



## **HEALTH AND HEALTH BEHAVIOUR IN SOUTH EAST ENGLAND AND NORTHERN**

**FRANCE – 1 April 2008 draft English only**

## **SANTE ET COMPORTEMENTS DE SANTE DANS LE SUD EST DE L'ANGLETERRE ET LE NORD DE LA FRANCE**

### **Partners / Partenaires**

- **University of Kent Centre for Health Services Studies**
- **University of Greenwich**
- **Kent County Council**
- **Institut Catholique de Lille**
- **Observatoire Régional de Santé du Nord-Pas de Calais**

### **CONTENTS**

#### **1. About the Project**

##### **1.1 Overview of The Project**

##### **1.2 The Concept of Health Inequalities**

##### **1.3 Choice of indicators and data - Availability of data comparatively UK and France**

##### **1.4 Methodology**

#### **2. Main Findings (summaries)**

##### **2.1 Mortality**

##### **2.2. Inequalities – measurement of deprivation, correlations with mortality, supply, Herfindahl Index – inverse care law, health status and health behaviour**

##### **2.3 Health Utilisation**

##### **2.4 Health and Health Behaviour**

##### **2.5 Qualitative Study**

#### **3. Discussion and further work**

##### **4. What we found: similarities / differences England / France**

##### **5. Implications for policy**

##### **6. What can be done about Inequalities**

##### **7. Recommendations for further work**

## **I. About the Project**

### ***1.1 Overview of The Project***

The project has been co-financed by Interreg IIIA, a European Union Programme financed through the European Regional Development Fund. Interreg IIIA is specifically aimed at Northern France and South East England. Involved in this project are Kent and Medway, East Sussex, Brighton and Hove (KMESBH) on the English side and Nord – Pas-de-Calais (NPC) on the French side,

The Franco-British INTERREG IIIA Programme aims to stimulate co-operation between regions divided by an international border. The aim of is to develop across border co-operation between eligible areas in SE England and Northern France.

The aim of the project was to analyse available data from routine sources and local health surveys to compare health and health-related behaviour in the populations of South East England and North France focusing particularly on health inequalities and social cohesion. The project compares the availability and accessibility of health-related programmes in each country and aimed to develop strategies to enhance the health of citizens of the euro-region. In addition the project, through focus groups, sought information from the patients' perspective with respect to the social and cultural aspects of both regions.

#### Aims of the Project:

To compare the health and health related behaviour of people living both sides of the channel in Nord Pas de Calais and in Kent and Medway, East Sussex and Brighton and Hove focussing particularly on social cohesion and risk of discrimination through social exclusion and inequalities in public health and compare the management of health-related programmes in each country and to develop strategies to enhance the health of citizens of the euro-region.

To foster close collaboration between the partners and supporting institutions responsible for health and social care planning and delivery to disseminate the results of this study as a basis for developing strategies to address health inequalities within the Euro-region for the benefit of local people.

To develop a collaborative approach in research which will increase the euro-regional capacity and set the foundations for ongoing/permanent provision and exchange of comparable information.

Objectives:

1. To agree a common framework of research which will enable comparison of data collected in Nord pas de Calais, Kent, Medway, East Sussex and Brighton and Hove
2. To describe and compare the determinants of health among the population of Nord Pas de Calais and Kent, Medway, East Sussex and Brighton and Hove
3. To compare mortality experience in Nord Pas de Calais and Kent, Medway East Sussex and Brighton and Hove
4. To compare health and lifestyle across the two regions
5. To describe Healthcare provision and organisation in Nord Pas de Calais and Kent, Medway, East Sussex and Brighton and Hove
6. To compare the demand for health care and to relate this to healthcare supply, by describing patterns of healthcare utilisation in Nord Pas de Calais and Kent, Medway, East Sussex and Brighton and Hove
7. To investigate how each region involves users and carers and their views in relation to access to healthcare and levels of health
8. To use this information to compare the effectiveness of healthcare programmes (including preventive programmes) in relation to differences in health and programme delivery between the two regions.
9. To disseminate the results through papers, reports and conferences and world wide web so that local people and health services can benefit

## **1.2 The Concept of Health Inequalities**

It is possible to define four concepts of inequalities;

- Health Inequalities
  - related to economic position resulting from occupational social class
  - behavioural inequalities which again have been related to socio-economic position
  - life-course inequalities
- Inequalities in healthcare provision

In our project inequalities in health have been defined as variations in health (as measured by mortality) across communities and geographical groups. Geographical variations in health have been demonstrated in both England and France. It has been interesting to find that the position regarding inequalities in health is at a different stage of evolution on the two sides of the channel. In France, the question of inequalities in health has received little attention by the specialists of public health and social sciences until recently. It was only in 2001 that this question benefitted from collaborative work by epidemiologists and social scientists.

In the literature there are well documented variations in mortality and morbidity which relate to social position in the occupational structure (Health Survey of England 1994); this work has been important in driving forward important political imperatives to reduce inequalities. There has been shown to be a direct relationship between social class and health; is this related to income or nurture, learning and behaviour?

A possible direct impact of income distribution on health state distribution would imply that countries with a lesser level of income inequality (i.e., more “egalitarian” countries such as Sweden?) should be associated with lower levels of health inequalities. However, work by Mackenbach *et al* (1997) suggests that inequalities in morbidity and mortality are stronger in Northern European countries, characterized by a lower level of income inequality, than in Southern European countries. As a consequence, the link between income distribution and health inequalities is not as obvious as intuition suggests.

The question of social position and social difference (ethnicity, age and gender, disability, place and geography) has not been so well developed<sup>i</sup>. Variations depend on the health measure chosen. Links to limiting long-standing illness have been more conclusively demonstrated than recent illness; there are also demonstrated links to housing, income, and car access. Social gradients are steeper for men than for women.<sup>ii</sup>

Individuals have structural behavioural differences between socio-economic positions (this could be argued to relate to income). This means that individuals with a low socio-economic position are more likely to adopt behaviours at risk, like drinking, smoking, drug abuse, and driving at risk.

Social Capital is the ability of a community to sustain itself through relationships and interconnectedness and through organised efforts of society (see definition of PH); its is a feature of the social structure of the community and is not evenly distributed and varies with level of asocial exclusion. There is some consensus within the social sciences towards a definition that emphasises the role of networks and civic norms. There are many definitions attached to the concept which leads to confusion about what constitutes "social capital". Key indicators of social capital include social relations, formal and informal social networks, group membership, trust, reciprocity and civic engagement. Social capital is generally understood to be the property of the group rather than the property of the individual.

Analysis of mortality has been in two ways :

- mortality trends over time comparing the two regions and national statistics

- geographical analysis using cantons in France and electoral wards in England

### **1.3 Choice of indicators and data - Availability of data comparatively UK and France**

The aim of the project has been to find / develop key measures which would enable comparisons to be made at local level between the 2 sides of the channel. In this section we have described how we chose our indicators, which variables, how we made the decision to use the Townsend Index. We also describe the methods used to ensure valid comparisons; not always easy due to differences in the way data have been collected and their availability, even so we have interesting results

The main areas focussed on have been the following:

- Demography
- Social Indicators
- Mortality indicators
- Health indicators from the local health surveys
- Focus Groups

Key sources of data have been the Census, Deaths, and local surveys. Census data can be analysed down to very small areas; this has been important where an analysis of deprivation was required and where there could be marked variations over a small geographic area.

Choice of indicators; mortality is not health; well known and documented, standardised measure  
Morbidity is difficult, not much data except admission to hospital depends on a range of factors supply etc  
Self assessed health measurement in the survey; interesting can make correlation health and individual factors but subjective measure of health with probably. Known things are good predictors of health; social bias in response  
Is it same thing for worker, executive

In result add different for and UK in response in self assessed health

#### Demography and Social Indicators

The project has faced some fundamental issues in choosing how to analyse data to explore inequalities. On average Cantons are three times larger than electoral wards and the variation in size is much greater

(up to 100,000 inhabitants). A decision was made to analyse data as far as possible at Regional level and at Electoral Ward in England and Canton in France.

One objective of the project was to provide a comparative scoring system for deprivation across the whole region. France and England have been using different methodologies, for example in England social class has been allocated using employment status and occupation whereas in France it has been more usual to use income.

Methodology in France has been more occupation and income based whilst in England indices of deprivation have been used over a long period of time, beginning with Jarman and Townsend, Carstairs and latterly the Index of Multiple Deprivation (IMD)<sup>1</sup>. Indicators collected routinely through the Censuses vary between the two countries, this has made even trying to replicate simple indices from the Census difficult. The team worked initially on repeating IMD with French data; however it was difficult to find data for so many indicators and it was decided from the literature search the most useful Index for this purpose would be the Townsend Index.

In using the Townsend Index we have had to consider how comparable the indicators in this Index are in the two countries. For example :

- the statutory definition of overcrowding in England (unchanged since 1935) does not include children under the age of 12 months, children between the ages of one and 10 only count as half a person and includes kitchens and bathrooms. In England the measure is that more than one person per room is 'overcrowded', 1.5 per room is 'severely overcrowded'. Nearly a third of London's children live in overcrowded households that lack at least one room<sup>2</sup> ; in France almost 20% of adolescents share a bedroom<sup>3</sup>.
- Cars per household was considered by the team to be a difficult measure as the poorer people in rural communities in northern France are thought to put a high priority on this means of transport and may go without other goods to ensure they can travel.

### Mortality Data

Mortality data has been obtained through the NHS Information service in England and the Observatory

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<sup>1</sup> Office of Deputy Prime Minister. 2000. Indices of Multiple Deprivation 2000 – The Methodology.  
<http://www.odpm.gov.uk/index.asp?id=1128452>

<sup>2</sup> London Housing. 2004. Overcrowded housing and the effects on London's communities.  
[http://www.londoncouncils.gov.uk/upload/public/attachments/338/briefing\\_overcrowdingcommAMENDED2004.pdf](http://www.londoncouncils.gov.uk/upload/public/attachments/338/briefing_overcrowdingcommAMENDED2004.pdf)

<sup>3</sup> Dominique Goux and Eric Maurin, 2003. The Effect of Overcrowded Housing on Children's performance at school.  
<http://www.jourdan.ens.fr/piketty/fichiers/enseig/ecoineg/articl/GouxMaurin2001.pdf>

(ORS) in France. There has been some restriction of availability and comparability issues. These are set out in full in the Mortality Report, they need to be borne in mind when interpreting the results of mortality analysis and relate to :

- English data is case based and can be analysed more fully; French data is provided in aggregate form
- Time frame for availability differed, and compromises had to be made in terms of number of years for time trends (1979-2001 France and 1993-2004 England)
- the years aggregated Electoral Ward / Canton level (1996-2002) were the same but the reference population was based on the Census 1999 for France and 2001 for England
- the two countries had slightly differing dates for change from ICD 9 to ICD 10 (2000 for France and 2001 for England) and a table for transcoding has been used
- the manner for handling the age of children; until 1997 France used a particular definition for age; between 0 and 9 years age was expressed as the past year, then as the age attained in the year from age of 10. Compared to the English system, this way of calculation resulted in an under-estimation by half a year from the age of 10 and a correction for this slippage has been used
- Use of SMR has several difficulties. Variance is the most important when the number of deaths in a canton or electoral ward are low and the results in sparsely populated areas risk being unstable and may be characterized by extreme values. On the other hand calculation of SMR does not take account of the value in neighbouring cantons / wards. Account has been taken of these limits by using a Bayesian smoothing methodology proposed by Marshall (4).

Aggregation of mortality data across the two regions has enabled, for the first time, the direct comparison of mortality between Northern France and South East England. It has also provided the ability for direct comparison of mortality between England and France.

### Comparing health and lifestyle

The project has used data for Nord/Pas-de-Calais from the French Health Survey 2002-3 (NPDC), Kent and Medway Lifestyle Survey 2001 (K&M) and Health Counts: East Sussex Brighton and Hove 2003 (ESBH) to compare the health of individuals in the two regions.

The surveys have been precisely compared regarding: wording of questions to ensure comparability, representativeness (sampling process, weighting schemes) and available information (scope of information, definition of variables and modalities).

When analysing the survey data an econometric approach was used to measure inequalities in

health between the three regions. This approach was developed by Van Doorslaer et al. (2003, 2004)<sup>45</sup>. Within such a framework, a variable contributes to “explain” health inequalities if the following two conditions are fulfilled:

- it has an impact on health (i.e. has a significant coefficient in the health equation) and,
- It is unequally distributed among individuals (i.e. has a concentration index greater than zero).

**More....**

### Healthcare Utilisation

The objectives here were to map healthcare services in the two regions, and to lay on this map a picture of utilisation which brings together need, supply and demand. We hoped to demonstrate whether the Inverse Care Law of Tudor Hart was still happening and whether the availability of choice in France led to better utilisation and better health, in particular if choice enabled more timely access for chronic conditions such as diabetes, asthma and heart disease by measuring utilisation at primary care level and by measuring emergency admission.

Establishing whether, today, and in comparison across the English and French systems in the geographical areas of Nord – Pas-de-Calais and South East England, the Inverse Care Law operates, and if so how, is complex. At one level the number and distribution of healthcare facilities can be mapped and applied to the various populations they serve. This provides a simple picture of the number of hospital beds, doctors or clinics per given population that can then be compared with their deprivation levels. Broadly speaking, if the Inverse Care operates at this level, populations in deprived areas should have access to fewer resources than those in more affluent communities. Beyond the actual level of resources lies the quality of services to which people have access.

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<sup>4</sup> VAN DOORSLAER E, JONES AM (2003) Inequalities in self-reported health: validation of a new approach of measurement. *Journal of Health Economics*; 22: 61-87.

<sup>5</sup> VAN DOORSLAER E, KOOLMAN X (2004) Explaining the differences in income-related health inequalities across European countries. *Health Economics*; 13: 609-628.



The second part of the Inverse Care Law is that even where medical care is available in deprived communities the quality of that care will be lower. This is a result of factors such as higher levels of poor health placing greater strain on services; deprived areas being less attractive to professional to work in leading to recruitment difficulties and less well trained and able staff; and poorer supporting infrastructure from other services.

In this project we developed a methodology dependent of the relative utilisation rates across electoral wards and cantons assuming admissions as proxy morbidity indicators; this has enabled both the examination of hospitalisation in comparison with deprivation and also the use of local services in relation to choice. Confounding factors such as availability of transport have been examined.

The final objective was to disseminate the final results so that local people and health services can benefit; to this end a web-site was established to keep public and professionals informed about the activities and progress of the project; interim reports together with the results were published and systematically put on the web-site; researchers could use the web-site to inter-change ideas and results.

Kent County Council envisage using the results for monitoring their PSA target on health inequalities Findings will be published in international journals; presentations will be made at international conferences including the

- Faculty of Public Health Annual Conference in Glasgow in June 2005
- the British Sociological Association Risk and Society Study Group in Canterbury in September 2006
- the ENRICH conference in Bordeaux in June 2006
- the British Society of Population Studies Annual Conference in St Andrews in September 2007.

### **1.3 Methodology**

A collaborative working framework was set up to enable the research teams to exchange ideas and to work closely together; the work programme developed was in 5 streams enabling team members across the channel to pursue specific objectives. These workstreams were :-

- Inequalities
- Mortality
- Health Survey
- Qualitative
- Healthcare Utilisation

I.2.2 Team members worked in one or more workstreams. Each workstream defined its objectives and work programme according to the overall project objectives; they identified their data and analysis requirements, in the case of the qualitative workstream collecting new data, other workstreams collected available data from census, death certification, hospital statistics and In the case of the survey workstream from data collected locally for other purposes (in England the Kent and Medway Health and Lifestyle Survey and the Health Counts survey in East Sussex, Brighton and Hove and for France an enhanced sample for the French National Health Survey).

Research teams held an initial meeting followed by a meeting of the Steering Group to agree the framework. Research teams worked mainly from their own base with some electronic exchange and regular meetings to review progress and define joint strategies.

The teams explored the literature for particular methodologies which had already been proven to develop methods of exploring the inter-relationship of health needs, demand and healthcare supply to explain any differences between the two regions. This resulted in the use of Townsend Index for mapping social inequalities.

Workshops were held to examine findings and explore and explain any differences discovered, followed by further data digestion and developing themes etc.

I.4.6 Teams worked in close collaboration with partners and supporting organizations to identify issues of local/regional relevance.

- Topic based workshops
- Quarterly Steering Committee
- Two Scientific conferences with relevant regional agencies from both sides of the channel

The Qualitative Workstream involve consumers and citizens directly by investigating the views of the public in relation to health inequalities and their responsibilities as citizens. They did this by holding focus groups in each region with members of the public.

Results were disseminated on the English side through 2 workshops held by Public Health colleagues in Brighton and Hove and in Kent and Medway in March 2007. In Lille the results were disseminated to Steering Group and interested council members and healthcare colleagues at a seminar

Further dissemination and development of healthcare strategies took place through an inter-regional conference held in June 2007 in Lille to present the findings of the research and discuss the implications for development of health and social care in the two regions. Regional decision-makers were invited: these included representatives of insurance funds, health authorities, syndicates of physicians and nurses, users and carers etc..

This very successful event combined plenary talks, round table discussions and workshops. Topics were :-

**Round table 1** – Looking at health inequalities without considering social inequalities is worthless

**Round Table 2** - A public health service is better able to reduce health inequalities than a sickness service

**Workshop 1:** Involving the public in the decision making processes

**Workshop 2:** Health inequalities and ethnicity

**Workshop 3:** Health inequalities and freedom of choice for health and social care

**Workshop 4:** Are there specific issues relating to coastal regions?

**Workshop 5:** Why is there such a difference between the health of men and women ?

The final objective was to disseminate the final results so that local people and health services can benefit; to this end a web-site was established to keep public and professionals informed about the activities and progress of the project; interim reports together with the results were published and systematically put on the web-site; researchers could use the web-site to inter-change ideas and results.

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## **2. Main Findings (summaries)**

### **2.1 Mortality**

It is already well known that expectation of life at birth is greater in France (in France it is 84.0 years for women and 77.3 for men (latest available)<sup>iii</sup>, and in England 81.2 years for women and 76.9 for men (2003-5)<sup>iv</sup>. A north-south divide is well recognised in both countries where there is better health in the south of

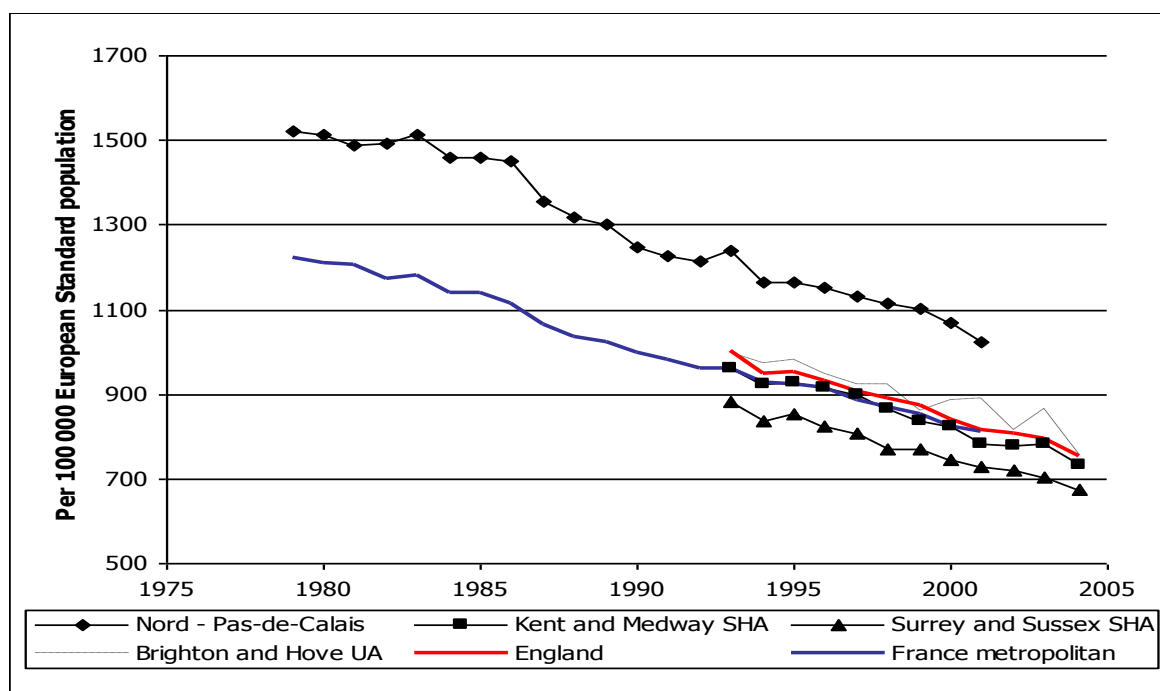
the country than in the north; this is due to a complexity of pre-determinants including socio-economic factors, lifestyle and health behaviour including past industrialisation, unemployment, poorer educational attainment, housing conditions etc. as well as health related behaviour such as diet, physical activity, and smoking.

The project's aim was to develop or find key health indicators or measures which would enable comparisons to be made at local level between the two sides of the channel. This paper focuses on findings from the use of demographic and social indicators and mortality indicators.

There are 2,360,263 people (2001 census) included in the area of south east England and 3,996,588 in Nord Pas-de-Calais (1999 census). The greatest difficulty faced by the project was being able to find a small area geographical level at which to work which was comparable on both sides of the Channel; Electoral Wards in England are smaller, more uniform in size and more numerous than cantons which vary considerably in size from 4,919 (Le Quesnoy) to 184,647 (Lille). In England mortality data for small areas can be aggregated up using post code data which is attached to all individual health data; in France this is not the case.

A number of constraints were faced in deriving comparable indicators across the two regions of the study. In England older data is only available at Electoral Ward level from 1986 whereas French mortality data is available at Canton level from 1979 - 2001. It was therefore agreed that French mortality at Canton level would cover the years 1997-2001 whilst English mortality data would cover 1999-2003. Time trend data would be three year rolling average from 1979 (France) and 1986 (England) at regional and departmental level.

**Figure 1  
Trends in Mortality, all cause, men**



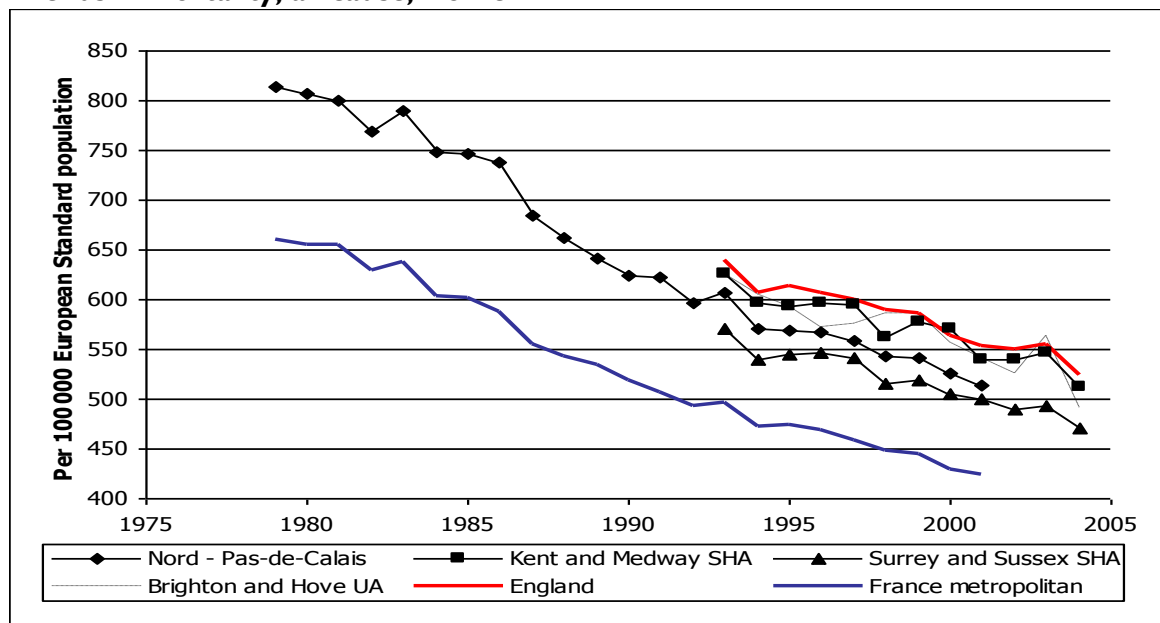
In France ICD 9 was used for coding deaths between 1979 and 1999 and ICD 10 from 2000; in England ICD 9 was used to the end of year 2000 and ICD 10 from the beginning of 2001; this is only important when comparing detailed data for particular causes. A final issue again for comparison of cause related mortality is how the deaths are recorded; for example death due to diabetes, or pneumonia might be allocated as the underlying cause in one country and as the main cause in the other country, thus changing the apparent prevalence of the condition.

### 2.1.2 Trends in Mortality

Trend data are presented as mortality rate per 100,000 European Standard Population. In both countries the trend in mortality is downwards. Mortality for men in both countries is much higher than for women. In both countries the trend over the 25 years studied has been for mortality to reduce by about one third. Trends for the two countries and for the regions have reduced in parallel with each other.

Men in Nord – Pas-de-Calais have a mortality which is 26% higher than France as a whole, also higher than England and SE England (Figure 2). Between 1993 and 2001, mortality rates for men in France, England, Kent & Medway and Brighton & Hove show a similar rate of decline. Nord - Pas-de-Calais has a higher mortality among men and has compared unfavourably with other French regions for a long time. This situation has not improved much in the last 20 years (1979 + 29 %, 2001 + 26 %). Surrey and Sussex has a lower mortality for men (1993 - 12 %, 2004 - 10 %) compared to other areas in England

**Figure 2**  
**Trends in Mortality, all cause, women**



French women have a 29-30% lower mortality than women in England but as found for men, (Figure 3). The expected variations in SE England are demonstrated, i.e. Surrey and Sussex have a lower mortality than Kent and Medway. This excess mortality for English women over French women is +30% over the period 1993-2001. As for men, women in Nord – Pas-de-Calais have a higher mortality than France as a whole, and are similar to women in England, the excess mortality being +22% over the period 1979-2001. Mortality for women in Nord – Pas-de-Calais is higher than women in Surrey and Sussex. However, mortality among women in the Nord Pas-de-Calais is still lower than in England as a whole.

### 2.1.3 Geographical Mapping of Mortality

Mapping of mortality data is at electoral ward level in England and Canton in France; it has involved the calculation of Standardised Mortality Ratios across the Interreg Project Region using the whole region (south east England plus Nord – Pas-de-Calais) as 100%; thus variations across the region have been demonstrated in the mapping process<sup>v</sup>.

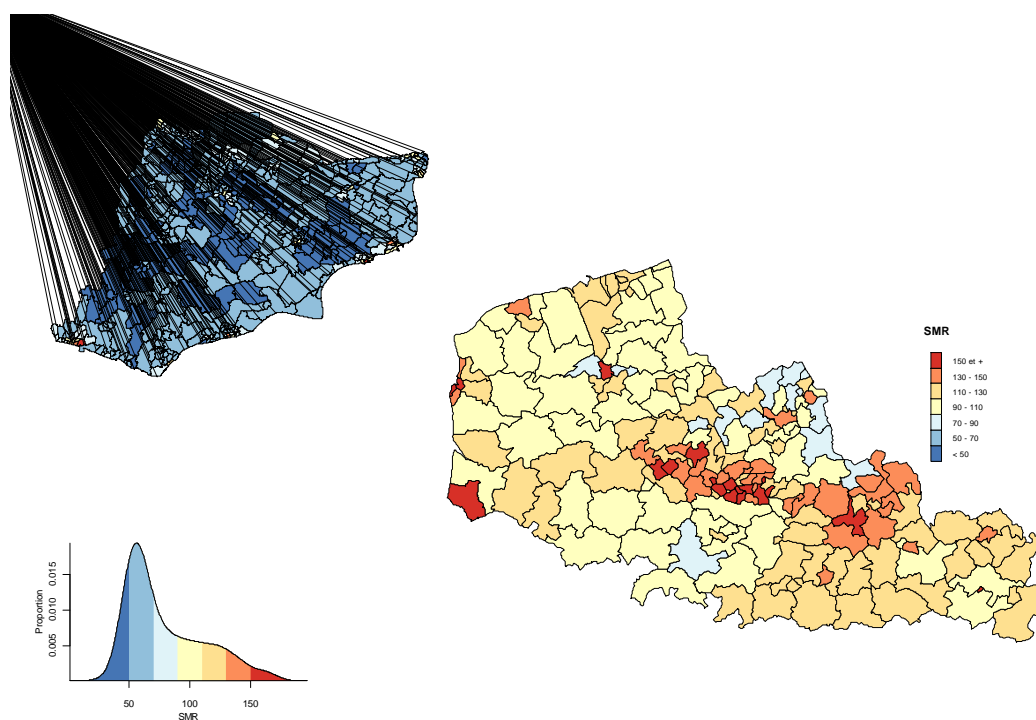
The mapping demonstrates higher mortality in the central belt of Nord – Pas-de-Calais and around the industrial areas of the coastal regions and the eastern part of the region around Valenciennes and Cambrai.

In south east England generally there is lower mortality than in northern France, but northern wards in Kent and in Thanet, and also some wards in the coastal towns in East Sussex and Brighton and Hove have a higher SMR.

Excess mortality in Nord Pas-de-Calais appears more clearly for premature mortality (under the age of 65), especially in some areas (with previous mining activity). In South East England, the level of mortality is less when premature, this differs from the situation with mortality for all ages

The variation in premature mortality for men across the region is much more pronounced and much lower in south east England than in northern France (Figure 4); the industrial regions in northern France are more clearly highlighted with considerable excess mortality over the other areas in the Interreg Project region.

**Figure 3**  
**Premature Mortality, SMR\*s, men, aged less than 65, 1996-2002\*\***



\* SMR : Nord-Pas-de-Calais + South-East England regions = 100

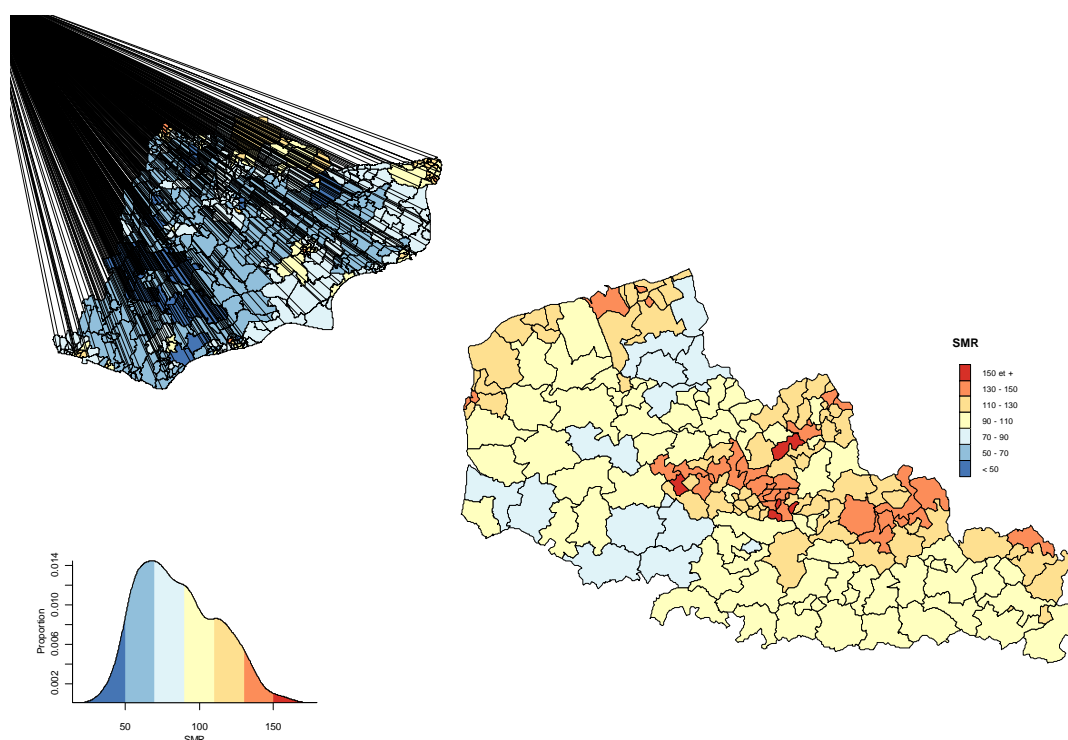
\*\* Smoothed using the Local Linear Empirical Bayes Smoother method of Marshall Lissés.

Amongst women for all cause all age mortality pockets of excess mortality in south east England are demonstrated. Some of these are seen on the coastal regions but on the whole they are not clearly

located in deprived areas. This mostly disappears when premature mortality is considered; instead the central belt of Nord – Pas-de-Calais and the industrial area around Valenciennes are again highlighted with excess mortality amongst younger women. There remain some pockets of higher mortality also in the coastal towns of Kent and Sussex.

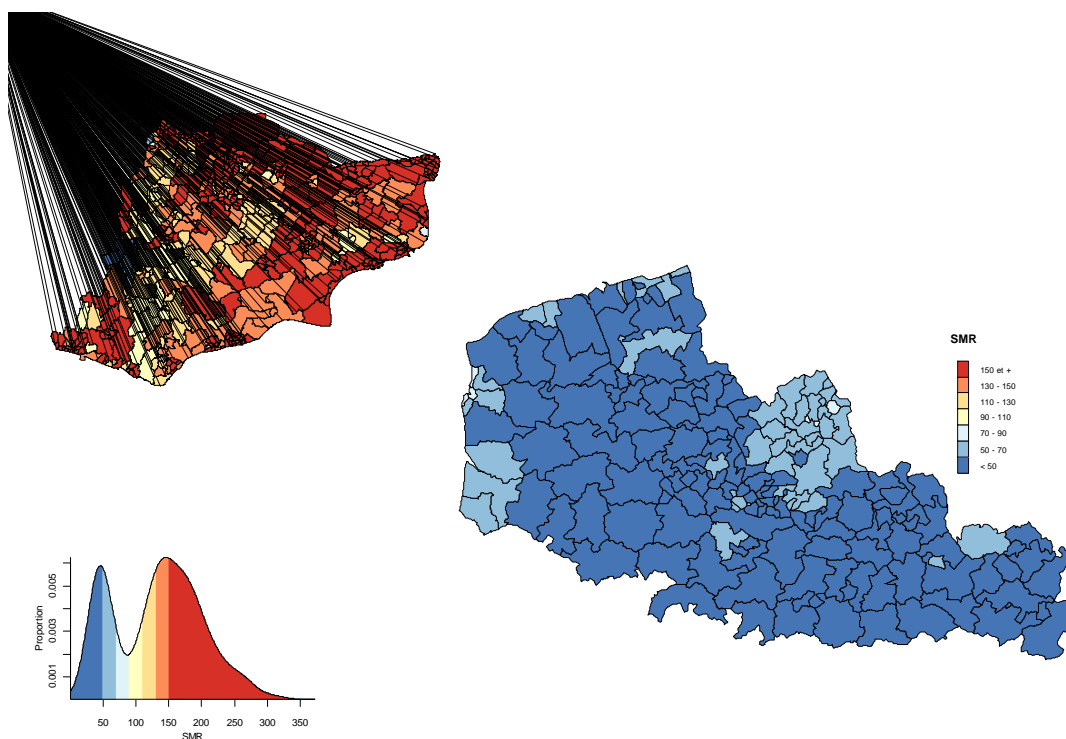
Mortality by cause reveals some interesting differences between the French and English populations. Mortality from all cause cancer is higher amongst French men across Nord – Pas de Calais but is especially raised in the mining area; this is not reflected in female cancer mortality which is raised in south east England comparative to northern France. These findings are especially notable for cancer of the bronchus and lung which is very much raised in the mining region of Nord for men and in the coastal regions of south east England for women.

**Figure 4: Hommes, 1996-2002 - Carte des SMR tous âges par cancers de la trachée des bronches et du poumon lissés par la méthode locale de Marshall**





**Figure 5: Femmes, 1996-2002 - Carte des SMR tous âges par cancers de la trachée des bronches et du poumon lissés par la méthode locale de Marshall**



Mapping of mortality also has revealed some marked differences for ischaemic heart disease with raised levels in south east England for both men and women in comparison with northern France. Whilst female mortality from cerebral vascular disease was raised in parts of Kent and Sussex in comparison with Nord – Pas-de-Calais the marked differences seen for Ischaemic Heart Disease were not repeated.

#### 2.1.4 Summary of Mortality Findings

Particularly noteworthy amongst the findings had been that men in Nord Pas de Calais have an all cause mortality experience over time consistently higher than men in Kent and Medway, and in Surrey and Sussex, which in 2001 was still 26% above the whole of France. French women have been noted to have a longer life expectancy than English women and in 2001 their all cause mortality rate was still considerably lower. In Kent and Medway, and in Brighton and Hove mortality for women has been shown to be 5% below the English national rate; in Surrey and Sussex female mortality was 11% below the national rate.

Cancer accounts for 32% of male deaths in France and 28% in England (all ages). There is more similarity between France and England for female cancer deaths; in 2001 22% of death was France and 23.5% in

England. As circulatory disease reduces in importance and the population ages, cancer deaths are becoming a more important cause. The project found notable differences across the geography of Nord – Pas-de-Calais and south east England for respiratory diseases as a whole. Men in northern France were notably affected in the ‘bassin de mineurs’ (mining area) whilst in England women in the coastal towns were found to have a markedly higher mortality rate from respiratory diseases.

In both countries the death rate for women was less than for men. Circulatory disease (Ischaemic Heart Disease plus Cerebrovascular disease) accounts for 27% of all mortality for French men and 40% for English men; the difference for women (6.3% less in France) is less marked.

## **2.2. Inequalities – measurement of deprivation, correlations with mortality, supply, Herfindahl Index – inverse care law, health status and health behaviour**

### **2.2.1 Measuring Deprivation**

It has already been well documented in England that indicators of deprivation correlate with mortality. The COSPH project has been able to demonstrate that the use of the Townsend Index, one of the documented indices in use in the UK, across the two geographies of northern France and south east England, also well represents the pattern of mortality in these two regions. This is, to our knowledge, the first time such an Index has been used in France.

It has been difficult to find common measures in inequality across the two countries, mainly because of the differences in data collected by the two Censuses. It would have been useful to build an Index of Multiple Deprivation (IMD), similar to that in common use today by the British Government, however the data used in England were not available in France.

The aim has been to compare deprivation across the whole project region. France and England have been using different methodologies and also indicators collected routinely through the Censuses vary between the two countries. Methodology in France has been more occupation based whilst in England indices of deprivation have been used over a long period of time, beginning with Jarman and Townsend, Carstairs and latterly Index of Multiple Deprivation (IMD).

A number of constraints were encountered in being able to derive comparable data on the two sides of the channel; first, the availability of corresponding data and secondly the quality of the index in the measure of deprivation at a local level. The Index of Multiple Deprivation<sup>vi</sup> which is in current use in

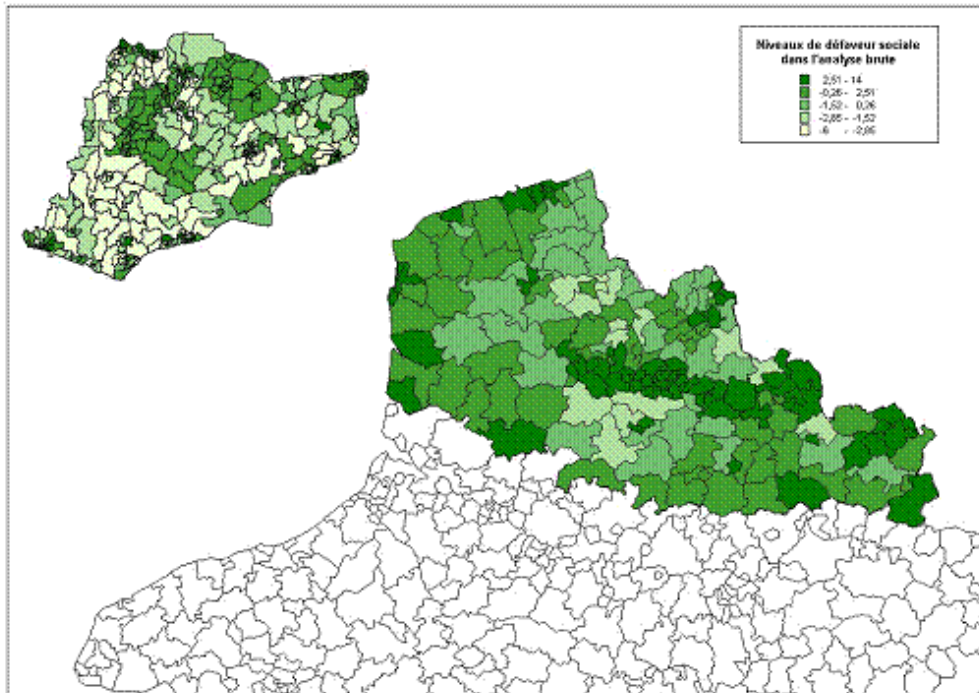
England, uses 36 indicators from the 2001 Census; however, we found very few were available in comparable form in France.

J-P M carried out a literature search to collect information about indices of deprivation in use in several countries. This concluded there were two models of computing deprivation

- data reduction (Carstairs, Jarman, Townsend, etc.)
- maximisation of information without constraints on the level of explanatory power of the variables (index of multiple deprivation).

The Townsend Index was devised by Townsend et al in 1988<sup>vii</sup> to provide a material measure of deprivation and disadvantage. Townsend aimed to develop the knowledge gained through the Black Report<sup>viii</sup> and attempted to explain the 'social' causes of inequalities in health by correlating over 678 electoral wards in the north east of England. He used a Health Index (premature mortality (<65), disability (permanently sick) and delayed development (birth weight)) and a Social Index which comprised analysis of material deprivation as indicated by measures from the Census using unemployment, car ownership, home ownership and overcrowding and his work demonstrated a correlation between the Health and Social Indices leading him to recommend that the Social Index could be used to predict the level of health in the electoral wards. The Social Index is constructed from the 4 different variables taken, originally from the 1991 Census; these are combined to form an overall score. The higher the Townsend score the more deprived and disadvantaged an area is. These variables are available on both sides of the Channel, the purpose being to be able to compare across the two sides of the Channel.

**Figure 6  
Townsend Scores at Electoral Ward and Canton level**



The decision was to use the Townsend index which, although no longer in common use in England, has been well researched and demonstrated to correlate well with health indices. Townsend Scores were computed for electoral wards across the south east of England and for pseudo-cantons in Nord – Pas-de-Calais.

Mapping the Townsend Index across the study region (Figure 7) shows that social deprivation (as measured by the Townsend Social Index) is more concentrated in northern France, that in both countries there is coastal deprivation (centred on the industrial northern towns of Kent, Thanet and the coastal towns around the south east of Kent, East Sussex and Brighton and Hove; and in France around Dunkerque, Calais and Boulogne). In addition in Nord – Pas-de-Calais there is a central belt of deprivation through the ex-mining region; there is also a belt of deprivation in south east England running through the central area around Maidstone, Tonbridge and Tunbridge Wells.

### 2.2.2 Is Higher Mortality related to Social Deprivation?

The findings of differences across the Channel in two such close communities geographically are surprising; these are most likely due to two significant causes – past industrialisation in the central belt of Nord – Pas-de-Calais (mining) and in Valenciennes (chemicals). Kent also has an ex-mining region in Thanet, it also has past dockyard activity and industrial activity in northern Kent especially in Medway and in Dartford. These activities are reflected in increased SMRs in these areas.

The raised mortality observed amongst men in northern France appears to stem more significantly from cancers than from circulatory diseases and is particularly high in avoidable deaths under the age of 65; the ex-mining regions in particular have a very high mortality across the project area and are likely to be related to respiratory and throat cancers and other respiratory diseases originating from mining itself and health behaviours associated with mining and regions of material deprivation such as smoking and alcohol consumption.

It is also interesting to find there are variations in mortality for women both in northern France and in south east England. Mortality for women in northern France is significantly higher than for France as a whole; it is similar to women in England. Detailed analysis has shown that mortality amongst women in northern France is raised for both circulatory diseases and for cancers; women in some parts of south east England also have raised mortality for cancers. These variations have yet to be explained and may relate to either health behaviour or to service provision or both.

The relationship between mortality levels at electoral ward and canton level has been confirmed by demonstrating a positive correlation of Townsend Index and Mortality.

Using unweighted data:

- a strong positive correlation exists between Townsend deprivation score and overall mortality (+) or premature mortality (++), for both regions and for both genders
- in the Nord Pas-de-Calais, this correlation is weaker for women
- the statistical relationship between deprivation and overall mortality is stronger for South-East England than for Northern France. This result does not hold for premature mortality

Using weighted data (i.e. taking into account differences in sizes of areas) the correlation between deprivation and mortality remains, but the difference between south east England and northern France disappears.

## **2.3 Health Utilisation**

### **2.3.1 Introduction:**

The health utilisation workstream builds upon the work done on health inequalities by looking in more detail at key issues in how health services are used by people in Northern France and South East England.

The work focuses on two main issues:

- Does the Inverse Care Law operate in these areas ?
- Does increasing choice for patients result in greater inequalities of health ?

In order to understand and explore these issues it has also been necessary to consider other important aspects of the French and English health systems. These included :-

- A commentary on the main policy imperatives for both systems has been completed as has a literature search concerning the Inverse Care Law.
- A joint-glossary of similar terms in French and English has been compiled.
- Maps of the healthcare provision available have been charted and overlain with the measures of deprivation provided from the application of the modified Townsend model.
- New analysis of hospital admission rates to try and establish the differing quality of services that may be available to communities.
- The application of the Herfindahl-Hirschman Index to examine which patients are able to make best use of choice.

Taken together these elements begin to show how the distribution, quality, and accessibility of health services affect the outcomes for patients.

### **3.4 The Inverse Care Law**

The Inverse Care Law was first proposed by Julian Tudor Hart whilst working as a GP in a deprived area of Wales in the nineteen seventies. In his article in the Lancet he identified the relationship between inequality and the availability of health services:

*“The availability of good medical care tends to vary inversely with the need for the population served. This inverse care law operates more completely where medical care is most exposed to market forces, and less so where such exposure is reduced. The market distribution of medical care is a primitive and historically outdated social form, and any return to it would further exaggerate the maldistribution of medical resources.” (Tudor Hart, the Lancet 27/02/1971)*

Establishing whether, today, and in comparison across the English and French systems in the geographical areas of Nord – Pas-de-Calais and South East England, the Inverse Care Law operates, and if so how, is complex. At one level the number and distribution of healthcare facilities can be mapped and applied to the various populations they serve. This provides a simple picture of the number of hospital beds, doctors or clinics per given population that can then be compared with their deprivation levels. Broadly speaking if the Inverse Care operates at this level, populations in deprived areas should have access to fewer resources than those in more affluent communities. Beyond the actual level of resources lies the quality of services to which people have access.

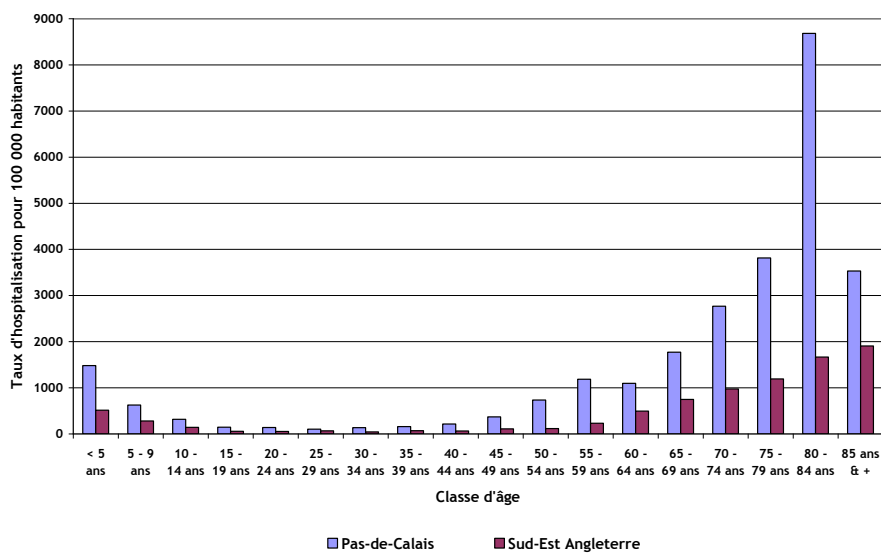
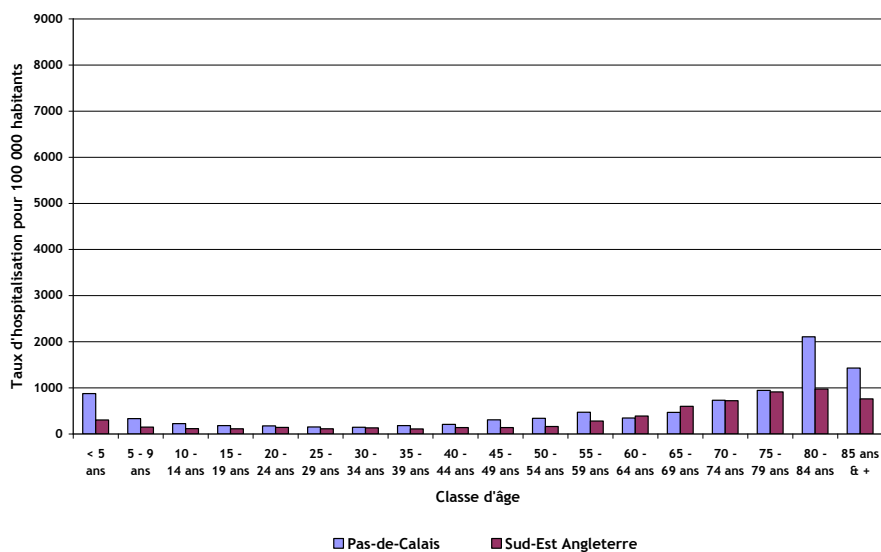
The second part of the Inverse Care Law is that even where medical care is available in deprived communities the quality of that care will be lower. This is a result of factors such as higher levels of poor health placing greater strain on services; deprived areas being less attractive to professional to work in leading to recruitment difficulties and less well trained and able staff; and poorer supporting infrastructure from other services.

Using the mapping methodology indications are that at a District level in South East England there is some evidence that the supply of medical services tends to be greater in more affluent areas. However, this needs to be treated with caution until further analysis at a ward level, or canton in France, can be shown to support or contradict this. In addition whilst the distribution of GP practices is reasonably easy to establish in both areas, the number of doctors, nurses and other professionals associated with the practices is not.

The quality of care being offered to communities has been evaluated by reference to hospitalisation rates. The premise is that where primary care services operate effectively medical conditions should be diagnosed earlier and preventative treatment in the community should reduce the number of emergency admissions to hospital. This was expected to be reflected especially in particular cases such as treatment for type 2 diabetes and cardio-vascular conditions. Therefore the ratio of emergency admissions to elective admissions would be expected to be lower where there are good primary care services.

The assumption was that if the Inverse Care Law is correct, relatively higher levels of emergency admissions would be seen in more disadvantaged communities. Analysis of all cause admissions shows a higher rate for Nord – Pas-de-Calais for both men and women; as expected there is a rise for older age groups; this rise is greater amongst the elderly in Nord – Pas-de-Calais (Figure 7).

**Figure 7 : Taux d'hospitalisation pour 1 000 femmes (above) ou hommes (below) tous diagnostics confondus**



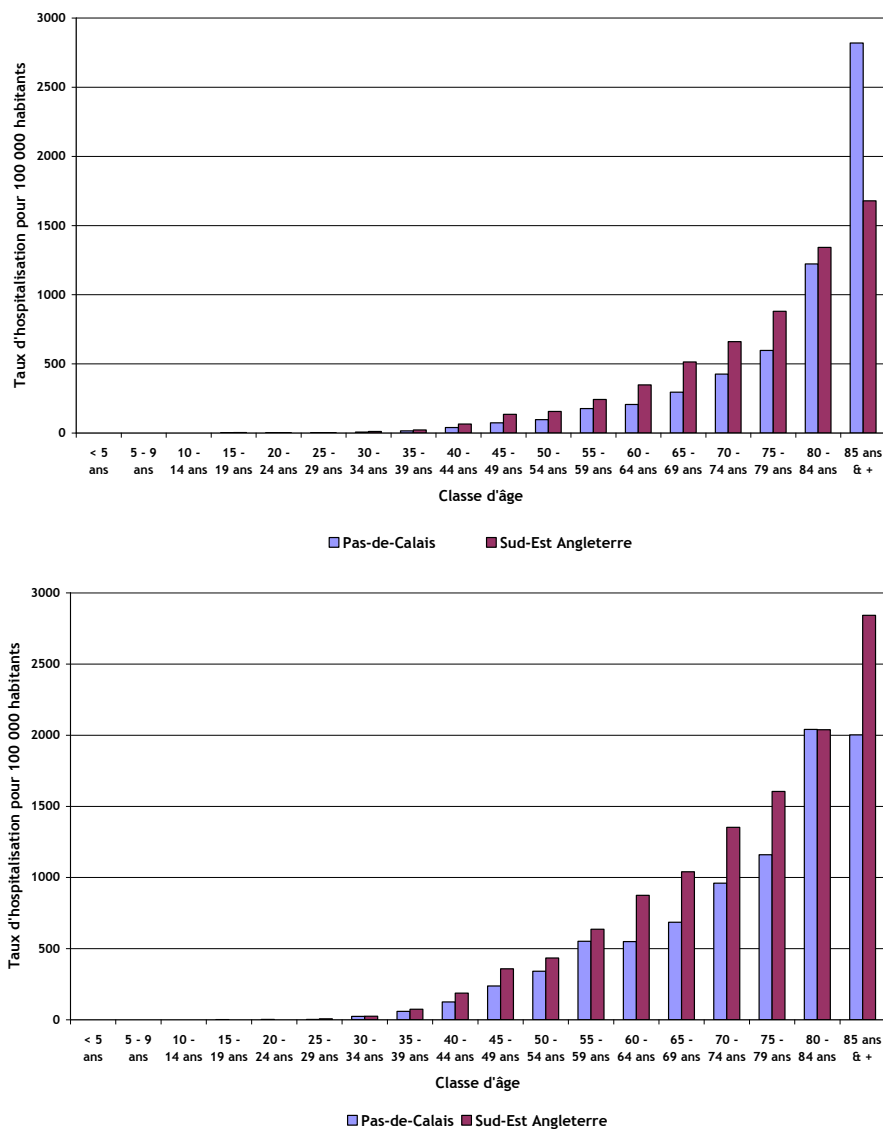
Further analysis by cause shows that the admission rate for Ischaemic Heart Disease (ICD I20-I22) is higher at all ages and for both sexes in south East England than in Nord – Pas-de-Calais (Figure 8). As the mortality maps indicate a higher rate of heart disease in England, this finding raises interesting questions –

- is this result because of a higher rate of morbidity in England, and equal access to / response of services?
- is it related to differences in quality of services?

An interesting finding from this piece of work was the change with the addition of diabetes as a diagnostic; in France a person with ischaemic heart disease who also had diabetes was more likely to have been hospitalised.

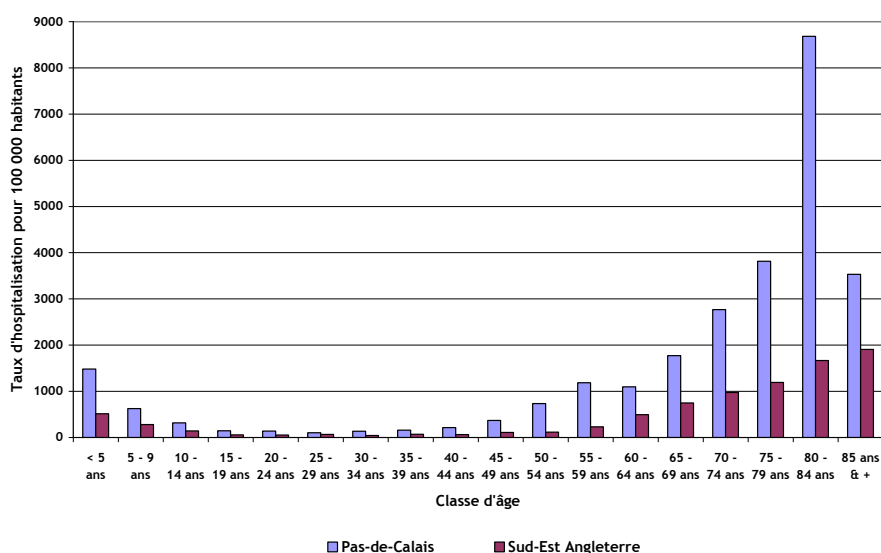
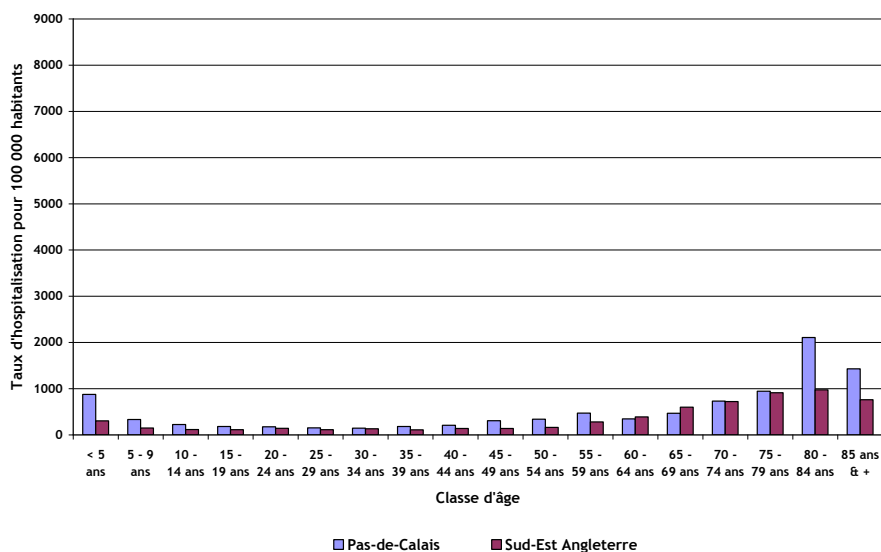


Figure 8 : Taux d'hospitalisation pour 100 000 femmes (gauche) ou hommes (droite) pour les diagnostics principaux I20 à I22 (IHD)



Analysis for respiratory diseases (J40-J47) demonstrated an increased likelihood of admission amongst men of all ages in Nord – Pas-de-Calais and this reflects the high rate of respiratory disease amongst ex-miners; however the higher mortality rate observed amongst women in south east England was not reflected in increased admission rates (Figure 9).

Figure 9 : Taux d'hospitalisation pour 100 000 femmes (gauche) ou hommes (droite) pour les diagnostics principaux J40 à J47 (Bronchitis, Emphysema, Brochiectasis, Asthma)



### 2.3.2 Choice

The issue of choice for patients has become critical for health systems both in France and England. Until the introduction of the “preferred doctor” scheme in 2004 the French system allowed almost unlimited direct access to specialists and consultants.

The French system was assessed to be the best in the world by the World Health Organisation in 2000. It was also one of the most expensive in Europe (9.5% of GDP). In recent years the cost of health care in France has become a major concern, as it has internationally:

*“if current trends continue, governments will need to raise taxes, cut spending in other areas or make people pay more out of their own pockets in order to maintain their existing healthcare systems..” OECD Health Data 2006*

Health services in France and England are funded differently. In the UK nearly all funding is through general taxation with a small private insurance component generally for treatment outside of the NHS. In France funding is through a National Insurance system where patients and doctors are reimbursed for the costs of treatment up to 75% with private insurance covering the difference. For those unable to afford private insurance other state funding is made available.

In essence this means that the UK health service has historically been planned around the availability of resources, and long waiting times in the recent past may well reflect the disparity between demand and supply. In France supply of services may have been more demand-led, as funding follows the interventions, and this may have led to some oversupply in the French system where patients have been able to choose a number of consultations from different doctors if they so wish.

The problem faced by the French system is how to maintain the quality but decrease the cost and the response has so far been to try and reduce the amount of choice available to patients through financial incentives to doctors.

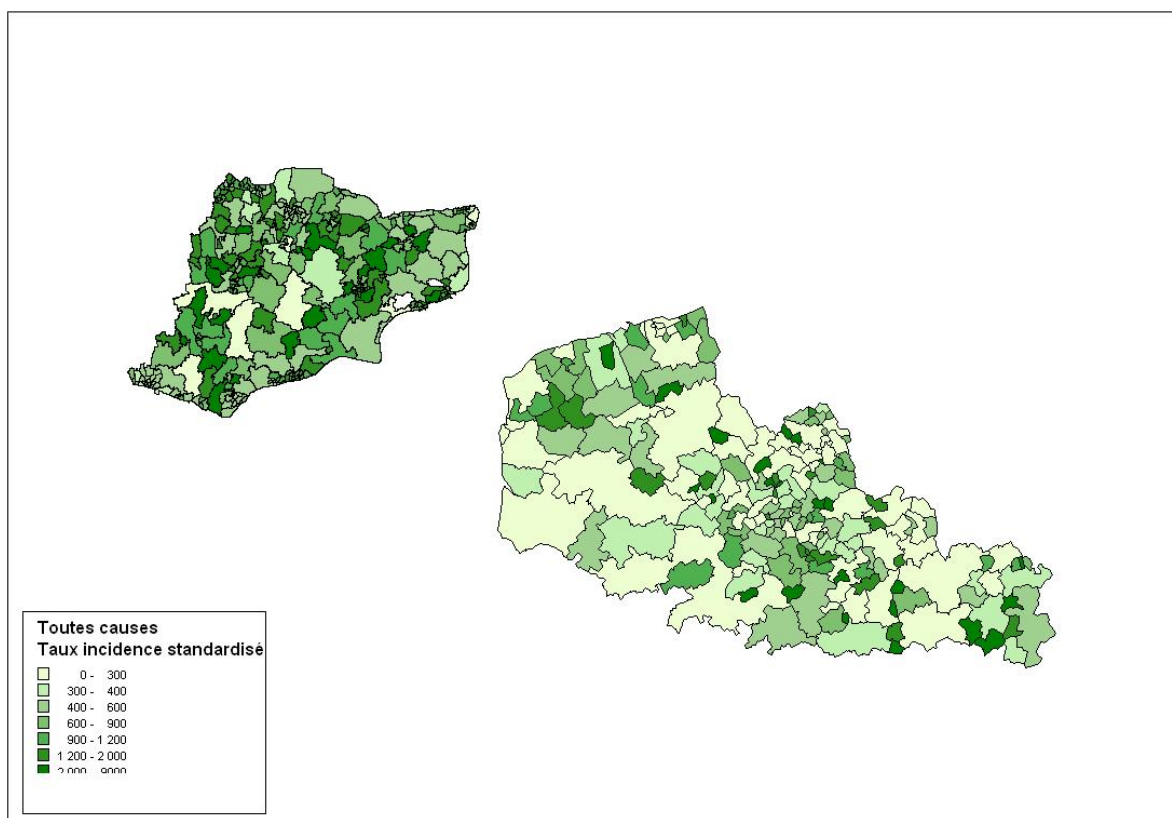
In England this issue is the same but reversed. The National Health Service was shown to lack investment and resources, particularly with reference to other European countries (*Securing our Future Health: Taking a long-term View. Derek Wanless HM Treasury April 2002*), but it was also acknowledged to be failing to deliver the quality of health care required and expected by the population. In England massive amounts of investment have been put into the NHS over the last 5 years to bring spending levels up to the European average. At the same time a number of policies designed to increase choice have been implemented as a means of increasing quality of services through increased competition.

At this point in time (2007/8) both the French and English health care systems are using choice as a means of balancing cost and quality. What is unclear is how increasing or decreasing patient choice affects inequalities in health. There are clear dangers that those best able to benefit from greater choice may be the better educated and generally more affluent sectors of society at the expense on the less well-off. In this case, even if the general health of the population improves overall, it has been shown that the health of the better off increases faster thereby widening the inequality gap.

Standardised rates of hospitalisation were calculated for electoral wards and for cantons using a standard rate calculated from the sum of the hospital admissions for the two regions. Only rates which were significantly different statistically were used; those not significant were assumed to be close to unity and one was used.

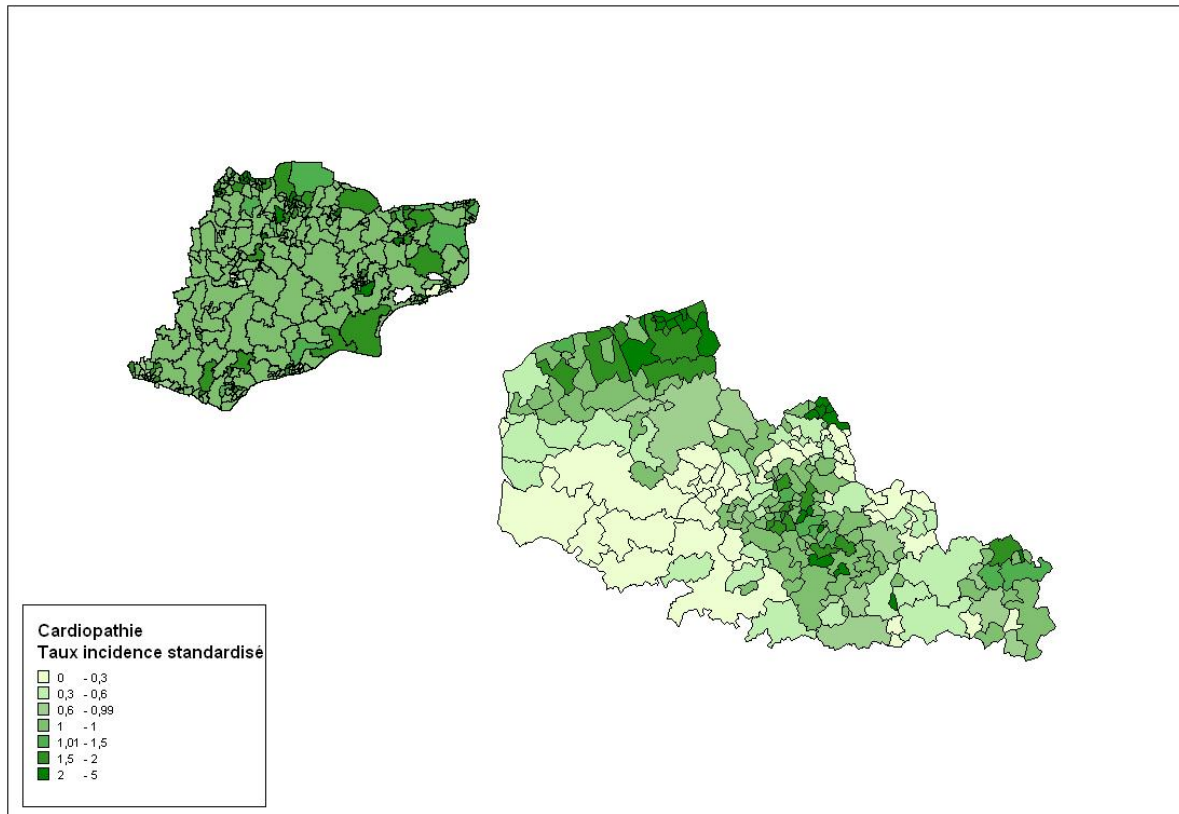
All cause standardised admission rates for electoral wards and cantons were variable across the two regions (Figure 10); they appear to be more localities with higher rates in south east England than in Nord – Pas-de-Calais as a whole, do we know if there is a correlation with Townsend?

**Figure 10**  
**Taux d'hospitalisation standardisé, tous diagnostics**



A greater difference between the two regions for hospitalisation for Ischaemic Heart Disease; uniformly south east England has a higher standardised rate than Northern France; however there is a difference between cantons in France with higher rates around Dunkerque, Valenciennes and the central belt perhaps east of the mining basin (Figure 11).

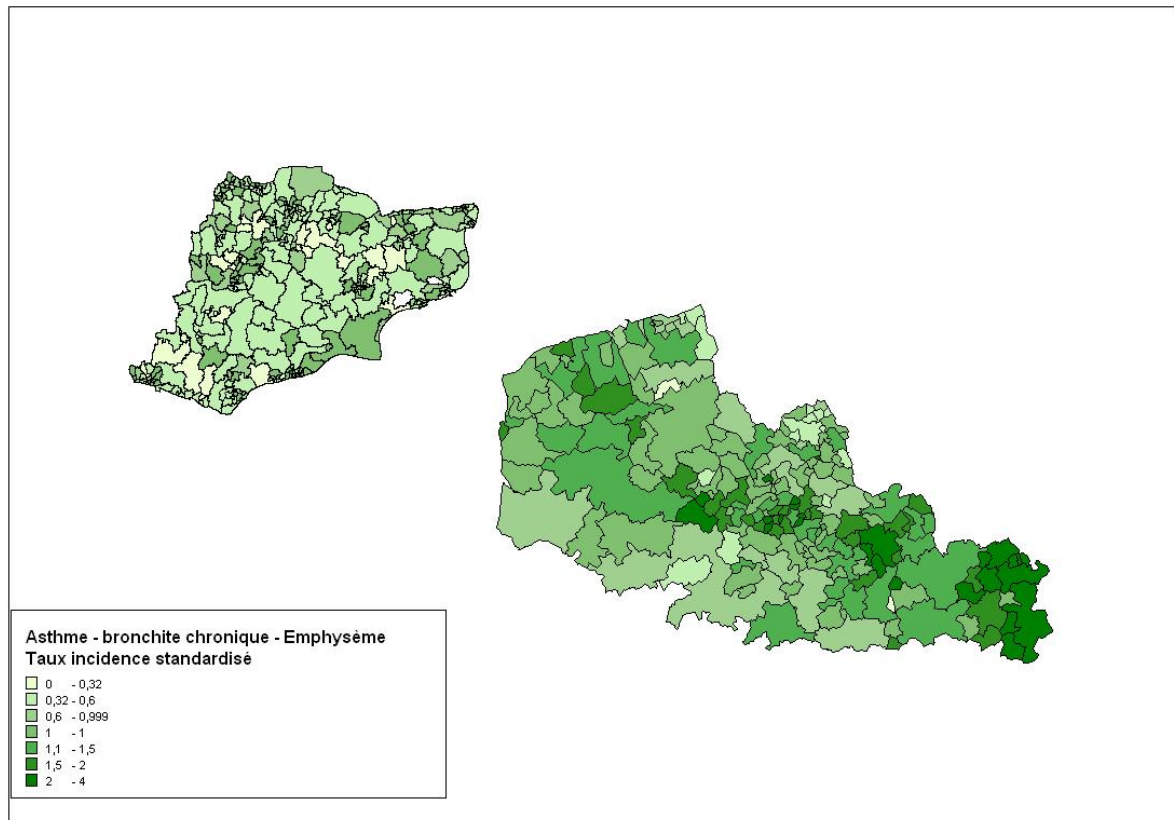
**Figure 11**  
**Taux d'hospitalisation standardisé, ICD I20-I22, both sexes, Ischaemic Heart Disease**



The map for respiratory diseases confirms the higher rate for men amongst the miners, but as this map shows men and women aggregated it is not possible to draw conclusions regarding comparisons of respiratory disease and the higher rates amongst women in England (Figure 12).

**Figure 12**

**Taux d'hospitalisation standardisé, ICD J40-J47, affections chroniques des voies respiratoires inférieures**



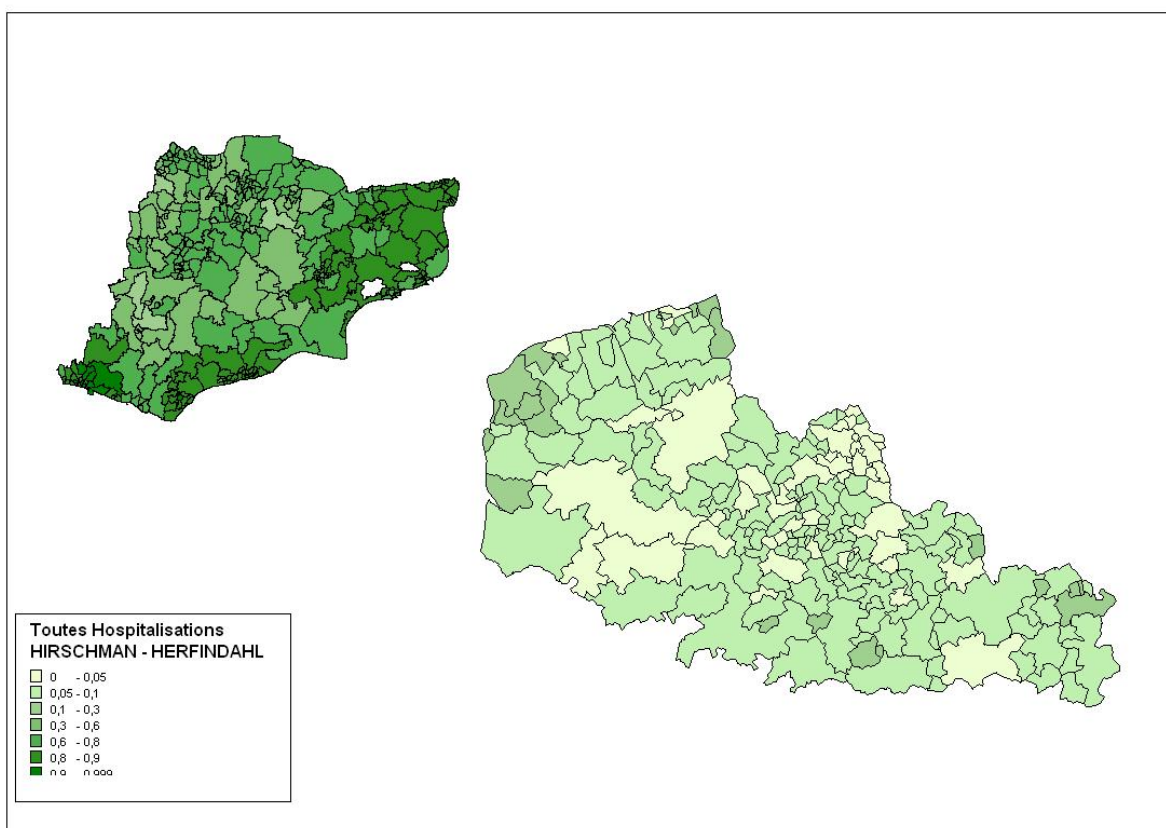
### **How have we measured Choice?**

Analysis of the choice of hospitals across the Interreg region has been undertaken by applying the Herfindahl-Hirschman Index of market concentration to patient utilisation rates of healthcare. This tells us how much use the local population makes of the facilities in their area or whether they elect to go elsewhere, presumably for a better quality service. (A facility that satisfies the whole need of its eligible population will score 1; a facility that meets less of its local demand will score less than 1).

The result of this analysis should give some indication as to who is able to access the best facilities and health care. If greatest choice is exercised by those who already experience relatively less disadvantage it may well indicate that unless efforts are made to counteract this effect greater inequalities in health will result.

The Herfindahl index for both regions (SE England and Northern France) has been calculated and is shown for all diagnoses by the mapping of the Index in Figure 9 . This shows a big difference in the HH for England from France with less variation for small areas. In south east England the scores are closer to one indicating that people are more likely to be treated locally than they are in France; this is no surprise, until now the objective has been for local DGH to provide a complete service with people travelling only for very specialist services.

**Figure 1**  
**Niveaux d'indice d'Hirschman-Herfindahl pour les hospitalisations, tous diagnostics**



The relationship this shows with areas of deprivation and disadvantage is explored in the correlations shown in Table I.

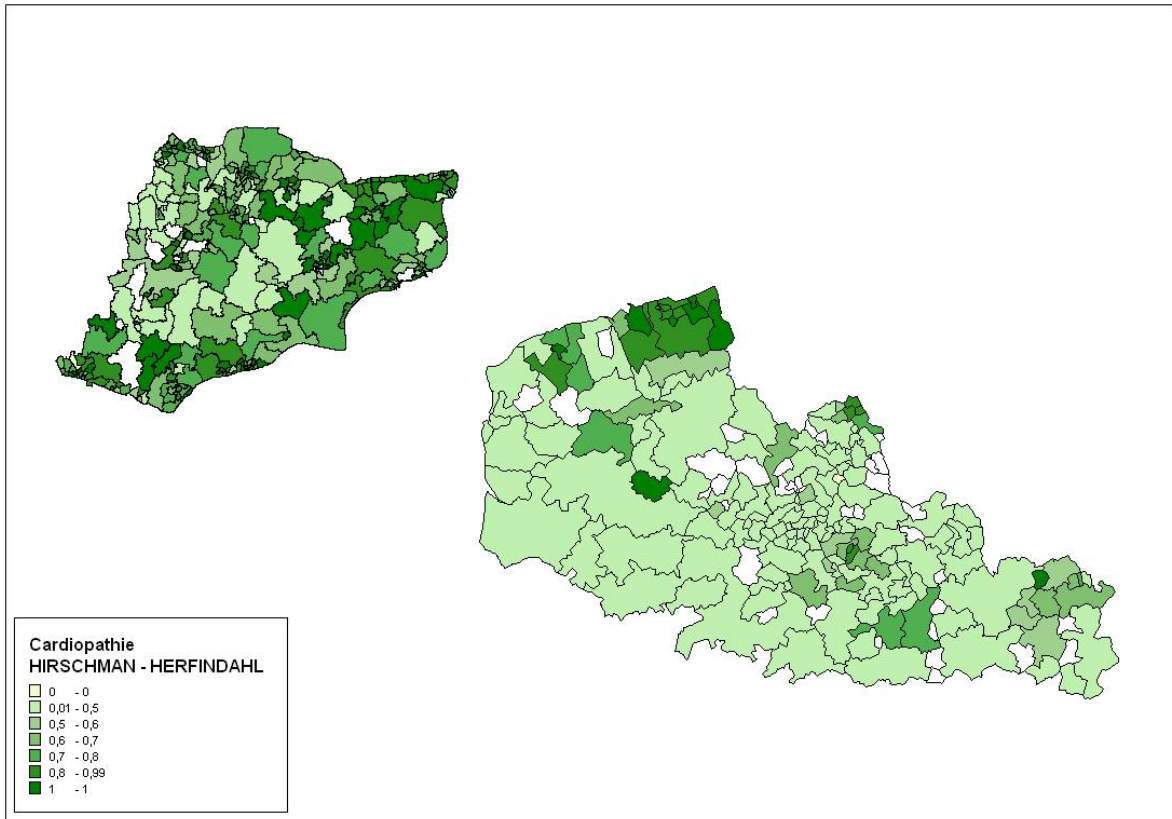
**Table I**

**Analyse des facteurs influant sur le niveau de l'indice d'Hirschman-Herfindahl, tous diagnostics**

Variables	Ensemble de la zone		Nord-Pas-de-Calais		Sud-Est de l'Angleterre	
	Coeff.	P	Coeff.	P	Coeff.	P
Constante	1,3E-4	0,494	-1,3E-4	0,131	-1,6E-4	0,559
Townsend score	-4,3E-6	< 0,001	-1,0E-6	0,022	4,2E-7	0,836
% hommes	-1,2E-4	0,735	2,1E-4	0,213	3,1E-4	0,539
% âgés de moins de 15 ans	-9,3E-5	0,550	6,2E-5	0,462	2,9E-4	0,170
% âgés entre 65 et 74 ans	-2,0E-4	0,165	2,0E-4	0,011	3,5E-4	0,075
% âgés de 75 ans & +	5,2E-4	0,006	-5,3E-5	0,660	2,8E-4	0,300
Distance minimale moyenne à la structure la plus proche	8,1E-6	< 0,001	1,7E-6	0,157	4,7E-6	0,034
	-1,7E-7	0,005	-6,1E-8	0,602	-1,1E-7	0,171
	-9,8E-6	< 0,001	-5,4E-7	0,268	-5,3E-6	0,255

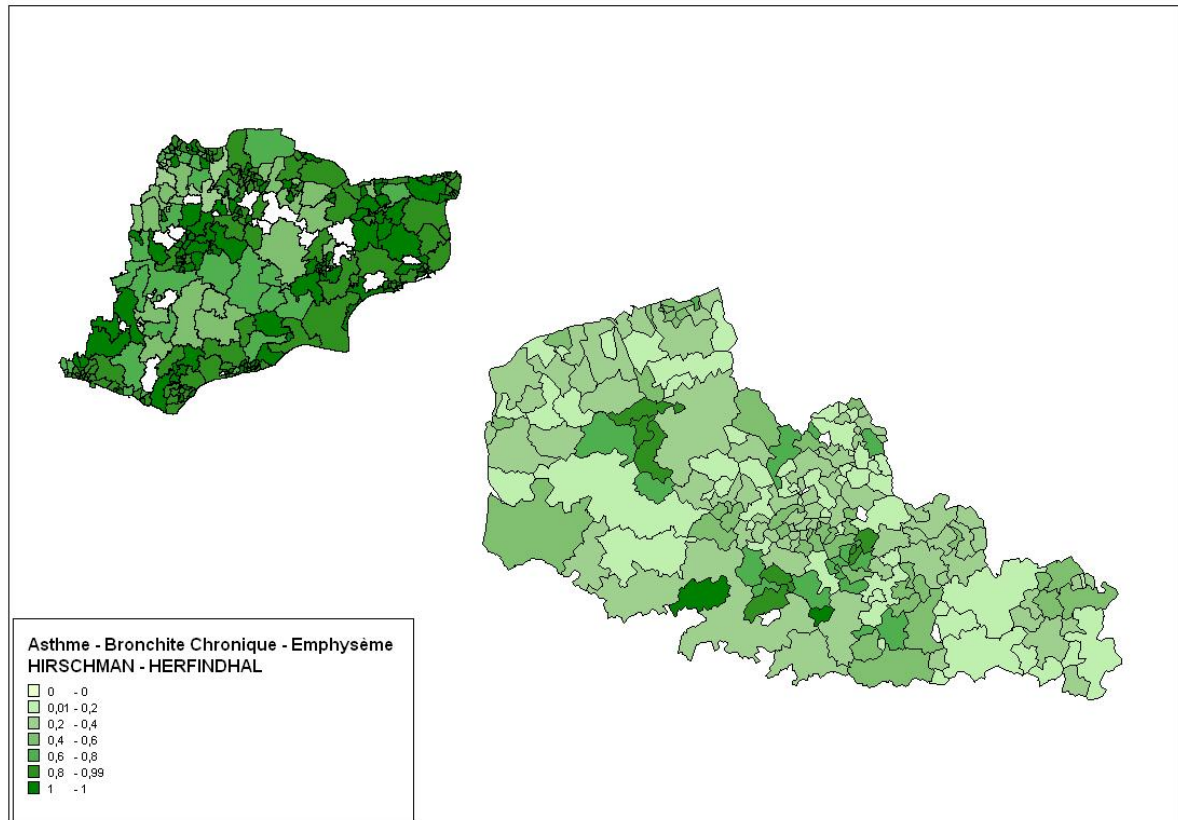
Carré de la distance			
Concentration de l'offre de soins			
R <sup>2</sup> ajusté	0,370 < 0,001	0,180 < 0,001	0,080 0,001

**Figure 2**  
Niveaux d'indice d'Hirschman-Herfindahl pour les hospitalisations, diagnostics principaux I20 à I22 (II)



**Figure 3**  
Niveaux d'indice d'Hirschman-Herfindahl pour les hospitalisations, diagnostics principaux J40 à J47 (R)





An econometric analysis of the factors which influence the level of the Hirschman-Herfindahl Index are of two different sorts affecting negatively on the level of choice (that is to say positively on the Hirschman-Herfindahl Index ) beyond the region :

- dependence relates to age, measured here by the variables ' % of population aged 75 years or more '
- the situation in a large town, measured at the time by the negative effect of the dimension ' rate of households rented ' in the Townsend Index on the level of  $HH_i$ .

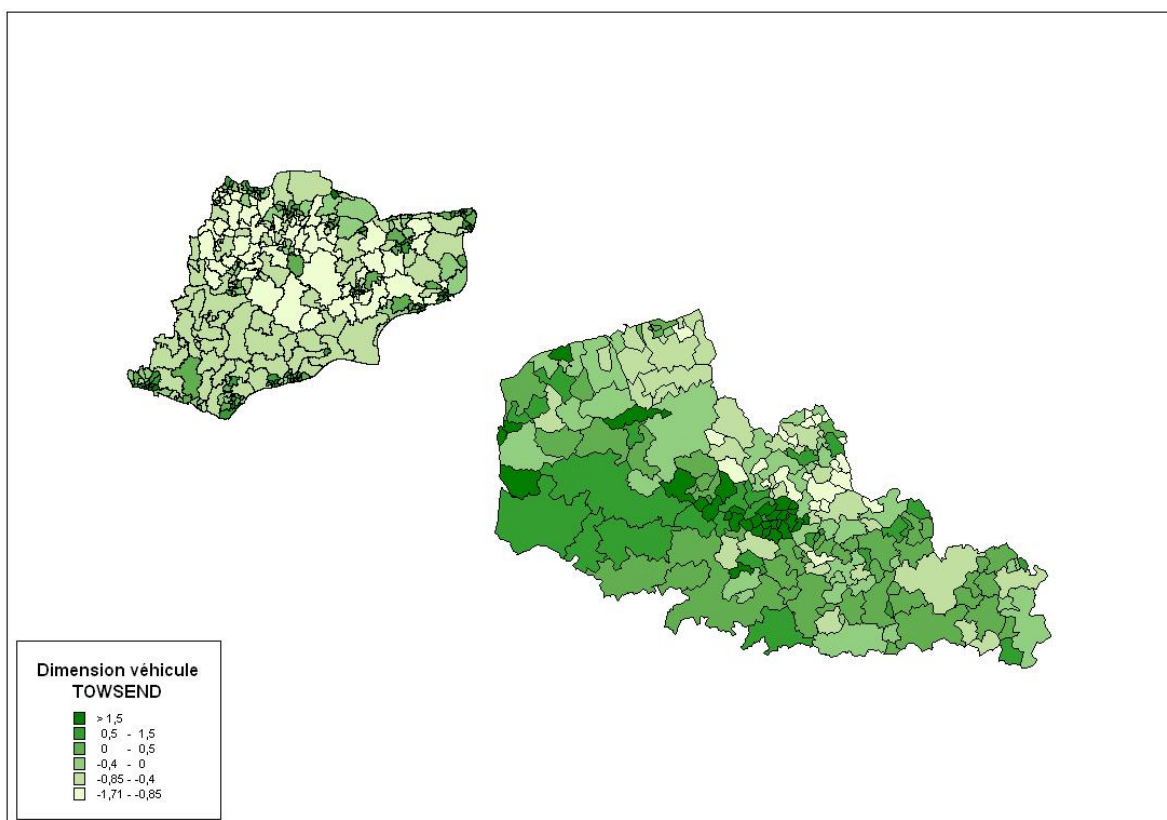
Equally there is a question of the effect of poverty on the level of choice. This way we note the dimensions 'rate of households with no vehicle' and 'rate of households which are over-crowded' in the Townsend Score has a positive effect on  $HH_i$ , indicating in the same way a reduction in the capacity to exercise a choice between services.

The interpretation of the first of these two dimensions is complex. Certainly the impossibility of ability to move in the absence of a suitable means of transport constrains in a significant manner the number of services available, but it can be argued that there is a link between the rate of households without a vehicle and living in a large conurbation. An analysis of the map (Figure 13) suggests this is so and that

there is a good relationship between those zones with the highest scores and the large urban zones, notably in south east England, it appears that the south of Pas-de-Calais is equally characterized by levels raised enough in this dimension, without a clear report of there being clearly defined urban zones.

It is therefore possible to envisage that a significant part of the negative effect of no means of transport on the level of choice reflects the difficulties of access to health care services found in this part of Nord – Pas-de-Calais.

**Figure 13**  
**Dimension « taux de ménages sans véhicule » du score de Townsend**



Comparing these issues across the two countries has demonstrated a number of problems. As other workstreams will also report, achieving total congruence in data is probably impossible. Statistics are gathered over different time periods, definitions and practice vary between the two countries. Some information is available in one country but not the other and population sizes of administrative areas vary. It is not always therefore possible to pursue the most obvious lines of enquiry from either country and inevitably compromises must be reached. We have, however, taken great care to understand and explain the differences in data and practice that may affect the workstream and these will be made evident in the final report.

It should also be apparent that this workstream draws heavily upon, and informs, the other work within the project on Inequalities, and Health Behaviour and Attitudes.

There are significant differences in some aspects of treatment between France and the UK but there are also many similarities. The care pathway for treatment of diabetes is much the same and the pattern of services provided, including those such as Intermediate Care and social care are also similar although the types of organisations providing them may be different. In this way France may already display the type of mixed economy of care that the UK is consciously moving towards.

## **2.4 Health Status and Health Behaviour**

### **2.5 Qualitative Study**

#### **2.5.1 Introduction**

The qualitative study discussed here complements the quantitative data. Objectives for this element of the study were :

- To ascertain residents' knowledge and perceptions of health-related behaviours, and their perceptions of barriers to adopting a healthy lifestyle
- To ascertain residents' perceptions of what government, the health service and the general public can do to ensure the health of future populations.
- To examine residents' current involvement in decisions on health-related services.
- To ascertain ways in which they could be involved in public health policy-making.

#### **2.5.2 Background**

Addressing health inequalities is an important element of UK policy-making, particularly since 1997 when a Labour government was elected. Local authorities have an increasingly important role, working in partnership with the health service. It has also been recognised that unless health inequalities are addressed and the UK population in general has a more health-promoting lifestyle, such as increased physical activity and improved diet, the demands on the health service will become unaffordable. Compared to countries with a similar level of development, the UK has higher rates of circulatory and respiratory disease in both sexes, and higher rates of cancer in women. The UK has a lower level of self-rated good health, and higher rates of women smoking, although the rate of men's smoking is lower than most comparator countries. There is also a growing problem of obesity.

Public involvement in the delivery of health services is a key element of current UK government policy, although it is methodologically difficult to ascertain how effective it has been.

In contrast, health inequalities have rarely been discussed in France and there is insufficient statistical information. The literature review therefore focussed on problems in accessing both the primary and the secondary healthcare systems, the main barrier being a financial one. From 2000, this has been addressed, for example by guaranteeing access to basic insurance (the CMU). However, Lombrail et al (2004) argue that the healthcare system still amplifies health inequalities. People may not take up the CMU due to lack of information or feelings of stigma and exclusion. There is also evidence of unequal exposure to risk, primarily of occupational accidents, occupational stress and occupationally-related cancers, and also behaviourally-related cancers. As in the UK, women have a longer life expectancy, but report greater morbidity. Belonging to strong social networks has a protective effect; poverty and social exclusion both result from and contribute to problems such as drug addiction.

In France, user involvement in healthcare provision was developed by general assemblies for health in the late 1990s, the Caniard Report (2000), and the law of 4<sup>th</sup> March 2002 on the rights of the sick, which initiated a process of 'healthy democracy' to rebalance the doctor-patient relationship and to encourage user participation in defining public health policy and improving the operation of the healthcare system. However, it has been noted that similar concepts have existed for thirty years but have not modified medical practice, and that the involvement of citizens in policy-making is under-developed.

### **2.5.3 Methodology**

The qualitative data were gathered by means of focus groups, which were intended to be socio-economically and geographically representative of residents living in the two regions and were recruited by contacting pre-existing groups. The Townsend Index was used, with each electoral ward or canton placed in one of five tiers; the aim was to recruit three groups in each tier. In France, the mortality index was also used for choosing cantons. Nord Pas-de-Calais had a greater number of cantons in the more deprived tier than south East England, which is not very deprived in relation to England as a whole, but has pockets of deprivation, particularly in the coastal towns.

On the English side, 14 focus groups were convened, (two, three, two, three and four in tiers 1 to 5 respectively) with an average of eight members and 106 participants overall. The age range was from 17 to 80, with a preponderance of middle aged and older people. 67% of participants were female, and two groups consisted entirely of women.

On the French side, 13 groups were convened, over-sampling from cantons with a greater mortality and

in the lower socio-economic tiers (two, two, two, three and four in tiers 1 to 5 respectively). 143 people were recruited (an average of 11 per group). Similarly to England, 70% were women; the mean age was 47 years.

Before the general discussion commenced, each participant was asked to give their initial responses on post-it notes, which were collected. Generally French participants gave much more detailed written responses than their English counterparts, (augmented by the use of a flipchart) and these were used for the analysis, whereas the English comments were often short and rather cryptic. The analysis of the English data is therefore mainly based on transcripts of the taped discussion, analysed manually by undertaking a thematic analysis. Themes were used rather than words, since participants often used a variety of words to discuss the same topic.

The French data were analysed statistically, using Alceste software, which takes word frequency into account and examines the extent of the co-occurrence of words.

Participants were asked four questions:

1. Thoughts about deprivation and life expectancy, prompted by maps of the electoral wards/cantons containing this data. (In France, focus groups were also asked for their views on differences between male and female mortality and had a map of mortality indices, but not a map of deprivation).
2. The most important cause of inequality in health.
3. The most important action to improve the health of the population.
4. How the general public can prevent illness in themselves, and could help the government to create policies to reverse health inequalities.

Many focus groups returned to the same themes, particularly in relation to questions 2 and 3. The analysis of the English data therefore reports the overall incidence of themes, rather than listing them under the individual question.

#### **2.5.4 Findings**

##### Deprivation and life expectancy

In England, participants were aware that some areas were deprived, but not that this affected life expectancy. The main explanations given were the effects on health of previous industries such as the former dockyards, environmental issues such as pollution, how location affected access to services, and the infection risks and pressure on services posed by immigrants. This worrying attitude towards immigrants has also been found in disadvantaged groups in East London (Dench et al 2006). Ten of the focus groups were surprised at the lower life expectancy in coastal areas, which traditionally are seen as

healthy places (although this theme was not discussed at length, perhaps because there was general agreement).

In France, differences in mortality seemed to be accepted, although as in England some people were puzzled by considerable differences between adjacent cantons.

### Causes of inequalities in health

Perceptions of the most important cause of inequalities in health were elicited by using Dahlgren and Whitehead's (1991) classification of health determinants:

Individual lifestyle factors

Living and working conditions

General socio-economic, cultural and environmental factors

Social and community networks

Age, sex and constitutional factors

In England there was little relationship between the Townsend Index score of the focus group, and their ranking of health determinants, and participants generally found the task a difficult one, since they were basing their views on impressions rather than more systematic information.

General socio-economic, cultural and environmental factors were ranked first overall; the effects of low income or deprivation in limiting people's ability both to choose a healthy lifestyle and to access healthcare was the second most common theme overall and was raised in all the socio-economic tiers, although choice was rarely discussed explicitly. Healthcare was the fourth most common theme overall. Although the English health service is free at the point of delivery and local provision was generally seen as good, higher income was seen to give greater choice, including the choice of private medicine. Interestingly, French respondents did not conceive of inequalities in terms of advantages possessed by the better-off in finding their way round the healthcare system, although this has been an element in the English literature since the Black Report.

Living and working conditions were ranked second overall, prompting discussions about the health-damaging effects of the previous industries in north Kent, and also about the stress of modern occupations. Housing issues were discussed infrequently (21<sup>st</sup> overall).

Issues relating to lifestyle, ranked third as a factor, were discussed most; the specific lifestyle issue of nutrition had the greatest frequency of all the themes, and covered topics such as the lack of healthy food

for sale in poor neighbourhoods, the techniques used by supermarkets to encourage the purchase of junk food, and the perceived loss of cooking skills by younger women. Nutrition was often related to parenting, the fifth most common theme overall. It was agreed that nutrition should be addressed in schools. Age, sex and constitutional factors were rated as second lowest; eleven focus groups commented on the importance of genetics in determining health, although the theme did not rank highly overall. Unlike the French focus groups, a specific question about gender was not asked, and the topic was rarely commented upon, other than in relation to parenting and proper nutrition.

Social and community networks were generally ranked lowest, with the suggestion that 'community networks don't exist anymore', although local groups such as a church lunch group were valued.

In answering question 1, French participants moved on to giving explanations, and so anticipated question 2. The main explanation given was individual behaviours such as alcohol intake; other reasons given were working conditions, living conditions (particularly differences between men and women), access to healthcare, and environmental issues. When asked about determinants in their own canton, individual behaviours, access to healthcare and living conditions were the main explanations given.

These responses were further analysed using Alceste, producing three unequally weighted classes. The largest class (74% of units) relates to individual risk factors, (including lifestyle differences between men and women) and was more likely to be reported by professionals with higher levels of education, living in the more favoured cantons. The second class (17%) relates to working conditions, particularly men's less favourable work and higher mortality, and was more likely to be reported in the semi-urban cantons, and by men. The third class (9%) relates to the environment, occupational diseases, and the legacy of the mines. Women were more likely to give these environmental explanations. Both the second and third class of explanation were more likely to be given by participants in less favoured areas; this is not the case in the English-speaking literature, where generally structural explanations for health inequalities are more likely to be given by people from higher socio-economic groups. Barriers to access to healthcare did not feature in this analysis, as the range of terminology used was not amenable to textual analysis.

#### Perceptions of priorities to improve health, and involvement in policy

As discussed above, in England school was seen as more important than the family for instilling healthy habits; several groups also mentioned the role of TV celebrities in improving the British diet. Although smoking was not discussed frequently, the forthcoming ban on smoking in public places was favoured. Several smoker participants in the more disadvantaged groups recognised that it could damage their health, but were reluctant or unable to stop. Similarly, many participants recognised that they should take more exercise, but were deterred by the expense of gyms; since many leisure centres are now privately

run, it was thought unlikely that charges would be reduced for poorer clients. There were few suggestions about what could be done to improve health more widely, as health education was seen as insufficient to change behaviour. Gaining and maintaining motivation to change was seen as difficult.

Several local initiatives were referred to, and several respondents also outlined the 'small things' they did, such as recycling, or reporting public structures in need of repair, such as pavements. This is an element of what researchers such as Sampson have termed collective efficacy (Morenoff et al 2001). Opinions were divided on whether change was possible, and seemed to be more due to personal temperament than socio-economic group; the starting point was talking to contacts in the NHS and local government.

Opinions on central and local government were the sixth most common theme overall. Statutory organisations were generally seen as remote but, conversely, few people bothered to get involved. There was little knowledge of the NHS policy of public and patient involvement. It was considered that there would never be sufficient money in the public sector, but that some of it was being wasted; a minor theme was waste and bureaucracy, both in the health service and in local government

The main French responses covered an improvement in living conditions (98) and socio-economic policies (68), access to secondary prevention (61) and improved health education (53). Unlike the English data, there is little discussion of improved diet (7 responses, plus 7 on nutrition education) and parenting does not arise as a category. The data are also categorised as pertaining to individual actors, or to systems, particularly the need for better provision of healthcare. Analysis using Alceste produced four classes. Class 1 (44%) relates to improved information and secondary prevention, responses more likely to be given by people with higher qualifications in more advantaged, rural cantons. Class 2 (21%) relates to primary prevention, particularly in schools. Class 3 (20%) relates to improving economic conditions and providing work, responses more likely to be given by less qualified and/or unemployed respondents in disadvantaged cantons. Class 4 (14%) relates to social networks, and attentiveness to people.

French participants generally found it difficult to answer the question on involving citizens in health policy-making. Respondents thought that it could improve local services, but queried its feasibility and thought that it would require a certain level of expertise. The main class produced by Alceste (29.5%) relates to the first of these, a response most likely to be produced by professional women aged under 50. Disadvantaged respondents were more likely to be sceptical.

### **2.5.5 Summary of Qualitative work**

Both the French and the English team undertook a literature review, with different foci. There is a greater



body of work on health inequalities in the English-speaking literature than in the French, although one of the most influential early writers on lay health beliefs was French (Herzlich 1973). Researchers have debated the relative importance of material, psychosocial and behavioural/cultural factors in explaining health inequalities. More recently, researchers such as Blaxter (1997) have examined lay beliefs about health inequalities. Blaxter (1997) found that lay explanations focussed on individual behaviour rather than structural factors; later work such as that by Popay et al (2003) has found that structural factors are recognised more by higher socio-economic groups, and that poorer respondents address such factors in surveys, but not in interviews. They comment that people do not find it comfortable to discuss their own inequality, nor to seem as if they are unable to rise above their circumstances.

The English literature review has only briefly addressed the influential but rather 'slippery' concept of social capital, associated in particular with the American sociologist Putnam (2000). Another useful concept is that of resilience (Schoon 2006), since it can help to explain how some people and communities are able to transcend difficult situations. Bartley (2006) states that resilience is enhanced by human relationships, and in particular by how public services respond to people in need.

The qualitative data were gathered by means of focus groups, which were intended to be socio-economically and geographically representative of residents living in the two regions and were recruited by contacting pre-existing groups. The Townsend Index was used, with each electoral ward or canton placed in one of five tiers; the aim was to recruit three groups in each tier. In France, the mortality index was also used for choosing cantons. Nord Pas-de-Calais had a greater number of cantons in the more deprived tier than south East England, which is not very deprived in relation to England as a whole, but has pockets of deprivation, particularly in the coastal towns.

The English findings largely echo those in the existing literature, although there are some interesting differences in France to be explored, such as the acceptance of health inequalities and a tendency for victim blaming. In the English data there is a distinctive element about coastal disadvantage to be explored further. In relation to findings which would help local policy makers, the data are rather frustrating, although we did not expect a 'magic bullet'. The research literature is also more able to analyse the issues than to suggest solutions (e.g. Blackman 2006).

However, two themes emerged in the English data which may be fruitful. The first is the importance of meaningful consultation by statutory services, with a clear indication of what is, and what is not, negotiable, since there was some cynicism that views were ever listened to. The second is the value of building on local initiatives and feelings of personal efficacy where they exist, and the importance of high quality public services in developing resilience (Bartley 2006). Lastly, the English findings need to be set in

the context of recent thinking on the need to change the role of the state to one which encourages collectivism (Stoker 2007).

#### 4 What we found: similarities / differences England / France

The two regions are really different Difficult to compare such different regions

Compare we have huge structural differences so impossible to know HCare policy, structural difference

Same Euro region and only 20 miles but

2 nations with different cultures When we compare NPC with France and Kent with rest of Eng

Both countries have a north south divide and it is well documented that northern regions have poorer health.

Kent is average (SMR = 100), Sussex more healthy in south east and really more healthy than northern England (SMR?)

NPC has 26% sur-mortality

Certainty around mortality variations and inequality

e.g. female health is different, decomposition is similar – men closely related to SE status and in men deprivation so male health is clear

in females not so closely related but is there a behaviour difference

specific pattern in coastal regions

need extra analysis of survey to look at male / female behaviour cannot do geog in France

As consequence when look at mortality we have natural ordering less mortality in Kent cf NPC – this we expected

But have a lot of results most interesting was in terms of comparing position of women

Mortality in two regions are different. Interesting to look, if linked ot behaviour we probably have a forecast what might predict for NPC as lagg also working conditions fertility

Really – stats are quite similar some difference but quite small

Complicated to take into account competitive mortality in NPC premature deaths e.g. circ disease they die early so lower mortality for this cause (cf KM survey where male smokers had died\_)

Comparison mortality not complicated as data is different but structure e.g premature cardiac mortality so complicated to compare.

Need to develop some modelling in new research

Intra-regional variations, look to the evidence regarding health inequalities and socio-economic variations

In Eng seems to be a coastal – spatial distribution of mortality – discuss

Link specific economic activities

Housing policy (move to Margate

NPC – factor of basse a minier

Some specificity of coastal regions calais, boulogne et dunkerque (Duijn Kirk)

Inland excess mortality rural part of pas de Calais and in south; is there is England

In NPC the special distribution of women not so pronounced as for men

Use of Townsend and Link

Positive relation townsend and mortality and should be true both sides of channel

Correlation is higher in Eng than France

With premature mort no longer true

As really difficult to know exactly relationship- prem mort ver difficult to interpret relationship

When we tried to compare the strength of the relationship in both regions don't find a clear ordering no strong patterns

If want to say hcare performance is to reduce prem mort, no relationship so cannot make judgement on performance

criterion for perf probably on premature death

Explanation – working conditions, health behaviour, prob also perception of health, NPC has social security and everyone can get care, flat region lots of hospitals (enough)

Much more likely to be explained by behaviour

Final report  
Draft 2

NPC mort declining but gap with France is not declining (cf England)

Gap between social classes in /England is if anything widening is this so in France. Prob so in France. In France know about payments for people in lower social classes. In France have less info on social class and health Correlation between working / social class and mortality is stronger for men than for women – is this same in UK

Big difference in terms of policy UK and Fr in UK for long time; in Fr not same indices of deprivation and health policy is different, probably coming in France – would be useful to have same kind of data to focus public policy on more deprived regions

In Uk converge on IMD but in France have several proposals and need comparable indicators. Even across Europe might expect similar indicators.

In Uk when look at variables in IMD have some health variables therefore will inevitably have correlation (impt policy prescription)

Overcrowding is more than one per room. Both use kitchen and bathroom

In France do not count kitchen and bathroom.

? Same % ownership but in Fr is lower

57% in France

Policy not cultural – in Fr projects on cheap housing cf Thatcher policy

Bring down section on townsend?

Very difficult to make comparisons npc not the same, difficult to get information for Townsend etc decide to select indicators in which we are confident they are comparable; we made this decision.

In our project we have demonstrated a relationship between inequalities in social economy (through using the Townsend Index) and inequalities in health. This is true for both France and England, but does not explain the differences between France and England.

Health behaviour

Get same kind of decomposition is surprising; except higher weight on smoking in Uk change in smoking slower in france

**Final report**  
**Draft 2**

Comparison % smoking, drinking (find this and put in see above)

Drinking more common among men in France – couldn't make comparisons on mortality from alcohol related disease and in UK mostly cirrhosis and in Fr cerebral

Selection of indicators – drink daily / number of glasses a week – only kept daily - UK drink more at weekend

Smoking more heavy in younger men and women in Fr and becomes much less in older people ?  
earlier mortality in Fr or giving up or generation gap (woman / war)

Weight amongst women in Fr more young women under weight and more obesity in older /middle aged women

Similar in men

Percentage of obesity in children is less in Fr than UK (BD to find figures)

Diet was difficult to compare because the question was different; survey is complicated; questions were not formulated; need to measure the weight of everything to evaluate intake so is poor proxy

But results indicate better eating habits in NPC

Both countries poorer in young men?

Children – is eating correlated with consumption?

If drink too much not good for health but effect is long term

Smoking is better known effect

Young people think they can continue – when / what decides to give up?

Constraints on data – ethnicity not possible in France, geog address very difficult in France

English data hospital more precise, no

The Utilisation workstream have so far found it difficult to interpret the French data as low medical density seems to be in rural areas and whilst there appears to be more choice in the Herfindahl Index this amounts to people in the coastal regions being so far from anywhere they have equal distances thereabouts to travel to a choice of hospitals!

The results, which seem to indicate a variation between the two regions over and above the

innate morbidity of the population for coronary heart disease may be examined in relation to the quality of community services and the health related behaviour of the population. In addition it is the view in France that access in terms of transport to services bears a distant relation to the ability to participate in healthcare.

It proved that the objectives were ambitious; not only did the theory lead to complex need for analysis, but the differences in availability of comparable data on the two sides of the channel meant that compromises in data collection were made.

However we did find some interesting differences in hospitalisation rates, in addition the use of the Herfindahl Index has enabled some measurement and mapping of local access.

Qualitative work has found some differences between f and e but if this related to methodology or differences in people's attitudes. Initially expected that F people speak about hcare system and eng about attitudes but are these real differences or methodology.

Find some words to explain this

Participation of people in evaluation of health evaluation policy is increasing; our project is in line, attached importance to include views of public.

Patient participation services do not exist in France. In UK how are people selected to participate. Also surveys; national, collecting opinion – does not exist in France

Propose thinking of pan European survey

Started working with a focus which was different in two countries and discovered when we reviewed our objectives. Comparison two countries agenda not the same, this kind of research needs to be in line so it was difficult to conduct the research. Focus was not same so not surprising in end when researchers had freedom to 'curb' subject the end result was different.

Very interesting to be interviewed / participate in research citizen participation;

The Qualitative work found that the low medical density is in the areas of low social disadvantage, which is why I wondered whether LMD had a different interpretation. In which case it sounds like the Inverse Care Law doesn't apply. Is that what you

concluded?

what is added value of this kind of research team working together

## 5. Implications for policy

1. Data availability and comparability, geog coding, disease coding (for mortality)
2. need to develop longitudinal dataset, correlation is not causality – not able to say how much is social class / behaviour other causes?
3. deprivation indicators – use of maps, important before implementing programmes for reducing inequalities
4. behaviours - smoking english women smoking sooner see respiratory disease results – risk in france of increased smoking today; diet and activity stuff especially in England
5. geographical variations and specificity of coastal areas - ex mining and dockyard stuff over and above the effects of deprivation; specificity of coastal areas (Liz) why? See also Andy's talk – deprivation, inaccessible, environmental constraint and choice of economic system
6. gender differences – behaviour / deprivation / related to industry
7. implication for French policy - (unexpected) importance of individual behaviour

## 6. What can be done about Inequalities

Analysis of the French sociological literature around cultural and social capital leads to the conclusion that reducing barriers to healthcare utilisation does not necessarily lead effectively to the enhancement of health status of the consumer, and that the quantitative impact of better healthcare coverage on the consumption of care by the most deprived population may not be followed by a corresponding increase in the *quality* of the healthcare consumption. Moreover, the existence of an indirect impact of insurance coverage (in France) would rely on the assumption that reduction in the cost of health supported by the household would actually lead to a shift of health and increasing outlays.

English public health literature has taken these arguments further in using the evidence that the development of neighbourhoods and communities through partnership working can actually

enhance the health and well being of the population through providing support and through improving the ability of communities to access healthy lifestyles.

The work undertaken in this project indicates we have the opportunity to enhance the approaches to health and health care on both sides of the channel through examining in more detail the factors at individual and community level influencing health of the population in these two regions. This can be taken forward through analysis of indicators of inequalities and through the examination of individual factors through the qualitative work

National and International approaches have supported the need to investigate inequalities and to do something about it. The WHO introduced the programme of Health for All 2000 and the Healthy Cities programme led in the UK by Liverpool. In England in 1998 the government published *Our Healthier Nation*<sup>ix</sup> which set 'tough and challenging new targets' for improving health indicators.

- improving the health of the population as a whole by increasing the length of people's lives and the number of years people spend free from illness; and
- improving the health of the worst off in society and narrowing the health gap'

The Wanless Report published in 2002 (*Securing our Future Health: Taking a Long-Term View*) included a 'fully engaged' scenario associated with comparatively better health outcomes and a lower increase in costs. *Securing Good Health for the Whole Population* was published in February 2004<sup>x</sup>. This review focused on prevention and the wider determinants of health in England and the cost effectiveness of action that can be taken to improve the health of the whole population and to reduce health inequalities. He identified a number of challenges to the life expectancy element of the target:

- Some interventions and services may not be reaching the most disadvantaged
- Lack of knowledge about what interventions work for most disadvantaged groups
- Interventions are too focused on the beginning and end of the life cycle, more needs to be done to reduce inequalities in other age cohorts
- Lack of information about cost-effectiveness of interventions which hinders priority setting at local level

**...More**



## 7. Recommendations for further work

Need to bring in the policy makers, present work

Follow up with better data / gaps

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<sup>i</sup> Graham H, Kelly MP. 2004. Health Inequalities: concepts, frameworks and policy. Briefing Paper. NHS Health Development Agency.

<sup>ii</sup> Macintyre S, McKay L, Der G 2003. Journal of Public Health Volume 25: 4: 288-294(7)

<sup>iii</sup> List of countries by life expectancy 2007

[http://en.wikipedia.org/wiki/List\\_of\\_countries\\_by\\_life\\_expectancy](http://en.wikipedia.org/wiki/List_of_countries_by_life_expectancy)

<sup>iv</sup> National Statistics News Release 2006 <http://www.statistics.gov.uk/pdfdir/liex1106.pdf>

<sup>v</sup> Poirier G, Palmer, A, Herridge D. 2005. Etude de Mortalité. Document de Travail. COSPH.

<sup>vi</sup> Office of Deputy Prime Minister. 2000. Indices of Multiple Deprivation 2000 – The Methodology.

<http://www.odpm.gov.uk/index.asp?id=1128452>

<sup>vii</sup> Townsend P, Phillimore P, Beattie A. *Inequalities in Health in the Northern Region: an interim report*, Newcastle upon Tyne and Bristol; Northern Regional Health Authority and the University of Bristol. 1986.

<sup>viii</sup> DHSS 1980. Inequalities in Health. Report of a Research Working Group.

<http://www.sochealth.co.uk/history/black.htm>

<sup>ix</sup> 1998 Our Healthier Nation - Publication Of The Green Paper On Public Health. Department of Health

[http://www.dh.gov.uk/PublicationsAndStatistics/PressReleases/PressReleasesNotices/fs/en?CONTENT\\_ID=4024659&chk=PmTG%2Bf](http://www.dh.gov.uk/PublicationsAndStatistics/PressReleases/PressReleasesNotices/fs/en?CONTENT_ID=4024659&chk=PmTG%2Bf)

<sup>x</sup> Wanless.

[http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/HealthInequalities/HealthInequalitiesGeneralInformation/HealthInequalitiesGeneralArticle/fs/en?CONTENT\\_ID=4079622&chk=QtqGFo](http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/HealthInequalities/HealthInequalitiesGeneralInformation/HealthInequalitiesGeneralArticle/fs/en?CONTENT_ID=4079622&chk=QtqGFo)