Hospitalization for Ambulatory-care sensitive conditions (ACSC) in Ile de France: A view from across the Atlantic

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Introduction

Among wealthy nations belonging to the Organization for Economic Cooperation and Development (OECD), as of 2013, the United States continues to stand out as the one with the lowest rate of health care coverage for its population.[1] In this respect, it remains an exception, and in many quarters this characteristic has earned the United States a reputation for backwardness in the realm of social policy. The paradox stemming from this condition is that due to the magnitude of problems faced by the uninsured and underinsured, the United States has become a leader in the measurement and analysis of these conditions. In this sense, Thorstein Veblen's insight about the « advantages of backwardness, » albeit in the radically different context of Imperial Germany's economic development, seems germane.

Few would dispute the evidence in support of the proposition that France provides its resident population with better access to health care than the United States (Gusmano et. al. 2013). In the spirit of Veblen, current buzz words in French health policy, e.g. les parcours de soins, les parcours de santé, les maisons médicales, les maisons pluridisciplinaires, le chronic care model, along with the development of prevention quality indicators, are, for the most part, exported from the United States. Likewise, recent attention, in France, with measuring access to the kinds of primary care services known to affect hospital discharges for so-called

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[1] Even after the important extension of health insurance coverage mandated by the President Obama's Affordable Care Act, which begins in earnest in 2014, the Office of the Management and Budget has estimated that 6% of the population is likely to remain uninsured.

« ambulatory-care sensitive conditions » (ACSC) draws heavily on experience in the United States. Use of this indicator that relies on hospital administrative data to identify areas with possible problems related to health care access is not appropriate for purposes of regulating health care providers; nor is it sufficient to determine the causes of possible access barriers to health care. It can, however, in conjunction with other indicators of primary care access, serve as a useful tool in engaging with health care professionals to discuss how different populations may be better served so that they avoid common exacerbations of chronc conditions leading to potentially avoidable hospitalizaitons.

The rationale for studying ACSC (Table 1) is that if patients have access to timely and effective primary care, it should be possible to avoid most hospitalizations for a number of prevalent conditions by preventing the occurrence of the disease (e.g. bacterial pneumonia) or managing the chronic condition in an outpatient setting (e.g. asthma, arterial hypertension, diabetes, congestive heart failure). Once patients with such conditions present to a hospital, there is little doubt that they must be admitted. The indicator is not designed to assess the appropriateness of hospitalizations. A recent analysis of peer-reviewed studies published between 1990 and 2010 provides strong evidence of the inverse relationship between the performance and access to primary health care services and rates of hospital admission for ACSC (Rosano et. al. 2012). Some researchers (Billings et. al. 1993; Basu et. al., 2002; Hossain and Laditka, 2009) have contrasted rates of ACSC with hospitalizations for certain marker conditions (MC) which are much less likely to be affected by access to timely and effective primary care. These hospitalizations include admissions for appendectomy, gastrointestinal obstruction or hip fractures (Table 1). Although some might argue that access to primary care could have some influence on MC, few would dispute that the effect is small, at best.

Table 1

Ambulatory Care Sensitive (ACSC), Marker Conditions (MC) and ICD-10 Codes

ACSC*	
Bacterial pneumonia:	J13; J14; J15; J16.8; J18.0
Congestive heart failure:	I50
Cellulitis:	J34.0; K12.2, L02; L03; L88
Asthma:	J45
Hypokalemia:	E87.6
Immunizable conditions:	A35; A36; A37; A80; BO5; B26
Gangrene:	I70.2; I73.0; R02
Complications of Peptic Ulcer Disease:	K25.0; K25.1; K25.2; K25.4; K25.5; K25.6; K26.0; K26.1; K26.2; K26.4; K26.5; K26.6; K27.0; K27.1; K27.2; K27.4; K27.5; K27.6; K28.0; K28.1; K28.2; K28.4; K28.5; K28.6
Pyelonephritis:	N10; N11; N12; N13.6; N15.8; N15.9; N17.2
Diabetes, acute complications:	E10.0 ; E10.1; E11.0; E11.1 ; E13.0; E13.1; E14.0; E14.1
Ruptured appendix:	K35.0; 35.1
Hypertension:	I10; I11; I13; I15; I67.4
MC**	
Appendicitis:	K35.9; 36-37
Gastro-intestinal Obstruction:	K56
Hip fracture	S72

Sources:
*ACSC: Translated from ICD-9 codes used by Weissman et al. (1992). The ICD-10 codes are updated annually. This translation was accurate as of 2010 when this analysis was completed.
** MC: Billings and Weinick (2003); Agency for Healthcare Research and Quality (AHRQ) (2013)

A comparison of access to primary health care across the U.S. and France (Degos and Rodwin, 2011) as well as among Paris, Manhattan and Inner London suggests that France (and Paris) provides better access, as measured by hospital discharge rates for ACSC (Gusmano, Rodwin, Weisz, 2010). A more recent comparison of these indicators among all of Ile de France (IDF) and the five boroughs of New York City provides further evidence to support this finding (Table 2). This comparison, however, does not reveal how access to health care varies among areas of Ile de France (IDF).

Table 2

Average Annual Hospital Discharge Rates for ASC and MC:*

Ile de France, 2004-2008

	Age-Adjusted Rates[1]	*Standard Deviation***
ASC	10.24	2.4
MC	2.95	0.7

New York City, 2006-2008

ASC	16.12	8.29
MC	2.90	1.04

***** Per *1000* population 20 years and over

** Calculated on the basis of variation among 503 PMSI areas in IDF and 187 postal zip codes in New York City.

1. To calculate rates, we relied on data from the French population census (INSEE, RP2006); to age-adjust, we used the direct method based on the 2006 Metropolitan France population.

Sources:

Ile-de-France: Programme de médicalisation des systèmes d'information (PMSI) de l'Agence Technique de l'Information sur l'Hospitalisation (ATIH) ;

New York: Statewide Planning and Reserach Cooperative System (SPARCS).

We address this question here by comparing access to health care among 503 PMSI areas within IDF. We find that access to effective first-line health care services appears significantly worse among residents of lower-income areas and among patients treated in public hospitals. The extent to which areas with high ACSC rates reflect a host of demand-side factors versus health care system factors cannot be answered by the data we analyze here, but we speculate about these issues in our conclusions.

Measuring access to health care

Weissman and colleagues (1992) reviewed the literature on ACSC, and drawing on a panel of internists, selected 12 hospital discharge diagnoses for which high rates of hospitalization can be attributed to poor access to effective primary care services. Billings and colleagues (1993) and Billings and Weinick (2003) identified a more extensive group of principal discharge diagnoses, which they defined as "avoidable," if patients had received timely

and effective primary care. One could infer from these studies that disadvantaged populations, or those with poorer coverage, are at greater risk of being hospitalized for ACSC because of their higher rates of morbidity. Along with differences in the prevalence of chronic diseases, however, studies in the U.S. indicate that patients without health insurance, and therefore poorer access to primary care, have higher rates of ACSC than those with insurance (Bindman, et. al. 1995; Kozak et. al. 2001; Weissman et. al. 1992). Moreover, there is evidence of an independent effect of better access to primary care with lower rates of ACSC (Bassu et. al. 2002; Hossain and Laditka, 2009).

After various adjustments for health status, most studies support the conclusion that although hospital discharges for ACSC may reflect morbidity and health seeking behaviors, it remains a good indicator of access to primary care (Ansari 2007). The Institute of Medicine in the United States supports the idea that ACSC can serve as an indicator of access to the primary health care (Millman, 1993). The Agency for Healthcare Research and Quality currently devotes part of its efforts to tracking access to primary care by examining rates of ACSC (AHRQ, 2013). Likewise, the Commonwealth Fund (Radley et. al. 2012) which has an abiding interest in comparing the health system in United States to that of «high performing» health systems, monitors ACSC as a measure of access across states.

Beyond U.S. studies, measurement of hospital discharge rates for ACSC has been used as an indicator of access to primary care by OECD and in many studies around the world (Rosano et. al. 2012; Purdy et. al. 2009; Ansari et. al. 2007). In France, research based on ACSC is relatively new, but there are signs of emerging interest.[2] It is, of course, important to recognize the limitations of ACSC as an indicator of access to primary care. There exist many diseases for which the use of timely and appropriate primary care could help to avoid any hospitalization (for example, those for which there are effective vaccines). But for the majority of conditions included in our definition of ACSC (Table 1), access to primary care is only one of several factors. For complex, chronic diseases like congestive heart failure, and complications of asthma or diabetes, for example, factors other than access to timely and effective primary care may influence the probability of hospitalization. The possibility of multiple morbidities complicates

[2] The MOH, DGOS (2007) commissioned a study of hospital discharges for ACSC in France that found a small inverse effect of sector 1 physician density on hospitalizations for ACSC. Vigneron (2011) published a map of hospital discharges for ACSC in IDF based on a study by Tonnellier (2011); the Regional Health Observatory of Pays de Loire organized a conference on avoidable hospitalizations in November, 2012 (http://www.odisse.fr); and IMS Health commissioned a study by the LEEM (2006) comparing ASC in England and France. Two recent papers on ACSC in IDF (Laborde et. al., 2013) and Pays de Loire (Buyck et. al. 2013) were presented to the Annual Meeting of the Fédération des Observatoires Régionaux de la Santé in Bordeaux (http://www.congres-ors.com/fileadmin/pdf/ORS_pdf/PROGRAMME_congres_2013.pdf).

the situation further. Blustein and colleagues (1998), suggest that the prevalence of multiple conditions is a factor that explains higher rates of ACSC among older people.

In the absence of neighborhood level morbidity data, it is not possible to assess the impact of multiple morbidities on hospitalization rates for ACSC. Clearly, if variation across geographic areas in ACSC is similar to that of MC, it is possible that rates of ACSC reflect differences in morbidity, patterns of hospital use, or other factors not affected by access to timely and effective primary care. But if variation in rates of ACSC is greater than that of MC, this suggests that areas with high ACSC rates, while they still may be influenced by differences in morbidity, social conditions and health seeking behaviors, might also reflect problems with access to timely and effective primary care.

Data and Methods

The hospital administrative data for this study are from the Programme de médicalisation des systèmes d'information (PMSI), Agence Technique de l'Information sur l'Hospitalisation (ATIH) which centralizes hospital discharge data by diagnosis, procedure, age and residence of patients. The PMSI includes data from all hospitals (public and private). We extracted discharge data only for acute (short-term), hospital stays in medicine, surgery and obstetrics/gynecology (MCO) for the population 20 years and over. We excluded all hospital discharges for patients who stayed less than 24 hours, but included those for patients who died within this period. The region-level hospital discharge data are for residents of IDF irrespective of whether they were hospitalized within or outside the region.

Descriptive statistics

We calculate age-adjusted average annual hospital discharge rates in IDF over the period 2004-2008 and compare intra-regional variation across the smallest population area for which residence-based rates are available in the PMSI dataset –- an aggregation of communes known as a "PMSI area" whose boundaries and population size are defined by the Agence Technique d'Information Hospitaliere (ATIH, 2013). These PMSI areas are aggregations of local *communes* for which INSEE collects population and socio-economic data. In IDF, there are 503 PMSI areas with 6,943,988 acute hospital discharges, and 357,612 ACSC discharges over these five years. Of all hospitalizations for ACSC, 51 percent were admitted through the emergency room in

2008, which supports the notion that such hospitalizations are, indeed, necessary at the time of admission.

To calculate the age-adjusted rates, the reference population is Metropolitan France as reported in the 2006 French census (INSEE). For MC, we draw on the definition by Billings adopted by the U.S. Agency for Healthcare Research and Quality (Table 1). For ACSC, we use the less extensive definition by Weissman et. al. (1992), which is also used by Kozak et. al. (2001) and Papas et. al. (1997). Based on a literature search, Purdy and colleagues (2009) have identified a set of 36 potential ACSCs. For estimating the proportion of hospital admissions due to ACSC, it is important to agree on the number of diagnoses included in the definition However, for the adult population 20 years and over, since the magnitude of all hospital admissions for ACSC is driven largely by congestive heart failure and bacterial pneumonia, for purposes of studying disparities among geographic areas and identifying those with high ACSC rates, we believe that a parsimonious definition is appropriate.[3]

Logistic regression for ACSC hospitalizations

We used SPSS18 to perform logistic regression analyses and estimate an odds ratio for individuals hospitalized with an ACSC (our dependent variable). The individual independent variables include age, gender, number of diagnoses on the record (as an index of severity), and whether the hospital is public or private. The PMSI area-wide variables include indicators for average household income quartile, density of general practitioners (*omnipraticiens*), population density as a measure of urbanization and level of education quartile based on the rate of population, 15 years and over, having completed the baccalaureate (BAC)+2 years of education. We also include an interactive term (Table 3) relating the number of omnipractiens in each PMSI area to the number of *consultations* with omnipractiens. This term allows us to test the hypothesis that the number of omnipractiens will decrease the rate of ACSC only if a larger number of omnipractiens increases the number of consultations.[4]

[3] Based on an unpublished study by JF Buyck et. al. (2012) which compares Weissman et al.'s definition of ACSC admissions in England and France, in 2010, admissions for bacterial pneumonia and congestive heart failure represent 58% of all ACSC admissions in France.

[4] Interactive terms are useful when the effect of an independent variable on the dependent variable depends on a third variable. For example, in our logistic regression model, we assume that the extent to which the number of omnipractiens in an area affects the probability hospitalization for ACSC depends on the number physician consultations in an area because having more omnipractiens is only important if it increases the use of primary care. Under these circumstances, adding an interaction term to the model, in which the two predictor variables are multiplied, is useful because it allows us to test the hypothesis that an increase in the number of omnipractiens in an

Table 3

Logistic Regression for ACSC Hospitalizations in IDF, 2004-2008

Independent Variable	Coefficient (S.E.)	Exp(B) (Sig.)	95% C.I.for EXP(B)	
			Lower	Upper
Age (continuous)	.028	1.029	1.029	1.029
	(.000)	(.000)		
Number of diagnoses on record (continuous)	.060	1.062	1.061	1.063
	(.001)	(.000)		
Female (omitted = male)	-.243	.784	.779	.789
	(.003)	(.000)		
Care administer in public hospital (x-DG) (omitted =x-QON)	.466	1.594	1.581	1.607
	(.004)	(.000)		
Income quartile of PMSI area (omitted = highest):				
Lowest quartile	.106	1.112	1.093	1.130
	(.009)	(.000)		
Second quartile	.039	1.039	1.025	1.054
	(.007)	(.000)		
Third quartile	.033	1.033	1.021	1.046
	(.006)	(.000)		
Sans diplôme ou CEP ou BEPC, brevet collèges / rate per 1000 Pop 15 ans ou plus by quartiles (omitted is lowest quartile of “low education”)				
Lower (second) quartile	.074	1.076	1.057	1.096
	(.009)	(.000)		
Third quartile	.093	1.097	1.072	1.122
	(.012)	(.000)		

area is more likely to decrease the odds hospitalization for ACSC when there are a larger number of consultations in that area. The presence of a significant interaction (Table 3) indicates that the effect of one predictor variable (omnipractiens) on the response variable (ACSC) is different at different values of the other predictor variable (consultations).

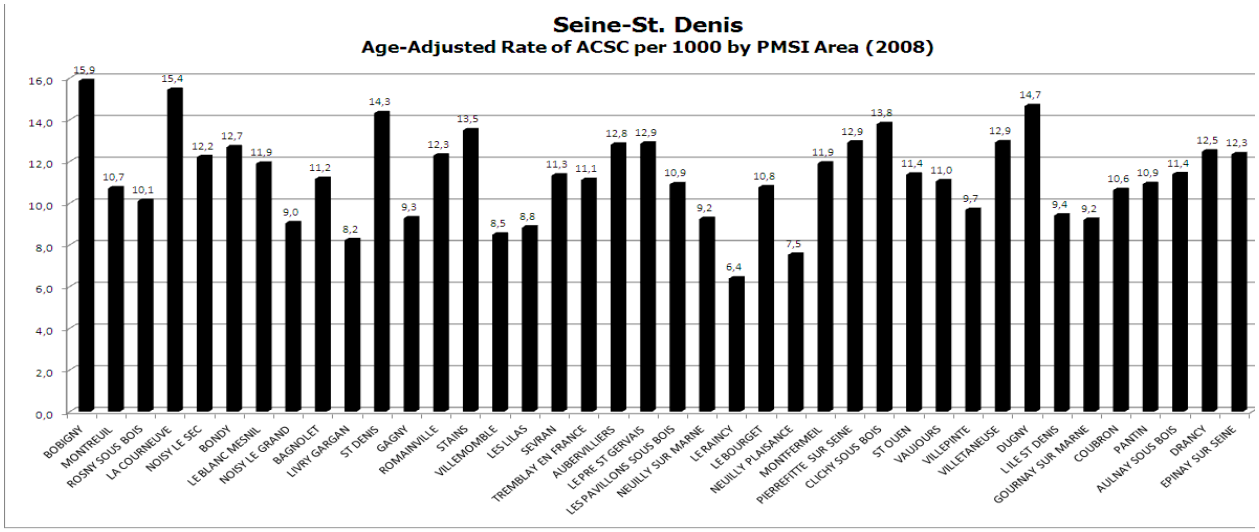
Highest (fourth) quartile	.104	1.109	1.078	1.141
	(.014)	(.000)		
Sup. BAC+2 rate per 1000 Pop 15 ans ou plus by quartiles (omitted is highest quartile of "high education")				
Lowest higher education	.059	1.061	1.032	1.091
	(.014)	(.000)		
Second quartile	.001	1.001	.978	1.026
	(.012)	(.909)		
Third quartile	.008	1.008	.989	1.028
	(.010)	(.398)		
Population density/ sq km (omitted is highest density quartile)				
Lowest density	.055	1.057	1.040	1.073
	(.008)	(.000)		
Second quartile	.074	1.077	1.061	1.092
	(.007)	(.000)		
Third quartile	.074	1.076	1.064	1.089
	(.006)	(.000)		
Omnipracticiens/1000 population	-.086	.918	.899	.937
	(.011)	(.000)		
Private consultations/1000	-.026	.975	.968	.981
Population	(.003)	(.000)		
Interactive term – Omnipracticiens * Private consultations	.032	1.032	1.024	1.040
	(.004)	(.000)		

Sources:
ACSC: Programme de médicalisation des systèmes d'information (PMSI) de l'Agence Technique de l'Information sur l'Hospitalisation (ATIH);
Independent variables: 1.Socio-economic factors: INSEE, 2006; 2. Income quartile: Observatoire Régionale de la Santé d'Ile de France, 2007 (calculated on the basis of declared average household income by PMSI areas); 3. Community based private physicians (omnipraticiens libéraux): Base permanente des équipements 2008, INSEE (fonctions médicales et paramédicales); 4. Private consultations: ARS-IDF, Système National d'Informations Inter Régimes de l'Assurance Maladie (SNIIRAM) Datasmart Offre de Soins, 2009 (for the population 20 years and over).

Findings

Comparison of standard deviations of the age-adjusted rates for ACSC hospitalizations with those of MC, among PMSI areas of IDF indicates that the variation for ACSC is more than three times that for MC (Table 2). This suggests that disparities in discharge rates for ACSC, which are directly related to primary care access, are far greater than those for conditions not felt to be related to primary care. A focus on Seine St. Denis, the département with the lowest per capita income in IDF, highlights the differences in variation among ACSC and could serve as a preliminary indicator by which to target areas where something ought to be done to improve access to effective primary care (Graphique 1). Analysis of variation among 503 PMSI postal codes for IDF (Graphique 2) highlights those areas where rates for ACSC are 1.5 to 2.5 standard deviations above the mean compared with those that are 0.5-1.5 under the mean.

Graphique 1

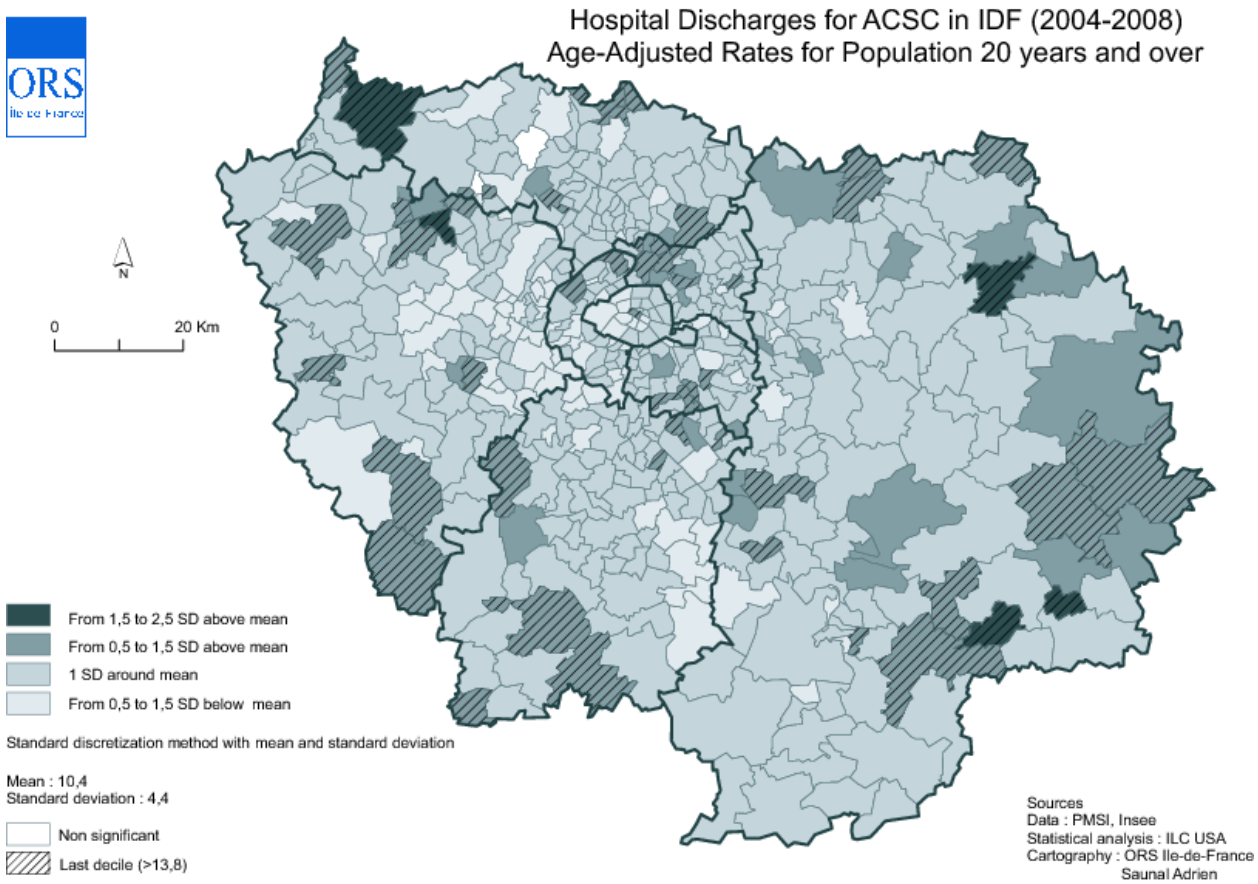


Factors associated with hospitalization for ACSC: The logistic regression model reveals a small influence for increasing age, number of diagnoses on record, and population density. An increasing density of omnipracticiens and increasing rate of private consultations has a small influence in reducing the odds of an ACSC admission (Table 3).

The odds of admission for ACSC were higher among residents in lower-income neighborhoods while the relationship between population level education rate and ACSC is weak, holding area income quartile constant. Importantly, we find a strong positive relationship

between admission to a public hospital as compared to a private hospital and ACSC. Finally, consistent with previous findings in the literature, the odds of admission for ACSC are respectively lower for women than men (Weissman, 1992; Gusmano et. al. 2006). This is not surprising since women are known to seek primary care at higher rates than men (Aliaga, 2002).

Graphique 2



Limitations

Our study is limited by the use of hospital administrative data and our results may be affected by the reliability and validity of the recording systems. There is always the possibility of bias due to differences in coding practices among professionals working in different hospital medical information departments. However, given the consistency of results with other studies, e.g. gender and age differences in the odds of hospital discharges for ACSC, we are confident that such bias is minimal. Finally, we do not have direct measures of important demand side

factors, e.g. disease prevalence, and differences in care seeking behaviors among different groups.

Concluding Observations

The findings summarized here reveal some important hospitalization consequences related to primary care access or, more generally, its organization and effectiveness across different geographic areas. However, our data do not allow us to untangle the relative importance of multiple health system characteristics from a host of demand-side considerations in explaining the nature of these barriers. We were able to adjust for number of diagnoses and age. But we have no information on differences in care-seeking behaviors and qualitative differences in consultations among different socio-economic groups. Moreover, it is not possible for us to assess whether differences in rates of ACSC are due to differences in the density of physicians, rates of consultations, quality of care, access barriers imposed by physicians who charge fees in excess of reimbursed rates, or a host of other patient-related factors.

Based on a representative survey of Paris and its surrounding three departments – the part of IDF most well-endowed with hospitals and health care professionals – Chauvin et. al. (2009) found that after adjusting for socio-economic status, health care coverage and health status, the density of health care professionals and hospitals had little effect on consultation rates. However, after refining this analysis with respect to women's pap smears, a screening service that most women routinely obtain, they found that 10% of women never had a single one, and 26% of women had not had one over the last two years. Moreover, variation among neighborhoods ranges from 11% to 58%; and those women whose daily activities were concentrated in their neighborhoods of residence were most likely to have the lowest rates of pap smears, independently of their SES and functional limitations (Vallée et. al. 2010). Thus, for certain population segments, it would seem that the density of health care providers does matter.

Despite these findings, other French studies have noted that distance to physicians must be understood, not only in terms of geography, especially for the poor. After all, distance also has social, cultural and symbolic dimensions (Parizot, 2003). There may be a tendency to worry less about one's health when one is poor and has to worry about feeding one's children the next day. This may lead people living in lower-income areas to place a lower priority on accessing health services. In addition, they may have less information about health risks and on how to

navigate the maze of a complex health care system. Also, as Chauvin (2012) notes, the "psycho-social cost" of seeking health care implies a capacity for facing possibly untoward consequences, projecting into the future, reconsidering lifelong priorities and reorganizing one's work schedule – capabilities that are not equally distributed among different socio-economic groups.

An important question about our finding on the importance of area-wide average household income with regard to ACSC is whether income is really the key factor in driving some patients to delay in responding to their own symptoms, as well as in seeking screening services and health care. Another question is whether high ACSC rates are driven by the presence of immigrants. The Aide médicale d'État (AME) is means-tested and finances health care for undocumented immigrants with a serious medical condition that cannot be treated in their country of origin (da Lomba 2011). Since 2002, there have been a series of attempts to restrict access this program and to make undocumented immigrants pay for a greater share of their health care. In 2010, for example, the National Assembly adopted amendments to the annual finance law, which require AME beneficiaries to pay a registration fee of 30 euros per adult. Aside from this measure, AME beneficiaries continue to enjoy free access to health care. With the exception of pregnant women, children and people suffering from serious illnesses, undocumented immigrants are required to pay out-of-pocket for a portion of their care (de Lomba 2011: 364). There is substantial empirical support from the national health survey (EDS) that foreign immigrants in France have higher levels of perceived "poor health," chronic illness and lower consultation rates to GPs as well as specialists (Dourgnon et. al, 2009). But it is more complicated to disentangle differences in use rates from differences in morbidity, socio-economic status, cultural and informational barriers, direct discrimination by society and even by health care providers.

Finally, our finding on differences in rates of ACSC by hospital ownership status may raise eyebrows because it is so strong in comparison to all of our other variables. Patients treated in public hospitals are far more likely to be hospitalized with an ACSC. To interpret this finding, it is important to note the respective roles of the public and private hospitals. Measured in terms of all acute inpatient hospital stays, 64% are in public and private non-profit hospitals (most often affiliated with their public sector counterparts) and 36% in private for-profit hospitals and (DGOS, 2010). The public and private non-profit hospitals account for 74.8% of all medical stays and 43.8% of surgical stays (Or and Belanger, 2011).

Given these differences and the fact that most ACSC admissions are for medical conditions, the importance of ownership status is less surprising. Add to this some evidence that

patients over 80, and even more so, over 90 years old are disproportionately cared for by public hospitals than by private for-profit hospitals (Or, Renaud, Com-Ruelle, 2009) and the finding is even less surprising. But perhaps the most important difference, one for which there is some evidence, is that case mix, on average, may be more difficult in public and private non-profit hospitals than in private for-profit hospitals (Or, Renaud, Com-Ruelle, 2009). All of this would suggest that patients with the most serious complications of their disease may have a higher probability of hospital admission in public hospitals, and to the extent that these patients do not obtain timely and effective primary care management of their ACSC conditions, they have higher odds of being hospitalized in public hospitals.

Since we have no data on patient characteristics, beyond age and number of diagnoses, and no information on patient care-seeking patterns before or after their hospitalizations, we can only speculate further on the meaning of these findings. One hypothesis is that patients treated in public hospitals may be more likely to receive primary care in public hospital outpatient clinics and health centers than in private physicians' offices. When clinics and health centers become crowded, they may be more likely to refer patients to a local public hospital and this may explain the higher odds of ACSC admissions among these patients.

A recent report on health policy (Benamouzig et. al., 2012) summarizes effectively the new discourse on promoting medical homes, renewed attention to population health, health promotion, and disease prevention. Along with its many concrete propositions for health care reform, the report emphasizes the need to develop new strategies to manage chronic diseases, to limit their flare-ups leading to necessary hospital treatment and manage their symptoms and evolution in more coordinated ways made possible by better information systems, telemedicine, and integrated medical records.

The HPST Law of 2009 created new regional health agencies (ARS) which now consolidate health insurance, public health and hospital regulation functions so as to organize a range of services, including ambulatory care. Prime Minister Jean-Marc Ayrault's national health strategy announced in February of 2013 reinforces the need to integrate services and foster coordinated networks of health services. In this context, our findings that residents of lower-income areas and those who hospitalized in public hospitals have a higher odds ratio of being hospitalized with ACSC admissions merits further attention. For whether demand-side factors or significant access problems related to health system organization and payment are the significant drivers of these findings, the important question for ARS-IDF is how to improve the health care system.

Does the responsibility for higher ACSC discharge rates in selected areas lie in poor health seeking behavior or should the health care system in these areas be reinforced to target high risk populations, serve them better and thereby avert potentially avoidable hospitalizations? The ACSC indicator, alone, is not sufficient to answer this question. But used appropriately with measures of physician density, IRDES' new measure of access to physicians – APL (Barlet, Caldefy et. al. 2012) and further discussions with health system providers and planners, hospitalizations for ACSC can be a useful tool for identifying areas with problems of access to effective primary care and monitoring progress in resolving them. It is not easy to change people's socio-economic circumstances, however noble a long-term goal. In the meantime, it strikes us as important that the ARS-IDF pay greater attention as to how the health care system may be altered with eye to reducing the disparities in access documented in this paper.

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