Health

Project Mégapoles

Health in Europe's capitals

Employment & social affairs

European Commission

Mégapoles -

a network for public health within the capital cities/regions

Introduction

The capital cities/regions share specific public health challenges in the metropolitan areas with the country's highest urban population density - a good reason for setting up a network for the exchange of information and co-operation.

Aims

The overall objective for this project is to find effective means or tools to reduce differences in health, especially for groups that are difficult to reach within the three priority areas.

Three Priority Areas

Youth and Young Families

Alcoholism and other addictions, smoking, violence, crime, fear of violence, sexually transmitted diseases are all common public health and social problems especially among young people and young families. New channels of information and training methods should be considered to inspire self-esteem and equip them with skills so they can resist group pressure on risk factors, make healthy choices and take up healthy habits.

Participating cities/regions: Amsterdam, Athens, Dublin, Helsinki, Lazio-Rome, London, Lyon, Oslo, Madrid, Stockholm, Vienna.

Socially Disadvantaged Groups

Disparities or differences in health between groups are to be found in most countries; important factors include migration, unemployment, segregated housing markets, social exclusion. A high rate of migration helps to weaken social networks and structures. Some socially-disadvantaged-groups are affected by a combination and concentration of social risks and health risks. These inequities in health care may be met with integrated action from many areas of society.

Participating cities/regions: Athens, Berlin, Bruxelles, Dublin, Helsinki, Lisbon, London, Communidad de Madrid, Stockholm, Vienna.

Growing Old in Metropolitan Areas

The number of inhabitants over 65 years of age will increase by 50% within the Union by the year 2025. As social networks weaken, public health campaigns should be designed not only to help preserve mobility and cognitive capacity among older people but also to prevent isolation and limit functional ailments. Further goals should be to ensure a high quality of life in socio-economic terms and minimise the risk factors associated with lifestyle.

Participating cities/regions: Amsterdam, Athens, Bruxelles, Copenhagen, Dublin, Helsinki, Lisbon, London, Lyon, Madrid, Oslo, Stockholm, Vienna.

Expected Results

- exchange of information and experience on good practice in priority areas,
- devising new methods for prevention and health promotion among young people, disadvantaged groups and older people,
- coming up with new ideas on how to support of public health issues at Community level under the Treaties.

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THE HEALTH OF LONDONERS PROJECT

Project Mégapoles:

A network for public health within the Capital cities/regions Health Indicators Project

Health in Europe's capitals: similiarities and differences

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Preface

The Mégapoles Project is a 3 year programme of activities to network the capital cities or regions of the European Union member states and Norway, in the field of health promotion and disease prevention. This initiative fits in the public health programme, adopted by the European Commission. The project is financed by the European Commission and partly by the participating cities / regions themselves.

This report has been commissioned by the Mégapoles Steering Group on behalf of the three sub-networks. The work has been co-ordinated by Martin Bardsley *(London)* with assistance from:

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The work for this report has been exploratory. Though comparative data for whole nations is becoming increasingly accessible the ability to make regional comparisons is much more limited. And yet there are aspects of health status in large urban areas that are distinct from those of a whole country. City/regional level indicators offer the ability to compare similar types of areas in different countries and produce more meaningful comparisons than using national averages which embrace a wide range of socio-economically distinct areas. City comparisons can also help us to explore the effects of differences in the local organisation and delivery of services. For example in this case we are interested in developing a better understanding of how public health programmes in different cities are related to measures of health status.

This work, undertaken by the Mégapoles Project, has begun the process of identifying and collating such indicators. It has involved a network of contacts in 15 cities and collation of over 100 data items for over 40 indicators of either health status or the determinants of health. The results in this report challenge some pre-conceptions about relative health status in different cities. Though this work showed what was possible, it also raised a number of areas for further work including the validation of basic comparative data and the improvement of the core of indicators. It is planned to develop this work and build on the networks that exist. An application to the European Commission for further funding of this work is now being made.

SECTION 1. BACKGROUND, METHODS AND DISCUSSION

Introduction

At the Mégapoles Steering Group meeting in London (February 1998), it was agreed that in order to develop the comparative information base of participating cities, some work should be commissioned to look at data for all three sub-networks. This report is a product of that work.

The ability to look at quantitative information is an important adjunct to the qualitative work that is being undertaken within the Mégapoles sub-networks. Such information has value in three ways:

1. It gives us a greater understanding of the similarities and differences between participating cities. As such it represents another language for communicating information about our cities.
2. Quantitative indicators are important for determining public health priorities and assessing the success or failure of activities within cities. Comparisons between cities can be powerful means of communicating some of the key issues and asking questions over how to manage public health issues within our areas.
3. A comparison of what data are available and accessible can act as a useful guide when investing in public health information systems in our different cities. In practice the quality and quantity of information from some cities is far better than in others - these cities can show us what is possible and how that can be achieved as well as adding weight to arguments for better monitoring and evaluation of public health.

In developing the basic information it was recognised that a joint approach across all three sub-networks was of value because:

- some data items were common to all three sub-networks
- of common problems in accessing and understanding what information was available
- often the process of accessing and interpreting data required a parallel network of information specialists.

It was therefore proposed that resources be devoted to one centre to act as a catalyst for this work. The Health of Londoners Project agreed to undertake this task.

Section 1 of this report describes the methods used and some general observations on the results. Sections 2-5 show the results in detail. The appendices detail the specific datasets used and relevant sources.

Methods

The approach adopted included a number of steps.

<u>1. Identify key contacts:</u> It was realised that very often the Mégapoles representative at sub-network meetings may not be the best person to access local data. It was important therefore that each city identified a local contact who would be responsible for liaison with London (see Table 1.1).

Table 1.1. Contacts within cities

We would like to thank the following people for the work they have done in providing data and answering queries from their respective cities.

Amsterdam:	Adele Diepenmaat, Siem Belleman
Athens:	Alexander Economou, Dasy Papathanassopoulou
Berlin:	Monika Hachman
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Stockholm:	Jonas Danielsson, Lars Andersson, Sven Bremberg
Lyon:	Maryse Vocanson, Marie-Catherine Gatel

2. Check existing data sources: There are a number of European networks or groups that may already have the relevant data. Although most international data are based on comparing whole countries, there are some important examples where cities or regions form the basis for comparison. For example, data from the Eurostat *Regio* database (1); comparative reports from Scandinavian cities using the Nordstat database (2); data on air quality (3); work on drug misuse (4). Accessing these common data sources can potentially help in producing more consistent definitions of data, and make collection across the cities easier.

3. Identify key indicators/datasets: Discussions with each sub-network identified a set of indicators that formed the basis for the first information request. The selection of indicators had to bear in mind the issues that were relevant to the network and have some consideration of the likelihood of such data being available in the participating cities. The results of this process for all three sub-networks were combined into a common set of data requirements for the first phase. This was tested with responses from two cities, Madrid and Stockholm. On the basis of this initial response, a slightly simplified data request was e-mailed as a spreadsheet or faxed in paper form to all participating cities. If data elements were already known (e.g. from earlier Mégapoles reports or from Eurostat data), these were completed beforehand. In addition to the actual data, cities were given some sample definitions to work from and asked to specify when local data definitions differed from this. Cities were also asked to specify the sources of data they used.

4. Consolidate and analyse returned data: Data were sent to London and the process of consolidation and comparison started. There were many areas where additional questions on definitions or requests for further data were needed. Where appropriate, indicators were standardised, for example to account for age/sex differences between populations. In some cases, national aggregates or an aggregate of 15 European countries were also used in comparisons using the WHO mortality database (5). For all cause mortality rates, direct standardisation was used relating observed values to a European standard population. Although this is a simple procedure, it is essential for comparative work. It also means that the core data on, say, mortality has to be obtained as populations and numbers of deaths, rather than calculated rates. For comparison of cause-specific mortality rates, indirect standardisation was used. This approach uses observed age and sex specific mortality rates taken from London, which is the largest city and one where the relevant data were available. This method calculates an expected number of deaths and expresses relative mortality as a standardised mortality ratio - the ratio of observed to expected deaths multiplied by 100. It is important to note that very often the values presented are estimates and may not replicate the most up-to date information in any city. For example, it has been necessary to use population estimates as denominators for years that may not match the year of the numerator. The calculated values are not perfect, however we believe that the results should be largely representative of the situation in the cities.

5. Checking and reporting: An initial draft report was circulated to each city together with the specific data items relating to their city. It is important that cities have an opportunity to check their local data when presented in a comparative format. The final products of the work include a written report and copies of all the standard data sets from each city for those who contributed data.

Accessing existing Europe-wide networks

There are a number of initiatives to develop networks across Europe in areas that are relevant to the broad public health agenda of Project Mégapoles. There are a lot of data at national level, for example

- OECD health data (6) - a comparative analysis of health status and health service indicators from 29 countries
- Health For All Database(7) – produced by WHO European Regional Office.

It is important that cities make the best use of existing data sources when developing a comparative international perspective. The key data sets used in this work include:

1. The World Health Organisation is an important source of information and provides access via the Internet to extensive datasets for countries looking at mortality and population. These have been used in this report to provide background national data. In addition, the work within the WHO Healthy Cities movement has examined how to develop city-wide health indicators and a number of publications are available which offer advice on which indicators to consider and how to construct them (8,9). Moreover, there are some analyses of comparative data taken from this data set (10). The list of indicators suggested by the WHO has recently been reduced, the latest list covering 32 areas (see Table 1.2). This list was used in forming the data request for Mégapoles cities.

   The WHO also makes available extensive databases on mortality and population structures for a great many countries over a number of years (5). A subset of this data was used to look at national age-specific mortality rates across a grouping of 15 European countries.

2. Eurostat provides a wealth of national data but also some regional level data in its *Regio* database. Eurostat regional data is collected according to a classification of geographic areas (known as NUTS). These can be at a number of levels (although the amount of data available tends to decrease with smaller geographic areas). The area most relevant to Mégapoles is NUTS2, equating to larger capital cities (regions in some cases). However, for smaller countries, notably Ireland and Denmark, this may still only equate to the whole country so that data specific to Copenhagen or Dublin were not available from this source. In two cases, the NUTS2 level is slightly larger than the Mégapoles city (Uusimaa for Helsinki, and Noord Holland for Amsterdam).

Table 1.2. WHO Healthy Cities Indicators

A **Health indicators**
- *A1 Mortality: all causes
- *A2 Cause of death
- *A3 Low Birth weight

B **Health service indicators**
- B1 Existence of a city health education programme
- B2 Percentage of children fully immunised
- B3 Number of inhabitants per practising primary health care practitioner
- B4 Number of inhabitants per nurse
- B5 Percentage of population covered by health insurance
- B6 Availability of primary health care services in foreign languages
- B7 Number of health related questions examined by the city council every year

C **Environmental indicators**
- *C1 Atmospheric pollution
- C2 Water quality
- C3 Percentage of water pollutants removed from total sewage produced
- C4 Household waste collection quality index
- C5 Household waste treatment quality index
- C6 Relative surface area of green spaces in the city
- C7 Public access to green space
- C8 Derelict industrial sites
- *C9 Sport and leisure
- *C10 Pedestrian streets
- *C11 Cycling in city
- *C12 Public transport
- *C13 Public transport network cover
- *C14 Living space

D **Socio economic indicators**
- *D1 Percentage of population living in substandard accommodation
- *D2 Estimated number of homeless people
- *D3 Unemployment rate
- *D4 Percentage of people earning less than the mean per capita income
- *D5 Percentage of child care places for pre-school children
- *D6 Percentage of all live births to mothers > 20; 20-34; 35+
- *D7 Abortion rate in relation to total number of live births
- D8 Percentage of disabled persons employed

*Asterisked indicators overlap with the original data request to Megapoles cities

There are many elements within the *Regio* database. The following are relevant to public health and have been used in this report:
- Gross Domestic Product per capita
- Road safety statistics
- Labour Force Survey
- Harmonised unemployment
- Transport Statistics
- Population statistics
- Mortality statistics, including infant mortality

These data have been particularly useful in developing the comparisons in this report. However, there were some problems encountered when using these data:

a. In some cases the data were incomplete. There is no guarantee that the data are all available for the latest year and there are some individual elements that appeared to be missing, for example one of the older age bands.

b. There were some examples where the data did not match other sources, for example when compared to local data on London that should have come from the same sources.

c. The mortality data is very useful **BUT** the numbers of deaths are rounded to the nearest hundred. This makes it unwise to calculate age-specific death rates for these regions, especially at younger age bands. A simple change to provide a count of all deaths would make this data set much more useful.

Eurostat are dependent on the individual statistics services of member countries and it is important that they are given timely and accurate data if we are to exploit the full potential of these data sets.

Table 1.3. European area classifications (NUTS2 and NUTS3) that apply to Mégapoles cities

NUTS 2	NUTS 3
AT13 – Wien	AT130 – Wien
BE10 - Reg.Bruxelles-Cap./Brussels Hfdst.Gew.	BE100 - Reg.Bruxelles-Cap./Brussels Hfdst.Gew.
DE30 - Berlin	DE302 - Berlin-Ost, Stadt
DK00 - Danmark	DK001 - Koebenhavn Og Frederiks.Kom
	DK002 - Koebenhavns Amt
ES30 - Madrid	ES300 – Madrid
FI16 - Uusimaa (Suuralue)	FI161 - Uusimaa (Maakunta)
	FI162 - Itae Uusimaa
FR71 - Rhône-Alpes	FR716 – Rhône
GR30 - Attiki	GR300 – Attiki
IE00 - Ireland	IE002 – Dublin
IT60 - Lazio	
NL32 - Noord-Holland	NL326 - Groot-Amsterdam
PT13 - Lisboa E Vale Do Tejo	PT132 - Grande Lisboa
SE01 - Stockholm	SE011 - Stockholms Laen
UKI1 - Inner London	UKI11 - Inner London West
	UKI12 - Inner London East
UKI2 - Outer London	UKI21 - Outer London, East and North East
	UKI22 - Outer London, South
	UKI23 - Outer London, West and North West

3. Nordstat is a comparative region/city-wide database looking at a wide variety of social and economic indicators for Scandinavian cities (2).

4. The Pompidou Group of the Council of Europe and European Drugs do a lot of work in the field of drug misuse. This includes not only data collection from many of the Mégapoles cities, but also assessing the validity and comparability of health indicators from different cities. At the time of writing, the 3rd multi-city study is about to published. For this reason, questions about drug misuse were not included in our basic data request.

5. Research for Man & Environment (RIVM) at the National Institute of Public Health and the Environment, Bilthoven, Netherland (NILU) works on aspects of the environment. They have published a detailed review of air quality in major European cities.

Accessing data from the cities

As expected there were differences between cities in the extent to which they were able to access the data available. There are two broad explanations for this:

1. Limited availability - either the data were not available, or the contact could not easily gain access to the data. In some cases, it is likely that some cities will be able to fill some of these gaps given more time. For example, hospital admission and mortality data by cause were based on ICD9 classification and some cities only have the data in ICD10. In other cases, there appear to be quite significant gaps in our understanding of important public health variables in some cities, for example information about levels of disability or 'activities of daily living' in older people.

Table 1.4. Summary of key information underlying original Mégapoles data request*

Subject	What is generally available	Limited data available	Major problems with Consistency of definition
Demography and social statistics			
Population	5 or 10 year age bands Births Population density Ethnic groups	Refugees/asylum seekers	
Mortality rates	5 year age bands Infant mortality Trends in infant mortality		Deaths by cause
Unemployment	All ages Youth (age<25)	By ethnic group By area within city	
Living environment	Elderly living alone Single parent families	Institutional care (young/old)	
Housing	Numbers of dwellings or households	Overcrowding	Homelessness Lacking amenities Substandard accommodation
Crime	Minimum legal ages	Offences Young offenders	
Education	School leaving ages	% leaving after compulsory education Graduation/school drop outs/exclusions	Child care places
Income	GDP of region	Relative income of older people	% income below poverty line Social assistance Non-earning households
Physical Environment			
Transport	No. private cars Road deaths	Hospital admissions	Traffic injuries
Sport & leisure		Sport & leisure facilities	
Health related behaviour/lifestyle			
Smoking	Daily smokers		
Alcohol			High level use
Self-assessed health older people			4- 5 group categorisations
Obesity	Body Mass Index >30		
Abortions and Conceptions		Teenage conception rates Abortion rates	
Incidence of specific health problems			
HIV/AIDS	Prevalence (by risk group) Mortality		
Child abuse		Number of cases identified by authorities	
Physical disabilities		Impaired mobility/disability Sensory impairment	
Mental health Problems		Dementia Admissions for psychiatric diagnoses	
Tuberculosis	Incidence/prevalence	Numbers of deaths	
Injury/accidents		Incidence Admissions to hospital Mortality	
Low birthweight	Below 2.5Kg		
Learning Difficulties		Mild mental retardation	
Specific Services			
Domiciliary		Home help support	
Hospitalisation	All ages all causes	Specific causes e.g. CHD, respiratory disease	
Care givers		Older people as care givers	
Specific drug use		Use of certain drugs in older age groups e.g. anti-psychotics	

2. The second set of problems is that some indicators are just too inconsistently defined. The main report gives examples and discusses these areas. In some cases this is unavoidable as the definitions themselves flow from the organisation of services. In other cases there may be opportunities to improve the degree of standardisation across Europe, such as in definitions of homelessness or in the assessment of high levels of alcohol consumption.

During the process of data collection we have also been keen to explore the availability of data on inequalities within cities. Such data can take a number of forms, for example the measurement of health status amongst different social groups such as ethnic minorities or social classes. Data of this form usually requires specific surveys or analyses. More commonly cities hold data for areas within the city. Where such smaller district level data on health status and social and economic indicators exist, it is possible to examine the relationships between health and wealth across areas within the city. Such analyses can be complex enough for one city, across many cities the difficulties are magnified (see, for example, the earlier report of the Youth and Young People Sub-network examining inequalities in infant mortality rates across areas in Stockholm and London).

Table 1.5. Availability of data for areas within cities/regions

	Areas within the city	Health Indicators	Social Indicators
Amsterdam	15 boroughs with elected councils.	Some	Yes Unemployed others
Berlin	23 boroughs (avg pop 150,000) - 195 smaller areas	Yes mortality+others	Yes - many
Bruxelles	19 Communes with local councils		
Copenhagen	15 districts within Copenhagen	Yes standardised mortality ratios	Unemployment
Dublin	10 Community care areas in EHB (8 in Dublin) population 100-150,000	No	Yes
Helsinki	33 districts populations around 10,000		Yes
Lazio	56 areas	Yes	Yes
London	33 boroughs, populations 300,000. Unit of local government	Yes, mortality, low birthweight	Yes
Madrid	21 areas in Madrid City (pops around 150,000 in each) plus 9 surrounding districts	Yes mortality	Yes, unemployment, housing
Oslo	25 areas within Oslo -populations around 15-25,000	Yes mortality by cause	Yes income/social class
Stockholm	125 small areas = population average 14,000	Yes infant mortality, low birth weight	Yes -various
Lyon	44 territories	Yes, mortality low birth weight etc.	Yes many

As Table 1.5 shows, most cities do have some district level data which could form the basis for such analysis.

Comparability

The extent of comparability varies between indicators. Where possible we have tried to identify key differences and standardise as much as possible - thus we have used actual figures for population structure and mortality to standardise in the same way. Yet there is always a degree of uncertainty when data collection systems can be so different. The types of problem that may arise include:

1. **Differing concepts or definitions.** The way that an indicator is defined may be very specific to an individual city. For example, homelessness can mean many different things, from people living on the streets, to including those in temporary hostels or short term housing, or even to including wider populations such as those living in squats or on a waiting list for social housing.

2. **Differing time scales**. Not all of the data presented are for the same year. For many indicators a one or two year difference will not be that important. However, if indicators are fairly volatile, for example unemployment, then different time periods may be a factor to consider when looking

at variation across cities. For some items, data may be based on a census or a specific study that could be 5 or more years out of date.

3. **Data collection methods and sampling processes.** The questions around which cases are included and excluded from the data sets is one of the most important problems to overcome. In some cases the differences may be fairly obvious, for example if say surveys of lifestyle and health-related behaviour are based on slightly different age groups. In other cases, the differences between cities may be more insidious, such as when administrative data collection systems exclude certain sub-populations in some cities, but not others. For example, data on hospitalisation data may only be available from the public sector and not private hospitals or may include or exclude day case or ambulatory treatment. These differences are the most difficult to detect and deal with.

Discussion

Although international comparisons of health data are increasingly common at a national level, there is relatively little that compares individual regions and cities. Yet there are good reasons for developing our ability to do international comparison at a regional level. Firstly the ability to compare similar types of areas in different countries (such as in this case major cities) may produce more meaningful comparisons than using national averages which embrace a wide range of socio-economically distinct areas. Secondly regional comparisons also help us to explore the effects of differences in the regional organisation and delivery of services. For example in this case we are interested in developing a better understanding of how public health programmes in different cities are related to measures of health status.

Whilst the process of agreeing and collecting common data is time consuming, we consider it to be worthwhile. This work has required exploring over 100 data items from each of 15 cities. It is inevitable that not all the requested data would be available from all the cities. However there are also some indications of differences between cities in terms of the accessibility of some basic data. This may be because the data are not collected, or that they are collected but remain in obscure and relatively inaccessible documents or presentations. Yet the net result is the same, that some cities are not able to describe important aspects of health in simple quantitative terms.

The comparisons that are being developed can never be taken completely at face value. Although every effort has been made to ensure comparability, there must always be a question over whether we are talking about the same thing when the data can arise from such different systems. It is important to recognise that such comparisons generate as many questions as answers. The information also needs to be considered alongside other types of information and qualitative differences between cities.

Despite these reservations, this work has begun to yield a useful set of comparative data between cities. In a number of cases these results appear surprising and challenge some of our preconceptions. Quantitative indicators can be powerful tools for raising awareness of differences in health status and in informing policy decisions relating to public health. Such indicators are important within a city's health strategy for assessing progress, for monitoring change and in providing targets to guide the implementation of health policies. The use of such data in comparative analyses between cities in different countries is clearly secondary to this, yet potentially of great value.

Recommendations

1. The value of international comparisons for specific regions and cities within countries needs to be recognised. There are aspects of health status in large urban areas, such as we see in the Mégapoles network cities and regions, that are distinct from those of a whole country. For example, the data in this report points to a general pattern of excess mortality around ages 25-45 in most of the Mégapoles cities (see Section H1). If we wish to pose questions over the

effectiveness of different public health strategies then we need comparisons between similar areas in different countries.

2. Eurostat performs an important function in gathering together information about our different countries, and in the *Regio* database provides a model for collection of regional data. However, the uses of these data for public health comparisons are limited. It is important that the development of regional data structures recognises the potential for public health comparative data. As a first step we would suggest:

   - Validation of basic all-cause mortality data (and the associated population denominators) for areas over the past ten years.
   - Changes to the *Regio* record to store the complete numbers of deaths to enable comparison of age-specific mortality.
   - The addition of cause-specific mortality by age and sex, using a selection of broad ICD groupings.
   - Joint work on recognition of a group of key public health indicators to be used for analysis of major urban areas and linking such work to development of Europe-wide comparative databases.

3. Many cities have some important gaps in the information available about health status, and in particular in relation to inequalities. For example, even basic information about health status amongst disadvantaged groups is often not available. Part of the work involved in tackling health inequalities must include some elements to ensure the accurate measurement of the extent of inequality and progress over time. Even when basic data are collected, there are still important methodological issues relating to the comparative assessment of health inequality between areas or over time. There needs to be investment in a research and development programme linked to the application of such methodological techniques.

4. There are some areas where standardisation of measurement techniques is important, for example in the assessment of health-related behaviours. Widely accepted standards for health status assessment can help in two ways, firstly in helping cities about to undertake their own surveys and ensuring that they are using valid and reliable measurement techniques, and secondly in helping to develop the ability to undertake international comparisons of important dimensions of health.

5. The public health agenda recognises the breadth of factors that influence health. However, the linkage between policy decisions and subsequent health impacts is not often made. It is important that the right information on health status, in conjunction with the appropriate analytical techniques, is used in ways that inform decision making at all levels.

References

1. Eurostat (1998). *Regio* database 1998. Luxembourg: European Commission.
2. Comparative City Statistics (1996). *Major Cities of Scandinavia, Tallin and St Petersburg*. Helsinki: Information Management Centre.
3. Sluyter RJCK (Ed) (1995). *Air quality in major European cities*. Rotterdam: RIVM.
4. Council of Europe (1995). *Multi-City Study: Drug misuse trends in thirteen European cities*. Strasbourg: Council of Europe Press.
5. Organisation for Economic Co-operation and Development (1998). *Health Data: A comparative analysis of 29 countries*. Paris: OECD.
6. World Health Organisation (1998). WHO Mortality database. Geneva: WHO.
7. WHO Regional Office for Europe (1998). Health for All Database European Region. Copenhagen: WHO Regional Office for Europe.
8. Garcia P & McCarthy M (1995). *Measuring Health: A step in the development of city health profiles*. Copenhagen: WHO Regional Office for Europe.

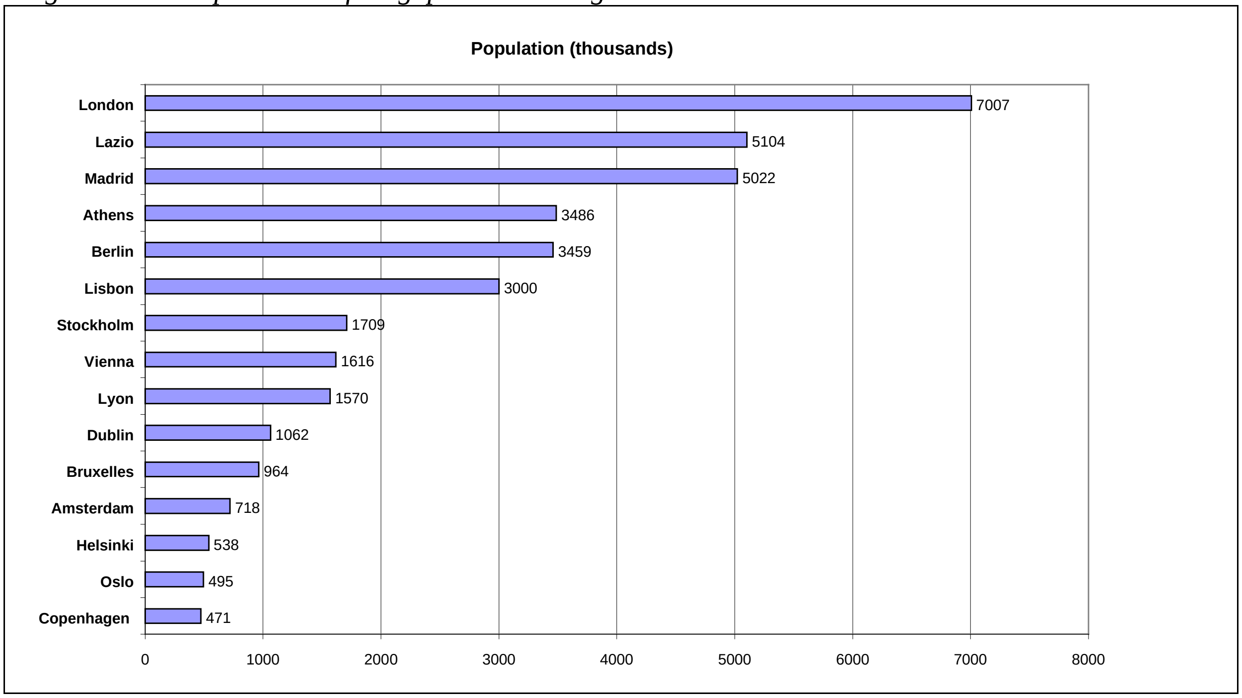
9. WHO Regional Office for Europe. *City Health Profiles: How to report on health in your city*. Copenhagen: WHO Regional Office for Europe.
10. Doyle Y, Brunning D, Cryer C, Hedley D & Russell-Hodgson C (1996). *Healthy Cities Indicators: Analysis of data from cities across Europ*e. Copenhagen: WHO Regional Office for Europe.

SECTION 2. GENERAL SOCIAL AND ECONOMIC INDICATORS

This section examines some basic social and economic indicators related to health in the Mégapoles cities. It is widely recognised that social and economic factors such as poverty, and employment are important determinants of health within any one area. However the relationships between any one indicator and consequent health status are complex and difficult to interpret. Many of the indicators in this section are simply descriptive and help us form a picture of the general similarities and differences between cities.

G1. Populations of cities/regions

Figure G1.1: Populations of Mégapoles cities/regions



Although all of the Mégapoles cities are important political, economic and cultural centres within their respective countries, their populations are rather different. London has over 14 times as many residents as Copenhagen. Ten of the Mégapoles cities have populations exceeding 1 million and some cities have populations that are comparable with whole countries.

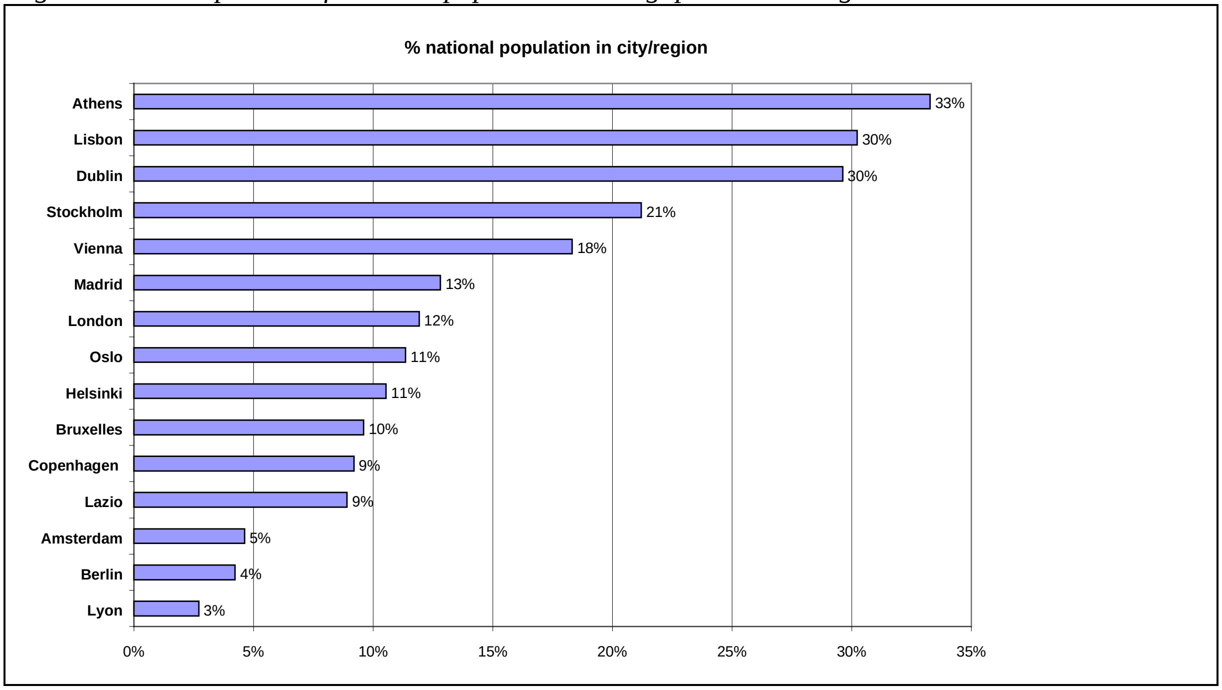
Box G1.1: Cities within Regions

City	Population	Region	Population
Stockholm	0.7M	**Stockholm County**	1.7M
Rome	2.7M	**Lazio**	5.1M
Madrid	2.9M	**Madrid Community**	5.0M
Lyon	1.2M	**Le Rhône**	1.5M
Lisbon city	2.1M	**Lisbon area**	3.0M
Helsinki	0.5M	Uusimaa	1.2M
Dublin	1M	Eastern Health Board Area	1.3M
Copenhagen	0.5M	Copenhagen Region	1.7M
Amsterdam	0.7M	Noord Holland	

Underlined values indicates preferred areas in comparative analysis

It is important to remember that city boundaries can be rather arbitrary and that in a number of cases there is a core city within a larger administrative regional area. For the following analyses, the larger areas for some cities have been used as the basis for comparisons notably in Rome/Lazio, the community of Madrid and Stockholm County.

Figure G1.2: Proportion of national population in Mégapoles cities/regions



The relative size of the Mégapoles cities in relation to their countries also varies. Athens and Dublin account for over 30% of their respective national populations whilst the equivalent figure in Lyon or Berlin is less than 5%.

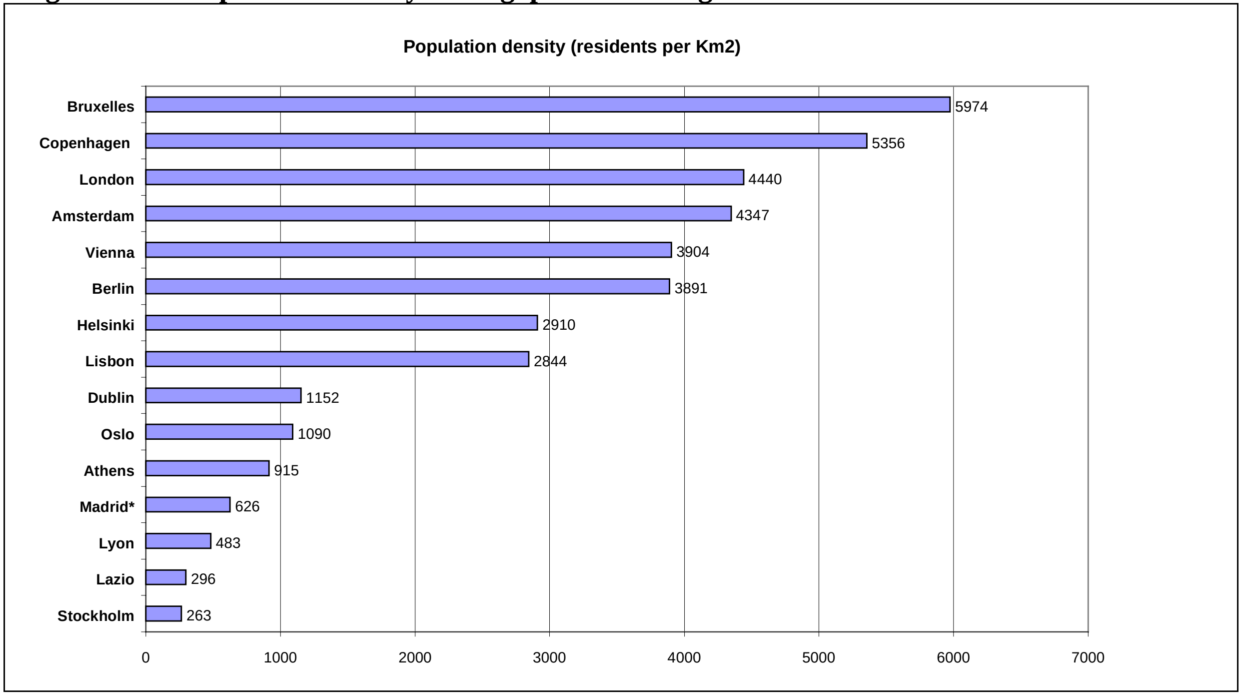
G2. Population density

The geographic spread of the Mégapoles cities/regions ranges from 88 Km^2 in Copenhagen to over 17,000 Km^2 in Lazio. The population density in a city gives a rough indication of the amount of space per resident. For many cities, more space per resident is indicative of a better quality of life and within a city, it is often the case that the poorest areas will be those with the highest population density.

Many positive aspects of health may be associated with attributes of urban living that reduce population density, such as green spaces or parkland, sports facilities, or local amenities like shops, libraries etc. The observed population density will obviously be affected by the patterns of dwellings, with shared apartment blocks and high rise leading to a higher density. However, high population densities have an advantage in that they tend to promote healthier forms of transport within the city including public transport, walking and cycling.

The observed values in Fig G2.1 range from under 300 residents per Km2 in Stockholm and Lazio to over 5000 in Bruxelles and Copenhagen. These values obviously reflect the definitions of the city that have been used in the comparison, (see Section G1), and that Lazio covers a wide area around the city of Rome. Whilst the density for Madrid community is 626 residents per Km2, the value for the city within this area is 4732.

Figure G2.1: Population density of Mégapoles cities/regions

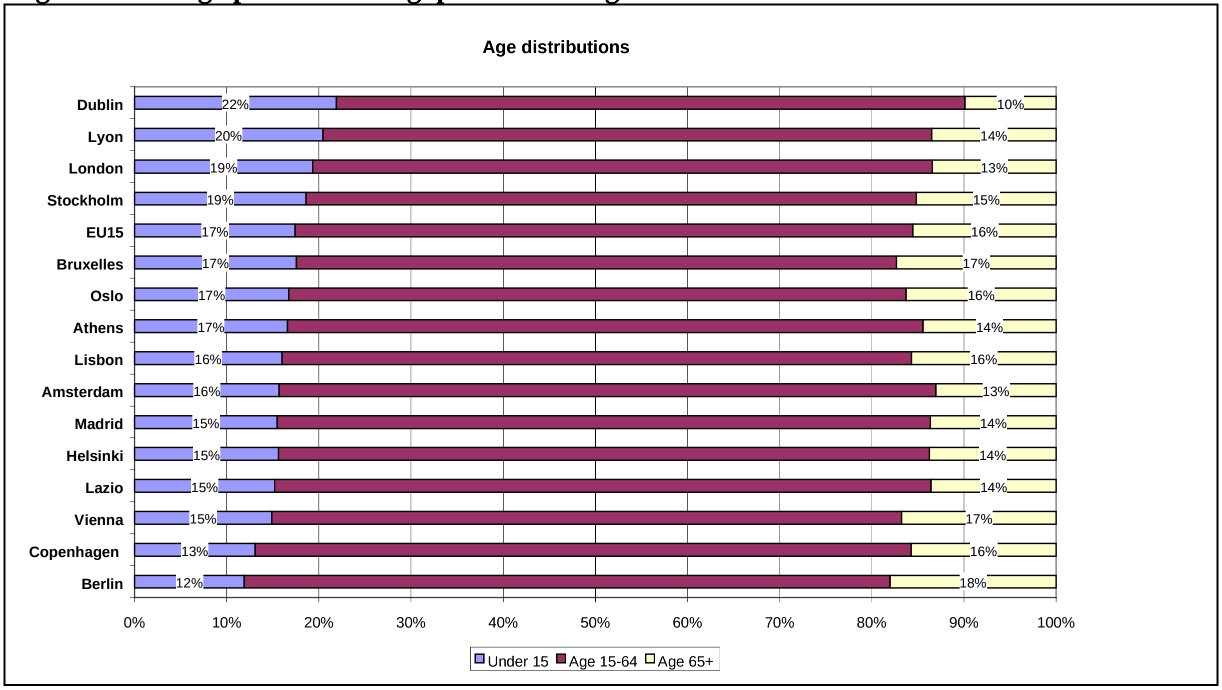


** In Madrid City population density =4732 residents per Km2*

G3. Age profile

The differences in age structure between cities are summarised according to the proportion of the total population at ages under 15, 15-64 and 65 and over. An average of 15 European countries is also shown.

Figure G3.1: Age profiles of Mégapoles cities/regions



In terms of the age structures of Mégapoles cities, there is no consistent pattern and the range across cities straddles the average of the 15 European countries. Some cities such as Dublin, Lyon and London have a higher proportion of children and younger people. In contrast, Vienna, Copenhagen and Berlin have relatively greater numbers of older people. At the extremes, the percentage of people aged over 65 in Berlin (almost 1 in 5) is almost twice as high as that in Dublin (around 1 in 10).

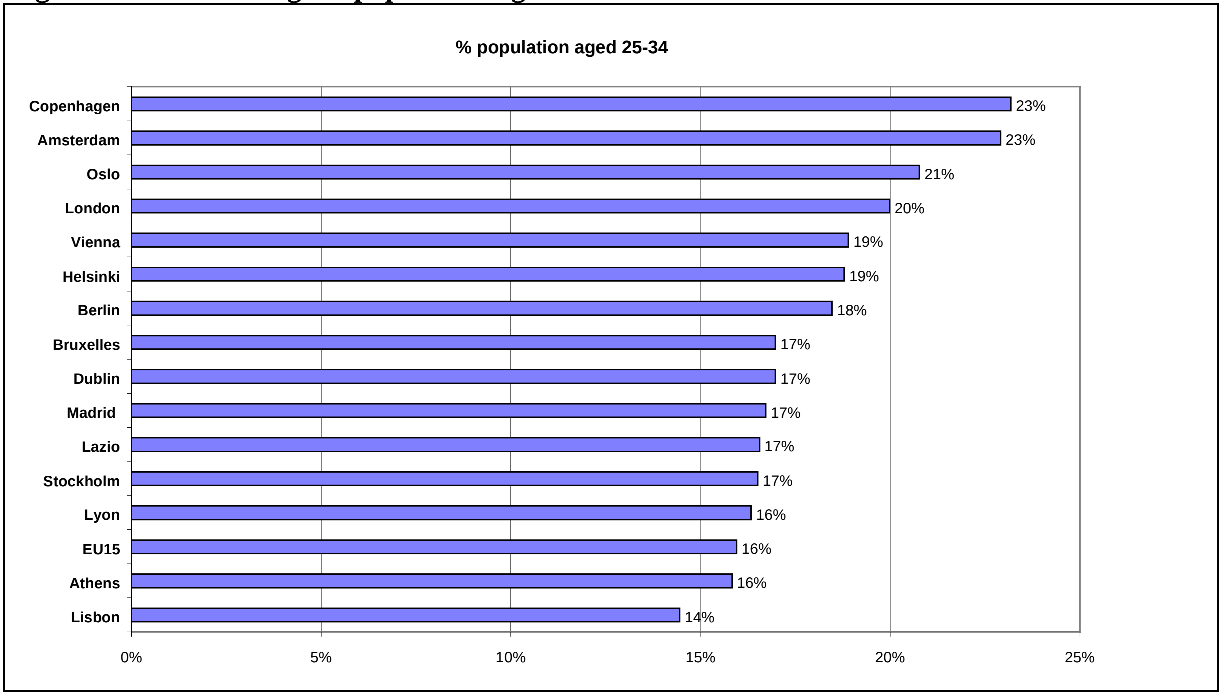
Cities with a higher proportion of older people, such as Berlin, Brussels and Vienna, may potentially face greater problems as a result of increasing life expectancy and ageing population.

A population with a high proportion of young people, such as those in Dublin, Lyon, London and Stockholm, will be a product of two factors:

- relatively high fertility rates of the endogenous population
- patterns of migration with younger people typically moving into the city, and older people moving out.

There is one more or less consistent feature of the populations of these cities that is seen when looking at more specific age bands. In particular all except two Mégapoles cities (Athens & Lisbon) have a higher proportion of people in the age range 25-34 than EU averages (Figure G3.2). The relatively high proportion in this age range is a characteristic of large cities.

Figure G3.2: Percentage of population aged 25-34

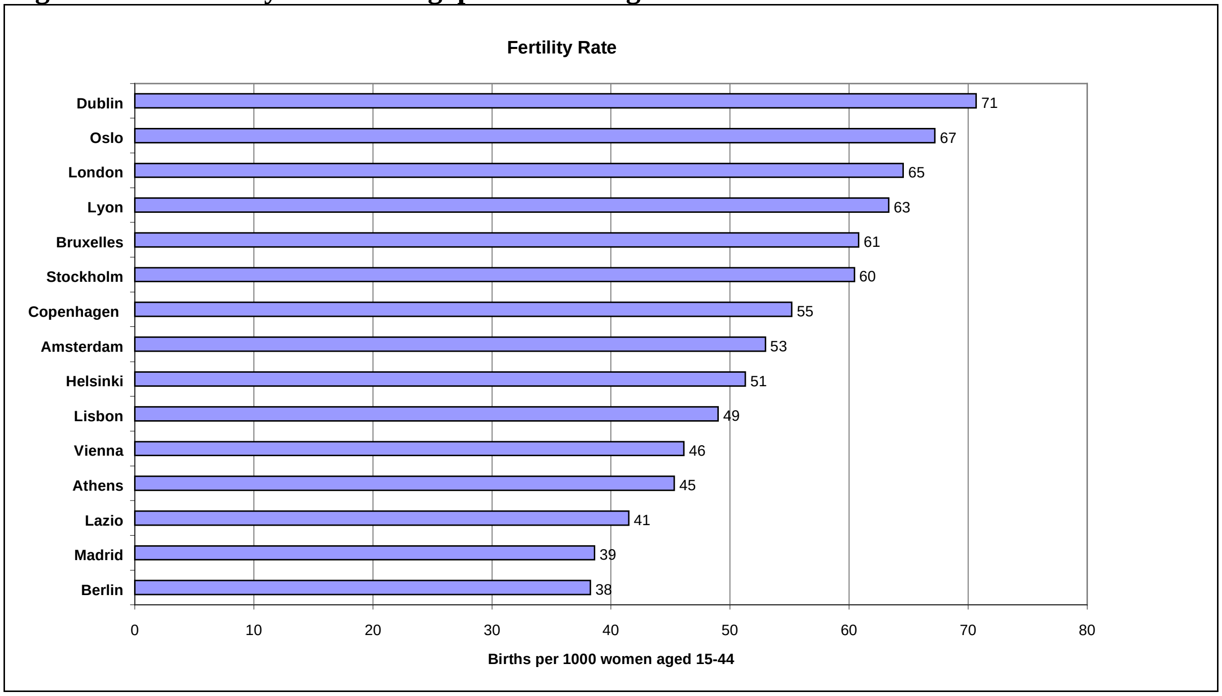


G4. Fertility rates

Fertility rates measure the numbers of live births relative to the number of women of childbearing age. They indicate something about the patterns of demographic change in the cities and the choices that are being made about whether to have children and how many children to have. Fertility rates are also an important indicator of the relative priorities needed for services linked to conception and childbirth.

Fertility rates are expressed in terms of the numbers of live births per 1,000 women aged 15-44. The values from the Mégapoles cities show a surprisingly wide variation, rates in Berlin, Lazio, and Madrid only about half of those in Oslo, Dublin and London.

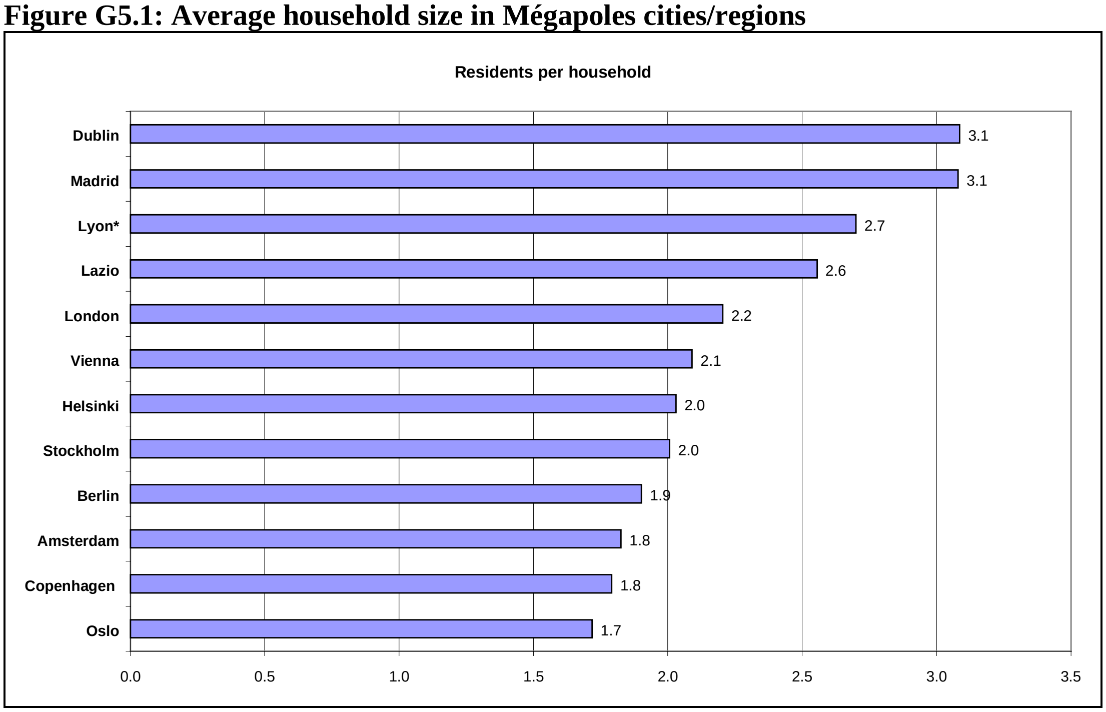
Figure G4.1: Fertility rates in Mégapoles cities/regions



G5. Average household size

The average household size reflects differences in family structure which are in turn linked to cultural, economic and demographic patterns. Thus, larger households could be associated with more children per family and/or indicate extended families living in the same household.

Figure G5.1: Average household size in Mégapoles cities/regions



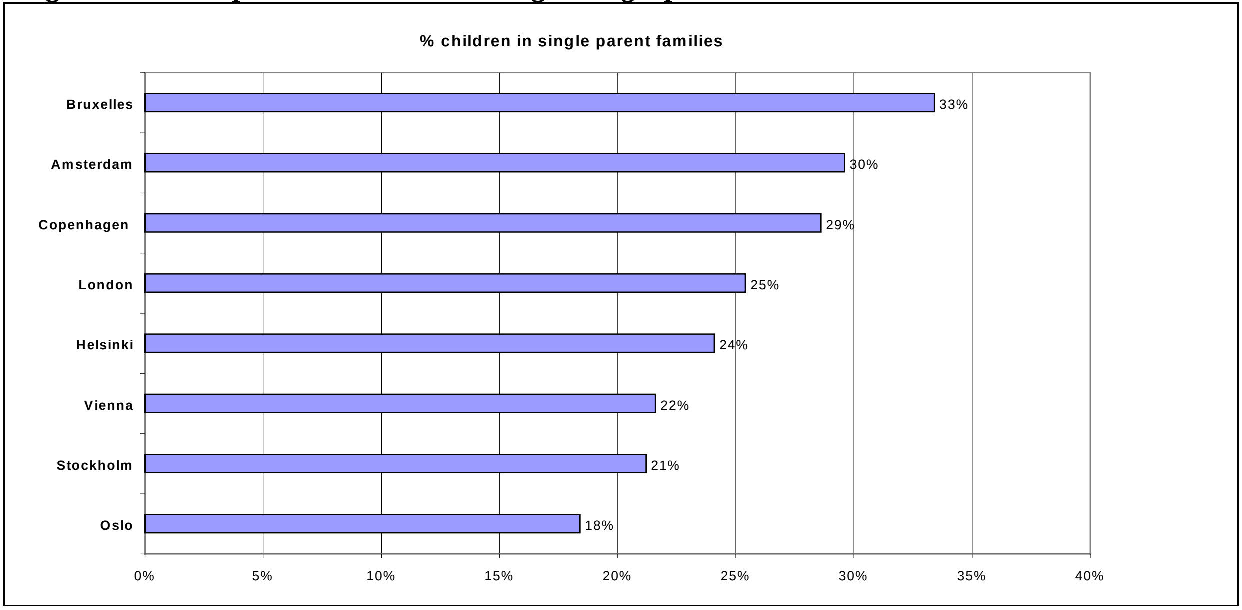
** Lyon households based on numbers of main residences*

The values above are an estimate based on the number of reported households divided by total population (which may be from a different year) and as such is an approximation to the real figure. In the case of Lyon the value is based on the number of main residences.

When the values in Dublin, Madrid and Lyon are compared to Oslo and Copenhagen, the differences are quite marked, 3.1 persons per household compared to 1.8. It should be remembered that within any city there is a distribution of household sizes of which the statistics shown above are only a simple average. These values do not necessarily correlate with fertility rates, for example Oslo and Stockholm have relatively high fertility rates yet average or low household sizes whilst the opposite is true in Madrid Community.

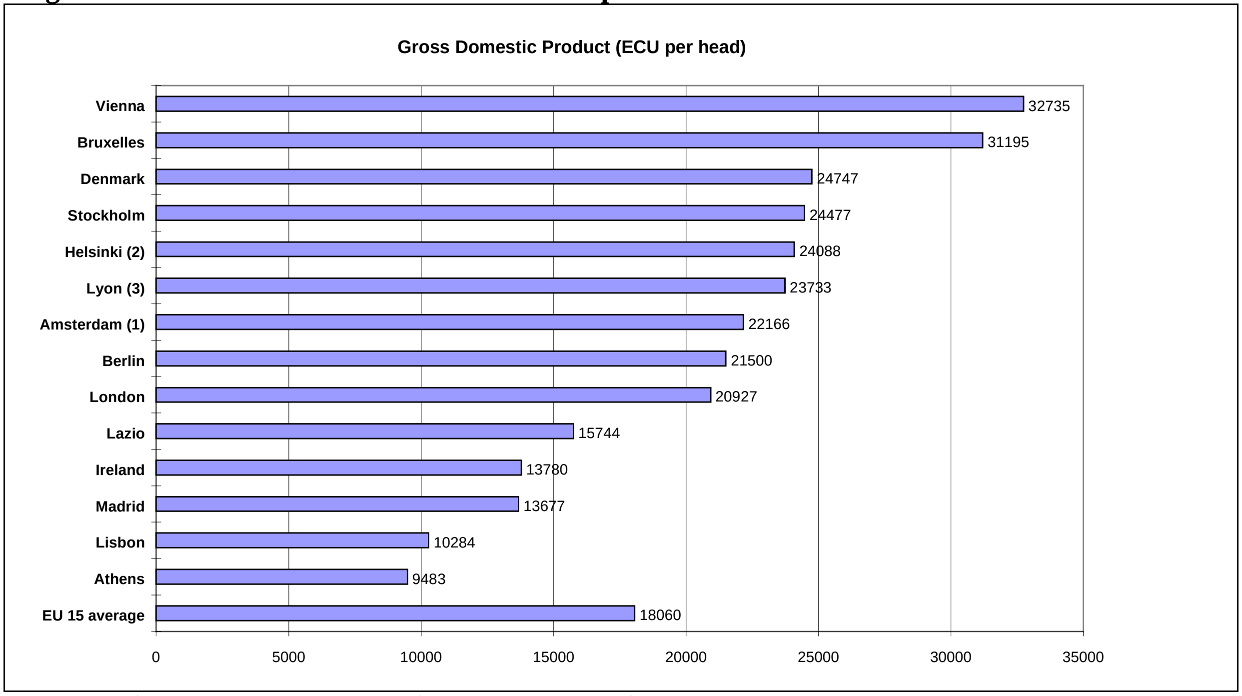
In many cities, lone parent families are increasingly common. As Figure G5.2 shows, the percentage of children living in lone parent families can be as high as 30% in cities such as Amsterdam, Copenhagen and Brussels.

Figure G5.2: Proportion of children living in single parent families



G6. Economic activity – GDP as ECU per head

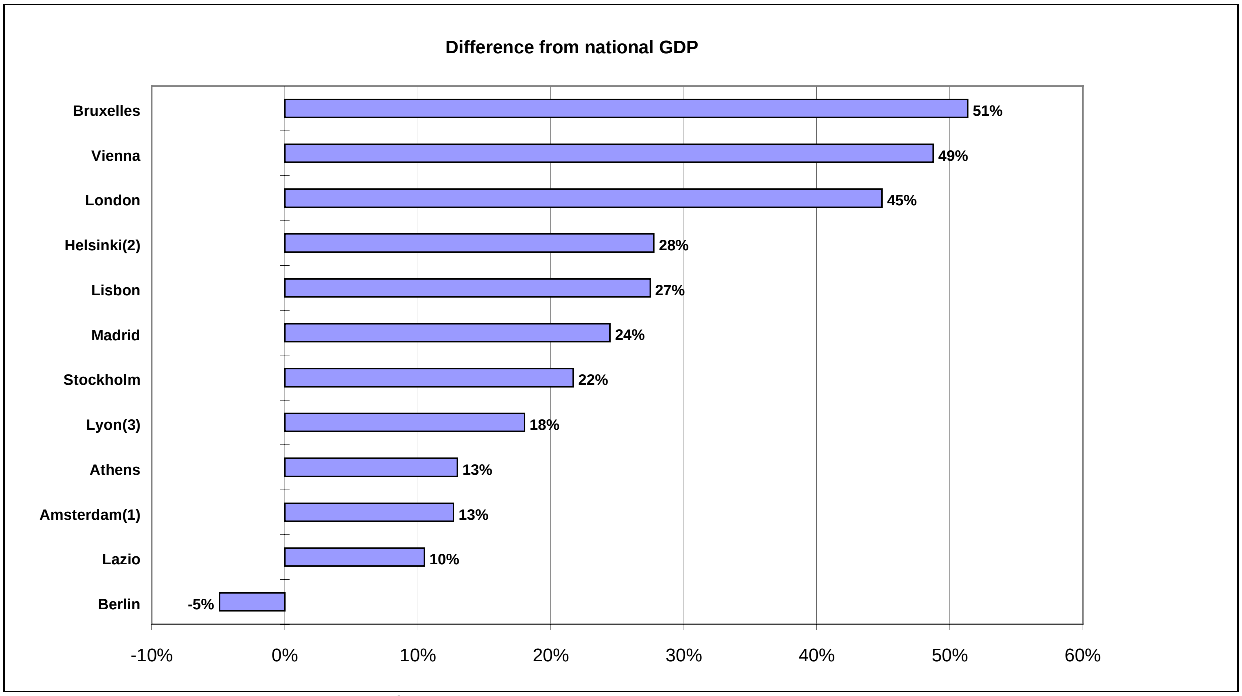
Figure G6.1: Gross Domestic Product as ECU per head



(1) Values for Noord-Holland. (2) Values for Uusimaa (3) Values for Rhone-Alpes

The Eurostat *Regio* database collects statistics on economic wealth of areas within the European Union. In some cases these values are based on areas slightly larger than our Mégapoles cities (see Section 1). For the smaller nations, Ireland and Denmark, values were only available for the whole country. In absolute terms (ECU per head of population) in 1995, the values range from over 30,000 in Vienna and Brussels to around 10,000 in Lisbon and Athens. For the areas where we have data, eight are above the average of 15 European countries.

Figure G6.2: Gross Domestic Product in Mégapoles cities/regions (ECU per head) – Percentage difference from national GDP



(1) Noord-Holland. (2)Uusimaa (3) Rhône-Alpes

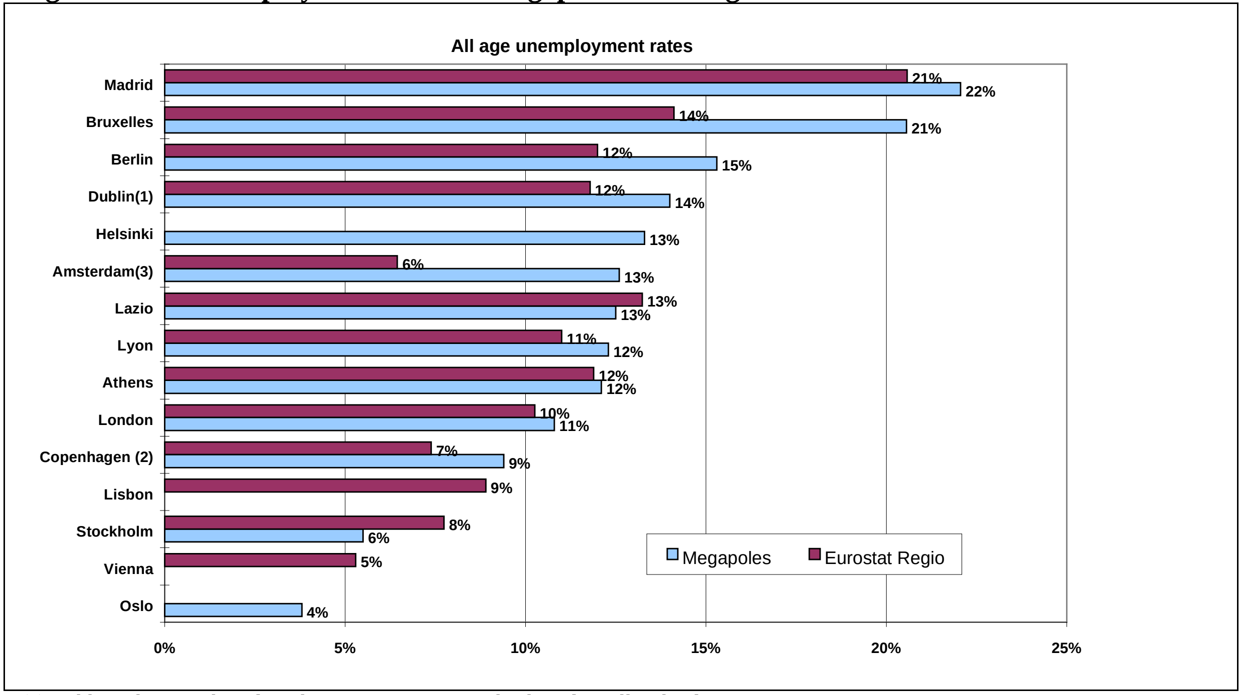
Despite the differences in absolute wealth, most of the Mégapoles cities have values of ECUs per head that are higher than the national averages in their respective countries. The only exception to this rule, for the data that we have, is in Berlin where the city value is 5% lower than that of all Germany. In Brussels, Vienna and London, the ECU per head is around 50% higher than national averages and indicates the relative affluence of these cities in the national economic situation.

G7. Unemployment rates

Within a country, higher unemployment is associated with a number of aspects of poorer health, in particular mental and cardiovascular health problems. Unemployment also means a lower income and this may reduce opportunities for leading healthier lifestyles. High levels of unemployment also lead to greater job insecurity which in itself may have harmful effects on health.

Unemployment rates are one of the most common social indicators, yet international comparison of the statistics is fraught with difficulties due to differences in the identification and definitions of the term 'unemployed'. There may also be differences in definitions of the denominator population, that is those that are eligible for employment or economically active. Differences may arise for groups such as part time students or people with long term disabilities. Moreover, unemployment rates are relatively unstable with large seasonal fluctuations and year on year changes as a result of macro-economic effects within countries.. The Eurostat *Regio* database collects harmonised unemployment figures based on definitions developed by the International Labour Organisation which aim to overcome some of these problems. Figure G7.1 compares the Eurostat data to that reported by individual cities- this data may be based on a different time period and use different definitions.

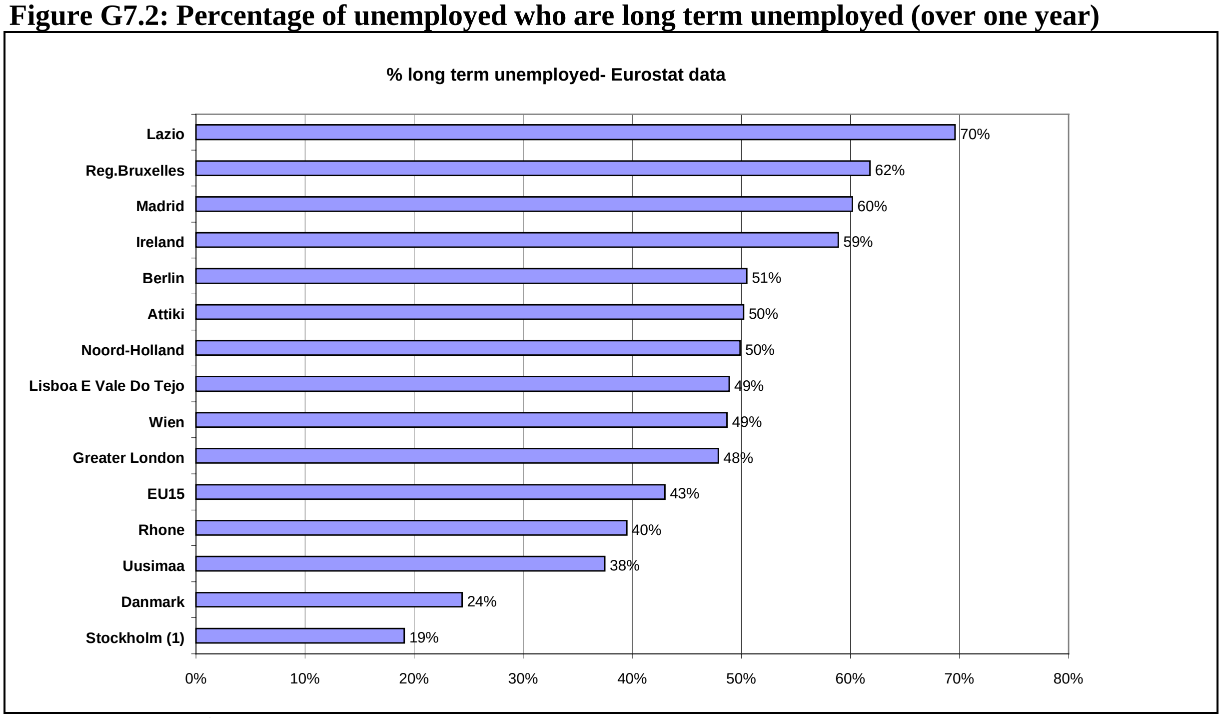
Figure G7.1: Unemployment rates in Mégapoles cities/regions



(1) Dublin value 19% based on 'live register', Regio value based on all Ireland
(2) Copenhagen Regio value based on Denmark. (3) Amsterdam Regio value based on Noord Holland

Although there are some inconsistencies between the data derived from the Eurostat *Regio* database for 1996 and data submitted by individual cities, the pattern across the cities is broadly similar. Rates are highest in Madrid at around 20%, and lowest in Oslo at around 4%. Most of the Mégapoles cities have unemployment rates of 10% or over

Figure G7.2: Percentage of unemployed who are long term unemployed (over one year)



(1) Stockholm value from city is 36%

The problems associated with unemployment are particularly acute for those people who are out of work for a long period of time. This is typically defined in terms of the percentage of the unemployed population that have been out of work for 12 months or more.

The most consistent data was that in the Eurostat *Regio* database for 1996. The values range from 19% in Stockholm (although local figures suggest a higher value of 36%) up to values over 60% in Brussels, Madrid and Ireland and 70% in Lazio. Most cities have values that are higher than the EU average of 43%.

Although there may be uncertainties in the recording of data, it is clear that in most cities, the proportion of long term unemployed is substantial, comprising around half of all of the unemployed. In terms of the adverse health risks associated with unemployment, these groups are likely to be the most vulnerable.

G8. Housing

Sub-standard housing

There are a number of aspects of housing that are linked to health. For example, cold and damp housing can lead to a variety of health problems including respiratory and cardiovascular disease. High levels of overcrowding have also been associated with illness caused by infectious disease and stress-related conditions.

Many cities have programmes for improving poor quality housing, however the ways that substandard housing is defined is not necessarily consistent. The suggested definition that we used was '*a substandard dwelling is one that does not have the exclusive use of a toilet, bath or shower or when there is no tap*'. However, in practice, the cities that were able to provide information tended to use different definitions (see Table G8.1). Some of these differences in definitions between cities may in themselves be indicative of different expectations in terms of appropriate quality of housing.

Table G8.1: Definitions of sub-standard housing

City	% households sub-standard	Defined as
Athens	1.5%	Houses without use of toilet
Berlin	2%	Not exclusive bathroom or toilet
Copenhagen	20%	Dwellings, rented, no central heating, separate bath
Lisbon	6%	Census 1991 pp27-29
London	2%	Do not have exclusive use of toilet, bather or shower or no taps in dwelling
Madrid	2%	Without bathroom or shower as used in Census. Local authority defines *uninhabitable* (ie no water, electric and sewers) and *insufficient* (ie overcrowded).
Oslo	5%	Without bathroom
Vienna	5-9%	
Stockholm	<1%	Dwellings without kitchen
Lyon	7%	

In addition to the quality of housing, the amount of space per individual or the extent of overcrowding is also used as an indicator. However, relatively few Mégapoles cities have data on the extent of overcrowding. Overcrowding may be expressed in a number of ways:

- % people living in households where there is more than one person per room (excluding kitchens and bathrooms), used in the UK and formed the basis for our request
- % households who are deemed to have too few bedrooms for a family of that type (UN)
- based on measures of living space per person which is available in some cities.

In some cities, some of the poorest quality housing may be in substantial 'shanty towns' which tend not to be included in official statistics. For example, in Madrid City, there are estimates of over 5,000 people in shanty towns, many of whom have significant health problems.

Homelessness

Homeless people are at greater risk of many health problems and in many cases ill health may itself lead to homelessness. Health care services very often need to be specially developed to address the problems of the homeless who may not get access to mainstream services. Although people living on the streets are one of the most visible reminders of the problems of homelessness, it is not easy to count the size of this population. It is important to remember that there is a much larger population of homeless people who are less visible because they are living in hostels or temporary accommodation. Very often homeless people may fall outside contact with social services, which means that assessing the level of homelessness within any one city may be difficult. Often specific studies are needed to generate estimates rather than routine information systems.

Table G8.2: Estimated levels and definitions of homelessness

City	Number of homeless	Homeless per 1000	Defined as
Athens	247	<0.1	Includes 97 people in municipal facilities and 150 without any home
Amsterdam	2500-3000	3.5-4	
Berlin	10451	3.0	Estimates of 4000 people per year living on the streets
Copenhagen	1030	2.1	Living in institutions for homeless (includes 253 children)
Dublin	1447	1.4	Residents of night shelters, hostels (about 80%), county homes or other such institutions
London	105910	15.1	People on streets and hostels(c 15,000), and in temporary housing(c.76,000)
Madrid	3-5000	0.6-1	Estimates drawn from special studies amongst NGOs and social services
Vienna	9000	5.6	
Stockholm	4000	2.3	Estimate from social services. Around 400 living on streets
Lyon	1000	0.6	

Table G8.2 gives some estimates of the numbers of homeless people in the Mégapoles cities in absolute terms and expressed relative to the total population. Rates in London seem especially high, being 3 times greater than the next city (Vienna) and almost 15 times that of Dublin. Although some of this difference may be due to the counting method, it still appears to be the case that the numbers of homeless in London are particularly high. Around three quarters of the London homeless are people who have been placed in temporary accommodation by the local authority (something that they are legally obliged to do for priority groups).

G9. Ethnic minority populations

The size and nature of ethnic minority communities is an important issue in the health profile of major cities. Most cities have some way of counting ethnic minority populations, but the approach used is not always the same. For example, some cities use data from a self-reported census (e.g. London) in which people are asked to classify themselves according to a particular ethnic group. Others cities use citizenship (i.e. foreign nationals) and others place of birth of an individual or their parents. For example in Amsterdam, many people in the largest ethnic group (Surinamese), have Dutch passports but are assigned to an ethnic group by the country of birth of their parents. Some cities (Lazio, Athens and Dublin) have no consistent method for assessing the size of ethnic minority populations.

The size of the ethnic minority groups recorded by these different means range from below 5% in Madrid, Lisbon and Helsinki to more than 25% in London, Brussels and Amsterdam. Ethnic minority groups are important in health terms because:

a. They may be linked to higher levels of poverty and deprivation which in itself can lead to health problems.
b. Some groups may have specific health problems, e.g. sickle cell disease amongst some black populations.

c. The provision of health and welfare services may have to take special steps to ensure uptake by ethnic minority groups. This may include measures to overcome language or cultural differences or in developing specific community based health projects.

Table G9.1: Estimates of ethnic minority populations

City	Percentage ethnic minorities	Defined by
Madrid	2%	Foreign citizenship
Lisbon	3%	Portuguese ex-colonies (Lisbon district)
Helsinki	4%	All ethnic minority groups
Lyon	10%	Ethnic minority groups in 1990 census based on citizenship
Copenhagen	10%	All aliens
Oslo	10%	Foreign origin
Stockholm	10%	Foreign citizens – born in other countries or in Sweden
Berlin	13%	Auslander- people from a non German background
Vienna	18%	All foreign citizens
London	20%	Non-white ethnic groups in 1991 Census (self reported)
Bruxelles	29%	Foreign residents
Amsterdam	42%	Sum of 'non-Dutch' Population categories based on birth of descent.

The nature of the ethnic minority groups in the cities can be very different. In many cities the largest groups come from East Europe or North Africa. In Scandinavia there are some groups from other Scandinavian countries, whilst in London and Amsterdam there is a range of ethnic groups linked to the former colonies.

It is important to remember that many of these groups will have a long established history in the city and may be second or third generation migrants. For example, around half of the ethnic minorities in London were born in the UK.

Table G9.2 Most common ethnic minority groups

City	Most common ethnic minority groups
Amsterdam	Surinam , Moroccan , Turkish , Antillians
Berlin	Turkish , Former Yugoslavia , Poland/former Soviet Union
Bruxelles	Europeans, African, Asian
Copenhagen	Scandinavia , Rest of Europe , Asia
Helsinki	All minority groups , Russia, the soviet Union, so called IVY-countries , Estonia , Somalia
Lisbon	Portuguese ex colonies
London	Indian, Pakistani and Bangladeshi groups; Black Caribbean , Black African
Madrid	Morocco, South & Central America including Santo Domingo, Columbia, Peru, Ecuador, Europe (Poland) and Asia
Oslo	Pakistan , Sub-Saharan Africa , Iran, Iraq, Afghanistan , North Africa
Vienna	Former Yugoslavia , Turkey , Poland
Stockholm	Finland , Turkey , Iran , Poland
Lyon	Algeria, Tunisia, Morocco , EC , Asia , Turkey

One issue that has become important in recent years is the movement of refugees and asylum seekers. Few cities were able to quantify the numbers of refugees, the exceptions being Stockholm (n=9,662), Oslo (n=12,770) and Brussels (n=9,998), whilst in Vienna the numbers of naturalisations was 9,044. In Berlin there are estimates that there are around 50,000 refugees living illegally.

The public health problems linked to refugee populations include:

- They may arrive with particular health issues, for example mental health problems following flight, torture.
- They face additional difficulties in getting work and accommodation.
- They may not be native language speakers and there may be no established community groups that they may use as support.

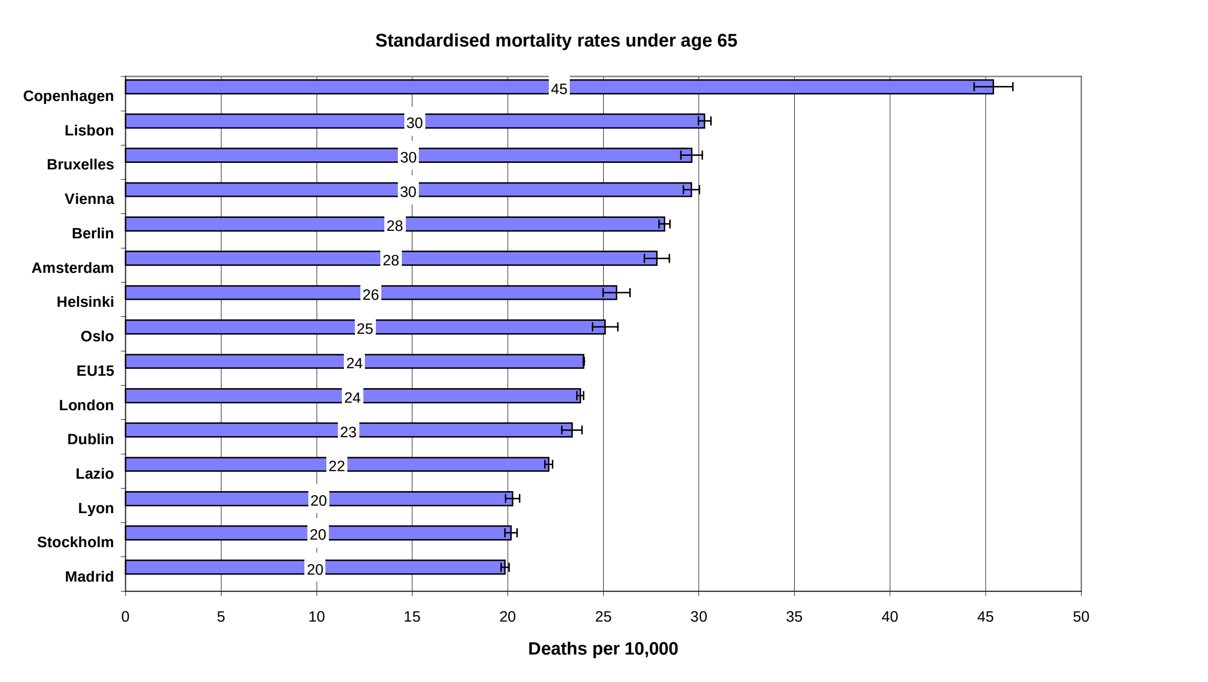
SECTION 3. GENERAL HEALTH INDICATORS

This section examines a range of health indicators. Although these are general health indicators many are useful in describing the specific health problems of the most disadvantaged groups within the cities. Within a city there will strong positive relationships between these indicators of health status and measures of poverty and deprivation. For example, premature mortality rates are significantly higher amongst the poorest communities in the cities.

H1. All cause mortality rates

Mortality rates under the age of 65 are often considered as a summary indicator of the extent of avoidable deaths. Rates have been falling in Western Europe as life expectancy has been increasing. The causes of death amongst this age group are many and varied. Most will occur in middle age and be linked with key areas for public health action namely cardiovascular disease, cancers and accident and injury.

Figure H1.1: Standardised mortality rates under age 65



Rates based on 1995 data for Stockholm, Lazio, London Vienna, Lisbon and 1997 data for Amsterdam,Copenhagen and Oslo. The remaining cites are for 1996. EU15 values based on a range of years from 1992-1996. Bruxelles data based on deaths in 1992 and population in 1995.

The values shown above are based on the data supplied by the cities and are directly standardised for age and sex differences between cities by using a standard European population. With large populations, the confidence intervals between these rates are small and most of the differences are statistically significant. Although data are based on slightly different years (from 1994 to 1997), the likely effect of this is small. However, there still may be hidden differences in the way mortality is recorded in different cities.

The values for Copenhagen are particularly high. One explanation offered for this is that the city itself has a concentration of the less affluent areas in a wider region. It is inevitable that if the definition of the city is based on a high concentration of the most deprived areas, excluding the more affluent, then the health indicators will tend to be worse (for example compare this graph to that of population density Figure G2.1). It is for this reason that we have chosen larger urban areas where we have the choice (see Box G1). Thus, for example, the mortality rates in Copenhagen city (defined as above) are equivalent to those seen in the most deprived areas within cities such as Berlin or London.

However the findings for Copenhagen do agree with the comparative national data published by OECD which suggest that Denmark has the lowest average life expectancy in the EU for women and the second lowest for men.

Leaving aside the very high rates in Copenhagen, the differences between cities range from around 18 to 26 deaths per 10,000 residents. An average value taken from 15 EU countries (based on data from WHO mortality database) sits somewhere in the middle of the range of Mégapoles cities.

Table H1.1: Age specific mortality rates per 10,000 persons for ages 15 to 64

Deaths per 10,000 City	Year	15 to 24	25 to 34	35 to 44	45 to 54	55 to 64
Madrid	1996	3.9	14.1	18.0	28.1	67.9
Stockholm	1995	4.0	6.5	14.5	33.2	80.3
Lyon	1996	5.3	8.0	16.9	35.0	70.5
Lazio	1995	5.7	10.9	17.0	30.9	83.5
Dublin	1996	4.3	7.2	12.3	35.3	100.5
London	1995	4.4	7.9	16.3	36.1	96.7
Oslo	1997	6.5	8.4	16.9	41.2	97.1
Helsinki	1996	4.8	9.2	21.0	46.5	95.0
Berlin	1996	5.0	9.5	20.9	49.7	106.8
Amsterdam	1996	4.2	7.6	19.3	52.3	104.1
Vienna	1995	7.0	8.4	19.6	53.9	110.5
Bruxelles	1992/5	8.1	11.8	20.0	43.7	112.7
Lisbon	1995	11.4	20.3	28.0	43.5	96.0
Copenhagen	1992-5	4.0	11.4	36.3	73.3	191.1
Average		5.5	10.5	18.8	38.2	91.6
EU		6.1	9.4	16.5	37.2	92.6

Table H1.1 summarises the detailed rates for specific age bands between 15 and 65 (see also sections on younger people and elderly). The actual numbers of deaths below age 45 tends to be small, so the confidence intervals around these values are larger. The extreme values for Copenhagen do not appear to exist below age 35 and are particularly marked between ages 55 and 64.

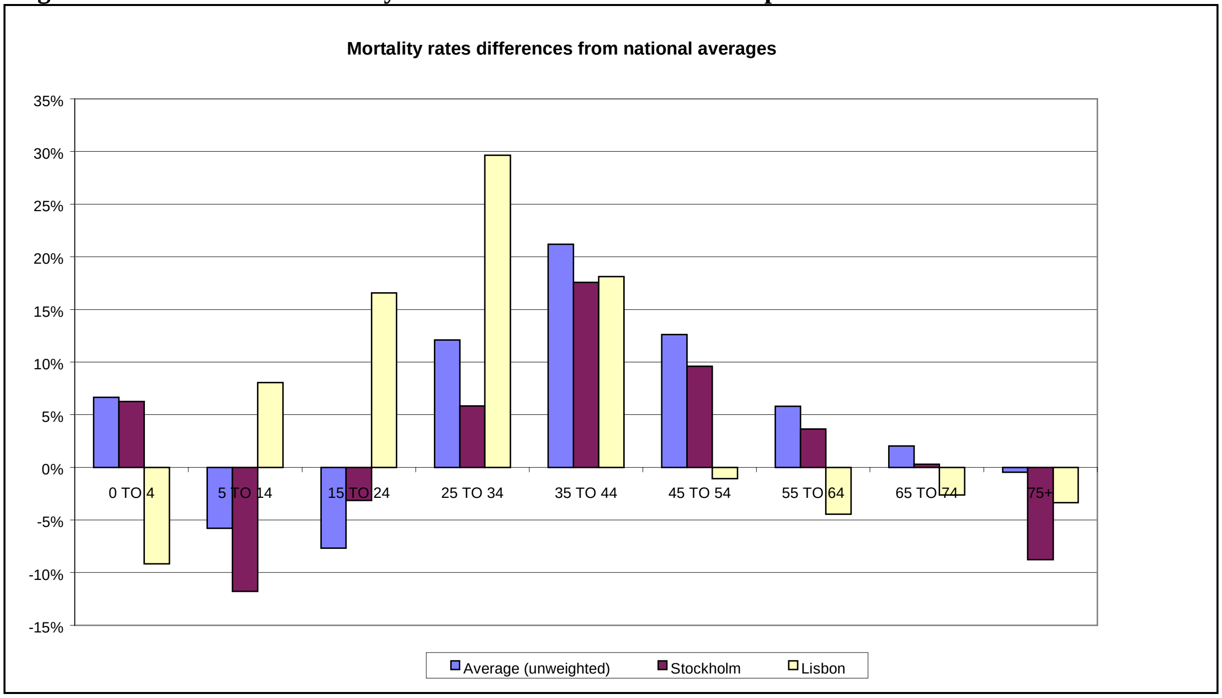
Table H1.2 Differences between mortality rates in the city/region and their respective countries.
Expressed as percentage above or below national value or specific age bands

Year	0-4	5-14	15-24	25-34	35-44	45- 54	55-64	65-74	75+
Amsterdam	14%	21%	-7%	24%	43%	63%	15%	0%	1%
Berlin	10%	11%	-16%	21%	21%	20%	9%	6%	-41%
Bruxelles	19%	23%	14%	27%	16%	9%	15%	-4%	0%
Copenhagen	31%	18%	-23%	27%	87%	68%	57%	31%	25%
Dublin	16%	-25%	-27%	-7%	-6%	-1%	-8%	-5%	-3%
Helsinki	-18%	-15%	-20%	-2%	3%	8%	-1%	-5%	0%
Lazio	-12%	-17%	-6%	13%	25%	-5%	-4%	12%	29%
Lisbon	-9%	8%	17%	30%	18%	-1%	-4%	-3%	-3%
London	6%	-12%	-16%	9%	18%	3%	-4%	-5%	-7%
Madrid	-20%	-18%	-34%	3%	4%	-20%	-17%	-17%	-11%
Oslo	20%	-41%	25%	22%	27%	26%	10%	7%	2%
Vienna	44%	6%	6%	13%	24%	27%	21%	12%	8%
Stockholm	6%	-12%	-3%	6%	18%	10%	4%	0%	-9%
Lyon	-25%	-21%	-23%	-32%	-17%	-14%	-20%	-13%	1%
Average (unweighted)	7%	-6%	-8%	12%	21%	13%	6%	2%	0%

The age specific mortality rates were compared to the national rates, using data for the same year taken from the WHO data set. The results are summarised in Table H1.2 as the percentage difference between the city and its respective national rate. Positive values indicate a higher mortality rate for the city in that age band.

Even though this comparison used data from different sources, there does appear to be some pattern. In most cities the age standardised mortality rates are higher than that in their respective countries (the exceptions are Lyon, Madrid, Lazio). It also appears that in Mégapoles cities, relative mortality tends to be lower at ages 15-24 and highest at ages below 5 and between 25 and 54. This pattern is seen even in cities where aggregate rates are lower than the national rate. Figure H1.2 shows this general pattern for the average of the Mégapoles cities and two examples, Lisbon and Stockholm. Despite these cities having amongst the highest and lowest all age mortality rates of the Mégapoles cities, the pattern across age bands is fairly similar. This general pattern of relatively high death rates in young and middle age, especially among men, is common to many cities - in fact there are only two exceptions here, Dublin and Lyon.

Figure H1.2: Mortality rates at different age bands relative to national averages
Higher values indicate a mortality rate that is above that of the respective national values



H2. Cause specific mortality

One of the disadvantages of all cause mortality rates is that they give us little idea about which diseases are most responsible for early deaths and which are the most important in terms of public health actions. The next step is therefore to consider death rates for specific diseases. Data were requested on a handful of common conditions classified according to groups of ICD-9 codes.

The comparison of mortality rates by specific causes is more complex than the all cause rates shown above and there are greater problems in getting meaningful comparisons. Three factors are important when considering these data:

Table H2.1: Crude rates per 100,000 and standardised mortality ratios (SMRs) for specific causes of death (based on data supplied).

(LowCI and UppCI are 95% confidence intervals around SMR figure)

	All accidents and adverse effects				Road accidents				Suicide and self-inflicted injury			
	SMR	LowCI	UppCI	Crude rate per 100,000	SMR	LowCI	UppCI	Crude rate per 100,000	SMR	LowCI	UppCI	Crude rate per 100,000
Amsterdam	281	251	314	44	144	106	196	6	314	264	375	17
Bruxelles	192	171	214	32	112	83	151	5	470	413	535	24
Copenhagen	277	244	314	51	194	142	264	8	366	299	447	20
Dublin	150	130	172	19	181	143	229	6	147	117	185	7
Lazio	292	280	305	39	367	341	395	14	122	109	135	6
London	101	95	107	15	101	89	113	4	101	91	112	5
Madrid	200	191	211	30	195	177	216	8	60	51	70	3
Oslo	320	284	361	55	105	68	160	4	247	194	314	13
Vienna	316	296	338	53	109	86	138	4	339	302	380	18
Stockholm	167	153	184	27	107	85	135	4	286	253	324	15
Lyon	250	231	271	38	224	189	266	8	238	206	274	12

	Circulatory diseases				Ischaemic heart disease				Vascular cerebral diseases			
	SMR	LowCI	UppCI	Crude rate per 100,000	SMR	LowCI	UppCI	Crude rate per 100,000	SMR	LowCI	UppCI	Crude rate per 100,000
Amsterdam	104	100	108	372	75	70	80	145	106	98	114	90
Bruxelles	33	31	35	148	54	51	57	132	15	13	17	16
Copenhagen	107	103	112	529	90	85	96	235	104	96	112	125
Dublin					121	116	127	169	117	109	126	67
Lazio	134	132	136	396	76	74	77	130	178	173	183	109
London	100	99	102	370	100	99	102	200	100	98	103	87
Madrid	69	68	70	239	36	35	37	69	79	76	81	63
Oslo					91	85	96	217	120	111	130	130
Vienna	178	175	181	778	117	113	120	273	104	99	109	109
Stockholm	104	101	106	423	92	89	96	205	96	91	101	91
Lyon	66	63	68	238	33	31	35	64	72	67	77	61

	All malignant neoplasms				Lung Cancer				Breast Cancer			
	SMR	LowCI	UppCI	Crude rate per 100,000	SMR	LowCI	UppCI	Crude rate per 100,000	SMR	LowCI	UppCI	Crude rate per 100,000
Amsterdam	112	106	117	245.0	113	102	124	58	119	103	138	48
Bruxelles	108	104	112	295.2	90	83	98	58	107	95	121	52
Copenhagen					135	122	148	85	128	109	149	63
Dublin	111	106	116	191.4	115	105	126	47	92	79	107	30
Lazio	114	113	116	260.1	107	103	111	61	89	83	94	36
London	100	99	102	226.7	100	97	103	53	100	95	105	40
Madrid	88	86	90	201.0	70	67	74	39	70	66	76	29
Oslo	104	98	109	271.4	83	73	93	50	108	91	128	50
Vienna	103	100	106	272.2	84	79	90	52	105	96	116	53
Stockholm	85	82	88	213.7	58	54	63	35	75	67	84	34
Lyon	96	93	99	217.6	70	65	76	38	80	71	90	33

	Infectious and parasitc disease				All respiratory disease				Pneumonia, bronchitis and emphysema			
	SMR	LowCI	UppCI	Crude rate per 100,000	SMR	LowCI	UppCI	Crude rate per 100,000	SMR	LowCI	UppCI	Crude rate per 100,000
Amsterdam	80	63	102	9	54	50	59	90	36	32	40	39
Bruxelles	195	171	223	23	47	44	50	98	24	21	26	32
Copenhagen					57	53	62	136	31	27	35	49
Dublin	51	39	67	5	94	88	99	102	75	69	81	51
Lazio	34	29	39	4	46	44	47	50	69	66	72	41
London	101	94	108	11	101	99	103	171	101	99	103	112
Madrid	123	114	133	13	49	47	50	75	51	49	54	50
Oslo	86	65	112	11					93	86	101	130
Vienna	30	24	39	4	21	20	23	44	22	20	24	29
Stockholm	56	47	68	7	39	37	42	73	30	28	33	36
Lyon	179	160	200	20	35	33	38	59	22	20	25	25

1. Cause specific data will involve smaller numbers and be more sensitive to differences in the collection and recording of mortality statistics. Although we have internationally agreed systems of classifying disease (ICD), there are subtle differences in practice that may not always be obvious.
2. The age ranges at death for specific causes can be very different from the standard population. Therefore it is better to use indirect standardisation, that is to look at the ratio between observed deaths and expected deaths obtained by applying general age and cause specific rates. In this case we have used indirect standardisation relative to the age and sex specific mortality rates in London in 1996. This effectively makes the rates in London equal to 100 and the other rates are shown relative to that. The choice of London as the baseline is not ideal, however it is the largest city and one where we can easily access the age and sex specific mortality rates.
3. Not all cities were able to access cause-specific mortality data in the groupings requested.

Table H2.1 compares the crude rates per 100,000 population and a standardised mortality ratio (based on London 1996=100). Values over 100 indicate standardised mortality ratios (and therefore the underlying mortality rates) that are greater than those in London. There are clearly some anomalous data here and extreme values on either measure need to be treated with a great deal of caution, especially when SMRs are below 50 or above 150. Finally is should be noted that the list of causes of death is not exclusive and does not cover all possible causes.

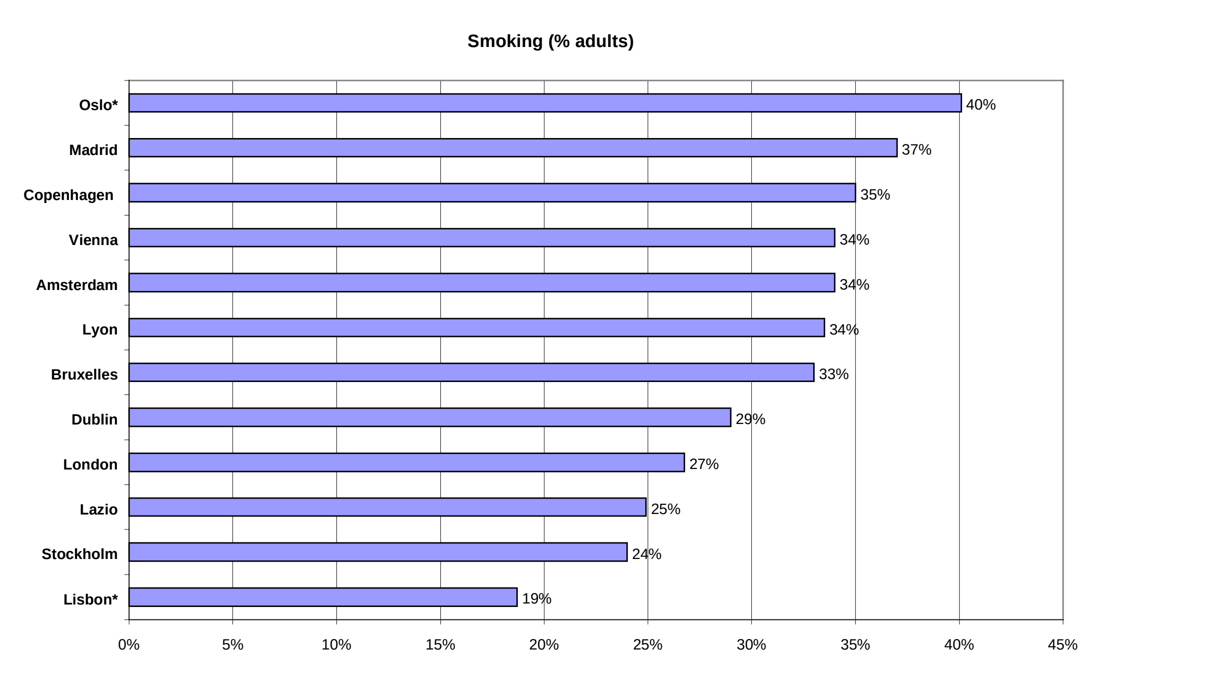
One example of the problems with comparisons is found in the infectious disease category. In some cities this may include HIV-related deaths, in others it will not, depending on national practice in adopting updates of the ICD9 classification system. Although it is dangerous to place too much reliance on these data, we can make the following observations:

1. In Lyon, Brussels and Madrid relative mortality rates for infectious disease appear to be particularly high, especially considering that both Lyon and Madrid have better than average all cause mortality rates.
2. The variation between rates for malignant neoplasms is rather less than for some other conditions, with rates in the range 180-220 deaths per 100,000. This may be an indication of both higher numbers of cases and more stable definitions. Rates are significantly high in Lazio, Dublin and Amsterdam. Amsterdam, Copenhagen and Dublin appear to have the highest deaths from lung cancer.
3. Circulatory disease, and in particular ischaemic heart disease (IHD), is one of the most common forms of death. Madrid and Lyon stand out as having particularly low rates of death from IHD, with values about one third of rates in cities such as Dublin or London. Although dietary factors are important in IHD, the scale of these differences may be artefacts of data collection. A number of cities have apparently low relative rates of deaths from IHD but high deaths from vascular cerebral diseases (Lazio, Oslo). Although there may be good explanations for this, these conditions share a number of risk factors and it is possible that this might also be an indication of differences in coding practice in different countries.
4. The highest rates of deaths from accidents and adverse effects are in Oslo and Vienna where rates are three times higher than in London. Figures on suicide are notoriously difficult to interpret, however a number of cities have rates that are 2-3 times higher than London or Madrid.
5. The recorded death rates from respiratory disease are particularly high in London and Dublin, and almost five times greater than the values recorded in Vienna.

It is important to be cautious with all these comparisons. These tables represent only the starting point in analysis and individual comparisons will need to be pursued in more detail to explain the differences as either real or artificial. However, the existence of international standards in recording and coding mortality does offer enormous potential for exploring differential health status in our respective cities.

H3. Smoking

Figure H4.1: Smoking among adults in the Mégapoles cities/regions



Note data rather old from 1981 survey in Lisbon and 1985 in Oslo. Values in Lyon and London based on national surveys

Smoking itself is a critical risk factor in lung cancer and cardiovascular disease. As a result, smoking is almost always included in surveys of health and health-related behaviour. Smoking among adults in Western Europe has tended to decline over the past few decades. There have been differential trends between men and women, and women now form a higher proportion of all smokers than in previous decades. Higher levels of smoking may also be associated with different social groups within a city.

The measurement of smoking prevalence is typically based on the results of a specific health and lifestyle surveys. As such these are based on samples of the population and are usually from self-completed questionnaires or interviews. There can be problems in comparing between the results of surveys, for example if:

a. The sampling frame is different, e.g. might include or exclude certain age groups.
b. The definitions of smoking differ. Variations may include the use of cigarettes versus pipes/cigars. We asked for the proportion of adults who were regular smokers – that is at least once a day. In some cases, self-reported smoking may be validated by comparison with blood tests.
c. Health and lifestyle surveys can be expensive to undertake and may not be carried out regularly on the city's population. This may mean that there may be differences between the time of measurement or that local data do not exist and national data have had to be used – assuming the city exhibits the same pattern as that seen nationally. This is the case with a number of the Mégapoles cities.

The reported results show large two-fold variations between rates, although the highest and lowest values are based on older surveys. This is an area where differences in the definitions used may well explain significant amounts of these differences. Most cities record values within a range of 25% to 35% of adults smoking regularly. Although these differences in percentages may not be great in numerical terms, they are important in terms of public health action.

H4. Alcohol use

Alcohol consumption affects health in a number of ways. Heavy 'binge' drinking has been linked to short term effects such as domestic and road traffic accidents, violence, crime, child neglect and abuse. Prolonged and heavy drinking increases the risk of cirrhosis of the liver, some cancers, hypertension, problems in pregnancy, mental illness and neurological problems. On the positive side, it is suggested that drinking in moderation may have a small beneficial effect on health.

The assessment of alcohol consumption is usually based on self-completed surveys and there is the danger that responses tend to underestimate the extent of heavy drinking. Although questions about alcohol consumption are commonly used as part of a health and lifestyle survey, there is relatively little consensus on how the question should be framed. The table below shows that from eight cities responding to this question, there were a range of different definitions of ‘high alcohol consumption’. This makes it impossible to compare the observed prevalence. The international standard for assessing alcohol consumption is to use a measure based on volumes of alcohol consumed per week (as for example used in Stockholm and Madrid).

Table H4.1: Different approaches to reporting high alcohol consumption

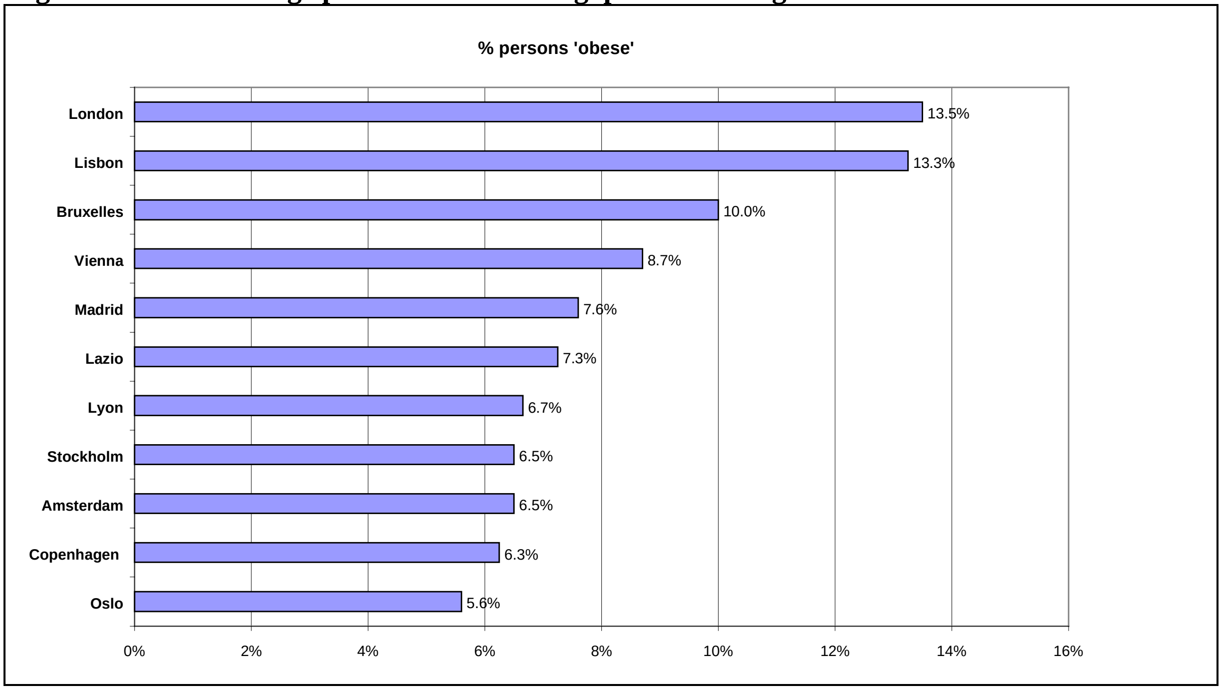
City	% ‘heavy drinkers’	Defined as
Amsterdam	7%	% of population 16+ drinking 3 or more days a week 6 or more glasses of alcohol. Drinks or 5 days of more per week 4 glasses or more
Copenhagen	21.5%	Percentage aged 18 and over consuming more than 21units (Men) or 14 units (Women). 1 unit = 12g alcohol.
Lisbon	28%	More than one drink every day of the week
London	19%	Percentage aged 18 and over consuming more than 21units (Men) or 14 units (Women). 1 unit = 1 glass of wine.
Madrid	8%(M); 2.2%(F)	Men and women with >= 50cc alcohol daily intake and >= 30 cc respectively (risk drinker)
Vienna	13%	Drinking alcohol daily (23% 2 to 3 times per week, 39% less than 2 to 3 times per week, 25% no alcohol)
Stockholm	10%	25g of alcohol per day or 52cl of 40% alcohol per week
Lyon	17.5%	Male>4 drinks per day; Female >3 drinks per day

H5. Obesity

Obesity is an important risk factor for a number of conditions and in particular cardiovascular disease. High levels of obesity are linked to diet and levels of physical exercise and as such are an increasingly important public health issues since levels of obesity have been rising.

Obesity is assessed using the Body Mass Index (BMI, a ratio of weight in Kg to height in m^2). ‘Obese’ is usually defined as being when the value of this ratio is over 30, whilst normal values are between 25 and 30. Values over 35 are classified as ‘very obese’ and such people may be receiving active treatment for the problem. Though this definition of obesity

Figure H5.1: Percentage persons obese in Mégapoles cities/regions



Note: values shown are an unweighted average of individual male and female values in most cities

is a generally recognised standard, it is not the only one and there may be other definitions, based on BMI measurement in use (for example differential cut-off points for men and women).

Measurement may be made directly as part of a health and lifestyle survey, or self-reported. If the latter, then there may be a tendency towards people recording a slightly lower weight than they actually are. The differences between values across cities appears to be quite large, with London and Lisbon standing out as having over twice the proportion of obese adults when compared to cities such as Oslo and Copenhagen. Although not shown, these differences appear to apply to both men and women.

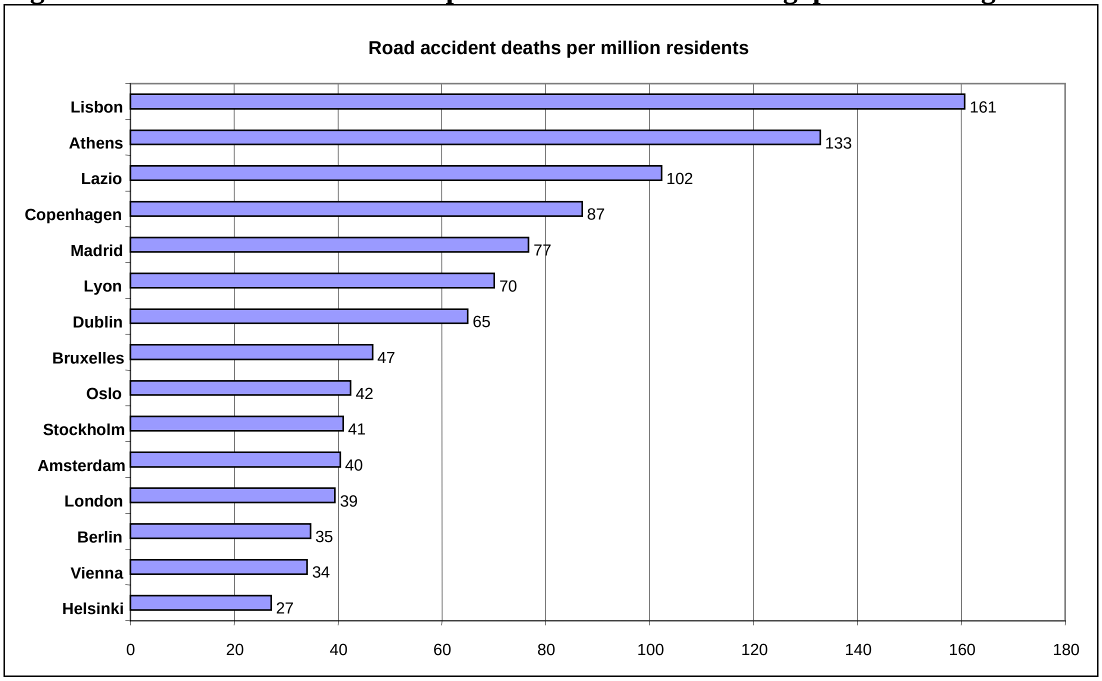
H6. Road traffic accidents

Transport systems are an important part of the quality of life in cities. They can impact on health in a number of ways. One of the most obvious is as a result of road traffic accidents. Reducing death and serious injury from road traffic accidents can require a series of measures aimed at changing driver behaviour (such as speed and drink driving), engineering to slow traffic, or measures to reduce the amount of traffic by promoting safer and healthier alternatives.

As Figure H6.1 shows, the differences between cities are wide with death rates in Lisbon and Lazio almost 5 times higher than in Helsinki, London and Vienna. These ratios are based on a combination of reports by individual cities, or on data from Eurostat.

The culprit for many of the adverse health effects of transport is the car. The use of private cars in preference to public transport or walking and cycling tends to be the least healthy transport option. Table H6.1 shows that the numbers of private cars per thousand residents is lowest in Copenhagen (173), far lower than in the next lowest city (Amsterdam 293). The highest level of private cars to residents appears to be in Lazio (although the fact that this includes the region around the city of Rome may be one contributory factor).

Figure H6.1: Road accident deaths per million residents in Mégapoles cities/regions



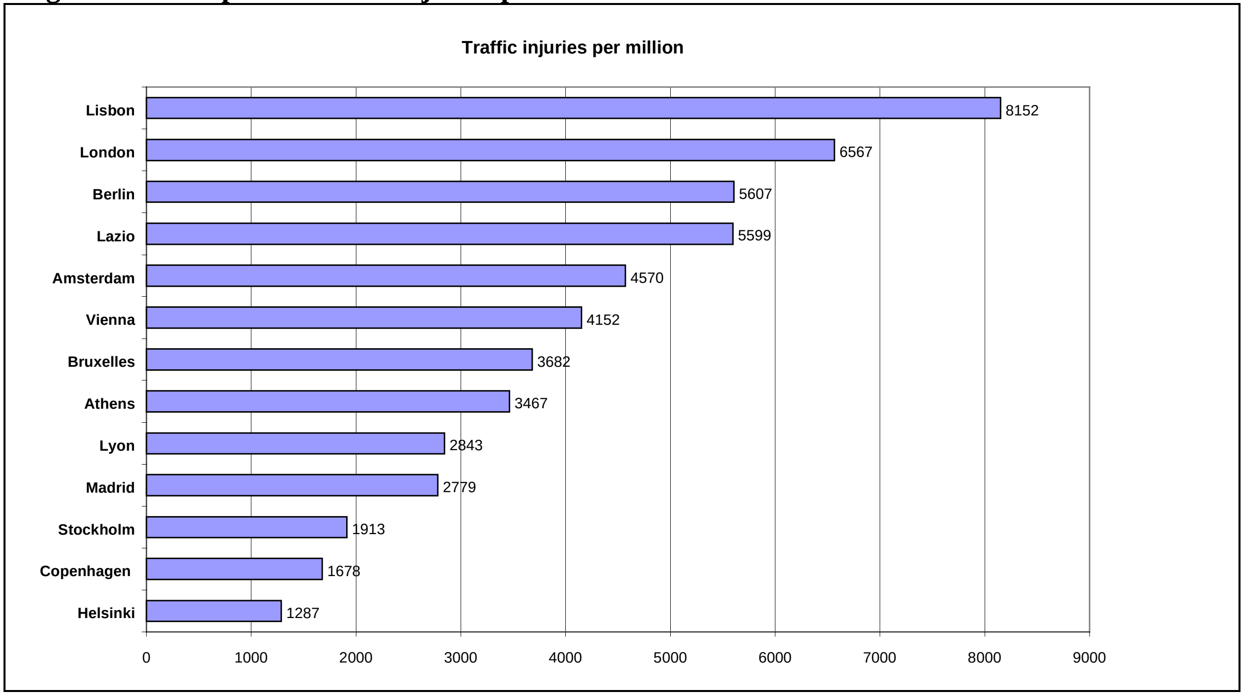
Information about the levels of road traffic injuries (Tabe H6.1, Figure H6.2) is slightly more ambiguous as the numbers that are recorded may describe injruies ranging in severity from the relatively minor to serious and life threatening conditions. The numbers will aslo depend on the nature of recording systems, for exmaple the figures from Stockholm are based on hospital data, whilst those in London use information from police at the scene of an accident.

Table H6.1: Car ownership and road accidents

	Cars per 1000 residents	Deaths per million	Injuries per million	Deaths per 100 Km road
Helsinki	299	27	1287	1.2
Vienna	367	34	4152	2.0
Berlin	354	35	5607	
London	334	39	6567	2.1
Amsterdam	293	40	4570	0.3
Stockholm	338	41	1913	2.6
Oslo	344	42		
Bruxelles	440	47	3682	2.8
Dublin		65		
Lyon	476	70	2843	0.8
Madrid	464	77	2779	11.5
Copenhagen	173	87		
Lazio	591	102	5599	2.7
Athens	341	133	3467	32.3
Lisbon		161	8152	4.2

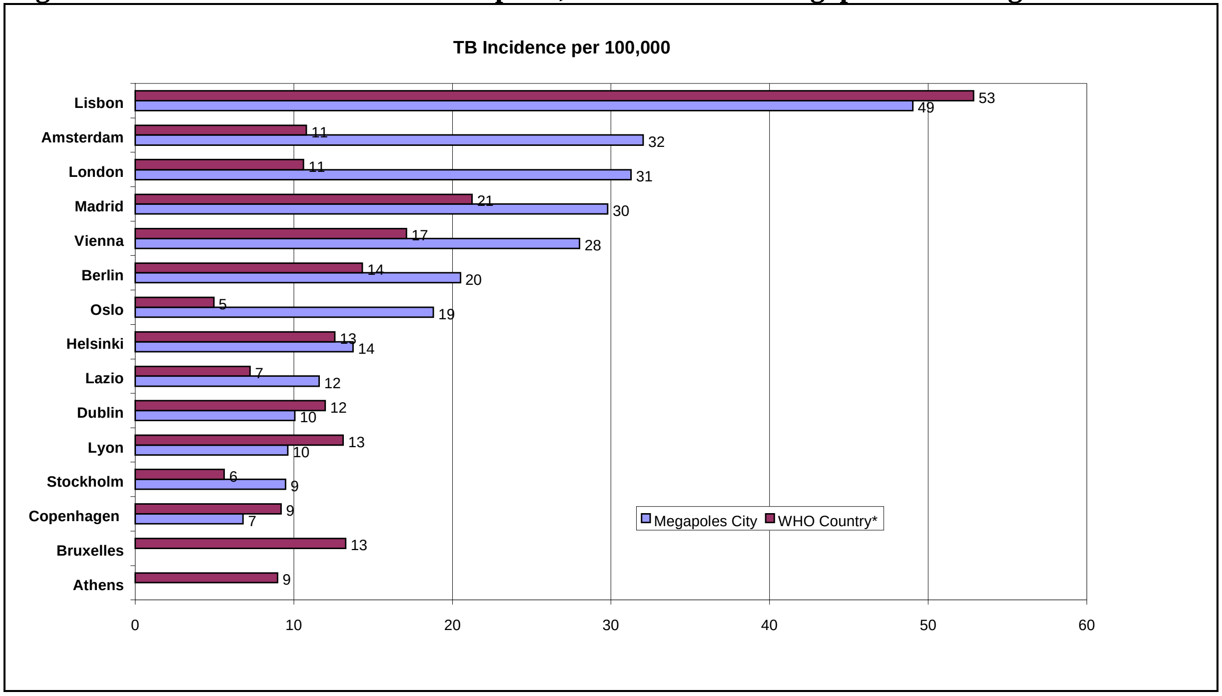
These types of differences no doubt explain some of the anomolies between the relative position of cities on deaths and injures per million (Figure H6.2). For example, London has relatively few deaths yet a high number of injuries. Although the numbers of events are smaller, a comparison of deaths from road accidents is probably the more reliable indicator.

Figure H6.2: Reported traffic injuries per million



H7. Tuberculosis

Figure H7.1: Incidence of tuberculosis per 1,000 residents in Mégapoles cities/regions



** National values for 1996 taken from HFA database produced by WHO. Values for Greece 1995. Latest value for Spain= 23.6.*

Tuberculosis (TB) is most commonly found in the poorest communities and/or linked with migrants from areas of the world where the condition is endemic. For most of this century, the incidence of TB has declined in Europe, an indication of improving living conditions and general health status. However, the past 10-20 years have seen a rise in incidence, particularly amongst the poorer communities in our major cities. More recently still, TB incidence has also been linked to the rise of HIV/AIDS. Effective ways to control TB are available through immunisation, treatment of active disease and systems for screening vulnerable populations and contact tracing.

The results above are expressed as a crude incidence per 100,000 residents per year. The measurement of TB incidence will to some extent depend on the effectiveness of detection and diagnosis. Variations in these largely unknown factors within cities may account for some of these differences. Data taken from the WHO Health for All database for countries are also shown.

The rate of TB incidence is 3-4 times higher in Lisbon, Amsterdam, London, Madrid and Vienna than in Dublin, Lyon, Stockholm and Copenhagen. The high rates in Lisbon are similar to the levels recorded by the Health for All database for all of Portugal. For a number of other cities, where we have data, the incidence within the city appears to be higher than in the country as a whole, particularly in Amsterdam, London, Berlin and Vienna. This is just an indication of the ways that TB in Europe is a greater problem for urban areas.

H8. HIV/AIDS

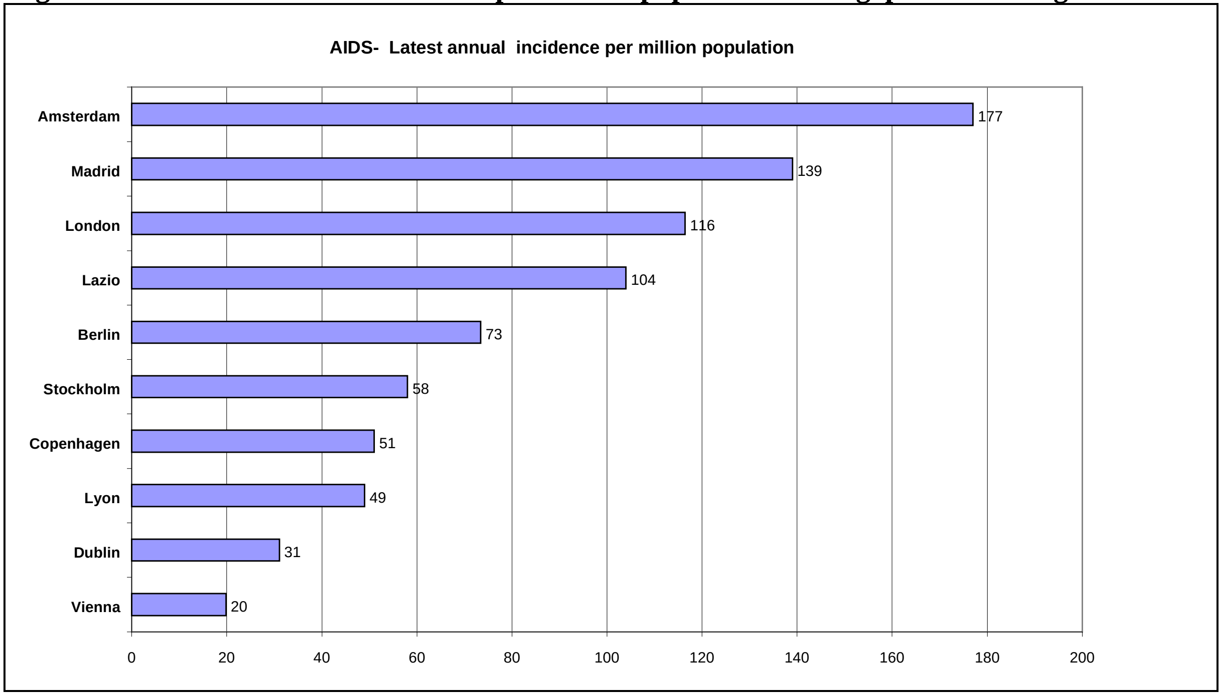
By the end of 1996, over 6 million people had died from HIV-related causes world-wide, and HIV was ranked as the sixth highest cause of death among young adults by the Global Burden of Disease Study. HIV has had the greatest impact on mortality in developing countries, especially sub-Saharan Africa; but it has also had an effect on mortality in some urban centres in developed countries. In the USA, HIV was the leading cause of death among adults in many cities, and in Italy and parts of Spain it was a major cause of death in young adults aged 25-34.

Table H8.1 Incidence of AIDS

	Cumulative diagnosed AIDS	Cumulative cases per million resident	Latest incidence per million
Amsterdam	2212	3080	177
Madrid	12378	2465	139
Bruxelles	1701	1764	
London	7304	1042	116
Lazio	5276	1034	104
Berlin	3382	978	73
Lisbon	2261	754	
Lyon	1050	669	49
Stockholm	982	578	58
Vienna	906	561	20
Athens	307	88	
Copenhagen			51
Dublin			31
Oslo (1)			168 (HIV)
Helsinki (2)	267	5	30 (HIV)

(1) Latest incidence values based on HIV not AIDS
(2) Cumulative incidence for Finland. Latest year figures based on HIV

Figure H8.1: Latest incidence of AIDS per million population in Mégapoles cities/regions



The reporting systems for identifying both HIV and AIDS can potentially make a significant difference to the comparisons shown above. Though HIV is far more common than AIDS, it is much more difficult to get reasonable estimates of population prevalence. The values above are therefore based on diagnosed AIDS and show two aspects, the cumulative number of cases in the city since the epidemic started in the 1980s, and the latest incidence values. In some cities the incidence is very low and values shown include HIV only.

Despite these problems with developing comparative data, it is clear that the impact of the HIV/AIDS epidemic is far greater in some cities than others. In cities such as Amsterdam, Madrid, and Brussels there have been over 1,500 AIDS cases per million residents. In contrast, the disease is rare in Dublin, Oslo and Helsinki. The key factors governing the spread of AIDS are concerned with sexual behaviour (both heterosexual and homosexual) and injecting drug use. The relative importance of these different groups in the local epidemics can vary between cities. Tackling these problems requires significant health promotion and prevention campaigns.

H9. Hospital admission rates

Although most of the data we sought described health status or the determinants of health, we did ask about hospital use as one aspect of health service utilisation. Most countries have systems for recording the number of admissions to hospital with additional information about the diagnosis of patients and surgical procedures undertaken. Information about levels of hospital admission can be important for health service planning, and also reflect differences in clinical practice and in the organisation of health services. Hospital use is also one of the most expensive form of treatment and consumes the largest share of health budgets.

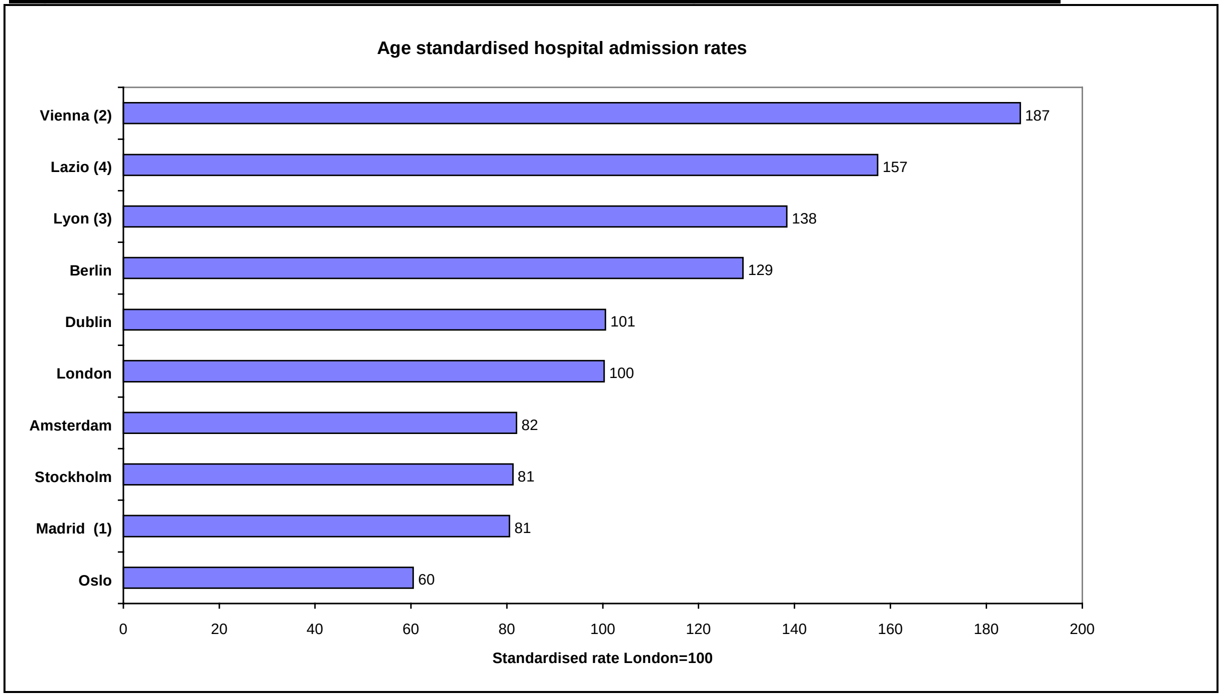
However the examination of this comparative data faces a number of specific problems:

1. Whilst WHO ICD codes are the accepted international standard for diagnostic coding, there can be subtle variations in the interpretation of these codes in practice. Moreover, some cities were using the latest ICD-10 revision, whilst the data request was based on the earlier ICD-9 codes.
2. Recording systems for hospital admission may suffer from incompleteness. In particular, it may be that data from private sector hospitals are not included.
3. In some cities it may not be possible to identify whether hospital admissions were from residents of the city. Mégapoles cities will typically have specialist teaching hospitals that will admit patients from all over the country.

4. Definitions of the terms 'hospital' and 'admission' can be inconsistent. For example, should we include residential, terminal or long-stay care? What about day case treatments? What about multiple treatment episodes for the same patient, for example those undergoing renal dialysis?

The guidance in this case is based on all acute hospitals, that is excluding long stay hospitals, residential and nursing homes. This will include day cases, count multiple day case treatments as one episode and is based on admissions to any hospital by residents of the city.

Figure H9.1: All cause hospital admission rates (age standardised to London)



(1) Excludes ambulatory surgery. (2) Based on numbers who spent at least one night in hospital (3) Values based on projection of national data. (4) Excludes repeat treatments for same condition.

Hospital admission rates increase quite markedly with age, so the unstandardised rates in may be sensitive to differences in the age of the population. To overcome this, an age standardised admission ration rate was calculated using age specific admission rates from the on London data (making this city equivalent to a value of 100). The results in Figure H9.1 indicate a spread of values, approximately three-fold from 60 in Oslo to more than 180 in Vienna.

Table H9.1 compares crude (ie unstandardised) admission rates per 1000 residents fro specific causes.. The returned values indicate a range in (all cause) admission rates of between 100 per 1,000 residents in Madrid to more than 270 in Lyon and Vienna. The low rates in Madrid may be because ambulatory surgery (day cases) were not included in these figures. Estimates suggest that major ambulatory surgery cases make up 12% of total surgery, and 27% of minor surgery. Similarly day treatments that require less than a 24 hour stay in hospital were also excluded. However, such cases would have to account for about 50% of hospital admissions to explain all the difference from cities such as London or Lazio. In fact, other sources point to relatively low levels of hospital use in Spain.

Table H9.1: Crude hospital admission rates per 1,000 population.

Principal diagnosis	Berlin	Dublin	Lazio (4)	London	Madrid (1)	Oslo	Vienna (2)	Stockholm	Lyon (3)
All causes	149.8	190.8	210.3	201.3	101.1	114.0	275.8	164.3	274.1
Infectious and parasitic diseases	3.0	10.5	5.2	3.0	1.8	3.0	7.9	4.4	4.2
All malignant neoplasms	17.6	11.8	15.1	13.3	5.0	10.8	38.2	14.7	14.4
Diabetes		1.2	2.7	0.9	0.5		8.0	1.9	1.8
All mental disorders	10.8	1.5		3.9	2.4		12.5	15.6	6.2
Diseases related to circulation	25.1	6.9	29.0	14.3	9.2		40.1	27.0	13.7
Ischaemic Heart Disease	5.1(5)	6.0	6.2	4.9	2.1	6.7	9.1	8.2	5.8
Vascular cerebral diseases		2.6	5.0	1.7	1.3	3.7	8.0	6.0	2.9
Respiratory disease	9.8	16.8	14.5	12.0	6.3		19.5	11.2	17.1
Pneumonia, bronchitis and emphysema		2.9	6.3	1.6				3.5	
Chronic liver disease and cirrhosis		0.3	2.5	0.1	0.5		22.0	0.5	1.2
All injury and poisoning	14.5	19.1	18.7	11.1	21.8		21.4	17.7	26.0
All accidents and adverse effects		10.5	1.3	11.1				18.8	

(1) Excludes ambulatory surgery. (2) Based on numbers who spent at least one night in hospital (3) Values based on projection of national data. (4) Excludes repeat treatments for same condition. (5) Based on national data projected to city population. ICD 414 only

Another way to overcome some of the problems with these data is to look at the proportion of admissions in individual diagnostic categories (as in Table H9.2). These values show some even more puzzling variations.

Table H9.2: Percentage of hospital admissions in diagnostic groupings

	Berlin	Dublin	Lazio	London	Madrid	Oslo	Vienna	Stockholm	Lyon
All causes admissions per 1000	149.8	190.8	210.3	201.3	101.1	114.0	275.8	164.3	274.1
Infectious and parasitic diseases	2%	5%	2%	1%	2%	3%	3%	3%	2%
All malignant neoplasms	12%	6%	7%	7%	5%	9%	14%	9%	5%
Diabetes		1%	1%	0%	0%		3%	1%	1%
All mental disorders	7%	1%		2%	2%		5%	9%	2%
Diseases related to circulation	17%	4%	14%	7%	9%		15%	16%	5%
Ischaemic Heart Disease		3%	3%	2%	2%	6%	3%	5%	2%
Vascular cerebral diseases		1%	2%	1%	1%	3%	3%	4%	1%
Respiratory disease	7%	9%	7%	6%	6%		7%	7%	6%
Pneumonia, bronchitis and emphysema		2%	3%	1%				2%	
Chronic liver disease and cirrhosis		0.2%	1.2%	0.0%	0.5%		8.0%	0.3%	0.4%
All injury and poisoning	10%	10%	9%	6%	22%*		8%	11%	9%
All accidents and adverse effects		6%	1%	5%				11%	

* *Three-quarters (16.2%) of these admissions are codes '855-857 admissions due to unknown causes'*

In Madrid, a disproportionately high number of hospital admissions appear to be related to accidents and injury, however on closer examination it appears that almost three quarters of these relate to a specific subgroup of codes covering admissions where the cause was unknown.

In Lyon, another city with apparently high hospital admission rates, there are no diagnostic categories that appear particularly high, which suggest that the 'higher' admission rates are common across many different case types. Admission rates for chronic liver disease in Vienna appear to be many times higher than those observed in any other city.

It is difficult to draw hard and fast conclusions from these data. They point to some quite significant differences between cities in the use of hospitals, but at the same time there are always doubts about the basis for comparison. It is important that such datasets are explored as far as possible on a comparative basis if we are to learn about health service practice in different cities.

SECTION 4. CHILDREN AND YOUNG PEOPLE

The indicators for children and young people built on earlier work within the sub-network. Consequently, there are some important areas that were not addressed in this data request. These include, for example, assessments of health-related behaviour such as smoking and drinking, and the uptake of immunisation (a common indicator). The request for data attempted to look at some specific social indicators that were relevant to child health, however success on these was mixed. The response on youth unemployment was fairly good, but comparable data on a number of other social indicators was hard to get (see Section Y9)

Y1. Proportion of young people

Figure Y1.1: Percentage of population aged under 15 years in Mégapoles cities/regions

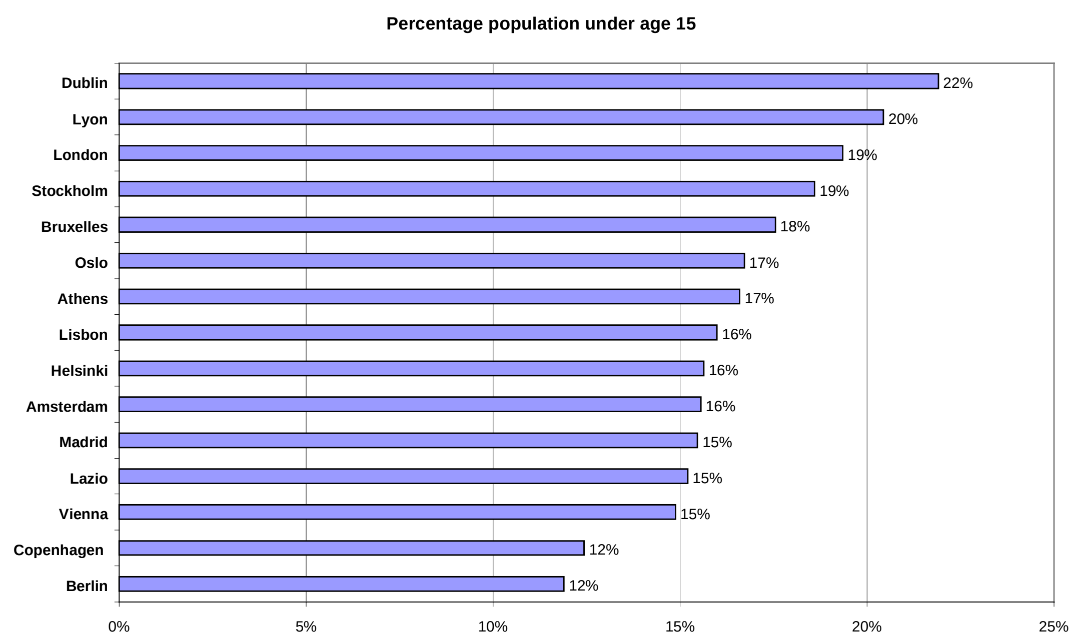


Table Y1.1: Summary statistics on births and young people

	Population 0-14 (000's)	Fertility Rates^	% population under 15	*Difference from National**
Amsterdam	112	53	16%	*-3%*
Athens	578	45	17%	*0%*
Berlin	420	38	12%	*-4%*
Bruxelles	167	61	18%	*-1%*
Copenhagen	59	55	12%	*-5%*
Dublin	233	71	22%	*-3%*
Helsinki	83	51	16%	*-3%*
Lazio	776	41	15%	*0%*
Lisbon	480	49	16%	*-1%*
London	1356	65	19%	*0%*
Madrid	777	39	15%	*-1%*
Oslo	83	67	17%	*-3%*
Vienna	237	46	15%	*-3%*
Stockholm	318	60	19%	*0%*
Lyon	321	63	20%	*1%*

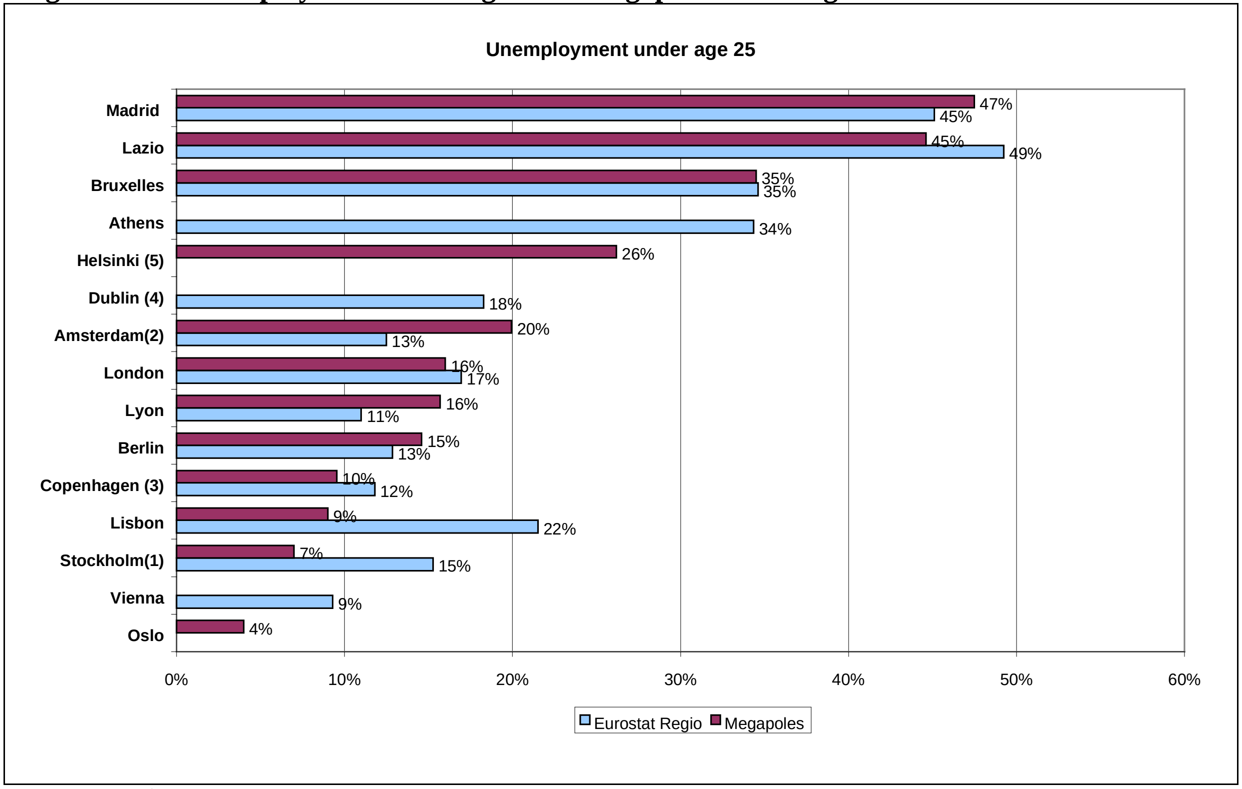
% Children aged 0-14 in city minus the % aged 0-14 in respective country
^ births per 1000 women aged 15-44

There are quite large differences between cities in the proportion of children in the population, ranging from 12% in Berlin to 22% in Dublin. One of the key factors driving this statistic will be the fertility rates, expressed either as a birth rate per 1,000 women or as a fertility rate per 1,000 women aged 15-44 (see section G2).

In most Mégapoles cities, the proportion of children is lower than that in the national population (see Table Y1.1), though Athens is an exception. Even Dublin, which has proportionately more children than any other Mégapoles city, has a lower proportion than the whole of Ireland. For a number of Mégapoles cities, their size in relation to the country as a whole is a significant factor. This is especially true for Dublin, Athens and Stockholm, which are home to around 1 in 5 (or more) of all the children in their respective countries.

Y2. Youth unemployment

Figure Y2.1: Unemployment under age 25 in Mégapoles cities/regions



(1)City values for ages 18-24. (2) Regio value based on Noord Holland (3) Regio value based on Denmark
(4) Regio value based on all Ireland (5) Regio value based on Uusimaa.

The level of unemployment amongst younger people is a basic economic indicator. Ecological studies within countries tend to show a relationship between high unemployment rates and adverse health indicators. Although unemployment rates are assessed as a routine indicator of social and economic status, the measurement of unemployment rates can be done in many different ways (see Section G7). In the younger age ranges the observed levels of unemployment may also be affected by differences regarding further education.

Data have been provided by the cities, and are also available as harmonised unemployment statistics on the Eurostat *Regio* database. Figure Y2.1 shows both figures - they do not always agree (note that the difference in Stockholm may be related to slightly different age groups). Despite these uncertainties, it is clear that there are wide differences between cities with rates of over 34% in Athens, Brussels, Lazio and Madrid. These values contrast with rates below 10% in Stockholm, Oslo and Vienna.

Y3. Legal age limits

The comparison of legal ages shows that on most of these matters there are some small differences between cities. In fact, the only age limit that all cities is have in common is the voting age.

Table Y3.1: Legal age limits in Mégapoles cities/regions

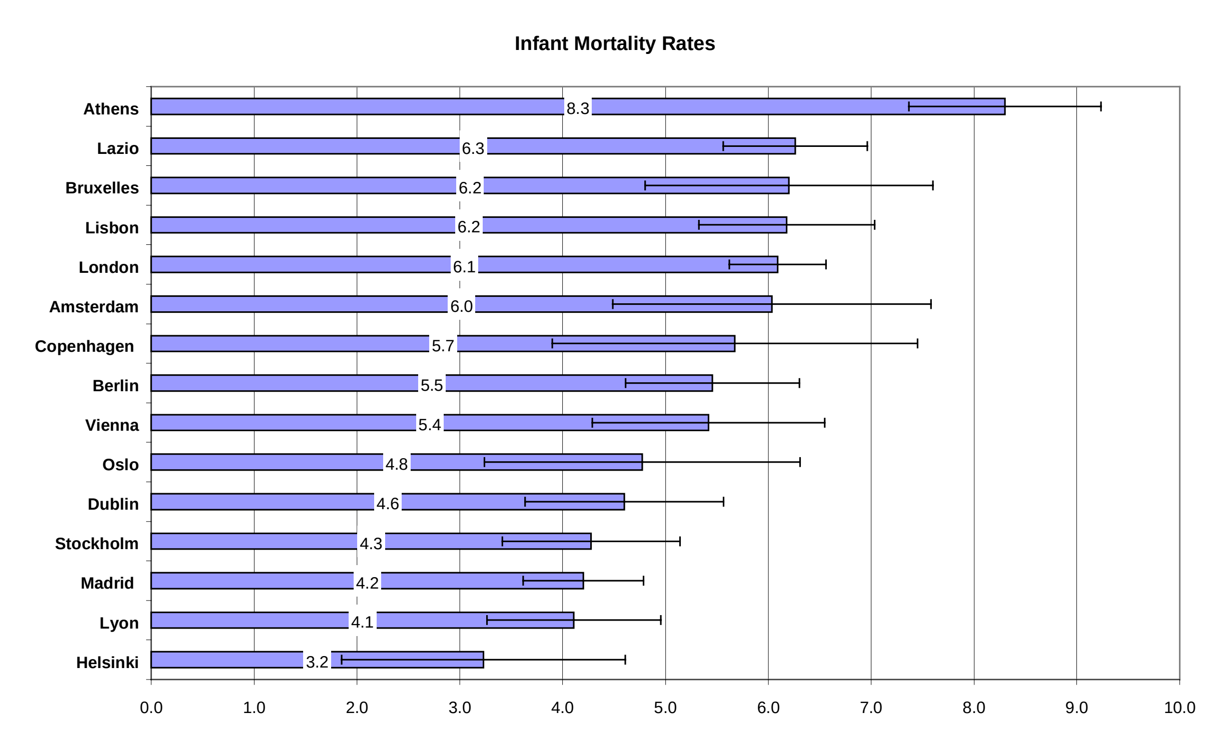
	Buy/smoke tobacco?	Drive small motorbikes?	Drive cars?	Leave school?	Buy alcohol?
Amsterdam	Any age	16	18	17	16
Athens	16	16(5)	16(5)	15	Any age
Bruxelles		16	18	16	
Copenhagen	No	15	18	After 9th degree	15
Dublin	16	16	17	15	18
Helsinki	18	15	18	17	18
Lazio	16	14	18	16	0
London	16	16	17	16	18
Madrid	16	14	18	16	16
Oslo	18	16	18	0	18 (6)
Stockholm	18	15	18	16	20 (1)
Lyon	16	14	18	16	18
Vienna	16	16	18	15	16

	Get married?	Have sex heterosexual?	Have sex homosexual?	Join armed forces?	Conscription?	Vote?
Amsterdam	18	16	16	17	No	18
Athens	16	16	16	18	Yes at 18	18
Bruxelles			18	?	Yes at 18	
Copenhagen	18	15	15	18	Yes at 18	18
Dublin				17	No	18
Helsinki	18	16	16	19	Yes	18
Lazio	18(3)	18	18	18	Yes	18
London	16/18	16	18	16	No	18
Madrid	18	18	18	18	Yes	18
Oslo	16/18	16	16	0	Yes	18
Stockholm	18	15/18	15/18	18	Yes	18
Lyon	15	15	15	18	Yes	18
Vienna	16/19 (2)	12 (4)	?	18	Yes at 18	18

One issue with large differences in the legal age limit is the age at which people are allowed to buy tobacco. There are no restrictions in Amsterdam or Copenhagen, yet age limits from 16-18 in the other cities. In London, the lower age limit on buying tobacco is considered a focus for local action to reduce young people smoking. Strategies may typically call for better implementation of this law and tighter controls on shopkeepers to prevent sale to under-age children. There may also be differences in the extent to which some of the legal age limits are enforced. The ages of consent for sexual activity are complex and an area where the implementation of the law may in practice be discretionary. Thus, for example, in Stockholm consenting sex between young people is generally allowed from age 15 onwards if both are young. It is more liable to prosecution if one person is significantly older.

Y4. Infant mortality rates

Figure Y4.1: Infant mortality rates in Mégapoles cities/regions



Infant mortality rates are one of the most commonly used indicators of health status in a community. The rates of infant mortality may be influenced by a number of factors including the health of the mother during pregnancy, health care services during delivery and subsequent post-natal care. The most common causes for death under age one include infectious and respiratory disease, congenital problems and Sudden Infant Deaths Syndrome.

Table Y4.1: Infant mortality rates in Mégapoles cities/regions

City	Year	Number Births	Number Deaths	Rates	Confidence Intervals -95%	+95%	National Rates	
Amsterdam	1997	9611	58	6.0	4.5	7.6	5.4	1995
Athens	1995	36265	301	8.3	7.4	9.2	8.1	1996
Berlin	1996	29136	159	5.5	4.6	6.3	5.2	1992
Bruxelles	1995	12600	78	6.2	4.8	7.6	8.2	1992
Copenhagen	1995	6872	39	5.7	3.9	7.5	5.0	1996
Dublin	1996	18879	87	4.6	3.6	5.6	5.4	1994
Helsinki	1996	6501	21	3.2	1.9	4.6	3.9	1995
Rome	1994	48710	305	6.3	5.6	7.0	7.0	1995
Lisbon	1995	32206	199	6.2	5.3	7.0	7.0	1996
London	1996	105411	642	6.1	5.6	6.6	6.2	1996
Madrid	1996	46877	197	4.2	3.6	4.8	5.9	1995
Oslo	1996	7751	37	4.8	3.2	6.3	5.3	1995
Vienna	1996	16242	88	5.4	4.3	6.5	5.1	1995
Stockholm	1995	21972	94	4.3	3.4	5.1	4.1	1995
Lyon	1994	21901	90	4.1	3.3	5.0	6.0	1994

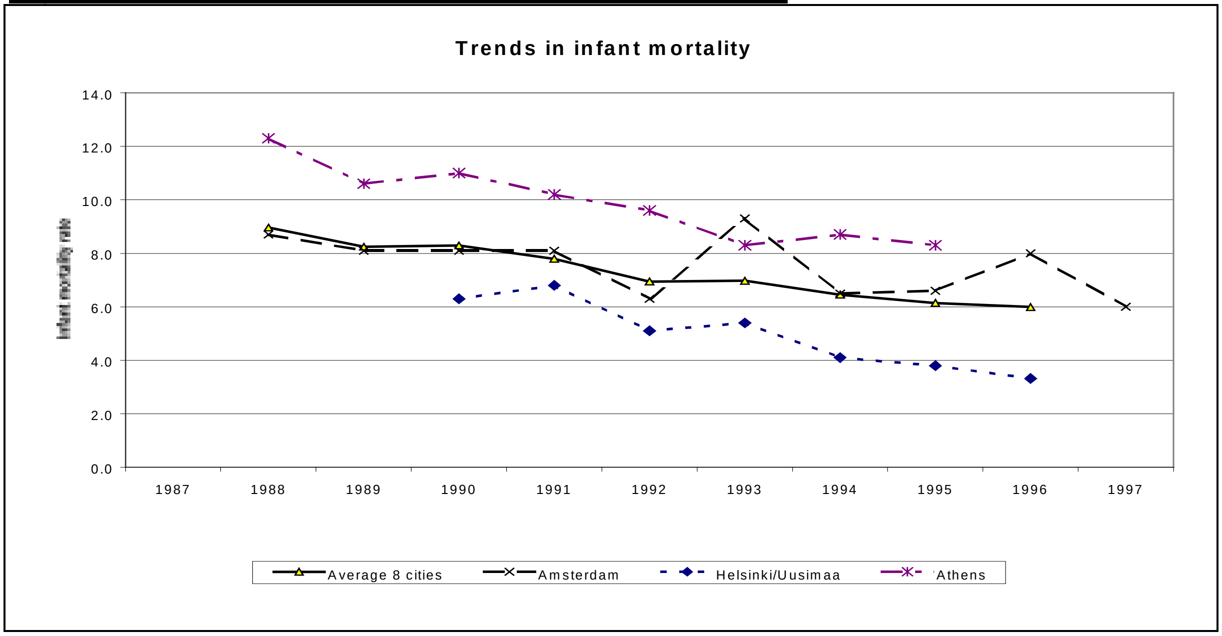
Within a country or city, infant mortality rates show a strong association with indicators of social and material deprivation, with rates in the poorest communities typically higher than in the most affluent. There may also be differences between ethnic groups within a city. In Western Europe, infant mortality rates (IMR) have shown a steady and consistent decline throughout this century. For example, between 1970 and 1991 the value for all EC countries fell from 22.3 to 7.5 deaths per 1,000 live births.

Infant mortality rates are usually expressed in terms of the numbers of deaths under one year of age per 1,000 live births to women resident in the area. Rates for the Mégapoles cities are shown in Figure Y4.1 above. As the number of deaths in any one year may be small, the 95% confidence intervals for the observed rates are also included. The continuing decline in infant mortality rates over time in Western Europe means that the observed comparisons may be sensitive to difference in the year of observations. The underlying numbers that make up the Infant Mortality Rates are shown in Table Y4.1.

The lowest rates are observed in Madrid, Helsinki, and Lyon with values around 4 deaths per 1,000 live births. The highest rates are in Amsterdam, Lazio and Lisbon where values are over 6 and in Athens over 8. The differences between the highest and lowest cities are statistically significant ($p<.05$). Table Y4.1 shows both the data from the Mégapoles city and that for the whole country taken from WHO datasets (in some cases the years do not match exactly).

Trends in infant mortality

Figure Y4.2: Examples of trends in infant mortality rates



The widespread use of infant mortality rates as a health indicator means that there is often time series data, allowing us to look at changes over time. The information request to cities asked about data over the past 10 years this was supplemented with data from the Eurostat *Regio* database where necessary. However, the data from the cities are not consistent in terms of the range of years. Figure Y4.2 gives as an example the trends in Amsterdam, Athens and Helsinki, as well as an average of 8 Mégapoles cities. This graph gives an indication of the extent of natural variability underlying the data in a city the size of Amsterdam. It also shows the downward trends in both Athens and Helsinki (cities with amongst the highest and lowest absolute infant mortality rates in this data).

Table Y4.2 shows the data from the cities showing the individual observations together with some summary statistics on the trends, such as the number of years over which the change occurred and the average annual change

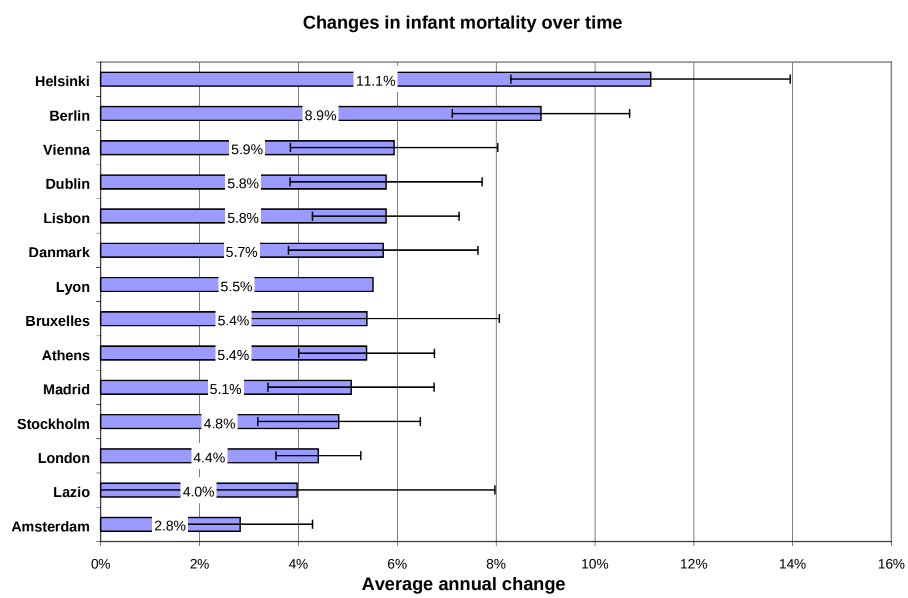
Table Y4.2: Infant mortality rates by year

																	Comparing start/end of series				Average change (regressions)		
City	1980	1981	1982	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	Absolute Change	Years in series	Average change	% change	Annual average	95% CIs	
Amsterdam							8.7	8.1	8.1	8.1	6.3	9.3	6.5	6.6	8.0	6.0	-2.7	9	-0.3	-3.9%	-2.8%	-5.6%	0.0%
Athens*							12.3	10.6	11.0	10.2	9.6	8.3	8.7	8.3			-4.0	7	-0.6	-5.8%	-5.4%	-6.8%	-4.0%
Berlin						11.4	9.1	8.6	9.1	7.4	6.3	5.7	5.4	5.6	5.5		-5.9	9	-0.7	-8.9%	-8.9%	-10.7%	-7.1%
Bruxelles*	13.0			10.9		10.2	11.8	9.7	6.2	8.2	7.0			6.2			-6.8	15	-0.5	-4.9%	-5.4%	-8.1%	-2.6%
Danmark*						8.3	7.6	8.0	7.5	7.3	6.6	5.4	5.7			5.8	-2.5	10	-0.2	-3.6%	-5.7%	-7.6%	-3.8%
Dublin							9.2	7.5	8.2	8.2	6.6	5.9	5.9	6.3	5.5		-3.7	8	-0.5	-6.6%	-5.8%	-7.7%	-3.8%
Uusimaa*									6.3	6.8	5.1	5.4	4.1	3.8	3.3		-3.0	6	-0.5	-10.0%	-11.1%	-14.0%	-8.2%
Lazio	12.7		11.7	9.0	8.5	9.2	8.5	7.0	6.9	8.2	8.5	7.6	5.5	6.2			-6.5	15	-0.4	-5.1%	-4.0%	-8.0%	0.2%
Lisbon*						11.3	10.4	9.2	8.5	9.4	7.8	7.9	7.7	6.4			-4.9	8	-0.6	-7.0%	-5.8%	-7.3%	-4.3%
London		10.5	10.8	9.3	9.1	9.5	8.9	8.7	7.9	7.0	7.1		6.4	6.3	6.4		-4.1	15	-0.3	-3.3%	-4.4%	-5.3%	-3.5%
Madrid							7.1	6.8	6.9	6.4	6.8	6.5	6.2	5.0	4.6	4.5	-2.6	8	-0.3	-5.4%	-5.1%	-6.7%	-3.4%
Oslo																							
Vienna		14.1			10.4					8.5	9.9	8.1	5.9	7.7	5.4	4.6	-9.5	16	-0.6	-7.2%	-5.9%	-8.0%	-3.8%
Stockholm						6.4	6.0	6.5	6.6	5.7	5.1	5.2	4.8	4.3		4.8	-1.6	10	-0.2	-2.9%	-4.8%	-6.5%	-3.1%
Lyon			8.4											4.5			-3.9	13	-0.3	-4.7%	-5.5%		
Average 8 cities							8.9	8.0	8.2	7.9	7.1	7.1	6.3	6.1			-3.5	8	-0.4	-5.7%	-5.4%	-6.0%	-4.8%

** data taken from Eurostat Regio database*

Although such measures are arithmetically simple, they also depend critically on the values at the start and end of the series. A more sophisticated way to look at the rate of change data is to calculate a trend line over time based on regression against the log values (the assumption being that mortality rates will tend to decline in a log fashion). The results using these two methods are generally similar with trends averaging between a 3% and 11% reduction in rates per year. These trends are based on a relatively small number of observations, so the confidence intervals about the observed values are large.

Figure Y4.3: Estimates of average annual changes in infant mortality rates.



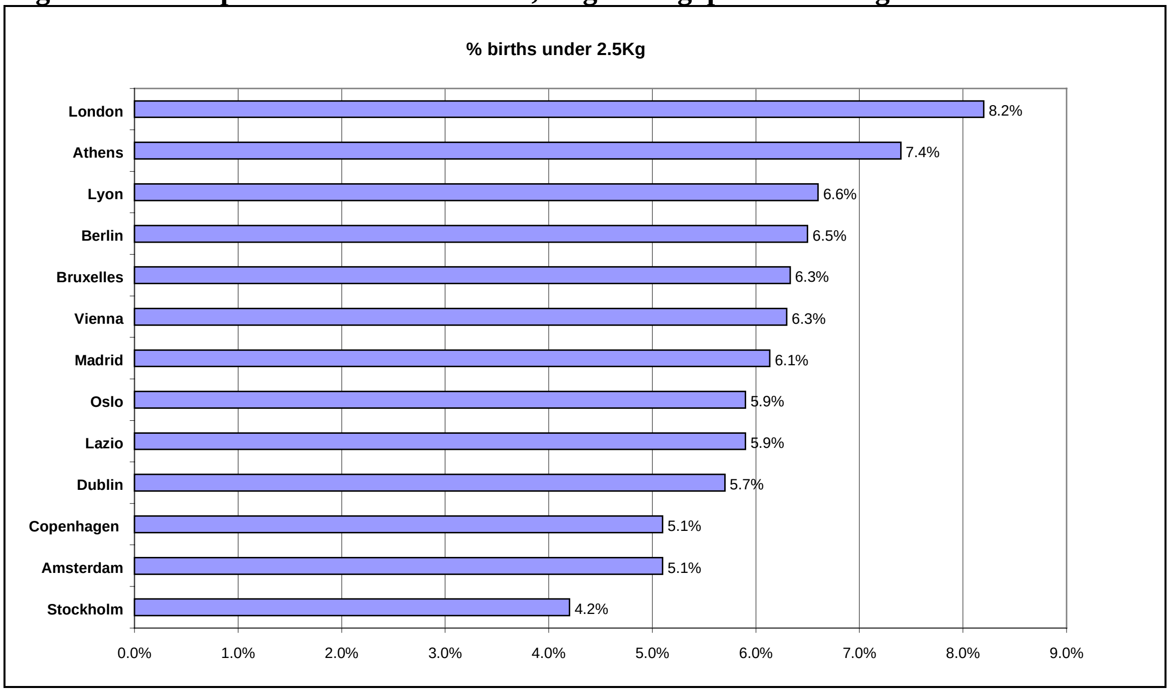
When the confidence intervals on the regression model cross zero then it indicates that the trend is not significant (such as in Lazio and Amsterdam). Figure Y4.3 shows, rates in Helsinki and Berlin appear to have been declining the fastest. Although there are only six observations in the Helsinki series, the calculated decline of 11% per year is significantly greater than that in most other cities. However this is a relative value and Helsinki has a low underlying rate. When expressed in absolute terms (that is the decline in deaths per 1,000 live births), the differences are less obvious.

<u>Y5. Low birthweight</u>

Low birthweight babies are considered at a higher risk of ill health and reflect on the health of the mother during pregnancy and her health-related behaviour during pregnancy (nutrition and smoking, for example). Rates will be affected by other factors such as such as ethnicity and the age of the mother (especially of the first child).

The usual indicator is the percentage of live births where the baby weighs under 2,500g. This definition is used in WHO Healthy City indicators and in a number of other settings. Most cities were able to report the proportion of babies born with a birthweight less than 2,500g. London (8.2%) has a far higher proportion than Madrid and Stockholm (4%). The high values in London may be linked to differences in ethnicity, however even in areas of London with small black and ethnic minority populations, values are still higher than elsewhere.

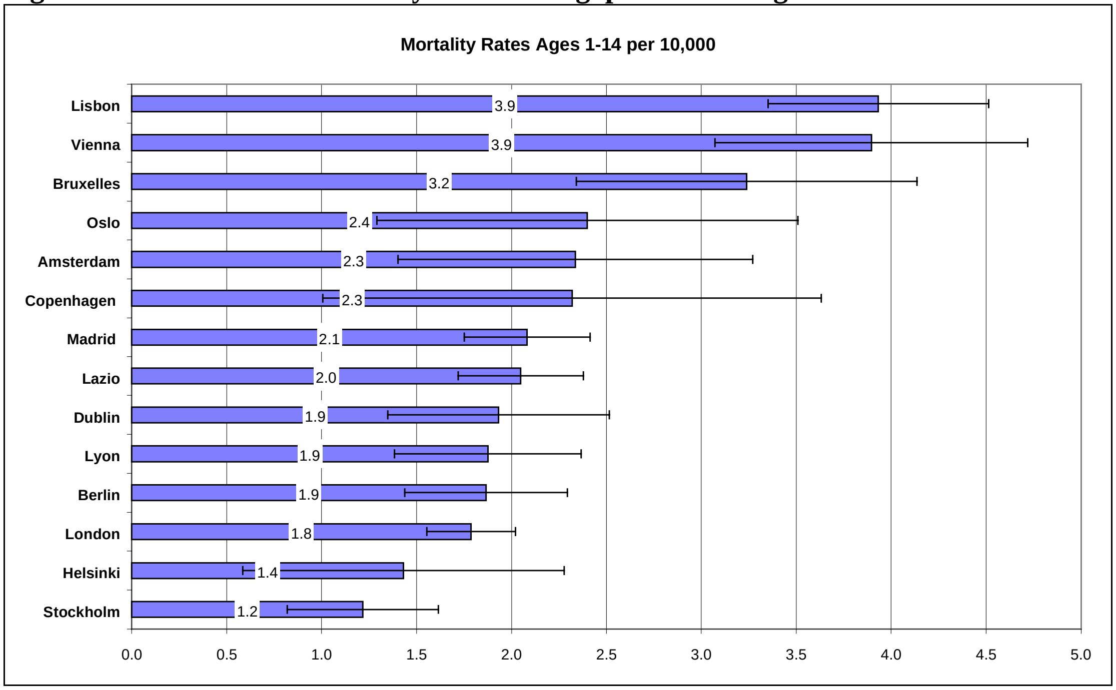
Figure Y5.1: Proportion of births under 2,500g in Mégapoles cities/regions



<u>Y6. Childhood mortality rates</u>

Mortality rates between ages 1 and 14 are significantly lower than infant mortality rates. Deaths in this age group may be related to a wide range of conditions, of which the most common are accidents and injury occurring either in the home or on the roads.

Figure Y6.1: Childhood mortality rates in Mégapoles cities/regions



The mortality rate at these ages varies between cities from 1.2 to 3.9 deaths per 10,000 children. Although the absolute numbers of deaths are small and the confidence intervals relatively wide, there are still significant differences between the highest and lowest rates in the Mégapoles cities between Stockholm (1.2) and Lisbon (3.9)

Y7. Mortality by cause

As discussed earlier (see section H2), some cities were able to provide mortality data by cause. The numbers of deaths in any one category are small, meaning that the confidence intervals will be large and most of the differences in Table Y7.1 are not statistically significant. For this age group, comparisons should really be based on data added across a number of years.

Table Y7.1 Cause specific mortality rates. Deaths per 100,000 aged 0-14.

Rates per 100,000	Infectious and parasitic diseases	All Malignant neoplasms	All Respiratory disease	All accidents and adverse effects	Road accidents
Amsterdam	3.6	3.6	2.7	3.6	1.8
Bruxelles	1.2	4.8	1.8	6.6	2.4
Copenhagen		3.4		1.7	1.7
Dublin	2.6	1.3	1.3	7.3	4.3
Lazio	0.6	5.5	1.3	3.7	1.5
London	3.6	2.7	3.2	3.5	1.1
Madrid	1.2	3.3	2.3	5.7	1.5
Oslo	1.2				
Stockholm	0.6	3.5		2.2	1.6
Lyon	1.9	3.4	1.2	4.4	1.2

Table Y7.1 shows the rates per 100,000 children aged 0-14 (unstandardised) for the most common causes of death in this age group, defined in terms of groups of ICD 9 codes. The main causes of death in childhood include infectious and respiratory diseases, some malignant neoplasms and accidents and injuries - of which road traffic accidents are usually the single most important category.

Y8. Teenage conceptions/abortions

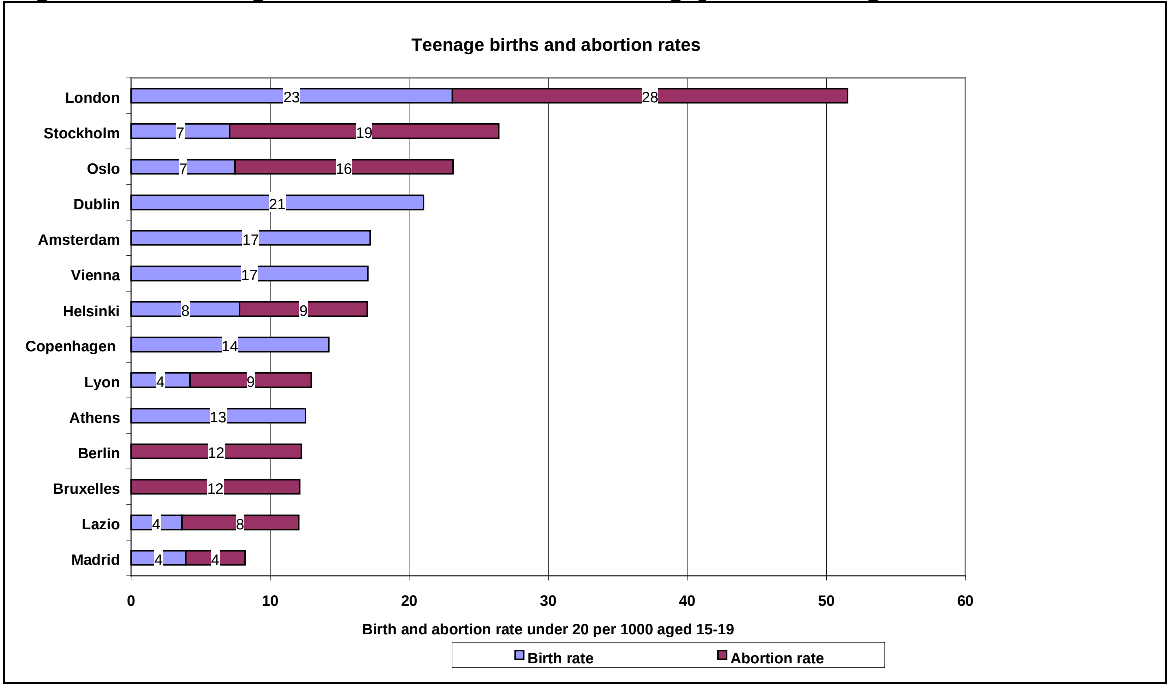
The extent to which teenage women either have children or have an unplanned pregnancy could be due to many factors including cultural and social differences between cities. However it will also be linked to patterns of sexual behaviour and the accessibility and use of contraception. It is these factors that are of key concern from a public health perspective and indicate the potential for safer sexual behaviour amongst younger men and women.

Teenage conception rates are made up of two components, the first is births to teenage women and the second is abortions. Not all cities collected the required data, in particular abortion data. Rates are usually expressed relative to the population of women aged 15-19, although it is recognised that some births may be at even younger ages. In Dublin, elective abortions are not carried out and some women may have the procedure carried out in the UK.

The teenage birth rate is markedly high in London, Dublin and Vienna with rates around twice as high as most of the other cities. In Amsterdam there are reported to be large differences in teenage births between different ethnic groups with rates in women from the Turkish community being relatively high. The lowest recorded rates in the Mégapoles cities are in Lyon and Lisbon.

Figures about abortion can be particularly difficult to interpret. One of the problems is that women may travel quite large distances to have an abortion - often this may mean going into a major city. The information therefore has to be recorded according to usual place of residence. Even if this is done there can be some uncertainty about the recording of data. In the UK there are issues around the accessibility to abortion, which has meant that historically, rates in London have tended to be far higher than elsewhere in the UK. This may be explained partly by women moving to London to have an abortion and being counted as a resident. A second problem concerns the definition of abortion and the changing technology employed such as the development of methods of emergency and hormonal contraception. In Amsterdam, such treatments will be carried out in abortion clinics.

Figure Y8.1: Teenage birth and abortion rates in Mégapoles cities/regions



Only a minority of cities were able to provide figures. From the figures we received, London has exceptionally high abortion rates at 51.5 per 1000, with Stockholm next highest at 18.5.

Table Y8.1: Statistics on conceptions and abortions in Mégapoles cities/regions

	Number of women 15-19^ (000s)	Number of births <20	Birth rate per 1000 age 15-19	Number of abortions <20	Abortion rate per 1000 age 15-19	Estimated conception rate per 1000 age 15-19
Amsterdam	16	281	17.2			
Athens	130	1632	12.5			
Berlin	92			1,130	12	
Bruxelles	30			364	12	
Copenhagen	19	274	14.2			
Dublin	50	1052	21.0	0	0	21
Helsinki	17	132	7.8	155	9	17
Lazio	192	703	3.7	1,616	8.4	12
Lisbon	113					
London	225	5197	23.1	6,389	28	52
Madrid	209	823	3.9	885	4	8
Oslo	14	102	7.5	213	16	23
Vienna	46	782	17.0			
Stockholm	51	363	7.1	991	19	26
Lyon	52	219	4.2	450	9	13

** rates for all Netherlands^ estimated from populations aged 15-24*

Y9. Other indicators

a. Pre-school places

The importance of pre-school provision for children is two fold. One is the positive effect on child development, the other is that it may also be critical in allowing parents to take up employment, especially lone parents.

A comparative assessment of the levels of provision for pre-school children is particularly difficult as pre-school care can take many different forms and the statistics will not be consistent between, or even within a country. Moreover, in countries where the starting age for school is relatively late (for example age 7 in Helsinki) we might expect different forms of provision in early years. The situation is further complicated by the fact that these places are often used on a part-time basis.

Figure Y9.1 Percentage of children in pre-school in Stockholm by age

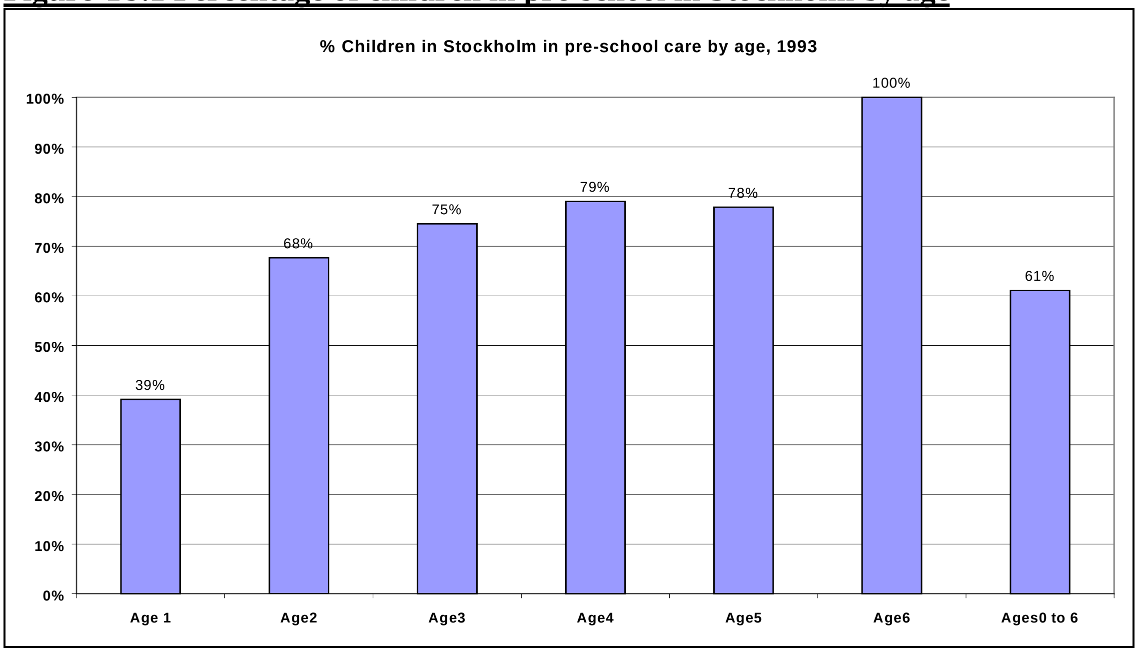


Figure Y9.1 shows as an example data from Stockholm 1993. As children get older the proportion in day care, family day care or school gradually increases from 39% of those aged 1 until by age 6 all children are going to school. Representing this situation in a simple comparable statistic will obviously cause problems.

Table Y9.1: Pre-school places in Mégapoles cities/regions

	% children attending pre-school	
Amsterdam	20%	1 in 4 at ages 0-3, 93% 4 yrs old attend school
Athens	22%	
London	22%	Nurseries; child minders; play groups
Lyon	31%	
Vienna	45%	
Madrid	51%	Children below 4 and 4-5 years olds attending private and public education centres. School starts age 6
Stockholm	61%	Average ages to 6 in day care, family day care or school
Helsinki	64%	35% under 3 and 68% 3-6 in day care
Copenhagen	*68%*	Day care places relative to population under 5
Oslo	72%	Nursery school places ages 0-6

The questionnaire to Mégapoles cities asked for the number of pre-school places and the number of children in the relevant age range. Table Y9.1 shows the responses expressed as a simple percentage. The most notable feature is that all the Scandinavian cities appear to have much higher use of pre-school provision.

b. Child abuse

Only a few cities were able to access statistics on the extent of child abuse. These numbers will typically be based on cases identified by social or welfare services and so are unlikely to represent the full scale of the problem. Moreover, differences in the way cases are defined are likely to be significant. The distinctions between physical, sexual and all abuse are also rather difficult to make, as different forms of abuse may well go together.

Table Y9.2 gives as an example data from 6 cities showing the numbers of recorded cases and these values expressed relative to the population of children (in this case ages per 1,000 aged 0-14). **These comparisons should not be taken at face value,** because the basis for identifying cases is rather different.

The values for Stockholm are based on the numbers of convictions, there are around 5 times as many cases reported to the police. In contrast, the values for London and Vienna are based on numbers on a child protection register. The numbers from Lyon are the product of reports by various institutions such as hospitals schools etc. The values in Dublin are suspected cases reported to the Eastern Health Board. All these are subject to investigation and so far 39% have been confirmed.

Given the significance of this particular issue, the important questions must be about whether we could ever develop a comparative perspective and what data collection is needed for such an exercise.

Table Y9.2: Examples of recording of cases of child abuse

Rates per 1000	Values based on	Sexual		Physical		Total	
Age 0-14		Cases	Rate	Cases	Rate	Cases	Rate
Amsterdam+	Reported	145	1.3	378	3.4	805	7.2
Dublin	Reported	970	4.2	581	2.5	2368	10.2
London	Registered	499	0.4	1242	0.9	5423	4.0
Vienna	Registered	160	0.7	53	0.2	127	0.5
Stockholm*	**Convicted**	95	0.3	191	0.6		
Lyon	Reported	365	1.1	241	0.8	750	2.3

** Estimated from rates from all Sweden.* *+ Of these 596 verified.*

c. Children being looked after by local authorities

Table Y9.3 gives some examples from the cities on estimates of the numbers of children being looked after by local authorities in children's homes or foster care. These numbers are of course not unambiguous and we can expect that underlying these figures are differences in the ways these services are defined.

Table Y9.3: Children in homes or foster care

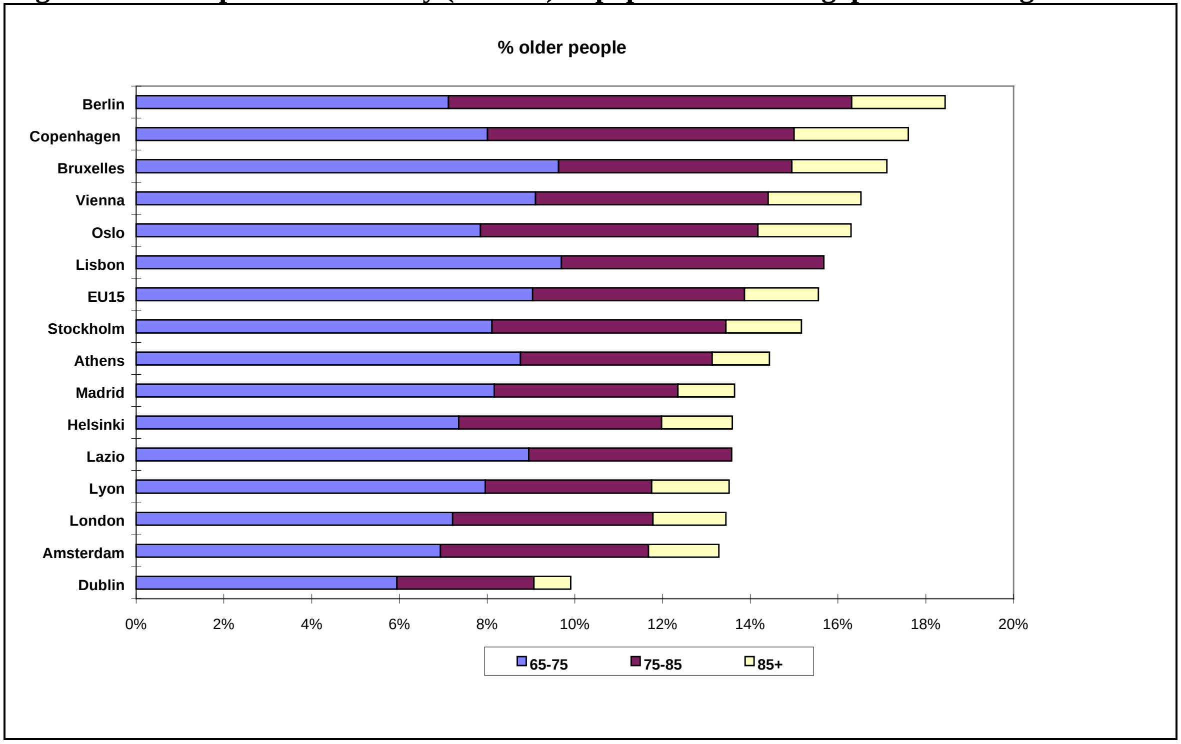
Rates per 1,000 Ages 0-14	Homes		Foster care	
	No.	Rate	No.	Rate
Athens			695	*1.2*
Dublin	305	*1.3*	1090	*4.7*
Helsinki	5032	*60.5*	880	*10.6*
London		*0.9*		*3.7*
Oslo	2379	*28.8*		
Vienna	1551	*6.5*		
Stockholm	2093	*6.6*		
Lyon	1636	*5.1*	1324	*4.1*

SECTION 5. OLDER PEOPLE

The assessment of health status amongst older people can be particularly difficult. Many of the health problems of the elderly relate to functional abilities and psychosocial states. As such, the standby of using information about mortality as a marker of the distribution of ill health becomes more difficult. Information about the more specific health problems of older people is often not available within individual cities and developing comparable data across cities is even harder.

E1. Proportion of older people

Figure E1.1: Proportion of elderly (over 65) in populations of Mégapoles cities/regions



Population figures in Lazio and Lisbon do not distinguish ages over 85.

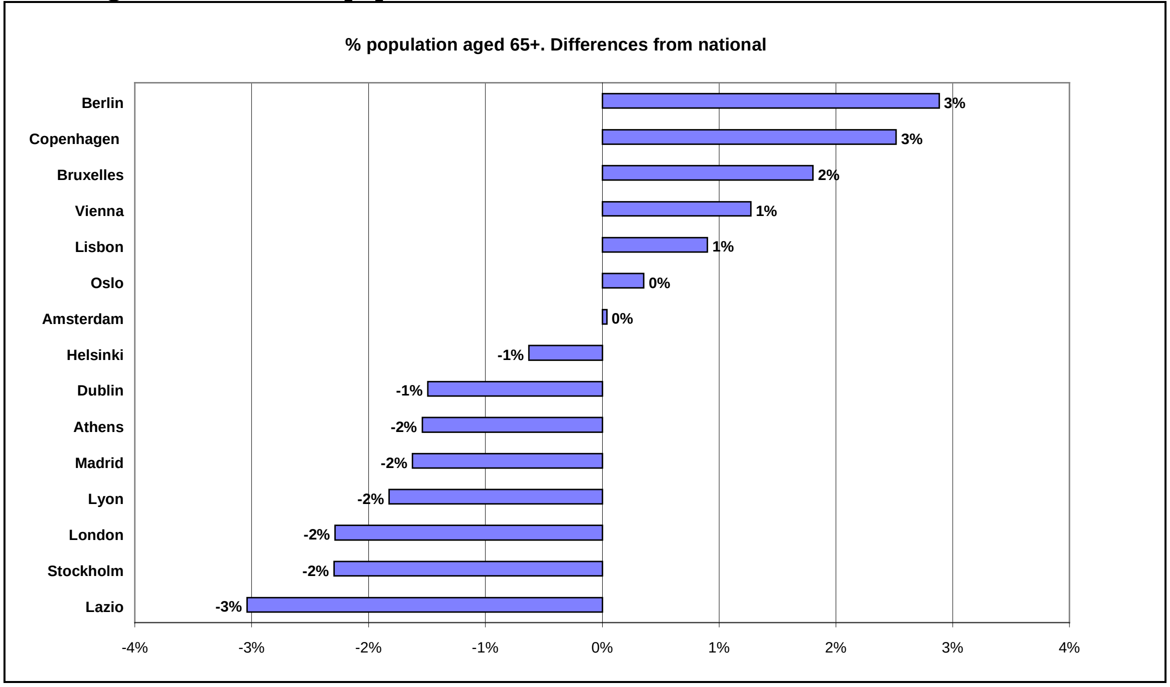
The proportion of older people, in this case aged over 65, shows significant differences between cities. Copenhagen, Brussels and Berlin average over 17% whilst London and Amsterdam have around 13% and Dublin has only 9%. The average of 15 EU countries is 15.6%. Around 2% of the total population will be over the age of 85.

The relative size of the elderly population in the cities will be a product of many factors, particularly national demographic trends and migration patterns. Some cities import younger people from the rest of the country and export older people of retirement age.

These differences between cities might be expected to influence the patterns of public health in a number of ways, in particular the relative priorities accorded to services for older people. In addition, planning in these cities needs to consider the future consequences of an ageing population, and the potential effects that this might have on the demand for services.

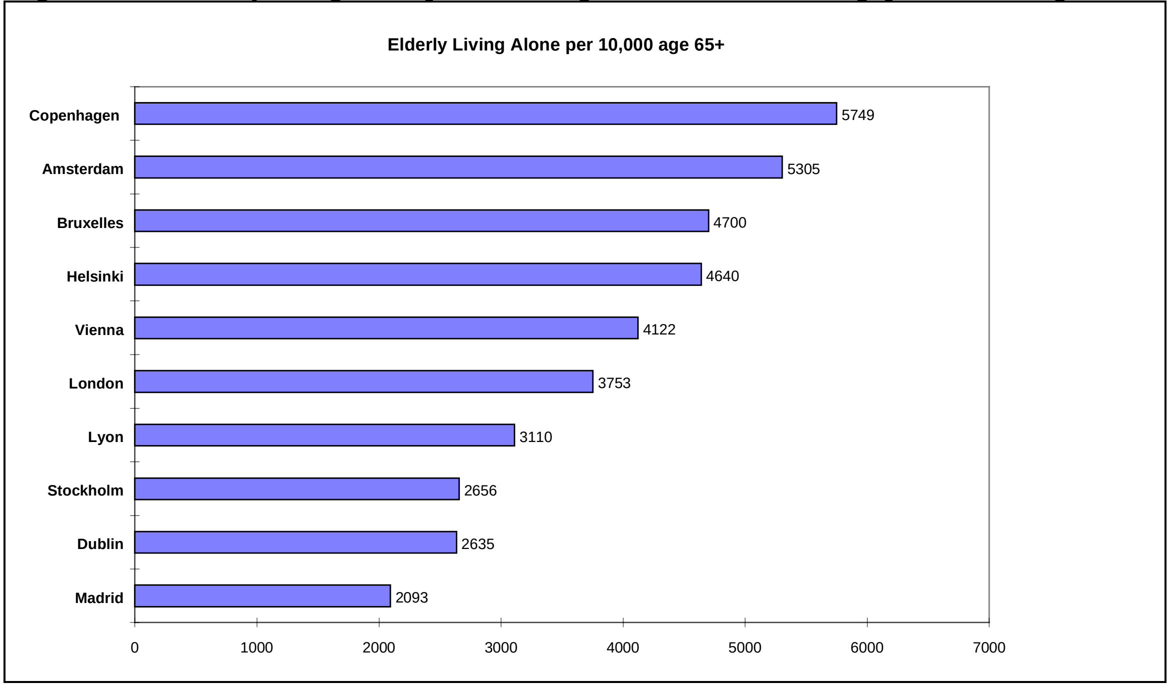
The proportion of older people in the city may in part be a reflection of the age structure of the country as a whole. The figure above shows the difference between the percentage of people over age 65 in the city minus the percentage in the whole country. In Brussels, Copenhagen and Berlin the relatively high proportion of older people appears to be a characteristic of the cities rather than the nations. London, Stockholm and Lazio have fewer older people than their respective countries.

Figure E1.2: Proportion of people aged over 65 - Difference between Mégapoles cities/regions and national populations



E2. Elderly living alone and special housing

Figure E2.1: Elderly living alone per 10,000 aged 65 and over in Mégapoles cities/regions



The proportion of elderly people that live alone, as opposed to with a family, is a commonly used indicator. The significance for health and welfare services is that older people living alone may make greater demand on services and for example may:

- have more accidents
- be more likely to suffer from loneliness and depression
- require additional social or nursing care (rather than using informal carers).

Information about age and family size is commonly obtained from census data. Figures here are based on either the reported numbers of elderly living alone divided by the population of those age 65+, or a reported percentage. The age cut-off defining 'elderly' may show some variation between cities, although age 65 and over is the most commonly used definition.

The observed values per 10,000 people range from 2,000 in Madrid to over 5,000 in Amsterdam and Copenhagen.

Although the majority of older people live in their own homes, significant numbers live in some form of supported accommodation or institution. The types of special housing that older people live in can be broadly summarised under three headings:

- supported housing (this may include specially adapted housing with or without some element of supervision)
- residential care (homes with higher levels of social care and more dependent residents)
- nursing homes (where residents have specific medical or nursing problems and in some cases these may be equivalent to long stay hospitals).

The boundaries between these areas can become blurred, even more so when we think about practice in different cities. Table E2.1 attempts to summarise information from those cities that were able to return data under these three headings. The values are expressed in terms of residents per 10,000 people age 65 and over and must be treated with some caution.

Table E2.1 Older people living in special housing in Mégapoles cities/regions

Per 10,000 age 65+	Supported Housing	Residential Homes	Nursing Homes	Total
London		158	57	215
Stockholm	282	66	212	561
Lyon	177	335	103	615
Vienna	2	434	394	831
Bruxelles*		681	375	1056
Oslo	376	56	642	1075
Helsinki	533		643	1176
Amsterdam	524	569	361	1454
Copenhagen	502	603	638	1760

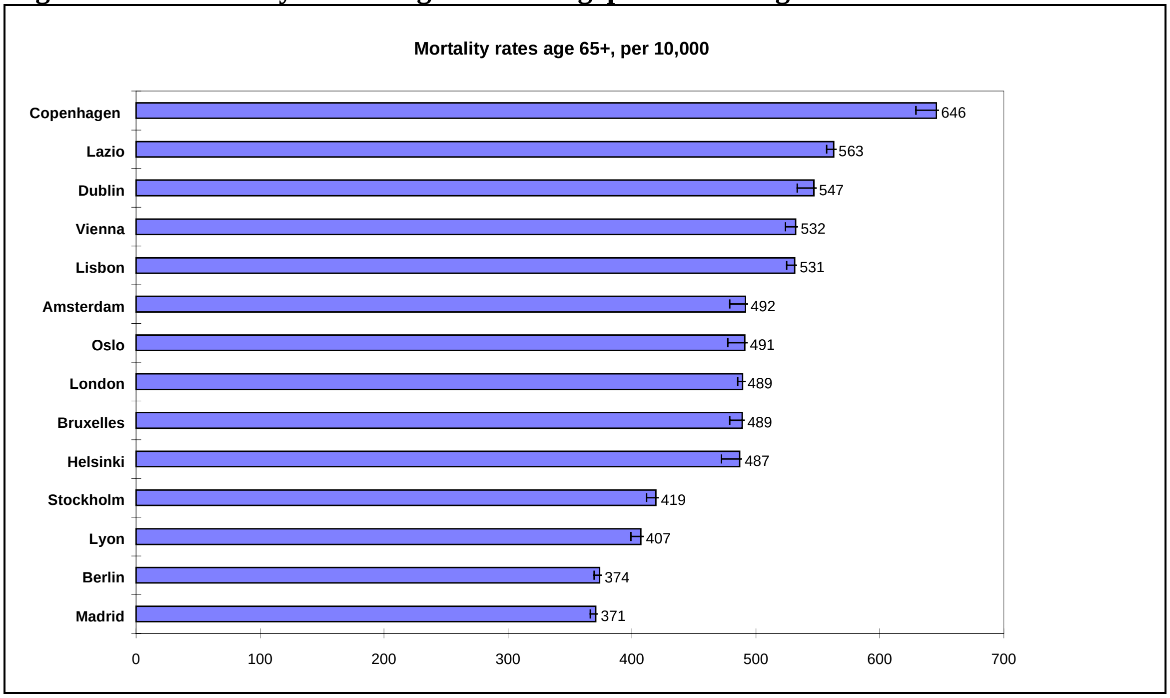
*value based on available beds including residential homes and 'Seniories'

The data from Brussels are based on available beds in residential homes and '*Seniories*' and will therefore exceed the actual numbers of residents in such institutions.

Despite the reservations over the definitions involved, there do seem to be some huge differences in the use of such institutions by older people with almost ten-fold differences in levels of provision between London and Copenhagen.

E3. Mortality rates at age 65+

Figure E3.1: Mortality rates at age 65+ in Mégapoles cities/regions



Values standardised for age groups 65-74 and 75+

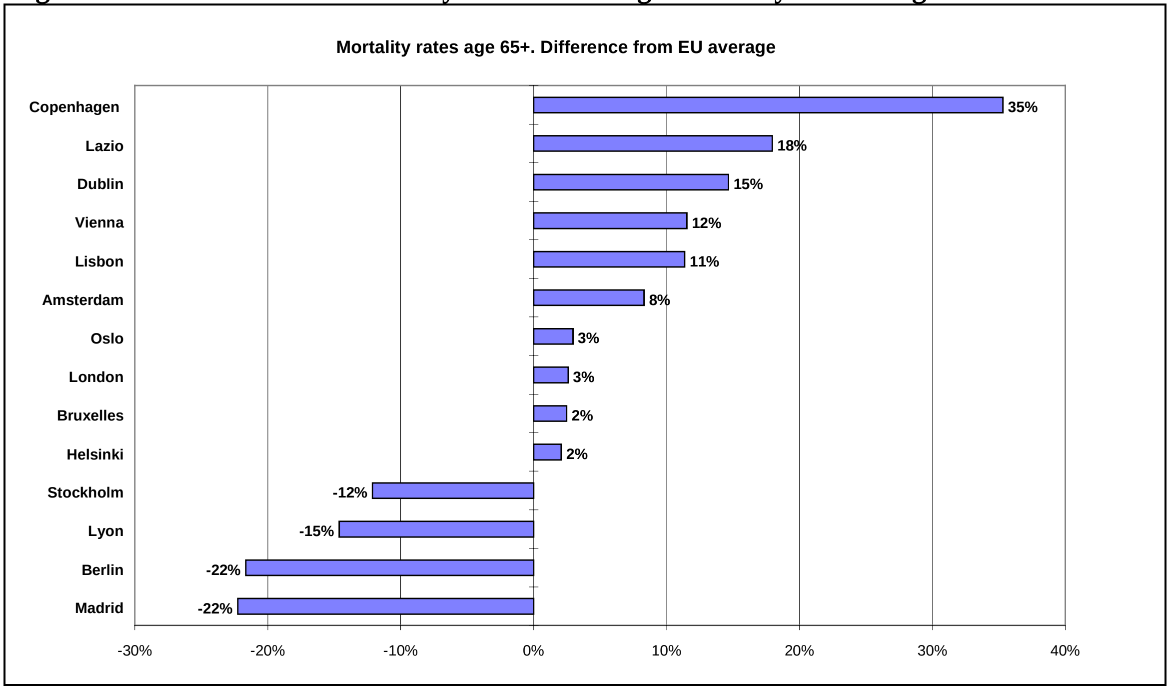
Although life expectancy figures are often used as a measure of health status, the related measure of mortality rates have been preferred in this report as they are easier to calculate (and validate). They also tend to be more sensitive to differences between areas. Since mortality rates increase exponentially with age, it is important that some form of standardisation is used. In this example, two cities were not able to differentiate between the numbers over 75 and 85, and therefore the standardisation for age has had to be rather crude in order to be consistent across all cities.

For those over age 65, mortality rates per 10,000 range from 371 in Madrid to 550-600 in Lazio and Copenhagen. The majority of Mégapoles cities have mortality rates in this age group that are greater than an EU average (477).

When compared to mortality rates in their respective countries, there is no particular pattern across Mégapoles cities. Lazio and Copenhagen have rates that are more than 20% higher than national averages for Italy and Denmark respectively, whilst in Berlin mortality rates in those aged 65+ appear to be almost 20% lower than those for the whole of Germany (data not shown).

TableE3.1 shows results for specific age bands and a comparison to an average of 15 EU countries (note the years for this dataset are slightly earlier). There are differences in the relative positions of the cities in different age bands. Interpreting the variation can be difficult, since cohort effects may mean that a high mortality rate in one age band is linked with a lower mortality rate in another. It is important to remember some of the history of people of this age - those who were 75 in 1996 will have born around 1920.

Figure E3.2 Difference between city and EU average mortality rates at age 65+



Mortality rates amongst those aged 65 to 74 may be the best relative indicator of the health of older people in these cities. Many of these deaths will be linked to causes that are essentially avoidable. The figures in table E3.1 show that Lyon and Madrid stand out as having particularly low rates amongst this age group (160-170 deaths per 10,000), whilst Copenhagen has a rate of more than 400.

Table E3.1 Mortality rates per 10,000 for different age bands

	Year	65-74	75-84	85+
Amsterdam	1996	244	649	1740
Berlin	1996	259	323	1662
Bruxelles	1995	233	698	1523
Copenhagen	1997	411	809	1716
Dublin	1996	293	743	1928
Helsinki	1996	235	644	1747
Lazio	1995	247		
Lisbon	1995	249		
London	1995	270	649	1488
Madrid	1996	166	493	1491
Oslo	1997	259	621	1717
Vienna	1995	260	682	1820
Stockholm	1995	212	585	1387
Lyon	1996	167	505	1519
EU15 average	varies	234	638	1680

E4. Deaths by cause at age 65+

The additional problems involved in comparing cause specific mortality rates were discussed earlier (see Section H2). The following analysis is exploratory and looks at the few cities that were able to supply cause specific mortality data for the 65+ age group. These rates have not been standardised and are expressed as the number of deaths at ages 65 and over relative to the total population.

Table E4.1 shows the rates whilst Table E4.2 compares the proportion of all deaths in five major diagnostic groups. There are some values in both tables that require checking, and extreme values are indicative of problems with the definitions involved. Amongst this age group it is important to remember that everyone dies at some time and that high rates for one cause may be linked with low rates for another. The most common causes of death in this age group are cancers (20-25%), cardiovascular disease (around 20% IHD and 10% stroke) and respiratory disease (20%). However, the balance of these varies between cities.

Table E4.1: Crude mortality rates at ages 65+ (Deaths per 10,000)

Cause of death^	Infectious and parasitic diseases	Tuberculosis	All Malignant neoplasms	Cancer Stomach, colon, rectum etc	Lung cancer	Cancer buccal cavity, pharynx, larynx	Breast cancer (w)	Cervix (w)
Amsterdam	50		1378	234	306	48	196	17
Athens*			748					
Bruxelles	81		1264					
Copenhagen		8.4		312	363	78	188	33
Dublin	28		1330					
Lazio	18	5.6	1363	282	312	17	142	5
London	29		1243					
Madrid	74	8.0	991			16		
Stockholm	34	1.9	1054	189	167	15	112	15
Lyon	83		1145					

(w) per 10,000 women

Cause of death^	Circu-latory disease	IHD	Vascular cerebral disease	Respiratory disease	Pneumonia, bronchitis, emphysema	Chronic Liver disease	Accidents & adverse effects	Road accidents	Suicide & self-inflicted injury
Amsterdam	2508	951	618	650	287	15	152	20	18
Athens*		477	861	1033		96	56	26	5
Bruxelles	733	647	42	508	1756	42	88	15	33
Copenhagen	2733	1206	638	691	254		227	21	28
Dublin		1397	612	932	472	13	67	11	3
Lazio	2585	803	739	333	276	99	169	25	15
London	2385	1273	581	1163	770	20	51	9	6
Madrid	1494	415	416	485		63	74	9	7
Stockholm	2526	1195	560	448	227	26	111	7	24
Lyon	1576	402	416	403	167	45	172	13	16

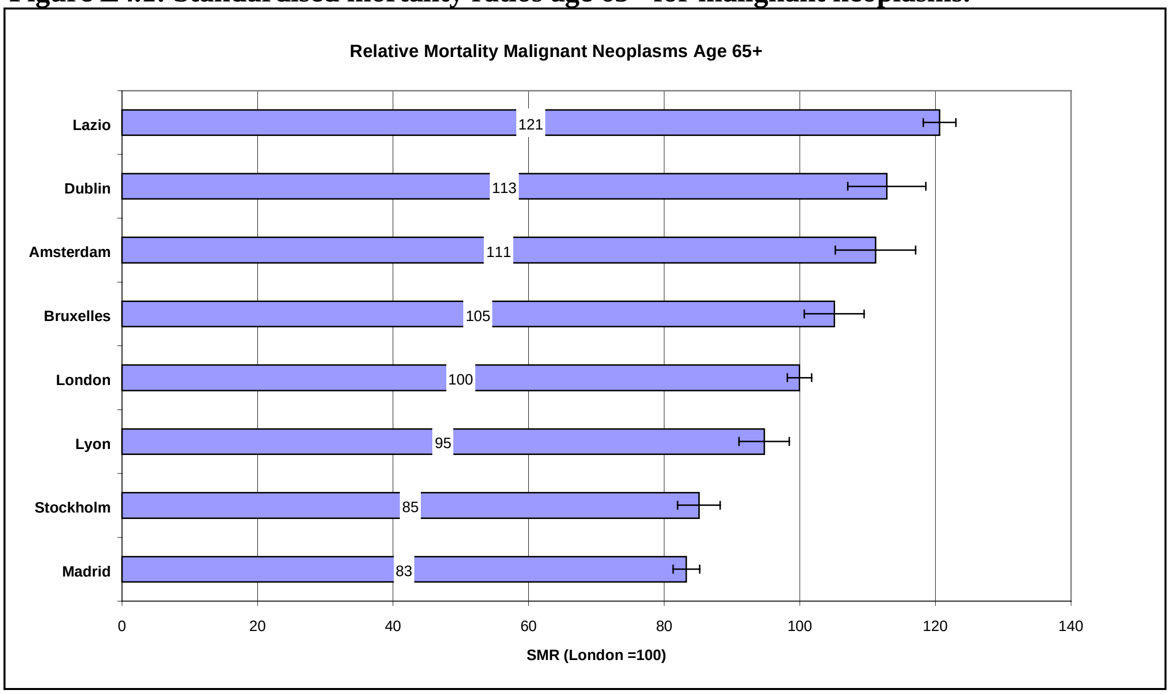
** Athens values based on figures for all Greece*
^ For ICD-9 codes see Appendix

One way to overcome the effects of differences in age structure is to standardise rates. Figure E4.1 shows the rates for cancers indirectly standardised for age and sex differences relative to rates in London in 1996. Values range from 83 in Madrid to more than 120 in Lazio. In general, the ordering of cities is the same as that for the crude rates, with the exception of Amsterdam. Most of these differences between cities appear to be statistically significant as the confidence intervals around the rates indicate.

Table E4.2 Percentage of deaths of those aged 65+ attributable to common causes

	All Malignant neoplasms	Ischaemic Heart Disease	Vascular cerebral diseases	All Respiratory disease	All accidents and adverse effects
Amsterdam	23%	16%	10%	11%	3%
Athens	19%	12%	22%	26%	1%
Bruxelles	23%	12%	1%	9%	2%
Copenhagen	7%	17%	9%	10%	3%
Dublin	23%	24%	11%	16%	1%
Lazio	25%	15%	14%	6%	3%
London	22%	23%	10%	21%	1%
Madrid Community	25%	11%	11%	12%	2%
Stockholm	21%	24%	11%	9%	2%
Lyon	26%	9%	9%	9%	4%

Figure E4.1: Standardised mortality ratios age 65+ for malignant neoplasms.



E5. Self-reported health

Many health surveys include a general question asking people to describe their own health on a simple categorical 4 or 5 point scale, usually ranging from 'Very Bad' to 'Very Good'. These self-assessments are one of the simplest ways to describe our health, and have been found to be associated with other indicators of poor health status. However, the pattern of responses on this type of question is sensitive to the way the question is framed and the type/number of categories offered. Although questionnaires are often very similar, they are not always the same and slightly different questions can elicit very different responses.

Table E5.1 Proportion older people reporting ‘good’ health

	Self-reported health at ages 65+ ‘Good' or 'Very good'
Amsterdam	56%
Bruxelles	70% rather good or better
Copenhagen	50% 'good or very good'
Lazio	37%
London	57% good or very good (UK) age 65+
Madrid	40% (Spain) Age 65+
Vienna	34% Age 60+
Lyon	80% " good for their age"

Table E5.1 shows responses for studies looking at the proportion of people aged 65 and over reporting their health as being ‘good’ or ‘very good’. We would typically expect this value to be lower among older age groups (for example, 76% at ages 45-54 compared to 57% over age 65 in the UK).

The exceptionally high value of 80% in Lyon is obviously related to the way the question was framed - people may feel they have poor health but that that goes with their age. It is difficult to say how significant the differences between cities are without knowing more about the way in which the questions were posed, the surveys administered and the samples determined. The significance of this type of question is that if we wish to develop comprehensive comparative assessments of health in different cities, we will eventually have to work towards using people’s own descriptions of their health, applying specific tools and instruments to minimise methodological differences.

E6. Indicators of disability amongst older people

In most countries, assessment of older people’s health typically includes some view of common physical and mental problems. The data request did ask for information on a number of areas, however the response to these questions tended to be rather low and there were wide differences in the way health was defined. The positive response to these types of question will tend to increase with age, so comparisons will be sensitive to differences in the age groups reported.

Table E6.1: Responses to questions about activities of daily living amongst older people

Health indicator	**Response**
Impaired vision	Lazio: Reported as 13.8% of those age 65+ based on presence of cataracts Lisbon: 2.1% (M) and 1.7%(F) Impaired vision at <1m with correction Vienna: 14% of those aged over 70 Lyon: 5.8% aged 60+ declared disability in France
Impaired hearing	Lazio: 1.4% all ages ‘deaf’ Lisbon: 17.8%(M) , 15.4%(F) Hear radio/TV at high volume or cant hear Vienna: 16% of those aged 60+ Lyon: 4.6% aged 60+ declared disability in France
Impaired mobility	Copenhagen: 11%(M); 13%(F) Helsinki: 16% age 65+ Unable to use public transport->taxis Lazio 2.4% age 60-64 years Lisbon: 3.9%(M) 6.4%(F); Only able to move inside house Vienna: 15% aged 60+ Lyon: 11.2% aged 60+ declared disability in France
Disability/long-term illness	Lazio: 5.3% age 65-74 London: 42% age 65+ stated they have long term limiting illness Vienna 35% incl. diseases of the heart, circulatory system, asthma, diabetes, etc

In most cities these types of data are limited to special studies, or else there are only national survey data to use. Given that for many people these basic 'activities of daily living' are an important part of their overall well being, this seems to be an area where data on health status could be improved.

Dementia is a particularly important health problem amongst older people. However, it appears that estimates of the prevalence of dementia are hard to find. Table E6.2 indicates the types of responses that cities were able to give.

Table E6.2: Estimates of the prevalence of dementia in Mégapoles cities/regions

	Prevalence of dementia
Copenhagen	45% in Residential homes
Helsinki	Around 9% age 65+
London	National estimates dementia ages 65-75=1%; 75-
Vienna	Alzheimer disease: estimation for the 65+=3%
Lyon	Studies suggest prevalence of around 5%, plus 1.31% of population with 'mental health problems'.

E7. Hospital admissions

Relatively few cities were able to supply age and cause specific hospital admission rates, yet at ages over 65, the level of admissions is around 200-400 per 1,000 residents, equivalent to over 1 in 4 people admitted to hospital per year.

Table E7.1: Crude hospital admission rates per 1,000 people age 65+

Principal diagnosis	Athens	Berlin	Dublin	London	Madrid (1)	Stockholm	Lyon (2)
All causes	160.5	271.5	491.8	421.6	213.1	460.6	594.1
Infectious and parasitic	0.1	2.7	11.5	3.6		9.8	5.3
All malignant neoplasms	30.4		50.5	51.9		55.5	48.6
Diabetes			4.2	2.9		6.5	5.7
All mental disorders			3.8	7.8		19.1	11.6
Senile organic psychotic conditions	0.2		1.1	3.3		6.6	3.5
Schizophrenia			0.1	0.9		0.7	
Alcohol dependence			0.1	0.4		2.3	0.5
Diseases related to circulation				65.3		129.0	67.2
Ischaemic Heart Disease	19.6		30.0	21.7		35.2	25.2
Vascular cerebral Diseases	35.1		18.5	10.5		31.6	14.4
Respiratory disease	42.4		48.2	31.1		35.0	33.0
Pneumonia, bronchitis and emphysema	32.2		14.6	7.7		14.0	
Chronic liver Disease/cirrhosis	2.7		0.6	0.2		1.0	1.9
All injury and poisoning			31.9	23.3		60.2	44.7
All accidents and adverse effects	2.3		15.7	26.2		69.6	
Road accidents	1.1		0.8	0.8		1.1	

(1) Excludes ambulatory surgery. (2) Values based on projection of national data

Comparisons between admission rates (see Section H9) can be affected by:

- differences in the definition of hospitals, especially regarding the overlap with long-stay nursing homes, the inclusion and exclusion of some forms of ambulatory care and coverage of all hospitals within the city (i.e. all public and private sector)
- the availability of hospital beds and differences in clinical practice
- differences in the ways diagnostic codes are applied or data collected - broader diagnostic groups can reduce these problems although they can also make interpretation more difficult.

Table E7.1 shows the observed rates (unstandardised) for data supplied by seven cities. Looking at these rates, some of the potential problems with this data become apparent. For example, there is a two-fold difference in admission rates between Madrid and Berlin and other cities. Other sources suggest that hospitalisation rates in Spain tend to be relatively low in international terms and this may explain some of these differences. In contrast, it is interesting to note that the admission rates for some conditions such as malignant neoplasms and respiratory disease are reasonably consistent.

These data are based on groupings of ICD-9 codes, but in some cities data is now reported in ICD-10 (e.g. Copenhagen, Helsinki) so that are not included. Table E7.2 shows two types of statistics.

1. The percentage of all admissions that are for people age 65+- which is an indication of the acute hospital workload associated with older age groups. These values suggest that inmost cities between 25%-30% of all hospital admissions are for people in this older age group. The exception is Stockholm which recorded 43%.
2. The percentage of admissions amongst older people for diagnostic groups. Even fort the few cities where we have data, there are some interesting differences in the relative importance of these diagnostic groups. Dublin appears to have proportionately more respiratory admissions that other cities, and Stockholm has higher share of admissions for circulatory disease and accidents and adverse effects. Given the high levels of hospital admission in this age group, these difference point towards some interesting contrasts in the case mix of acute hospital workload.

Table E7.2: Percentage of hospital admissions by diagnostic groups (over age 65)

Principal diagnosis	Berlin	Dublin	London	Madrid	Stockholm	Lyon
% of all admissions age 65+	33%	26%	28%	29%	43%	29%
Infectious and parasitic diseases	1%	2%	1%		2%	1%
All malignant neoplasms		10%	12%		12%	8%
Diabetes		1%	1%		1%	1%
All mental disorders		1%	2%		4%	2%
Diseases related to circulation			15%		28%	11%
Ischaemic Heart Disease		6%	5%		8%	4%
Vascular cerebral diseases		4%	2%		7%	2%
Respiratory disease		10%	7%		8%	6%
Pneumonia, bronchitis and Emphysema		3%	2%		3%	
All injury and poisoning		6%	6%		13%	8%
All accidents and adverse effects		3%	6%		15%	
Road accidents		0%	0%		0%	
Accidental Falls		3%	4%		12%	