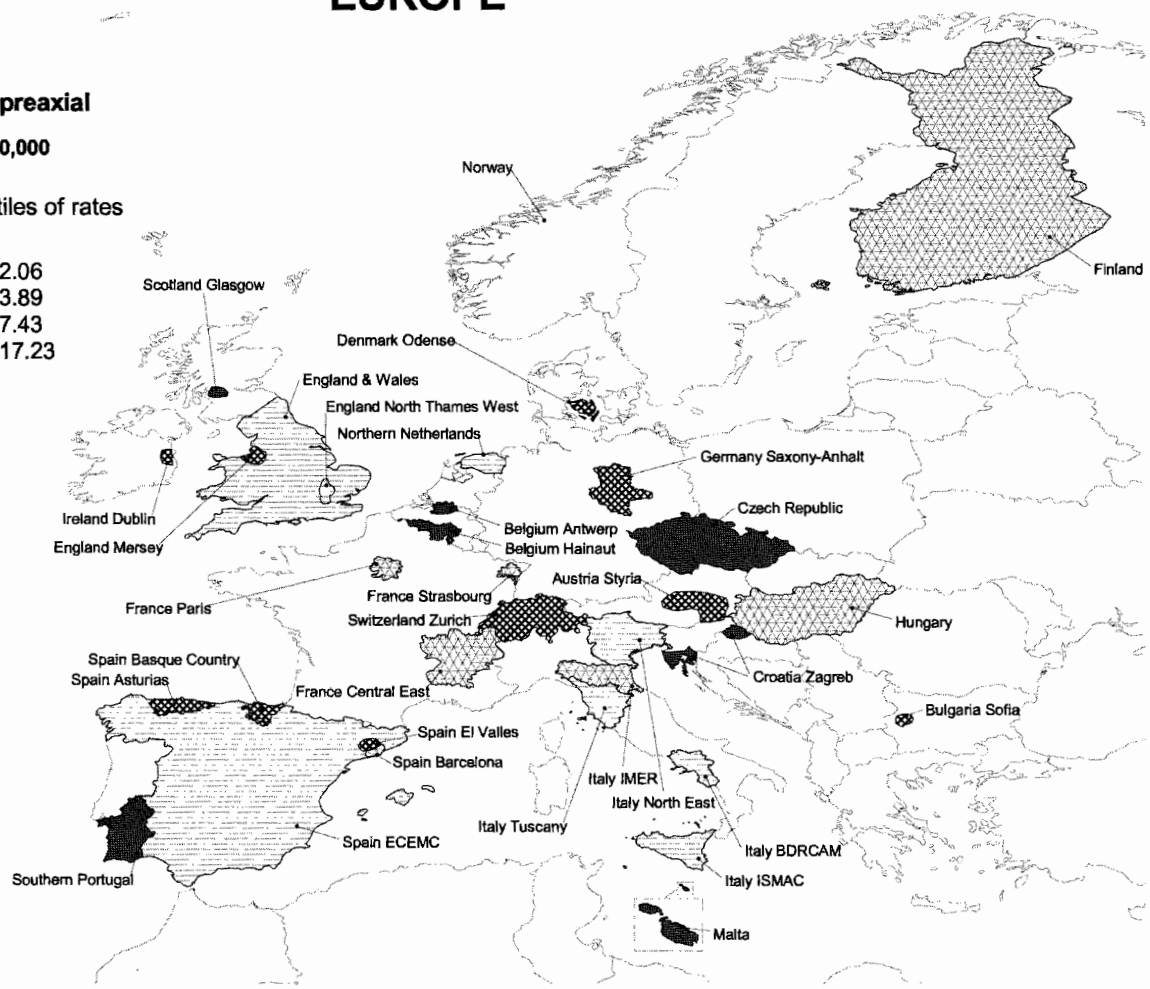
EUROPE

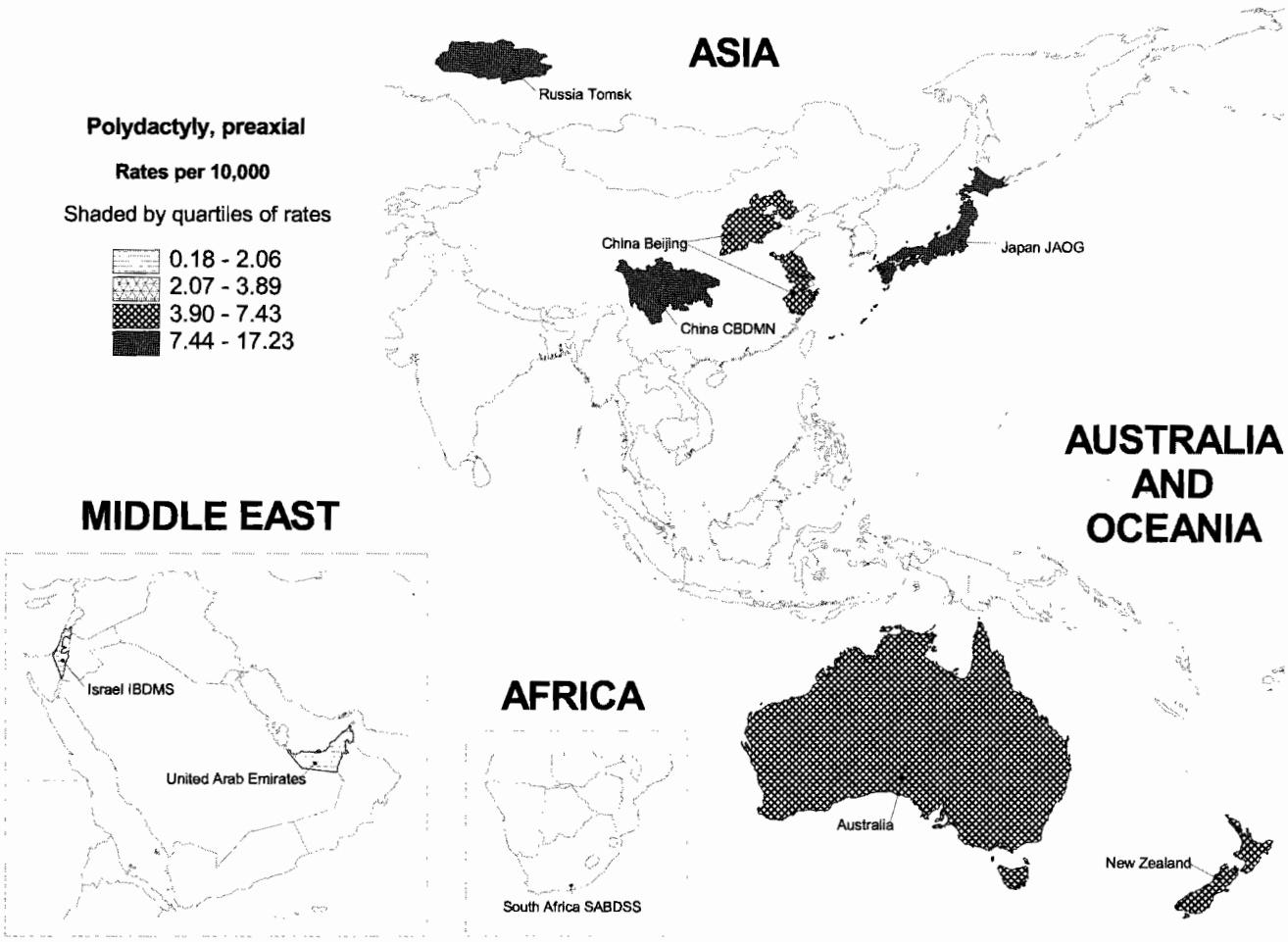
Polydactyly, preaxial

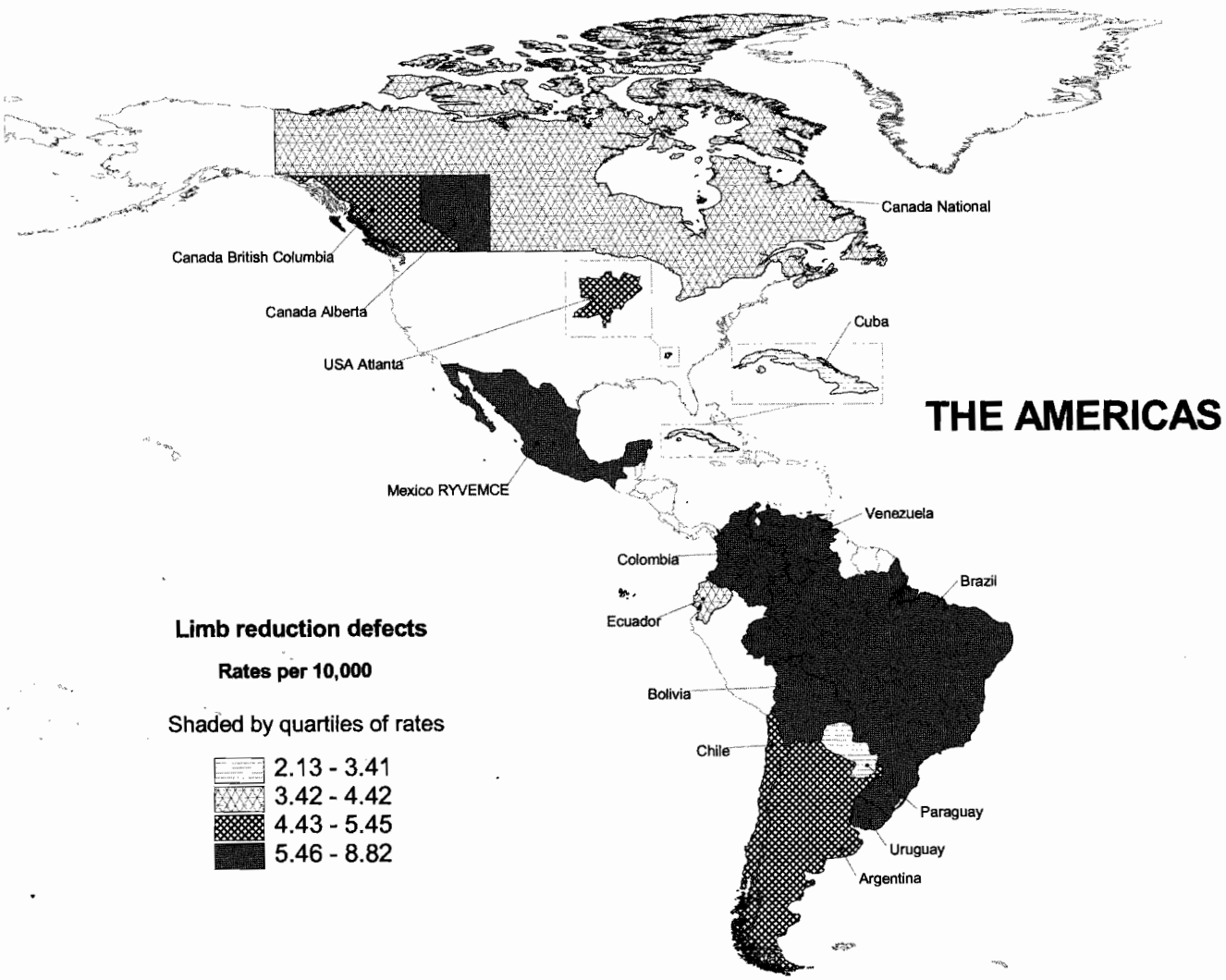
Rates per 10,000

Shaded by quartiles of rates

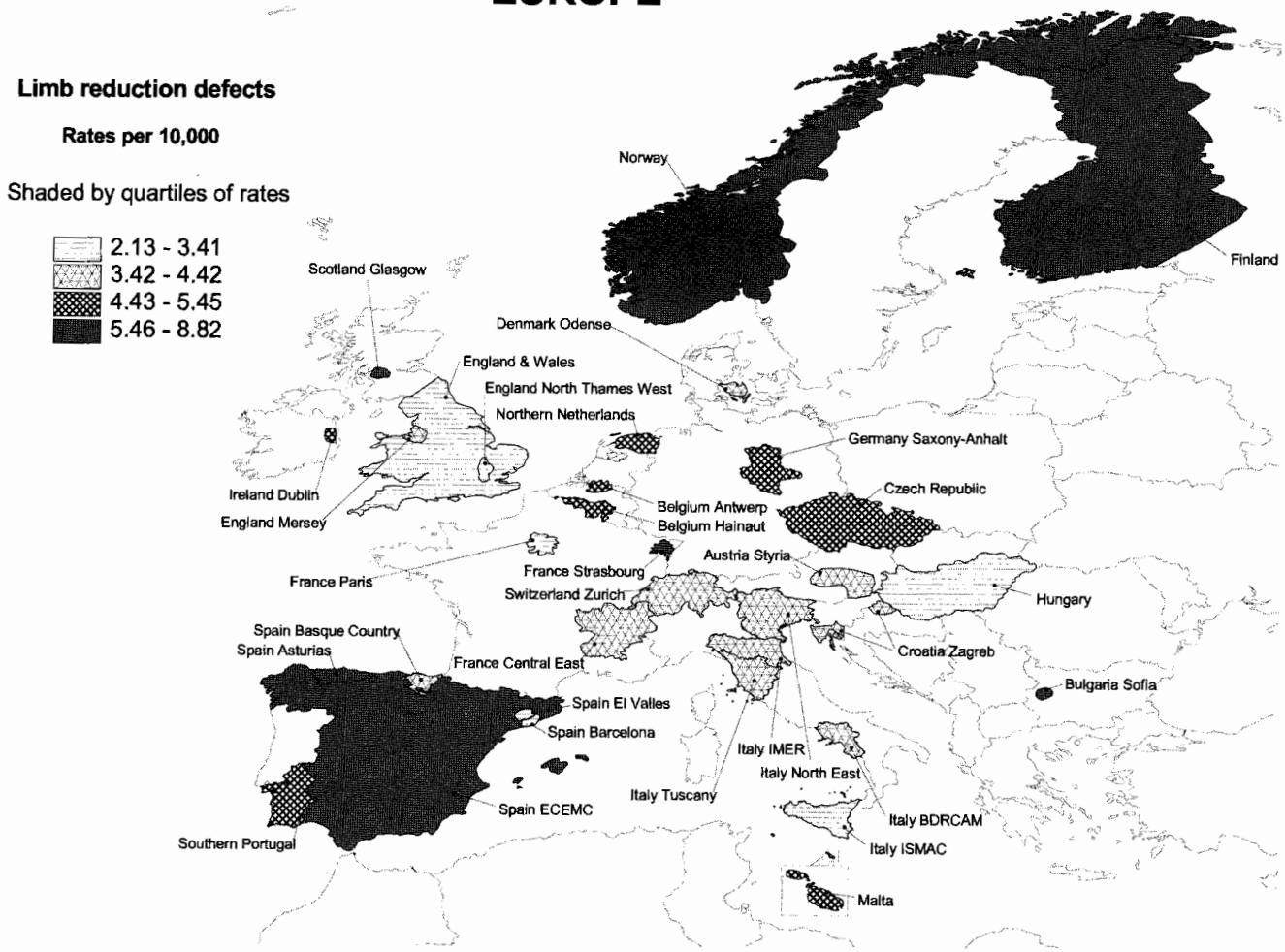
- 0.18 - 2.06
- 2.07 - 3.89
- 3.90 - 7.43
- 7.44 - 17.23

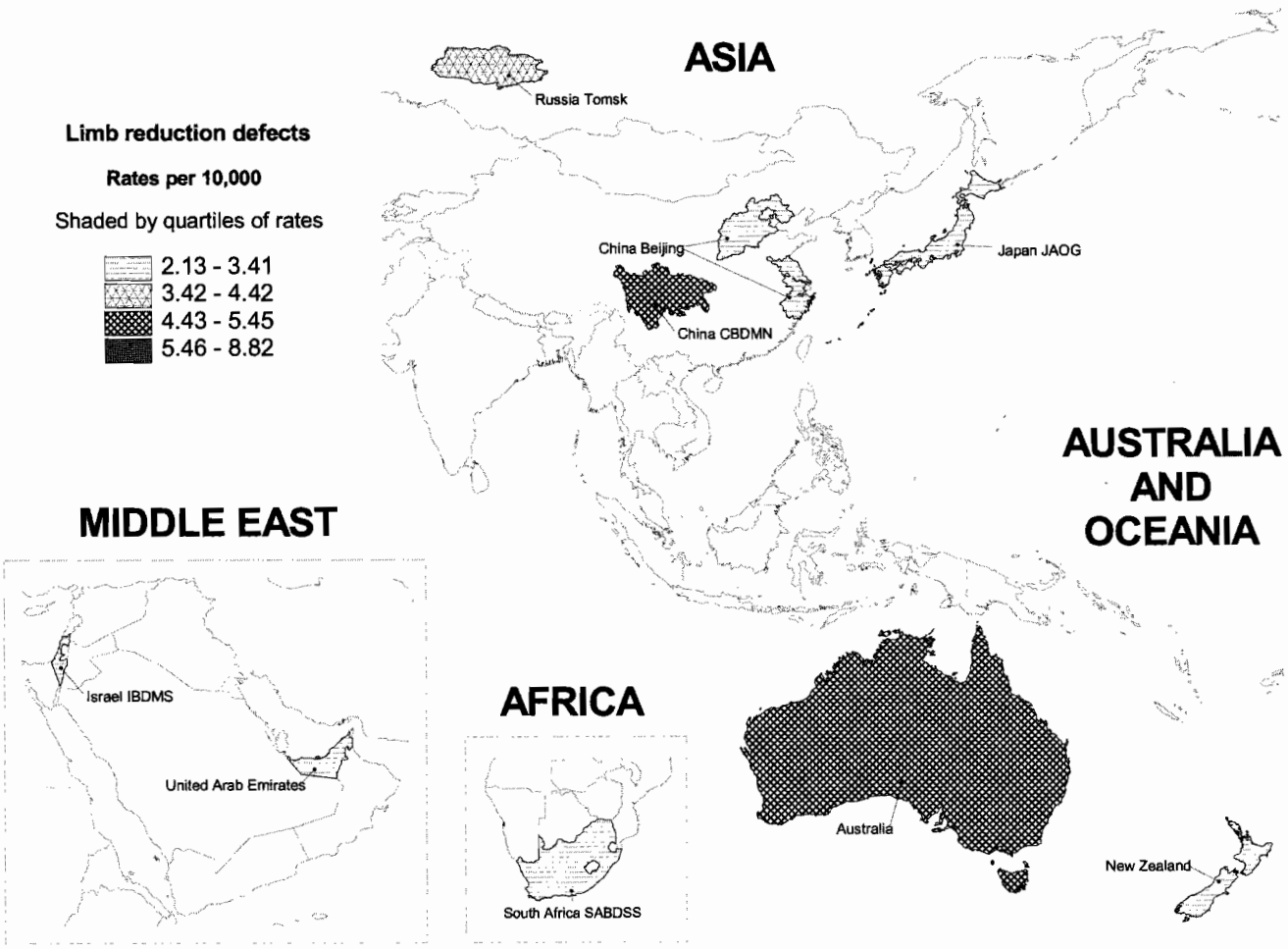


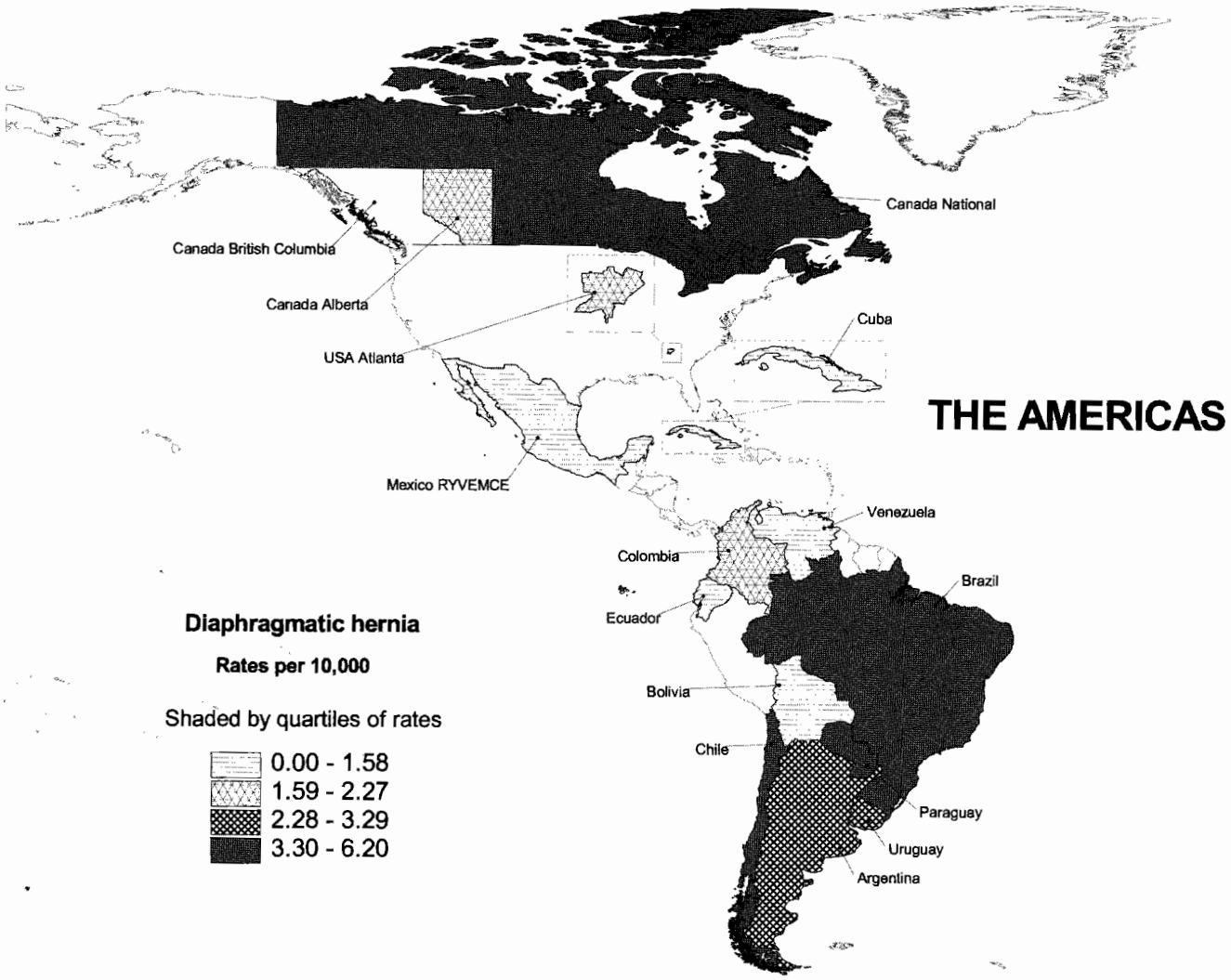

Polydactyly, preaxial
Rates per 10,000
Shaded by quartiles of rates
0.18 - 2.06
2.07 - 3.89
3.90 - 7.43
7.44 - 17.23
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


THE AMERICAS
Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Limb reduction defects
Rates per 10,000
Shaded by quartiles of rates
2.13 - 3.41
3.42 - 4.42
4.43 - 5.45
5.46 - 8.82

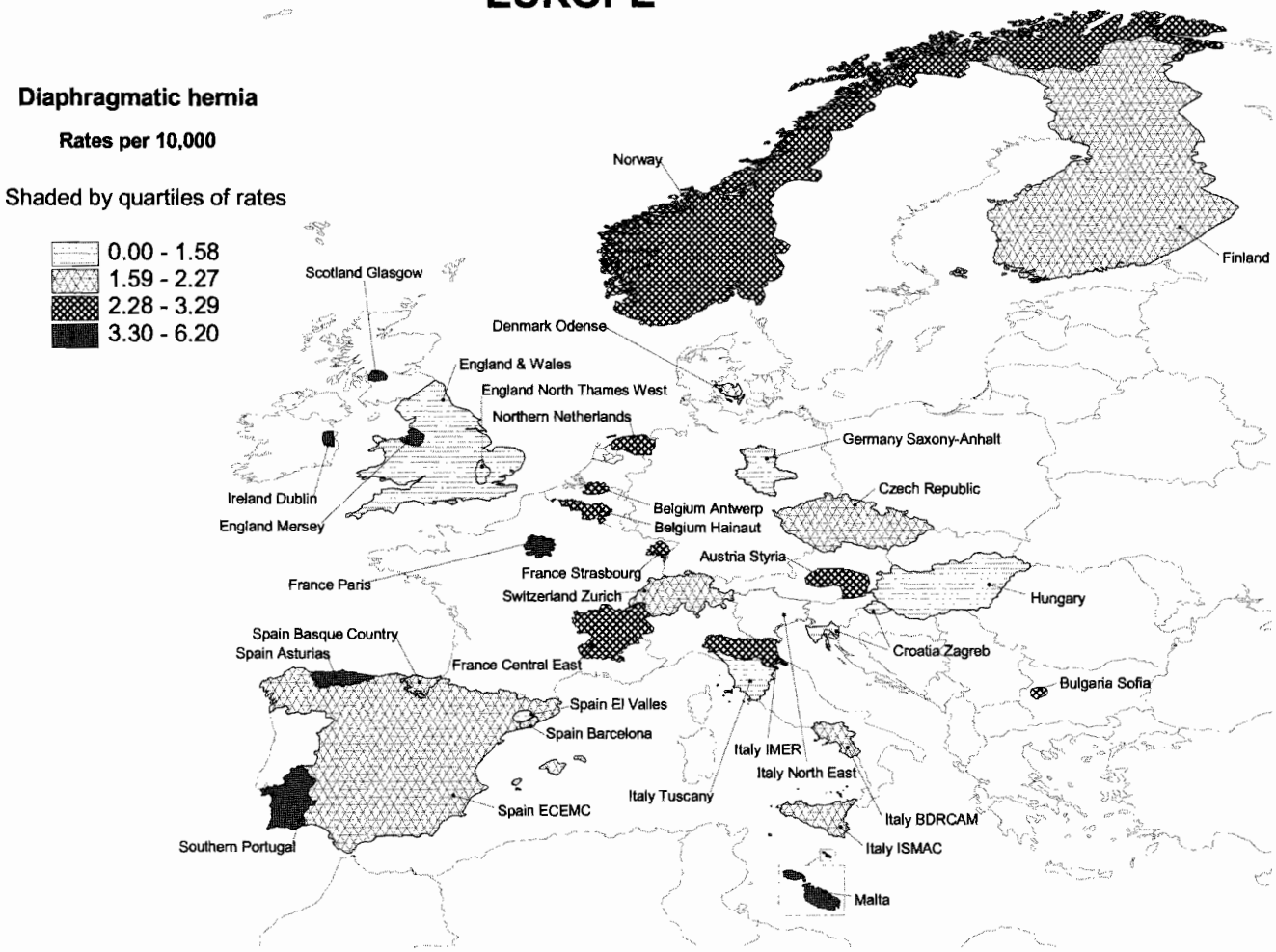
EUROPE

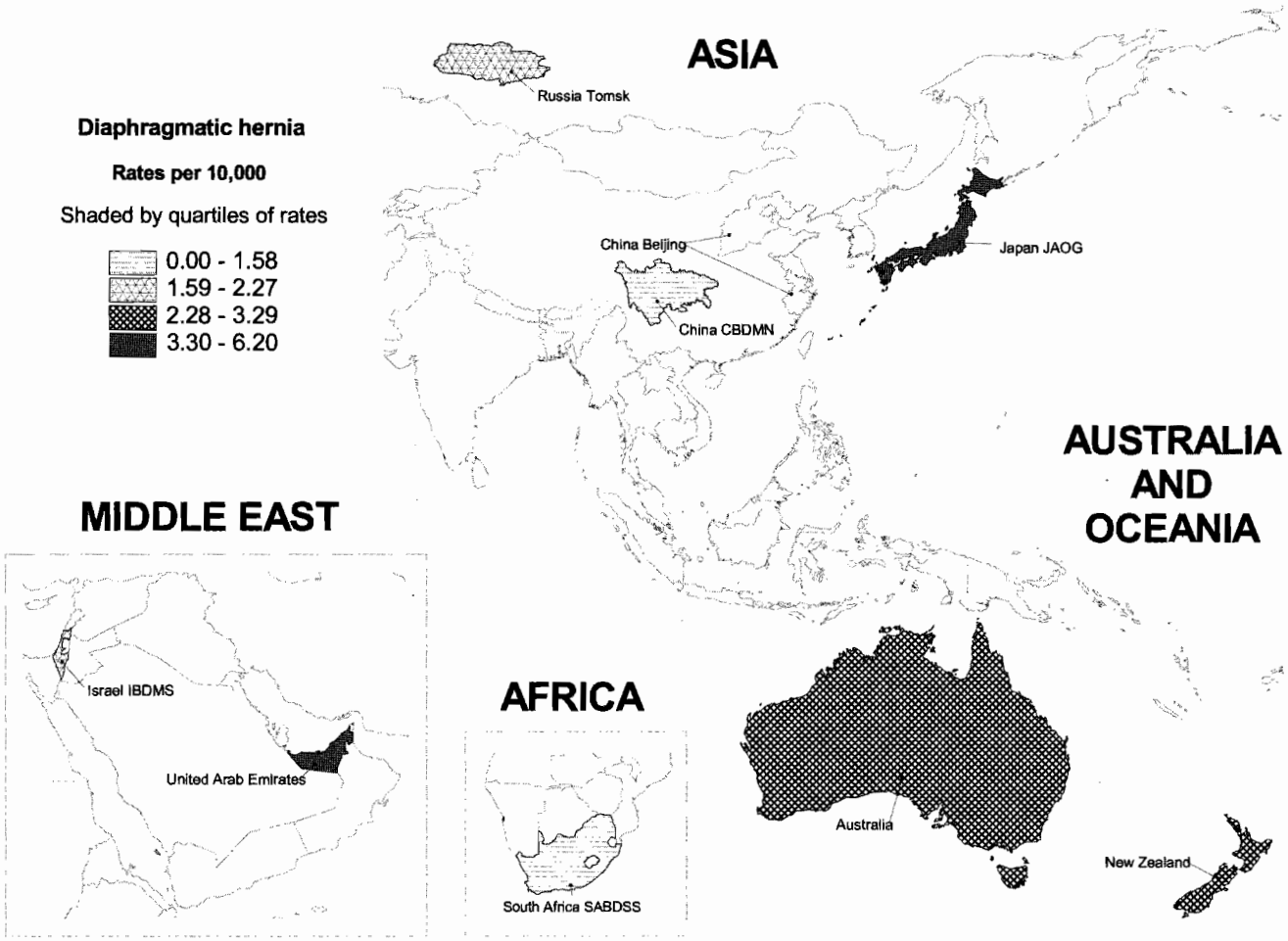

Limb reduction defects
Rates per 10,000
Shaded by quartiles of rates
2.13 - 3.41
3.42 - 4.42
4.43 - 5.45
5.46 - 8.82
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Paris
France Strasbourg
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

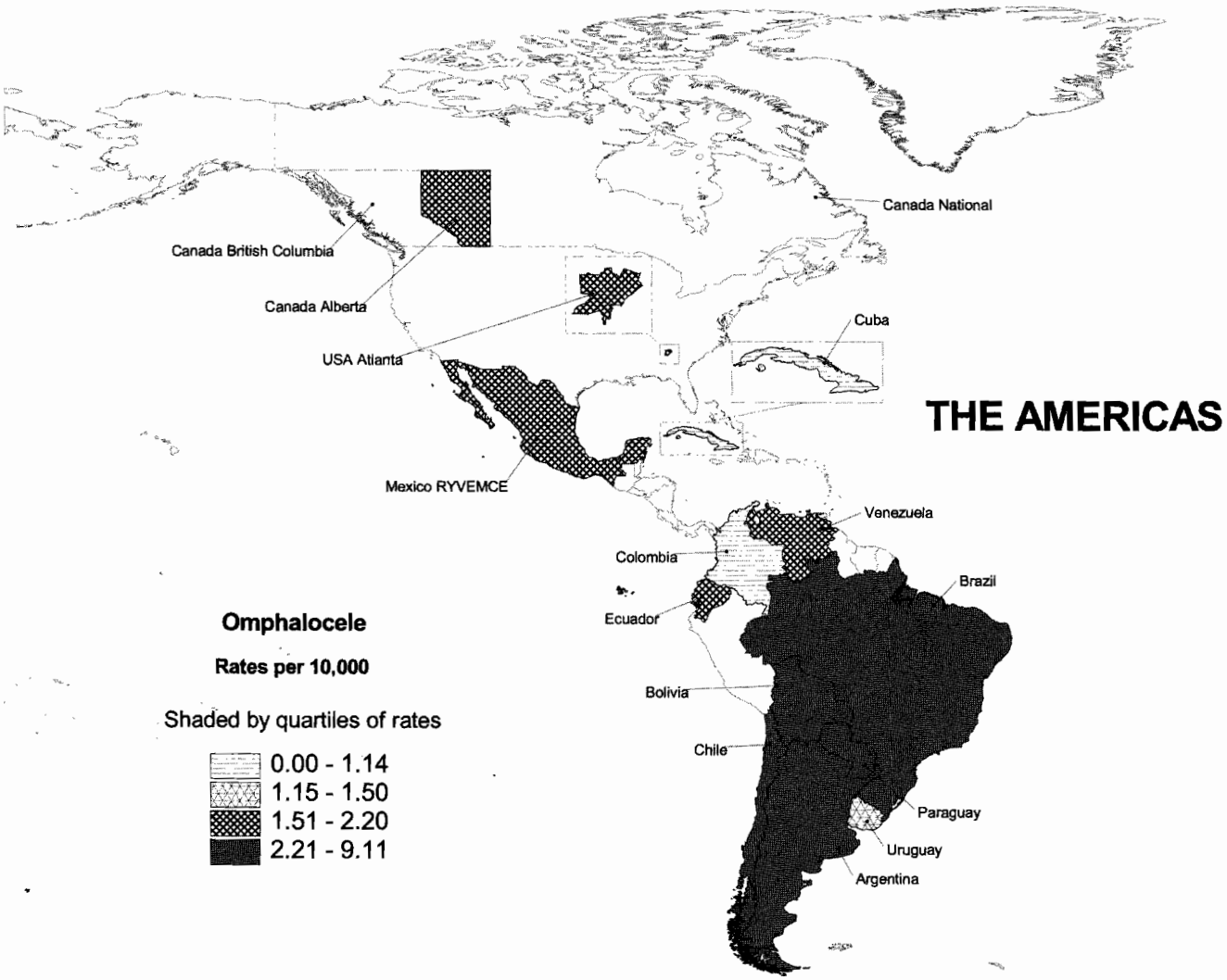

Limb reduction defects
Rates per 10,000
Shaded by quartiles of rates
2.13 - 3.41
3.42 - 4.42
4.43 - 5.45
5.46 - 8.82
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Diaphragmatic hernia
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.58
1.59 - 2.27
2.28 - 3.29
3.30 - 6.20

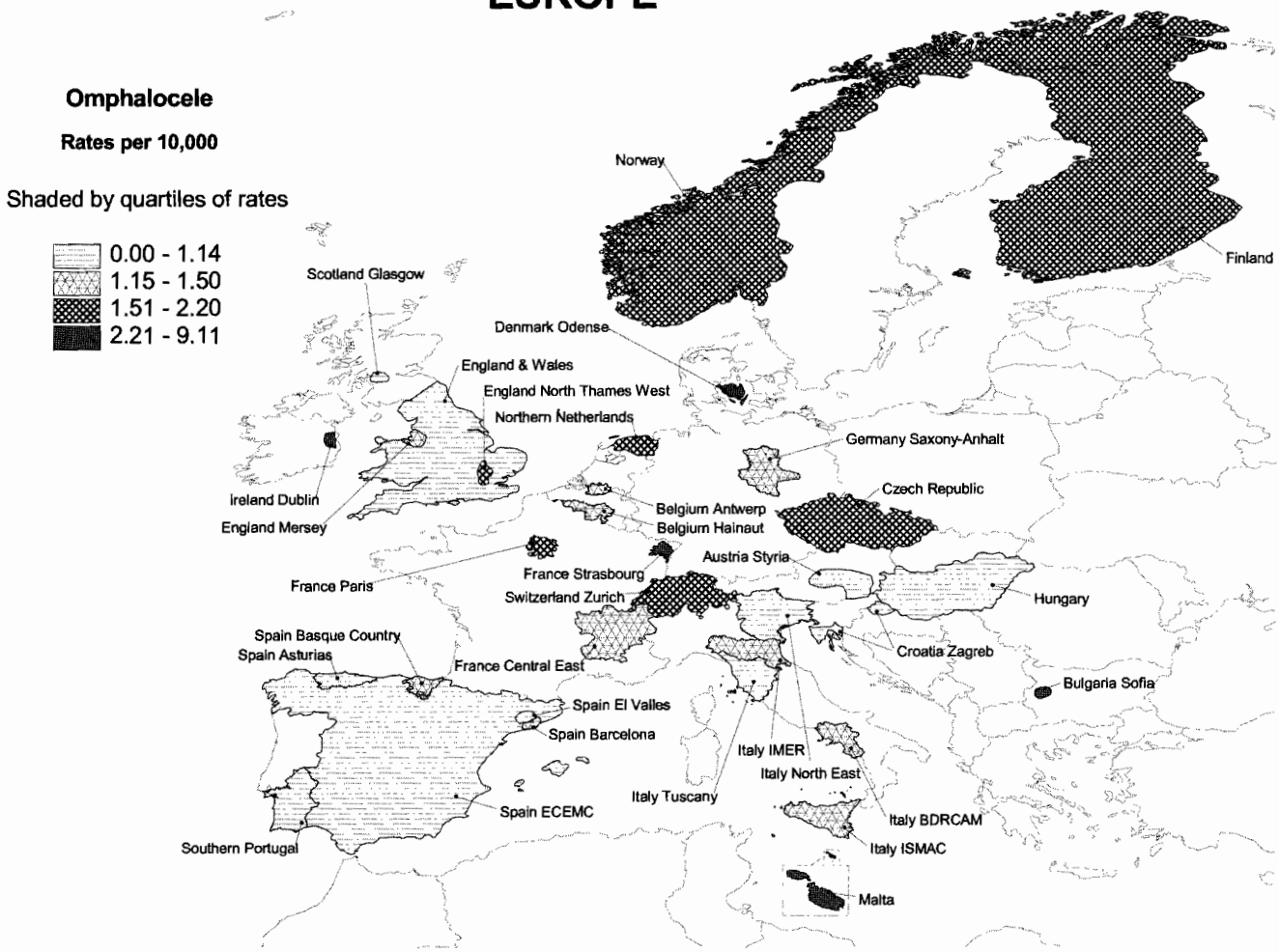
EUROPE

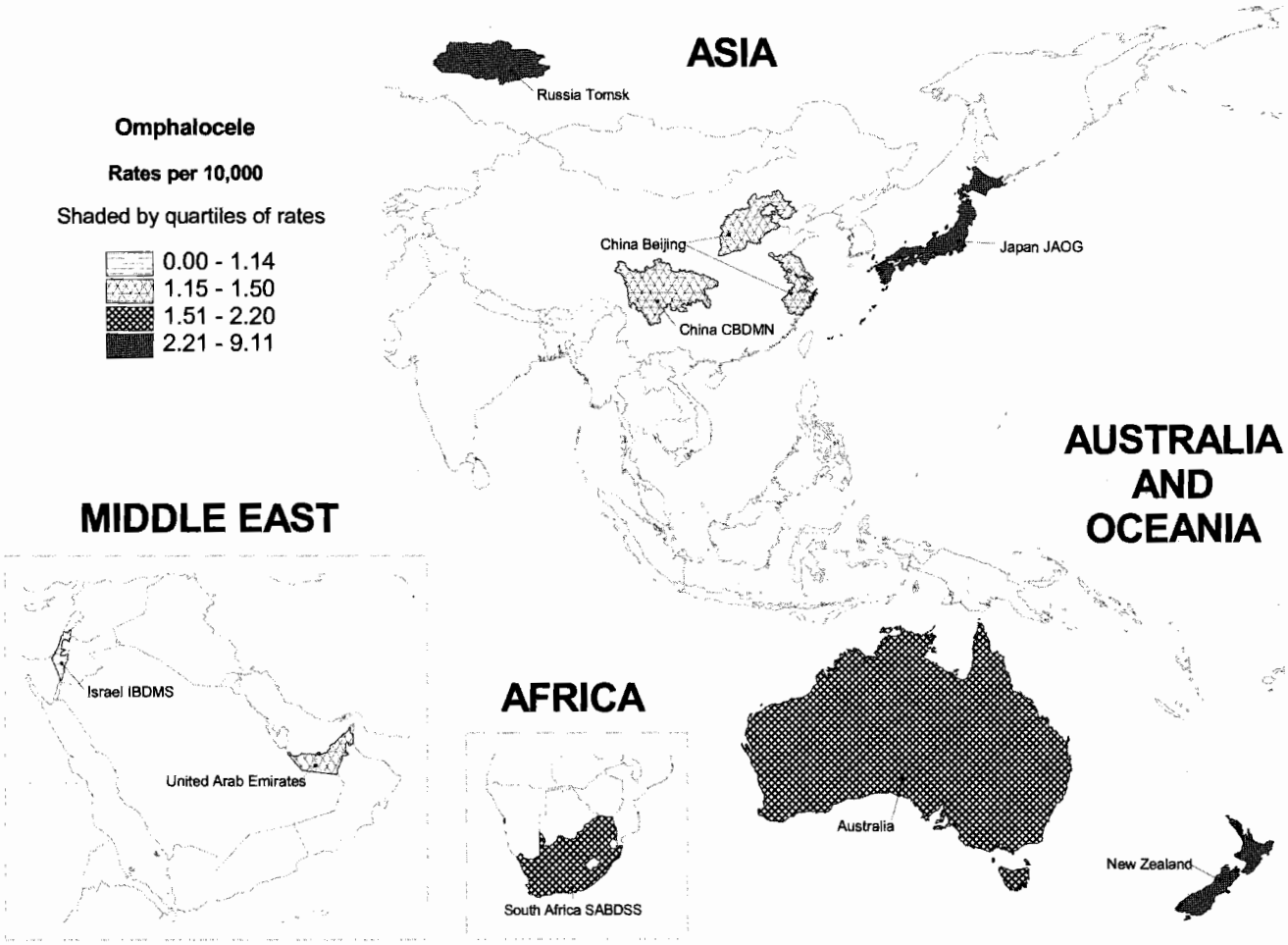

Diaphragmatic hernia
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.58
1.59 - 2.27
2.28 - 3.29
3.30 - 6.20
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

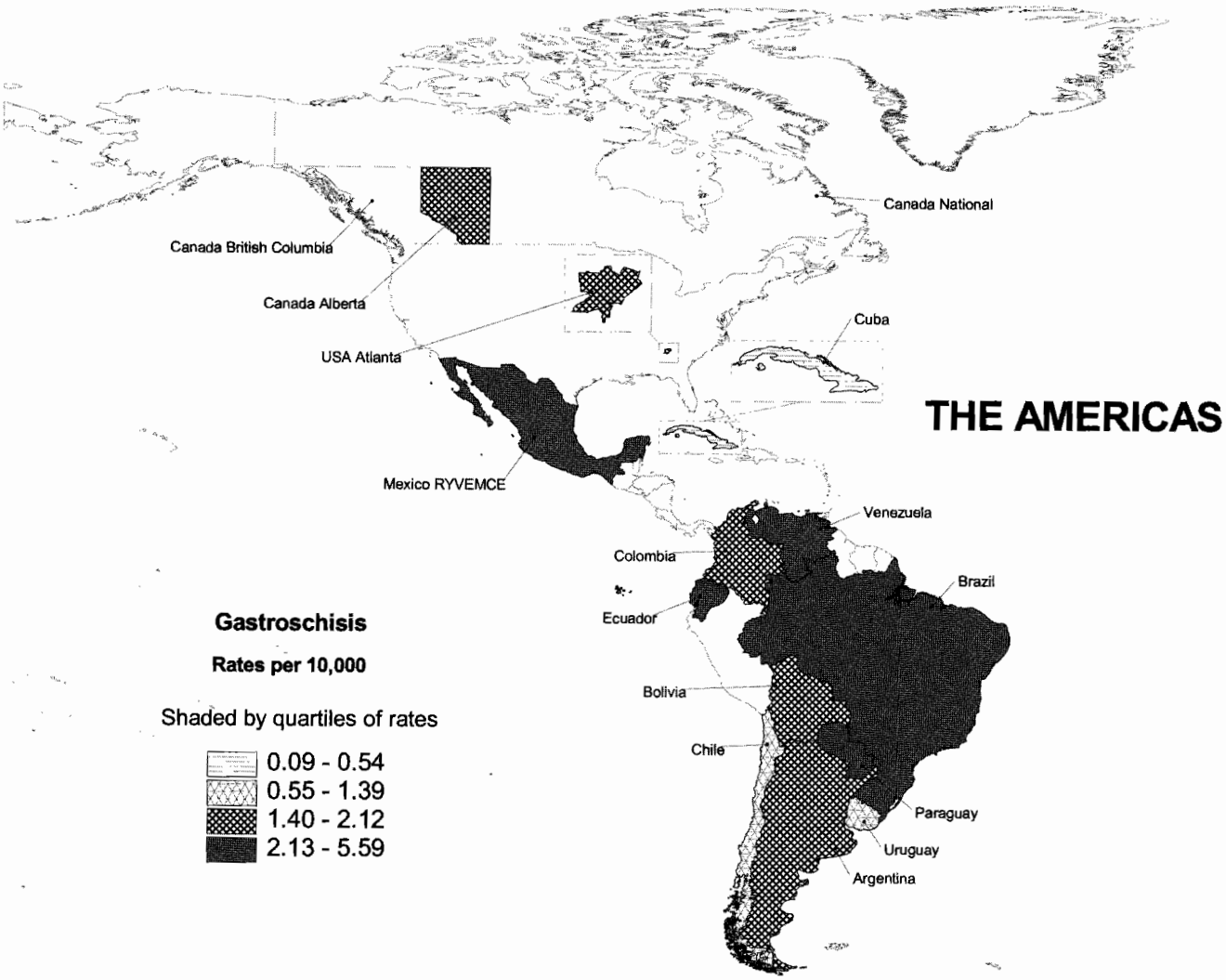

Diaphragmatic hernia
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.58
1.59 - 2.27
2.28 - 3.29
3.30 - 6.20
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
THE AMERICAS
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Omphalocele
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.14
1.15 - 1.50
1.51 - 2.20
2.21 - 9.11

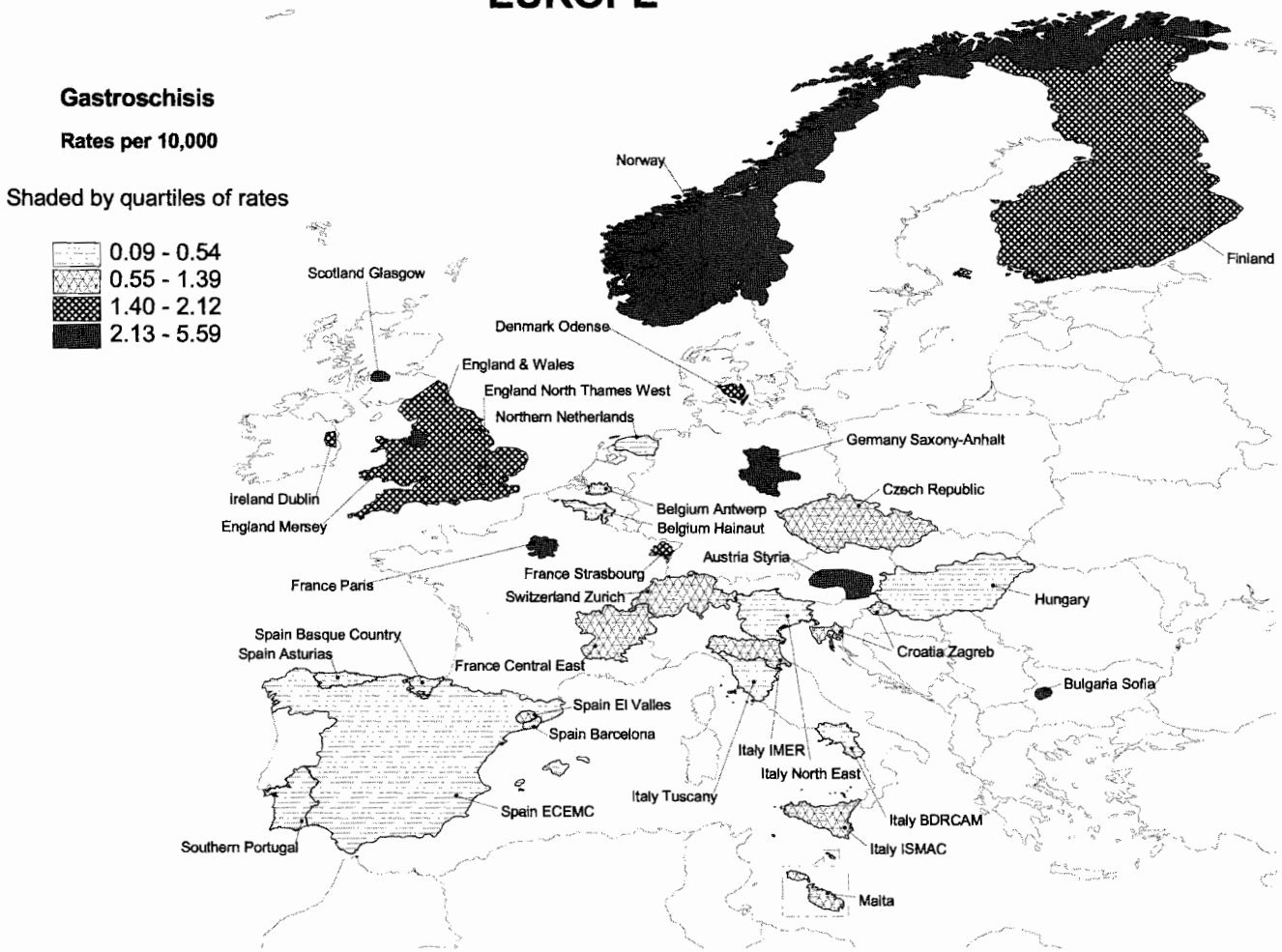
EUROPE

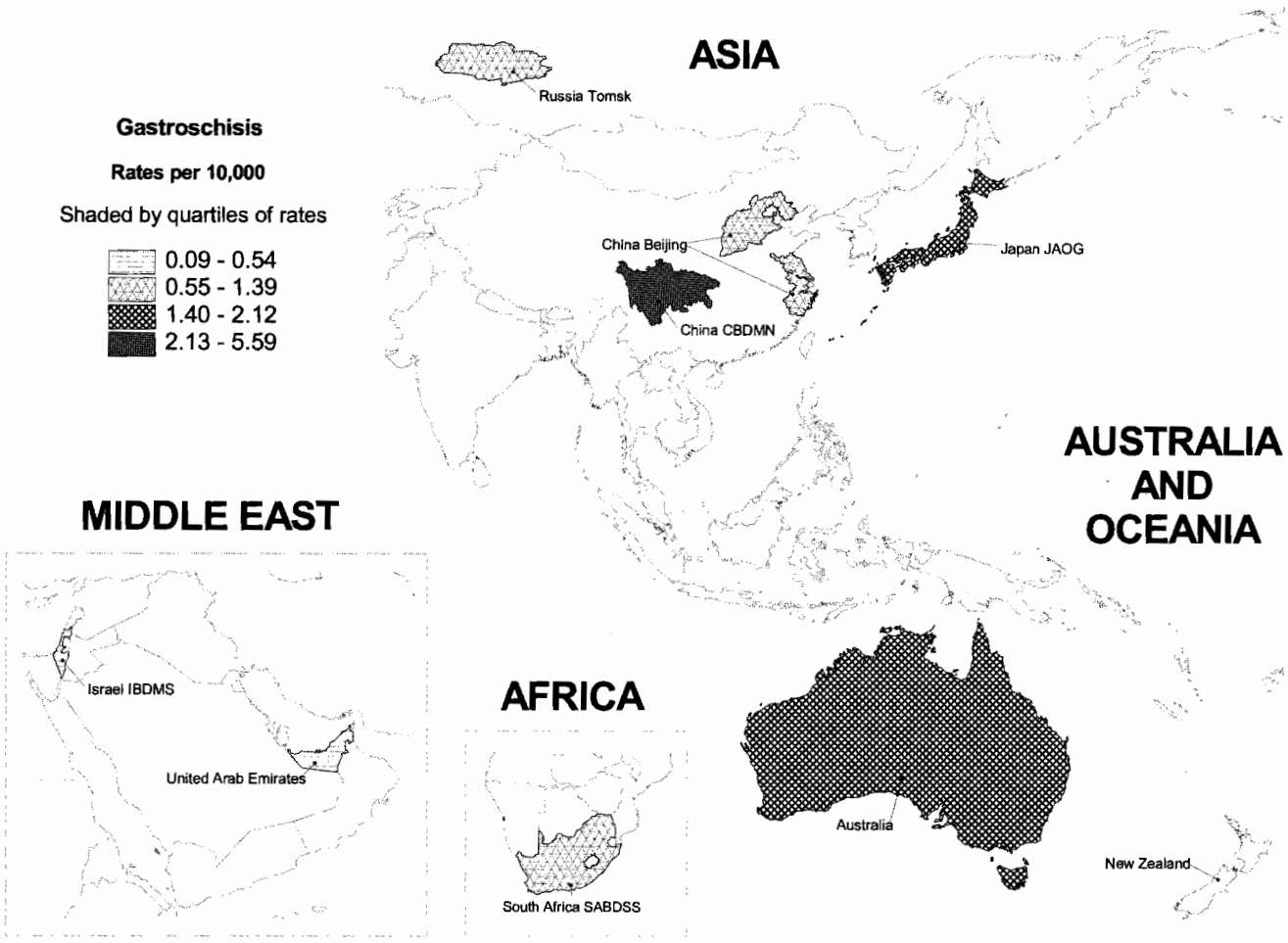

Omphalocele
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.14
1.15 - 1.50
1.51 - 2.20
2.21 - 9.11
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

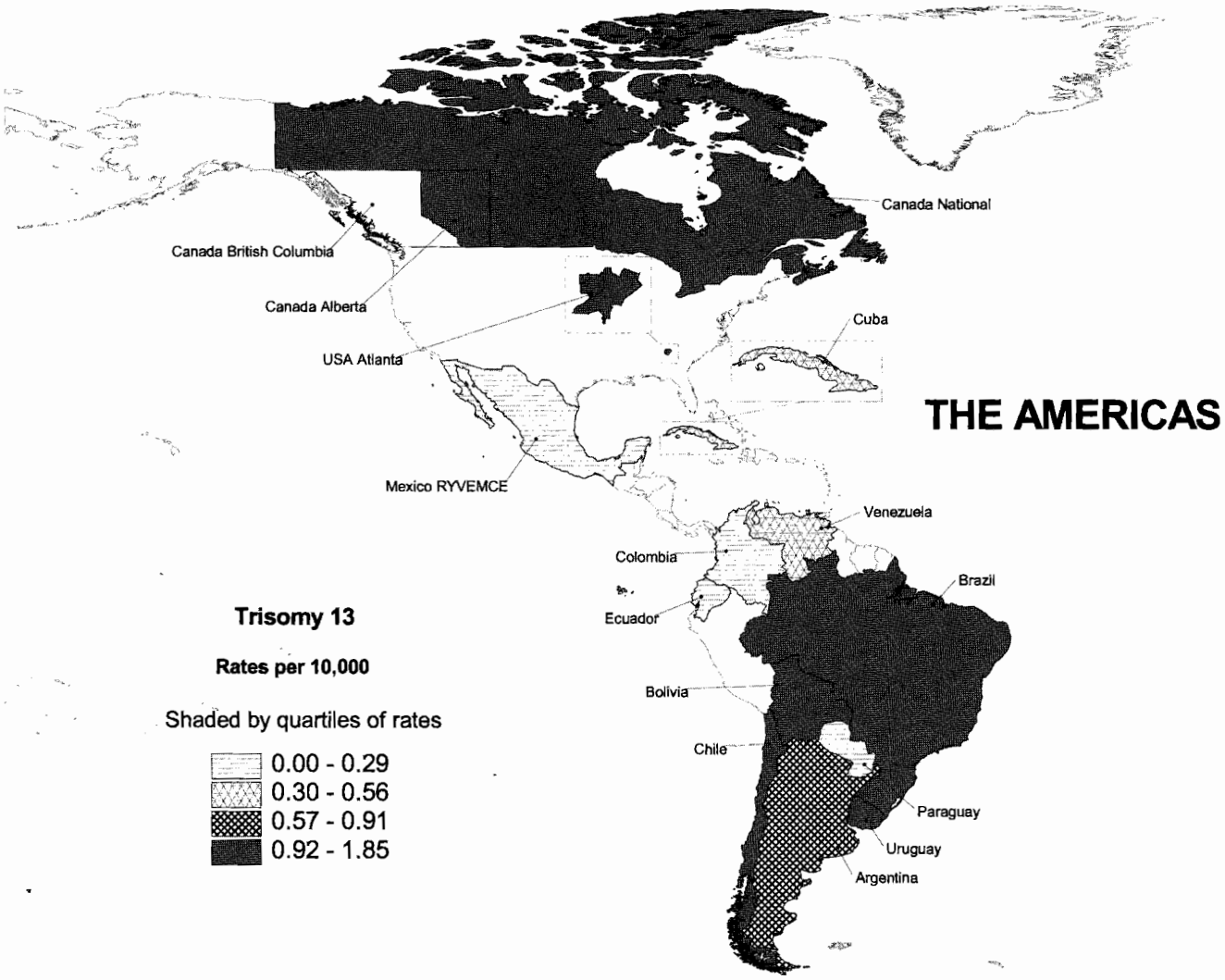

Omphalocele
Rates per 10,000
Shaded by quartiles of rates
0.00 - 1.14
1.15 - 1.50
1.51 - 2.20
2.21 - 9.11
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
THE AMERICAS
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Gastroschisis
Rates per 10,000
Shaded by quartiles of rates
0.09 - 0.54
0.55 - 1.39
1.40 - 2.12
2.13 - 5.59

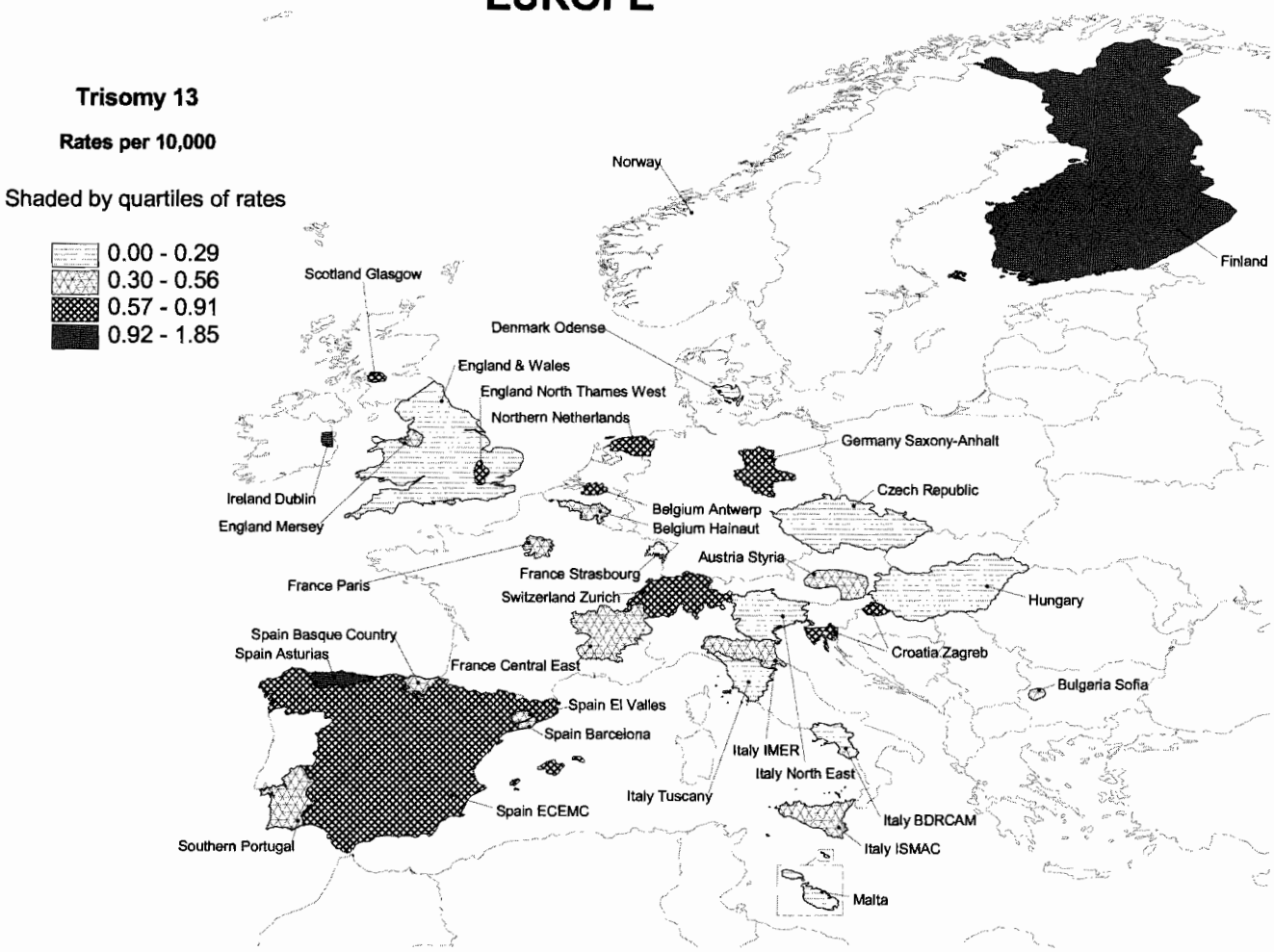
EUROPE

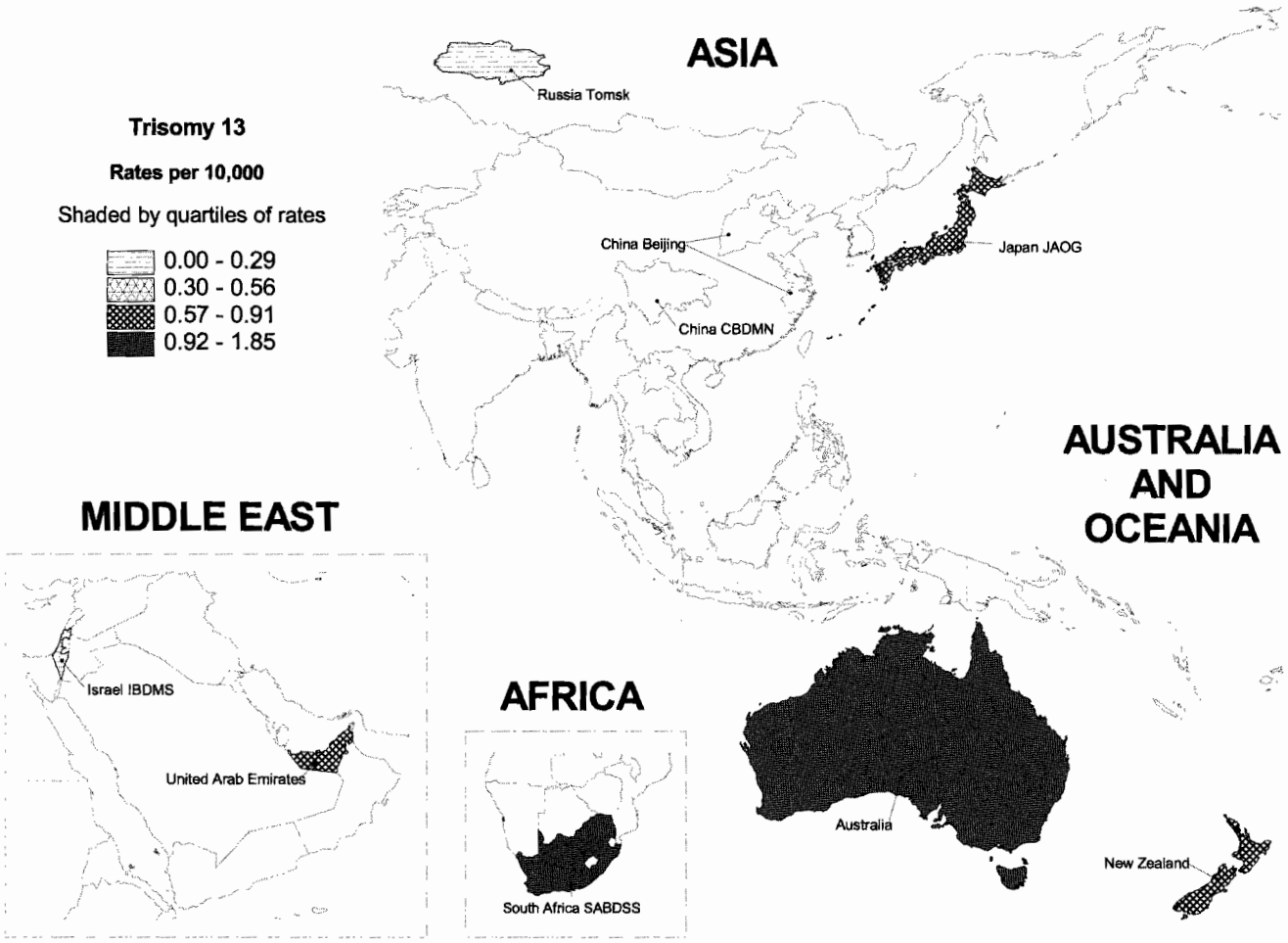

Gastroschisis
Rates per 10,000
Shaded by quartiles of rates
0.09 - 0.54
0.55 - 1.39
1.40 - 2.12
2.13 - 5.59
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

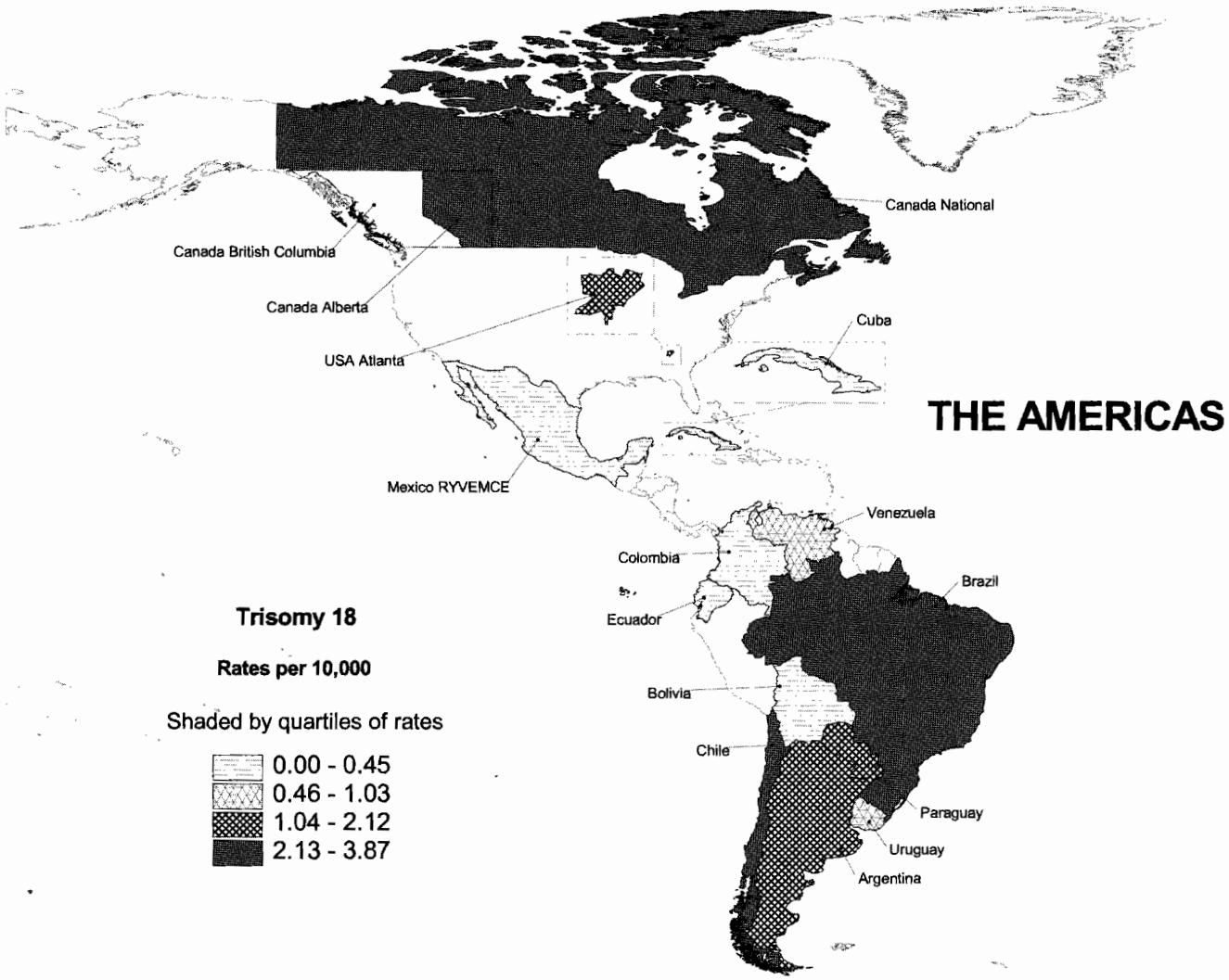

Gastroschisis
Rates per 10,000
Shaded by quartiles of rates
0.09 - 0.54
0.55 - 1.39
1.40 - 2.12
2.13 - 5.59
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
THE AMERICAS
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Trisomy 13
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.29
0.30 - 0.56
0.57 - 0.91
0.92 - 1.85

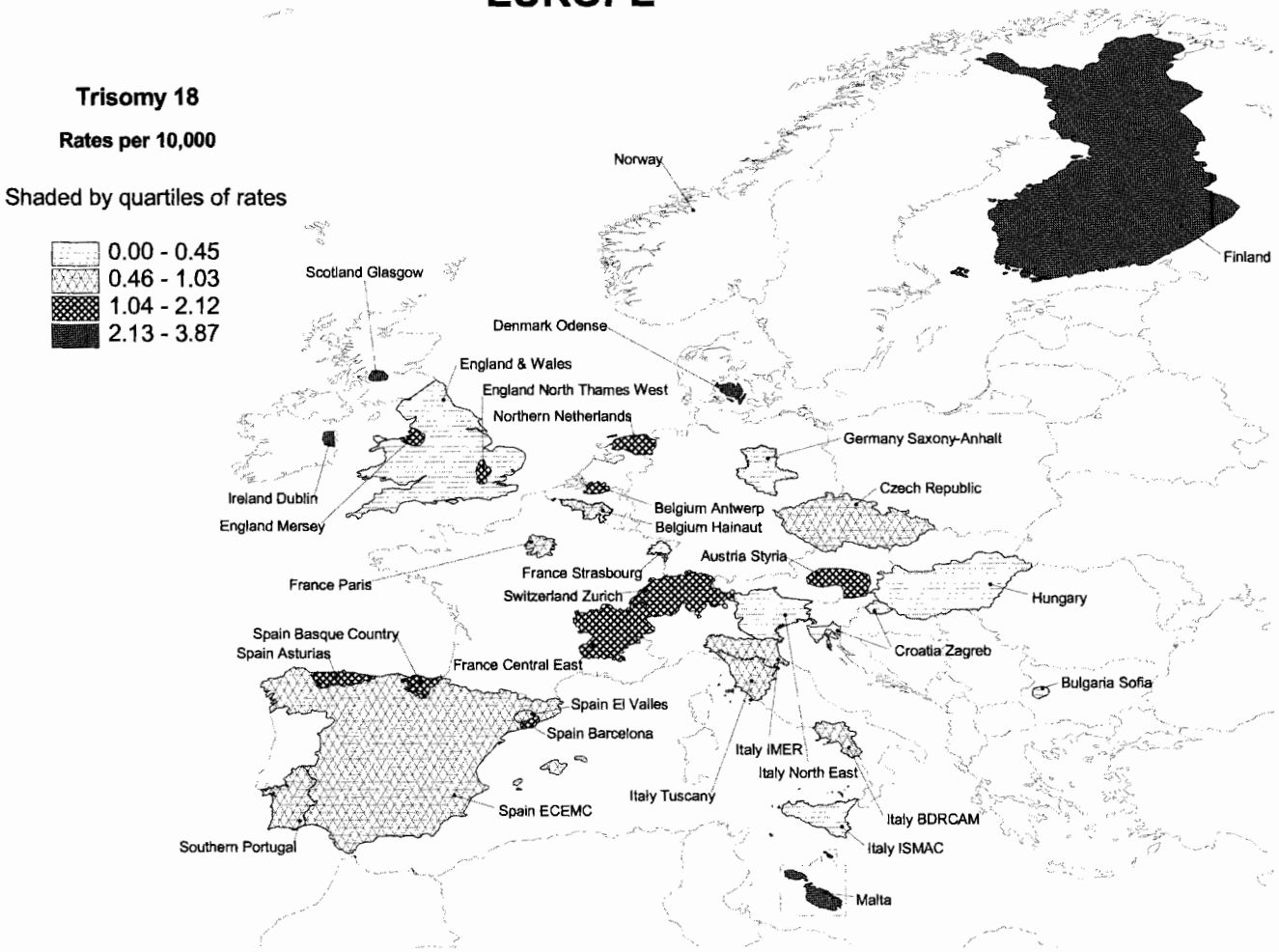
EUROPE

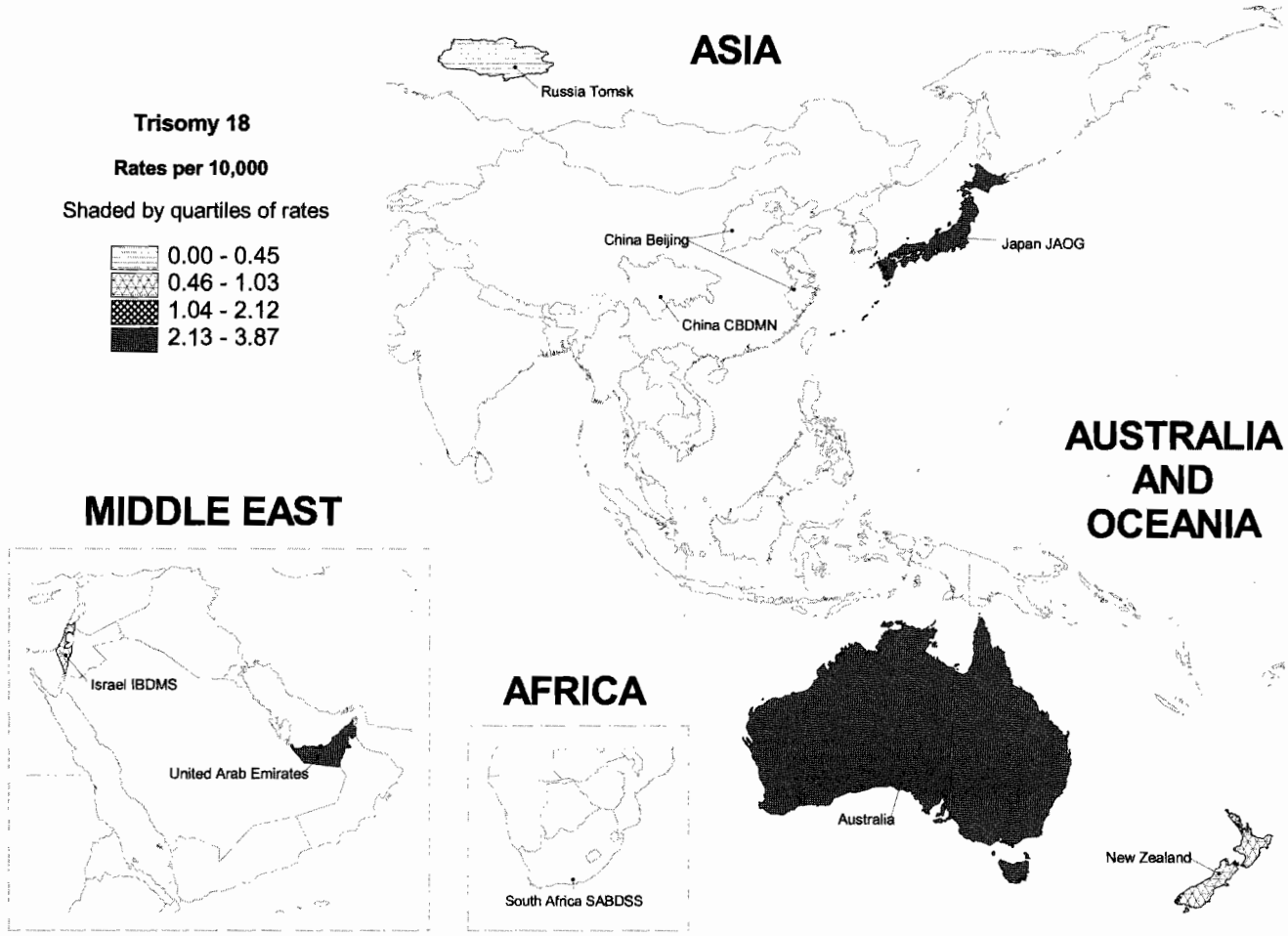

Trisomy 13
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.29
0.30 - 0.56
0.57 - 0.91
0.92 - 1.85
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Paris
France Strasbourg
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta

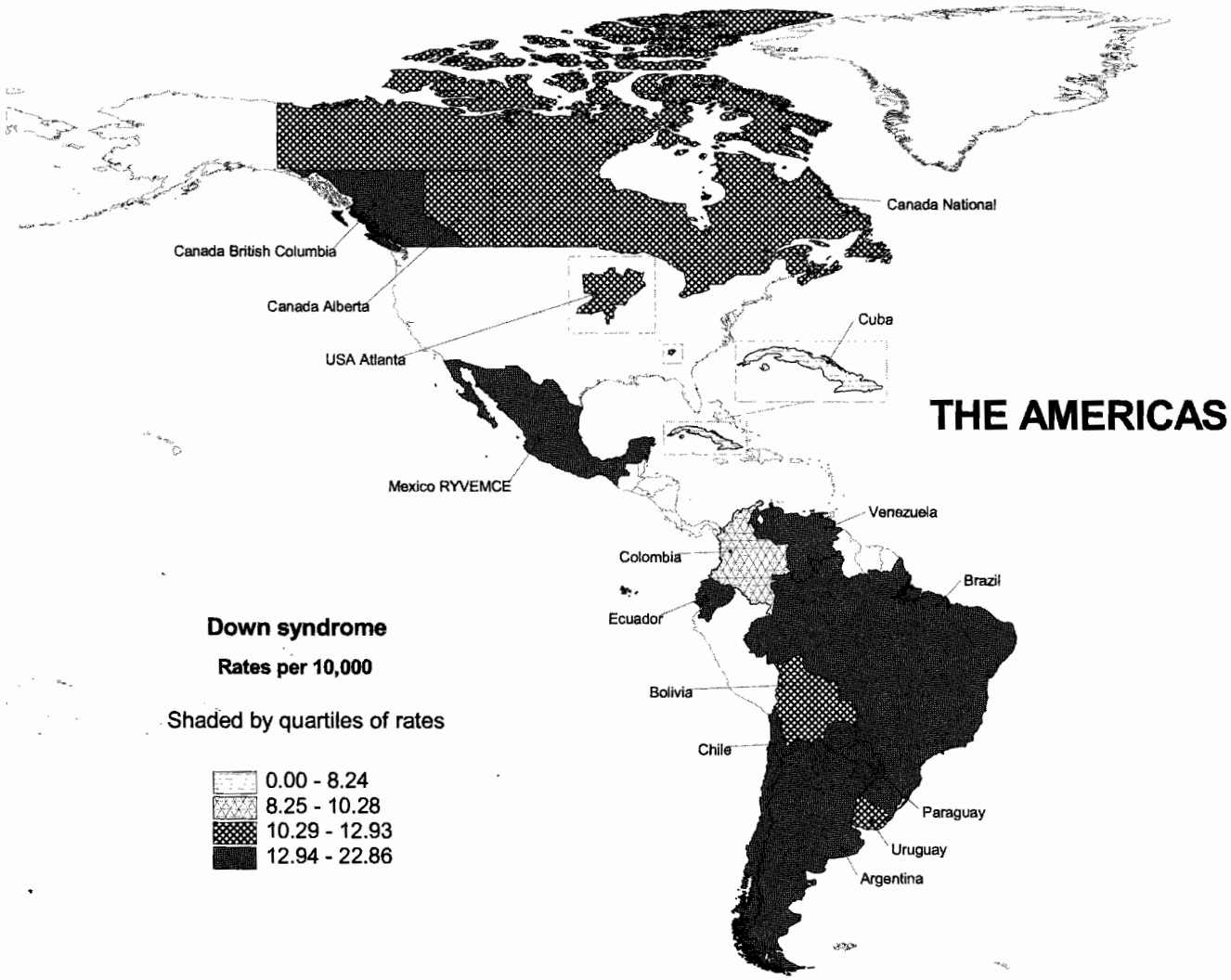

Trisomy 13
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.29
0.30 - 0.56
0.57 - 0.91
0.92 - 1.85
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
THE AMERICAS
Trisomy 18
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.45
0.46 - 1.03
1.04 - 2.12
2.13 - 3.87

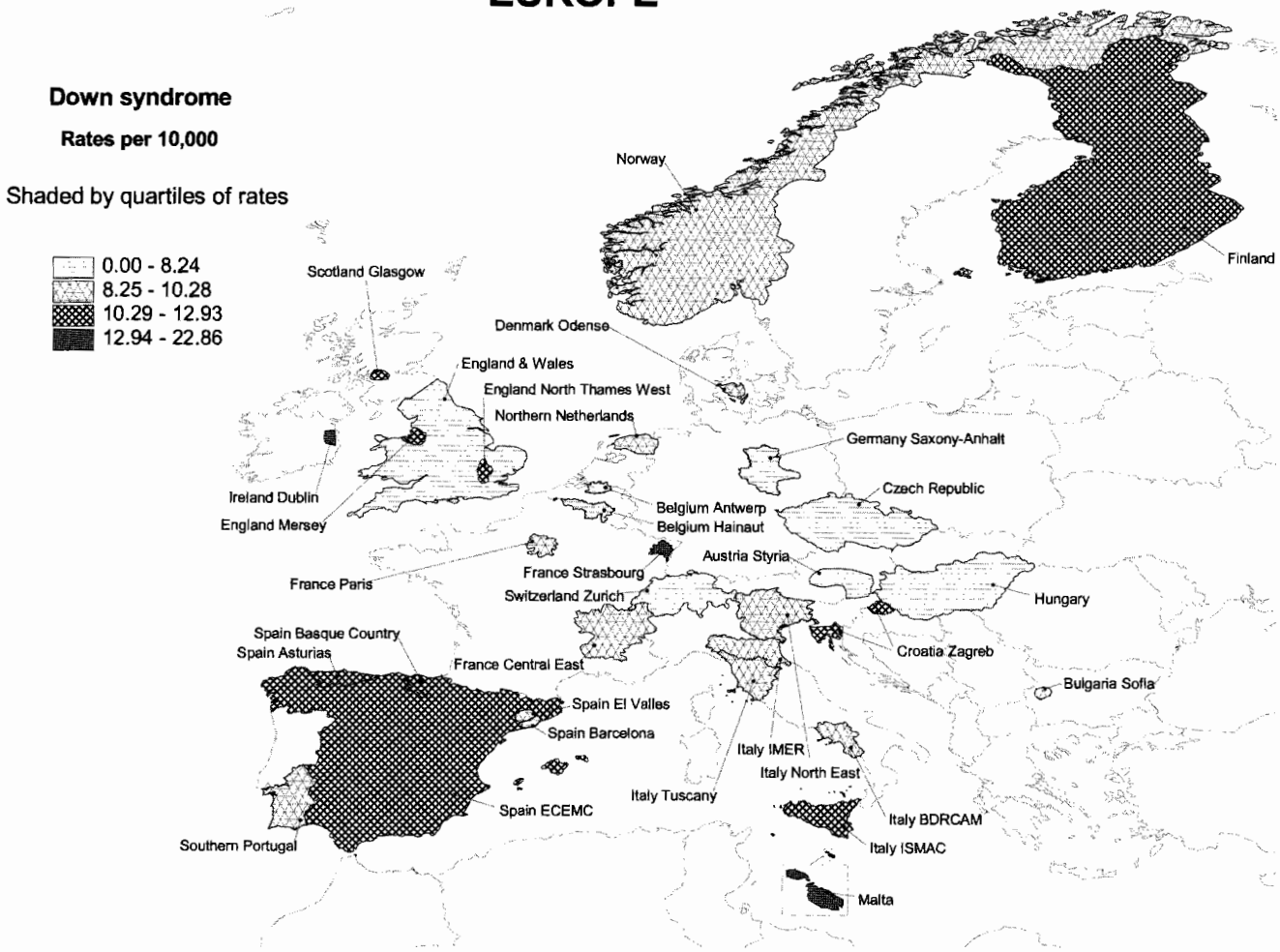
EUROPE

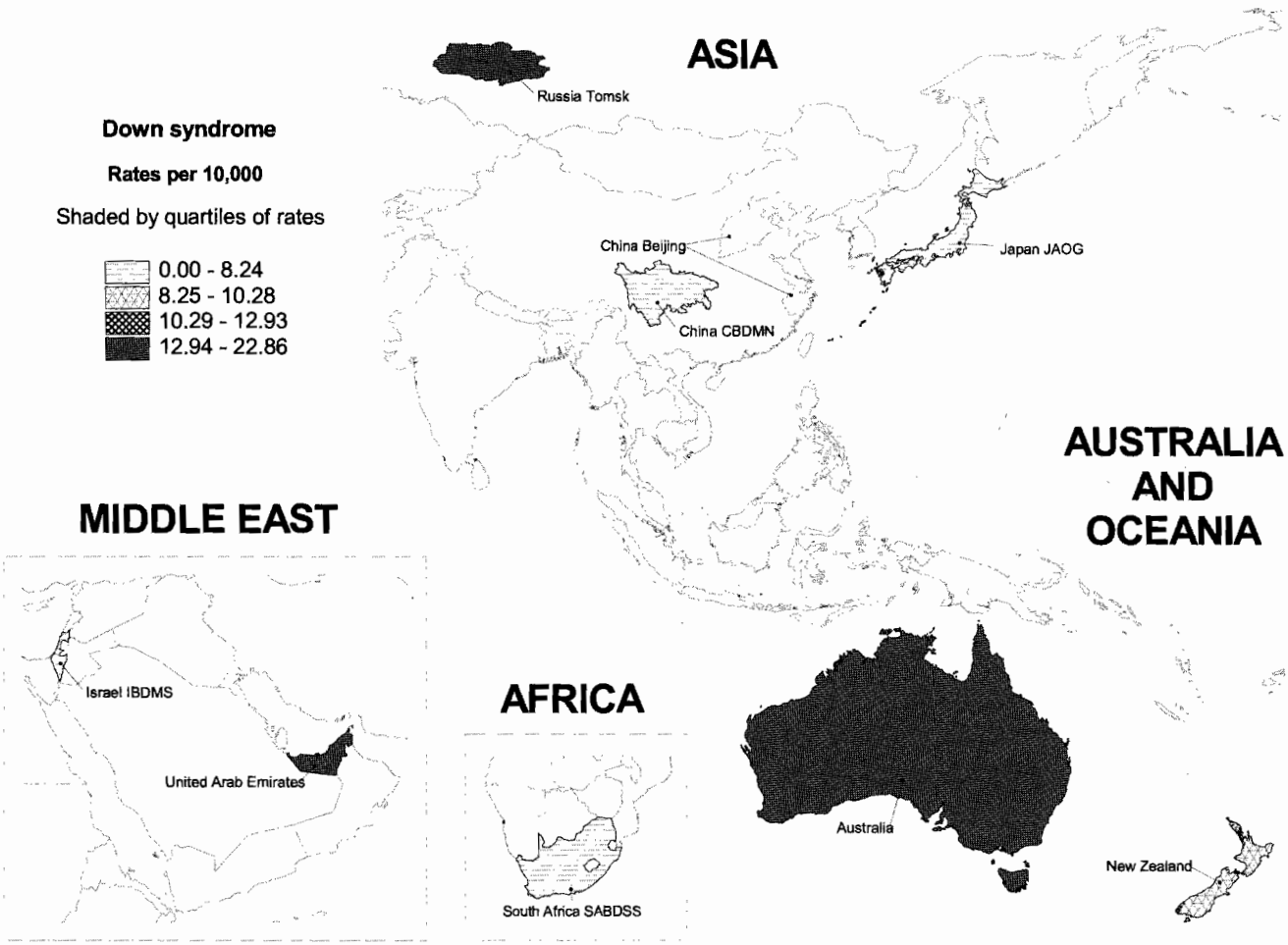

Trisomy 18
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.45
0.46 - 1.03
1.04 - 2.12
2.13 - 3.87
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
France Central East
Croatia Zagreb
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta


Trisomy 18
Rates per 10,000
Shaded by quartiles of rates
0.00 - 0.45
0.46 - 1.03
1.04 - 2.12
2.13 - 3.87
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS


THE AMERICAS
Canada National
Canada British Columbia
Canada Alberta
USA Atlanta
Cuba
Mexico RYVEMCE
Venezuela
Colombia
Brazil
Ecuador
Bolivia
Chile
Paraguay
Uruguay
Argentina
Down syndrome
Rates per 10,000
Shaded by quartiles of rates
0.00 - 8.24
8.25 - 10.28
10.29 - 12.93
12.94 - 22.86

EUROPE


Down syndrome
Rates per 10,000
Shaded by quartiles of rates
0.00 - 8.24
8.25 - 10.28
10.29 - 12.93
12.94 - 22.86
Norway
Finland
Scotland Glasgow
Denmark Odense
England & Wales
England North Thames West
Northern Netherlands
Germany Saxony-Anhalt
Czech Republic
Ireland Dublin
England Mersey
Belgium Antwerp
Belgium Hainaut
Austria Styria
France Strasbourg
France Paris
Switzerland Zurich
Hungary
Spain Basque Country
Spain Asturias
Croatia Zagreb
France Central East
Bulgaria Sofia
Spain El Valles
Spain Barcelona
Italy IMER
Italy North East
Italy Tuscany
Spain ECEMC
Italy BDRCAM
Italy ISMAC
Southern Portugal
Malta


Down syndrome
Rates per 10,000
Shaded by quartiles of rates
0.00 - 8.24
8.25 - 10.28
10.29 - 12.93
12.94 - 22.86
ASIA
Russia Tomsk
China Beijing
China CBDMN
Japan JAOG
AUSTRALIA AND OCEANIA
Australia
New Zealand
MIDDLE EAST
Israel IBDMS
United Arab Emirates
AFRICA
South Africa SABDSS

Errata: Styria (Austria), 1993-1998

	Cases	Births	Rate	95% CI		93		94		95		96		97		98	
	LB+SB		x10,000	lower	upper	total	%TOP	total	%TOP	total	%TOP	total	%TOP	total	%TOP	total	%TOP
Hypospadias																	
atlas	0	73918	0.00	0.00	0.52	0		0		0		0		0		0	
correct	116		15.69			29	3.45	22	0.00	16	0.00	15	0.00	14	0.00	21	0.00
Renal agenesis																	
atlas	34	73918	4.60	3.18	6.43	13	7.69	5	20.00	8	0.00	5	0.00	2	0.00	4	25.00
correct	44		5.95			21	33.33	6	33.33	13	15.38	8	0.00	5	60.00	7	28.57
Polydactyly																	
atlas	32	73918	4.33	2.96	6.11	8	12.50	10	10.00	7	0.00	4	0.00	2	0.00	4	25.00
correct	56		7.58			15	13.33	14	7.14	9	0.00	8	0.00	7	14.29	8	12.50
Omphalocele																	
atlas	0	73918	0.00	0.00	0.52	0		0		0		0		0		0	
correct	12		1.62			2	100.00	7	42.86	1	100.00	4	25.00	2	50.00	4	0.00
Down syndrome																	
atlas	0	73918	0.00	0.00	0.52	0		0		0		0		0		1	100.00
correct	73		9.88			18	16.67	17	5.88	11	36.36	17	23.53	19	36.84	19	52.63

Differences occurred due to data transmission problems.