

CO4: Disease-based indicators: Prevalence of diabetes and asthma among Children

Definitions and methodology

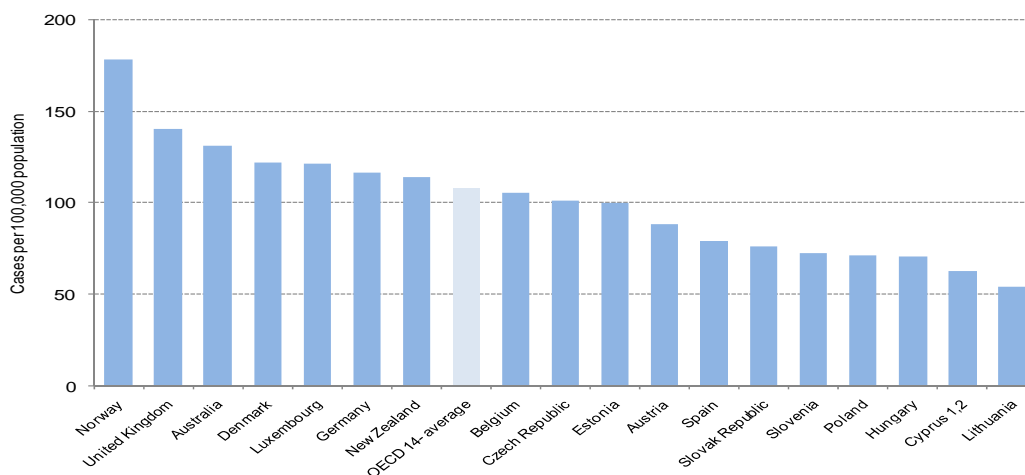
This indicator presents two childhood disease-based indicators: asthma and diabetes. The information on diabetes concerns “type 1 diabetes” rather than “type 2 diabetes”, as the former is the predominant type of diabetes among children and adolescents (<http://www.who.int/diabetes/en>).

Asthma is characterized by attacks of breathlessness and wheezing, which often start in childhood but which can affect people of all ages (<http://www.who.int/respiratory/asthma/definition/en>). The data here concern estimates on the percentage of children of a specified age who suffered from an asthmatic attack at some point in their lives.

Key findings

Chart CO4.1 shows the incidence of type 1 diabetes among children age 0 to 14: on average in the 14 OECD countries for which information is available, there are 108 cases of type 1 diabetes per 100,000 children under the age of 15. Australia, the United Kingdom, and in particular Norway, are the three countries with the highest prevalence rates of diabetes in childhood. The high prevalence rate in these three countries may well be related to superior diagnosis techniques and processes (International Diabetes Federation, 2006).

Chart CO4.1: Prevalence type 1 diabetes among children 0-14, per 100 000 of the population age group, around 2000/03



Source: International Diabetes Federation (IDF) (2006), “Diabetes Atlas, 3rd edition”, International Diabetes Federation, Brussels (<http://www.eatlas.idf.org>) and OECD stats.

Data sometimes only reflect parts of national territories and populations: Australia - New South Wales; Belgium – Antwerpen; Germany - Dusseldorf, Baden-Württemberg and Westphalia; Hungary – 18 counties; Poland - ; Spain - Catalonia; and, the United Kingdom - Leeds, Oxford and Northern Ireland.

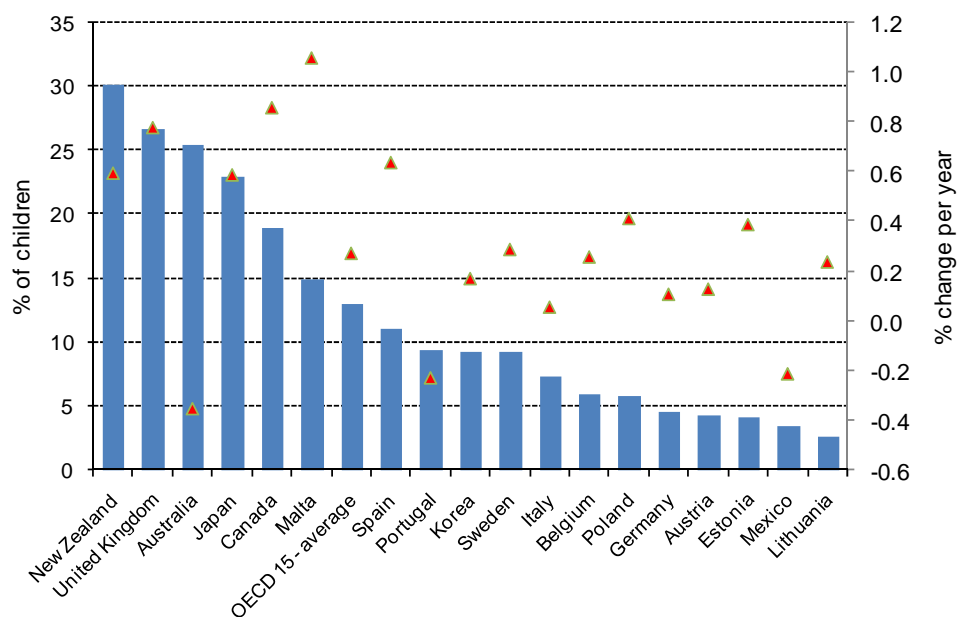
1) Footnote by Turkey: The information in this document with reference to « Cyprus » relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

2) Footnote by all the European Union Member States of the OECD and the European Commission: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Other relevant indicators: CO1: Infant mortality; CO2: Low birth weight; and, CO5: Obesity among children aged 10.

On average, in 15 OECD countries for which information is available, 13% of children aged 6 to 7 were reported as having had an asthma attack at some point in their lives. The countries with the highest prevalence of asthma include the English speaking countries (Australia, Canada, New Zealand, and the United Kingdom) and Japan, with prevalence rates above 20% (Chart CO4.2, left-hand scale). In general, there is little change in the prevalence of asthma in OECD countries; the percentage point change is on average 0.3 percentage points with a maximum of around one percentage point (Chart CO4.2, right-hand scale).

Chart CO4.2: Proportion of children age 6-7 who ever had asthma, around 2002^{1,2}



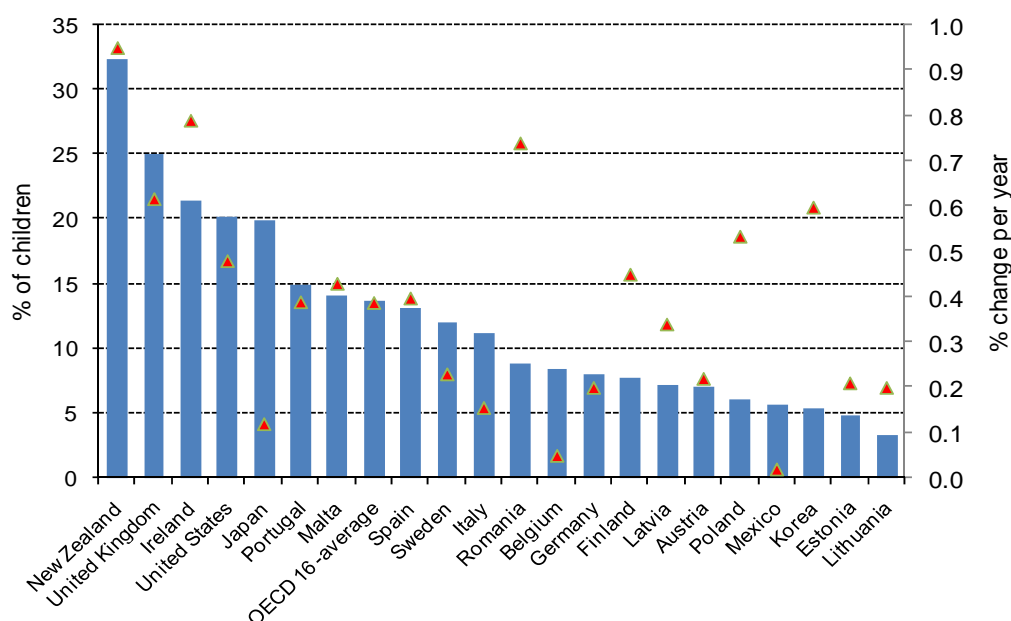
1) The results concern asthma symptoms of children as reported by parents.

2) Data concern "asthma prevalence phase 3". Data reflect studies based on particular regions/urban centres: Australia - Melbourne; Austria - Kuntzen and Urfahr-Umgebung; Belgium - Antwerpen; Canada - Saskatoon; Estonia - Tallinn; Germany - Munster; Italy - Emilia-Romagna, Empoli, Firenze, Milano, Roma and Torino; Japan - Fukuoka; Korea - Provincial data Seoul; Lithuania - Kaunas; Mexico - Cuernavaca; New Zealand - Auckland, Bay, Christchurch and Nelson; Poland - Krakow and Poznan; Portugal: Funchal, Lisbon, and Portimao; Spain - Bilbao, Cartagena, Castilla, Madrid, Pamplona, and Valencia; and the United Kingdom - Sunderland.

Source: International Study of Asthma and Allergies in Childhood (ISAAC) (<http://thorax.bmj.com/supplemental>).

Chart C04.3 shows similar results to those observed above. That is, prevalence rates between phases one and three have presented little change, with an average increase of 0.4% per year. In participating OECD countries, the mean prevalence of asthma among adolescents age 13 to 14 was of 14%. Once again, the countries with the highest prevalence of asthma include English speaking countries (Ireland, New Zealand, the United Kingdom and the United States) and Japan, with prevalence rates above 20%.

Chart CO4.3: Proportion of children age 13-14 who ever had asthma, 2002^{1,2}



1) Self-reported asthma symptoms.

2) Data concern "asthma prevalence phase 3". Data reflect studies based on particular regions/urban centres: Austria - Kunten and Urfahr-Umgebung; Belgium - Antwerpen; Canada - Saskatoon; Estonia - Tallinn; Germany - Munster; Italy - Cosenza, Emilia-Romagna, Empoli, Firenze, Milano, Roma and Torino; Japan - Fukuoka; Korea - Provincial data Seoul; Latvia - Riga; Lithuania - Kaunas; Mexico - Cuernavaca; New Zealand - Auckland, Bay, Christchurch, Nelson and Wellington; Poland - Krakow and Poznan; Portugal: Funchal, Lisbon, Portimao and Porto; Romani - Cluj; Spain - Barcelona, Bilbao, Cartagena, Castilla, Madrid, Pamplona, Valencia and Valladolid; and the United Kingdom - North, Scotland, South, Sunderland, Surrey/Sussex, and Wales; USA - Seattle. Source: International Study of Asthma and Allergies in Childhood (ISAAC) (<http://thorax.bmj.com/supplemental>).

Comparability and data issues

Data on diabetes type 1 was taken from the 3rd edition of the Diabetes Atlas, a publication by the International Diabetes Federation (IDF) published in 2006. The IDF carried out a literature search to compile international information on the incidence and prevalence of "type 1 diabetes among children". It covers more than 200 studies both in developed and developing countries, but limitations in geographical and population coverage within countries (see notes to Chart CO4.1) should be borne in mind when interpreting results. The data presented here cover of studies that took place between 1997 and 2003. The IDF is scheduled to release an updated Diabetes Atlas in October 2009.

Data on asthma was taken from Phase 3 of the International Study of Asthma and Allergies in Childhood (ISAAC). Information on Asthma symptoms presented here was collected through written questionnaires completed by parents for children age 6 to 7 and self-completed by those aged 13 to 14. The first phase of the ISAAC study was conducted between 1992 and 1996, the second phase between 1998 and 2004 and the third phase between 2000 and 2003. The last phase covered 56 countries of which 16 were OECD member countries. The coverage of survey responses within countries in terms of national territory and population coverage is limited (see notes to Chart CO4.2 and Chart CO4.3).

Sources and further reading: International Diabetes Federation (2006). Diabetes Atlas - Third Edition, available on line at: www.eatlas.idf.org; Pearce, N. (2007). Worldwide trends in the prevalence of asthma symptoms: phase III of the International Study of Asthma and Allergies in childhood (ISAAC), available on line at <http://thorax.bmj.com>