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Short report

Characteristics and patterns of elective admissions to for-profit and not-for-profit hospitals in France in 2009 and 2010

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ABSTRACT

In the mid 2000s, in an effort to increase competition among hospitals in France – and thereby reduce hospital care costs – policymakers implemented a prospective payment system and created incentives to promote use of for-profit hospitals. But such policies might incentivize 'upcoding' to higher-reimbursed procedures or overuse of preference-sensitive elective procedures, either of which would offset anticipated cost savings. To explore either possibility, we examined the relative use and costs of admissions for ten common preference-sensitive elective surgical procedures to French not-for profit and for-profit sector hospitals in 2009 and 2010. For each admission type, we compared sector-specific hospitalization characteristics and mean per-admission reimbursement and sector-specific relative rates of lower- and higher-reimbursed procedures. We found that, despite having substantially fewer beds, for-profit hospitals captured a large portion of market for these procedures; further, for-profit admissions were shorter and less expensive, even after adjustment for patient demographics, hospital characteristics, and patterns of admission to different reimbursement categories. While French for-profit hospitals appear to provide more efficient care, we found coding inconsistencies across for-profit and not-for-profit hospitals that may suggest supplier-induced demand and upcoding in for-profit hospitals. Future work should examine sector-specific changes in relative use and billing practices of for elective surgeries, the degree to which these elective surgeries are justified in either sector, and whether outcomes differ according to sector used.

1. Introduction

The French healthcare system consists of a mixture of for-profit hospitals (operated by individuals and corporations) and not-for-profit hospitals (operated by the state or by not-for-profit organizations). French citizens may use any hospital that they want, with services funded by the compulsory national healthcare insurance scheme. For-profit hospitals account for about 15% of all inpatient beds (OECD, 2010) and focus on providing elective surgical care, (Chevreul et al., 2010) but planning for hospitals in both sectors is regulated by the central government in concert with regional health agencies.

Policymakers are using two methods to make the French hospital system more market oriented. First, since 2008, all not-for-profit hospitals have been fully subject to a DRG-type prospective payment schedule (Chevreul et al., 2010). While for-profit hospitals have been subject to prospective payment in France for longer, this transition toward a universally applied payment system is considered a step toward a market-based system based on yardstick competition (Schleifer, 1985). Second, the 2009 Hôpital, Patients, Santé et Territoires Act incentivized for-profit hospital use by introducing the possibility that they might perform public service duties by contract; this is anticipated to increase competition across sectors.

While increased competition may help contain healthcare costs, it might result in unintended consequences that accelerate them in two ways. First, to maximize revenues, hospitals might 'upcode' inpatient surgical procedures into higher-reimbursed categories. While two US studies have found no differences in pricing behavior

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between not-for-profit and for-profit hospitals, (Capps et al., 2003; Gaynor and Vogt, 2003) another found that for-profit hospitals are more likely than not-for-profit hospitals to upcode (Dafny, 2005). Second, competition might encourage overuse of elective surgical interventions for preference sensitive conditions (where multiple treatment options generally include conservative management as well as surgical interventions) that are marked by physician uncertainty as to care management, (Birkmeyer et al., 2013; McPherson et al., 1982) and can be subject to supplier-induced demand and physician influence (Hawker et al., 2001). This supplier-induced overuse can lead to inefficient healthcare delivery and waste (Skinner et al., 2001).

To explore the roles of for-profit and not-for-profit hospitals in providing elective surgical care in France, we determined how frequently patients used for-profit and not-for profit hospitals for common preference-sensitive elective surgeries, whether characteristics of hospitalizations differed according to hospital type, and whether there was evidence of upcoding or supplier-induced demand in either sector.

2. Methods

2.1. Data sources, variables, and sample

We obtained data on all discharges from and payments to for-profit and not-for-profit French hospitals in 2009 and 2010 from the Agence Technique de l'Information sur l'Hospitalisation (ATIH). These included hospitalization characteristics (hospital location and type, and length of stay), and patient characteristics (age, gender, procedure codes, primary and secondary diagnostic codes, number of diagnoses, and the DRG-like Groupe Homogène des Malades (GHM) on which reimbursement is based). Following an established methodology, (Milcent and Rochut, 2009) we categorized hospitals into two sectors: for-profit and not-for-profit (which included public sector and private not-for-profit hospitals). We chose this method because this differentiation determines reimbursement, which is substantially differently for performing the same procedure: in particular, most physician compensation is embedded in reimbursement provided to not-for-profit hospitals, but in for-profit settings, the physician component of reimbursement is separately identified. We obtained GHM-specific mean per-admission reimbursement rates for admissions to for-profit and not-for-profit hospitals in 2009 and 2010 from ATIH; these reimbursement rates provide a 'standardized' reimbursement rate for all French hospitals that reflects different utilization and practice patterns without being confounded by different wage rates and can therefore be used for national comparisons. We limited our analysis to hospitals in and patients from the 21 regions in mainland France.

We examined admissions for ten elective surgical procedures that treat preference-sensitive conditions that show geographic variation in the United States (Birkmeyer et al., 2013; Wennberg, 2010; Wright et al., 2013) and for which adequate reimbursement data were available. Admissions for these procedures were defined by the French system that classifies medical interventions, (CCAM) ICD-10 codes, and surgical procedure codes. For tonsillectomy, we limited our analysis to patients aged 0–17; for the other procedures, we examined patients aged 18–99. For each of these reasons for admission, there were at least two procedure codes that reflected case complexity and differed in reimbursement. The admissions that we studied, the definitions that we used, and the identification and number of the procedure codes that we examined are shown in Appendix Table.

2.2. Analytic methods

We examined the relative use of for-profit and not-for-profit hospitals for these procedures and compared characteristics of patients using (age, gender, and number of secondary diagnoses), and admissions to (length of stay and costs), either sector. We used Student's T-test to compare continuous variables and the chi-square test to compare categorical variables. We examined several categories of costs, including clinical and direct costs (which include the staffing costs), structural costs (which includes a financing and a building component), physician reimbursement (which is largely embedded in the clinical and direct cost categories in not-for-profit hospitals), and the total cost of each admission.

Because for-profit and not-for-profit hospitals are paid different amounts for the same procedures, we also calculated a 'counterfactual' total cost of each admission by applying reimbursement rates for the other type of hospital (i.e., we applied not-for-profit reimbursement rates to for-profit admission codes). In effect, this gives an estimate of the mean cost per admission had the same mix of reimbursement codes occurred in the other setting.

To test for different coding practices, we calculated the relative risk that for-profit hospitals had a higher proportion of the lowest- and highest-reimbursement procedure codes for each type of admission. Finally, we performed an ordinary least squared regression analysis wherein the dependent variable was the natural log of the cost of the admission and the independent variables included patient age, patient gender, length of stay, number of secondary diagnoses, reimbursement code mix, and whether the admission was in a for-profit or not-for-profit hospital.

2.3. Human subjects approval

The Institutional Review Board at Dartmouth College approved this study (CPHS number 24085). In France, the study and its use of anonymized data was approved by the Fédération Nationale des Observatoires Régionaux de la Santé and the Commission Nationale Informatique et Libertés (CNIL authorization number 1180745).

3. Results

The number of admissions, mean patient age, mean length of stay, mean number of secondary diagnoses, and proportion of admissions that were male patients varied considerably across the 10 reasons for admission that we examined (Table 1, top). When compared to not-for-profit hospitals, except for hysterectomy and radical prostatectomy, for-profit hospitals had shorter lengths of stay; and except for tonsillectomy, percutaneous coronary interventions without a myocardial infarction (PCI), and cholecystectomy, they reported more secondary diagnoses. Differences in the ages or genders of patients admitted to the different sectors were more sporadic. As expected, for every type of admission examined, physician reimbursement was much higher to for-profit hospitals, offsetting the substantially higher clinical and direct reimbursement to not-for-profit hospitals (Table 1, bottom).

With the exception of PCI, total reimbursement per admission to not-for-profit hospitals was considerably higher than total reimbursement per admission to for-profit hospitals. For half of the procedures examined (PCI, hysterectomy, hip replacement, knee