The quality of care and influence of double health care coverage in Catalonia (Spain)

Luis Rajmil, Carme Borrell, Barbara Starfield, Esteve Fernandez, Vicky Serra, Anna Schiaffino, Andreu Segura

Abstract

Aims—To analyse inequalities by social class in children’s access to and utilisation of health services in Catalonia (Spain), private health insurance coverage, and certain aspects of the quality of care received.

Design—Cross-sectional study using data from the 1994 Catalan Health Interview Survey.

Setting—Child population of Catalonia.

Participants—A representative sample of non-institutionalised children younger than 15 years (n = 2433).

Main outcome measures—Health services utilisation, perceived health, type of health insurance (only National Health System (NHS) or both NHS and private health insurance), and social class.

Results—No inequalities by social class were found for the utilisation of health care services provided by the NHS among children in most need. Double health care coverage does not influence the social pattern of visits. Nevertheless, social inequalities still remain in the use of those health services provided only partially by the NHS (dentist) and when characteristics of the last consultation are taken into account. That is, subjects who paid for a private service waited an average of 14.8 minutes less than those whose visit was paid for by the NHS only.

Conclusion—Equitable access and use of medical care services in relation to need, regardless of the type of insurance and social class of their children and families, has been achieved in this region of Spain; differences by social class remain for those services incompletely covered by national health insurance and aspects of the quality of care provided.

Keywords: social inequalities; health care utilisation; quality of care; health interview survey

Children are sensitive to changes in access to health care services and the quality of care provided. Previous research on the likelihood of any use of health services has documented barriers to use among children in families with scarce financial resources, less education, and with psychological problems; however, the volume of services used is related to family size, health insurance status, and maternal use patterns, as well as perceived health status and health problems of the child. Social inequalities in health and health care services utilisation are particularly evident in countries such as the United States, where the health care system does not provide universal coverage, and a high percentage of the population is uninsured. In such countries barriers limiting equitable access and use of health care services are encountered by members of disadvantaged social classes. In some other countries, even where national health services provide universal access to care, disadvantaged social classes often utilise health services less, especially when their poorer health status is taken into account, and more often they show much less use of preventive services.

In Spain the General Health Service Act established a national health system with 17 regional health services financed mainly by taxes, which has provided universal and free health care coverage, including primary, specialised, and hospital health care since 1986. Coverage of dental care is only partial and primarily directed towards some preventive measures during school age. Some people have purchased private health care coverage in addition to their public insurance. This double coverage is much higher in the autonomous region of Catalonia (reaching about 25% of the population) than in Spain overall. Private health insurance provides services beyond those offered by the NHS (for example, dental care, elective surgery) and also provides more personalised care for some low cost services (greater freedom to choose primary health care or specialised care, shorter waiting lists, private rooms in private hospitals).

Social inequalities in health have not been well studied in Spain until recently, and most recent studies are based on adult data. In one study, no differences in volume of ambulatory visits by social class in Catalonia were found among children, even when their health status was taken into account. Social inequalities in access to and use of children’s health services, and some aspects of the quality of care received, after including the current types of coverage in the analysis (only NHS versus NHS plus private health care coverage), are still issues to be investigated.

The aim of this study was to address this gap in knowledge and to analyse the influence of double health care coverage and the quality of care received.

Subjects and methods

STUDY POPULATION AND SAMPLE

Data were obtained from the Catalan Health Interview Survey (CHIS) which was undertaken during 1994. The CHIS consisted of a multistage probability sample in each of the eight health regions of Catalonia. The sample
was representative of each health region and adequately weighted to cover the entire non-institutionalised population. The sample size for all ages was 15,000. The data for the 2,433 children under 15 years were obtained from proxy respondents (mother, father, or other carer), by means of a structured interview adapted for the proxy respondent. The proxy respondent child questionnaire was based on the adult version excluding questions related to mental health, satisfaction with health services, and opinion about the health system.

**Sociodemographic Variables Analysed**

The sociodemographic characteristics of the child and family were age, sex, and social class based on the occupation of the head of the household, following the Spanish adaptation of the 1980 British Registrar General classification. This adaptation has been widely used in Spain and has been recently validated. Class I includes managerial and senior technical staff and free professionals; class II, intermediate occupations and managers in commerce; class III, skilled non-manual workers; class IV, skilled (I Va) and partly skilled (IVb) manual workers; and class V, unskilled manual workers. For purposes of analysis, classes were grouped into three categories: I+II (advantaged), III (middle), and IVa+IVb+V (disadvantaged). Social class was missing in 3.3% of the sample.

**Health Care Services Utilisation and Health Variables Analysed**

We analysed type of health care coverage using two categories: (1) only NHS, or (2) NHS and private health insurance. Consultation with a health professional over the two weeks before the interview (no/yes) included consultations with a primary health care physician or a primary care paediatrician, a specialist (excluding visits to a dentist and optometrist), a nurse, or other health professionals. The characteristics of the most recent consultation during the 15 days before the interview were the following: waiting time for the visit (time in minutes between arrival at health centre or general practitioner surgery and the beginning of the visit), place of the visit (private consultation, public ambulatory, emergency services), and the main reason for the visit (diagnostic, prescriptions, diagnosis and prescriptions, preventive examination, administrative procedure). We defined the financial coverage of the last visit as private if the patient paid the physician out of pocket or through private health insurance, and public if only the services of NHS physicians were used. Financial coverage of the last visit is not the same as health care coverage status of the patient. In some cases, the family might pay a private physician out of pocket, having either only public coverage or double health coverage.

Consultation with a dentist during the year before the interview (no/yes) was specifically elicited as well as hospitalisations for a minimum stay of one night (no/yes).

We used self reported health status as a measure of need, defining it as good (grouping the categories excellent/very good/good) or poor (grouping the categories fair/poor).

**Data Analysis**

The variables that may be influenced by the age of the child (such as visits to a health professional) were standardised by age in four groups (less than 1 year, 1–4, 5–9, and 10–14 years), using the 1991 census population data from Catalonia. In the same way, visits to a dentist and hospitalisations, which were also related to sex, were standardised by age and sex following the same method.

Prevalence odds ratios (OR) and corresponding 95% confidence intervals (CI) were computed by means of logistic regression to estimate the association between social class and variables of the utilisation of health care services. The regression equations included terms for age (in four ages categories), residence area (living in Barcelona city region or another health region), self reported health as a measure of need (good/poor), or type of health care coverage (only public/public and private). Regressions were also performed...
Health care in Catalonia

Table 2  Age standardised proportions of children that had visited a health professional or dentist, and been hospitalised according to the type of health insurance coverage, Catalan Health Interview Survey, 1994

<table>
<thead>
<tr>
<th>Type of health insurance coverage</th>
<th>Only NHS</th>
<th>Double coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>%* (95% CI)</td>
<td>%* (95% CI)</td>
<td>%* (95% CI)</td>
</tr>
<tr>
<td>Visit to a health professional (past 2 weeks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social class I–II</td>
<td>28.0 (23.0–33.1)</td>
<td>28.0 (23.0–33.1)</td>
</tr>
<tr>
<td>Social class III</td>
<td>20.2 (15.1–25.3)</td>
<td>20.2 (15.1–25.3)</td>
</tr>
<tr>
<td>Social class IV–V</td>
<td>28.7 (23.9–33.5)</td>
<td>28.7 (23.9–33.5)</td>
</tr>
<tr>
<td>Hospitalisation (past year)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social class I–II</td>
<td>4.3 (2.4–6.2)</td>
<td>4.3 (2.4–6.2)</td>
</tr>
<tr>
<td>Social class III</td>
<td>5.5 (3.6–7.4)</td>
<td>5.5 (3.6–7.4)</td>
</tr>
<tr>
<td>Social class IV–V</td>
<td>6.3 (4.6–8.0)</td>
<td>6.3 (4.6–8.0)</td>
</tr>
<tr>
<td>Visit to a dentist (past year)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social class I–II</td>
<td>29.8 (25.0–34.6)</td>
<td>29.8 (25.0–34.6)</td>
</tr>
<tr>
<td>Social class III</td>
<td>29.8 (25.0–34.6)</td>
<td>29.8 (25.0–34.6)</td>
</tr>
<tr>
<td>Social class IV–V</td>
<td>19.5 (14.4–24.6)</td>
<td>19.5 (14.4–24.6)</td>
</tr>
</tbody>
</table>

*Age standardised by direct method in the case of visits to a health professional, and age and gender standardised in the case of hospitalisation and visits to a dentist.
†Odds ratio and 95% confidence interval, adjusted for age, area of residence, and self perceived health.
‡Reference category.

Table 3  Age standardised means of waiting time (minutes) according to financial coverage for the last visit to a health professional, Catalan Health Interview Survey, 1994

<table>
<thead>
<tr>
<th>Financial coverage for the last visit</th>
<th>Public Mean (95% CI)</th>
<th>Private Mean (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social class I–II</td>
<td>34.6 (29.8–39.4)</td>
<td>16.8 (15.0–18.6)</td>
</tr>
<tr>
<td>Social class III</td>
<td>28.7 (24.0–33.4)</td>
<td>14.8 (12.8–16.8)</td>
</tr>
<tr>
<td>Social class IV–V</td>
<td>30.9 (26.1–35.7)</td>
<td>13.1 (11.1–15.1)</td>
</tr>
<tr>
<td>Total</td>
<td>28.7 (26.4–31.0)</td>
<td>14.8 (12.8–16.8)</td>
</tr>
</tbody>
</table>

*Age standardised by the direct method.

Table 4  Age standardised proportions of place, main reason, and financial coverage of visit according to social class in children that had visited a health professional during the two weeks before the interview, Catalan Health Interview Survey, 1994

<table>
<thead>
<tr>
<th>Social class</th>
<th>I–II</th>
<th>III</th>
<th>IV–V</th>
</tr>
</thead>
<tbody>
<tr>
<td>% (95% CI)</td>
<td>% (95% CI)</td>
<td>% (95% CI)</td>
<td></td>
</tr>
<tr>
<td>Place of visit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private centre</td>
<td>60.2 (50.3–70.1)</td>
<td>40.0 (29.3–50.6)</td>
<td>24.3 (19.3–29.3)</td>
</tr>
<tr>
<td>Public ambulatory</td>
<td>33.7 (23.9–43.5)</td>
<td>51.1 (40.0–62.1)</td>
<td>64.9 (59.0–69.9)</td>
</tr>
<tr>
<td>Urgency centre</td>
<td>6.1 (1.3–10.8)</td>
<td>8.9 (2.7–15.1)</td>
<td>11.2 (7.5–14.9)</td>
</tr>
<tr>
<td>Main reason for visit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnostic</td>
<td>67.5 (58.7–76.3)</td>
<td>69.0 (59.4–78.7)</td>
<td>64.0 (58.5–69.5)</td>
</tr>
<tr>
<td>Prescriptions</td>
<td>3.0 (0.1–5.9)</td>
<td>0.0 (0.0–2.0)</td>
<td>1.0 (0.0–2.0)</td>
</tr>
<tr>
<td>Diagnostic plus prescriptions</td>
<td>8.2 (3.2–13.3)</td>
<td>7.9 (2.6–13.2)</td>
<td>11.5 (7.8–15.2)</td>
</tr>
<tr>
<td>Preventive examination</td>
<td>16.4 (9.4–23.4)</td>
<td>16.0 (9.2–23.8)</td>
<td>13.5 (9.7–17.3)</td>
</tr>
<tr>
<td>Other</td>
<td>7.9 (2.7–13.1)</td>
<td>6.9 (1.7–12.2)</td>
<td>10.0 (6.5–13.5)</td>
</tr>
<tr>
<td>Financial coverage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>61.0 (52.3–69.7)</td>
<td>41.8 (31.1–52.4)</td>
<td>23.8 (18.9–28.7)</td>
</tr>
<tr>
<td>Public</td>
<td>39.0 (28.4–49.6)</td>
<td>58.2 (47.6–68.9)</td>
<td>76.2 (71.3–81.1)</td>
</tr>
</tbody>
</table>

Discussion

In this study, we found no differences by social class in the use of health care services among children in most need. However, social inequalities in health still remain in the use of health services not provided by the national health system. Thus, it appears that in a country such as Spain, where the health system has universal coverage and fewer barriers to access, the differences in the use of health services by social class are likely to be less than in other countries.

In the UK, use of health services is greater among those who have greater needs, and morbidity is the most important determinant of health services use, although social class continues to have an effect. A similar pattern is also present in Canada, where morbidity is the main factor determining the use of health services. A US study has shown that areas with stronger primary care orientation within the health services system appeared to produce better results in terms of health status and in decreasing the adverse impact of social inequalities in the general population. Our study suggests a similar conclusion for Spain where primary care services are strong.

In Spain, studies carried out in the 1980s, before the primary health care reform, showed that differences by social class were present when level of need was taken into account, such that people in lower classes and those with poor self perceived health made fewer visits. Several recent studies have supported our conclusions regarding the nature of change after the reform. The implementation in the late 1980s of the Spanish national health system, with virtually universal coverage of health care, is likely to have reduced health care inequalities. The Primary Health Care network location of hospitals and other health centres

separately for people with good and poor health, and people with only NHS and NHS plus private health insurance. In all the analyses (prevalence rates and logistic regression models), weights derived from the complex sample design were taken into account.

Results

One quarter of the child population had NHS and private health care coverage; percentages were different by social class, ranging from almost 55% for classes I and II to 13% for classes IV and V (fig 1).

Children under 5 years old were more likely to have visited a health professional or been hospitalised in the year previous to the interview or in having been hospitalised during the past year. Likewise, no social class differences were evident when the analysis was stratified by type of health care coverage (table 2) or health status as a measure of need (data not shown). The main differences are centred in the visit to a dentist, where children in social classes IV and V were less likely to have visited a dentist in the last year, especially those who declared having only NHS coverage (table 2).

Table 3 shows the waiting time for the last visit by social class and the financial coverage for this visit. Children who visited a private physician (either paid out of pocket or through a private health insurance) waited an average of 14.8 minutes less than those whose visit was financed by the NHS.

Children in advantaged social classes (classes I and II) visited private centres more often, and were attended by private physicians more frequently than classes IV and V, where the opposite pattern was observed (table 4).

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was planned to make primary care, specialist, and inpatient services more geographically accessible.27

Double health care coverage does not seem to have an influence on the social pattern of inequalities, either with regard to having had a visit to a health professional in the two weeks before the interview or in having been hospitalised during the past year. Nevertheless, visits to a dentist were more frequent among people with double health coverage, particularly so in advanced classes, probably due to financial barriers to access to these services. Similar findings have been described in the USA,30 while in the Nordic countries inequalities are less prominent.31–33

Research on social inequalities should consider not only the fact of but also the quality of services.14 In our study, we approached the quality of health care through mean waiting time for visits and characteristics of visits made. Children from socially disadvantaged families were more likely to have made visits to public health services facilities, and revealed longer waiting time than children in advantaged classes, who where more likely to consult private physicians. Similar social inequalities have been reported in other studies of the Spanish adult population.26

No differences by social class were found for visits in a preventive examination, probably due to the introduction of the Children’s Healthy Program which involves health promotion and illness prevention by means of periodic follow up of children in primary care in Catalonia.35

The possibility of differential recall bias of health services utilisation variables by socioeconomic level is a possible limitation of the study.6 However, differences in perceptions of health status and health services use were not found in another study that analysed the proxy respondent’s sociodemographic characteristics.37 Moreover, other quality related variables, such as satisfaction, might also have been studied as a reflection of the adequacy of health services, but we did not elicit such information in the proxy respondent questionnaire.

It is necessary to study the impact of primary health care reform in reducing inequalities of access and utilisation of health care services according to social class. Inequalities related to uncovered services and aspects of the quality of care provided persist. Study of the quality of health services and monitoring of the evolution of these inequalities are important matters of concern. Providing equitable access and use of health care services in relation to need as well as identifying unmet needs, regardless of the type of insurance and social class of the children and families, should be a priority for health care systems.

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