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Disabled Persons' Access to Dental, Ophthalmological and Gynaecological Care in France

Exploitation of the Health and Disability Households survey
(*Enquête Handicap-Santé Ménages*)

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To date, few French studies have analysed the question of health care use among people with disabilities. The Health and Disabilities Households (HSM, *Handicap-Santé Ménages*) and Institutions (HIS, *Handicap-Santé Institutions*) surveys conducted by the DREES and INSEE in 2008-2009 partially filled the information gaps on disability. Using HSM survey data, this study examines access to three types of routine medical care (dental, ophthalmological and gynaecological care) within a population aged from 20 to 59 years old. The analysis is based on two disability indicators: the presence of functional limitations (motor, cognitive, visual or hearing limitations) and administrative recognition of disability measured by access to allowances, benefits, employment or specific rights.

This first study reveals that disabled persons have less access to dental and gynaecological care whatever the disability indicator used. On the contrary, it does not reveal difficulties in accessing ophthalmological care. Differential access to health care as a result of disability may be explained by this population's more disadvantaged social situations. It can also be related to physical difficulties in accessing care structures or transport. Finally, considerable inequalities in access to routine medical care were observed among persons benefitting from the Disability Allowance for Adults (AAH, *Allocation aux adultes handicapés*). This population has a lower income level than those benefitting from invalidity pensions and invalidity insurance benefits and, contrary to the latter, are not entitled to 100% medical expenditure reimbursements.

Other disability studies will follow to analyse the use of other health care services, particularly preventive care and access to care for disabled persons in institutions.

The public authorities have decided that the social integration of disabled persons is to be a national priority. The February 11th 2005 Law for equal rights and opportunities, citizenship and participation of disabled persons reiterates the principle of non-discrimination and obliges public authorities to provide conditions guaranteeing equal rights and opportunities for all citizens. Access to health care and preventive care is one area

specifically targeted by this law. A public hearing conducted by the High Authority for Health (HAS, *Haute Autorité de Santé*) in 2008 emphasised that if French society had progressed concerning the majority of care provision specific to disability, multiple barriers to accessing routine health care remained (HAS, 2011).

Numerous foreign studies, essentially conducted in the United States, have

observed lower health care use among disabled persons, notably in terms of preventive care (routine ophthalmological care, cancer screening tests such as mammograms, cervical smears, and prostate specific antigen tests) [Chan *et al.*, 2008; Drew et Short, 2010]. The same applies to curative care: the use of medical and dental care, specialist care, rehabilitation, medication and eye wear is less frequent among disabled



This edition of *Issues in Health Economics* presents the first results obtained within the framework of a research project examining access to routine medical care (dental, ophthalmological and gynaecological care) and preventive care (cervical smear, mammograms, colon cancer screening tests, vaccination against hepatitis B, cholesterol screening) for disabled persons whether at home or in institutions. For this project, IRDES benefitted from funding from the National Solidarity Fund for Autonomy (*Caisse nationale de solidarité pour l'autonomie* (CNSA)) within the framework of a call for projects by the Public Health Research Institute (*Institut de recherche en santé publique* (Iresp)) in 2011. The project aims at measuring health care use and the resulting financial burden, and for 'comparable pathologies and risk factors' to determine the existence of inequalities in accessing health care and evaluate the impact of social inequalities on inequalities of access.

persons (Chevarley *et al.*, 2006; Parish and Huh, 2006).

Concerning routine health care, dental, ophthalmological and gynaecological care represent an important issue concerning disabled persons' access to care, as underlined by the Jacob report in 2013 recommending systematic preventive monitoring for these three types of care (Jacob, 2013). Oral and dental health is not only an indicator of overall health, as poor oral health has an impact on the immune and respiratory systems, eating habits and quality of life, but also one of social integration, as poor oral health has a negative impact on person's ability to smile, causes bad breath and affects language functions (Hescot and Moutarde, 2010). Access to ophthalmological care should also be subject to particular attention as certain disabilities may cause visual impairment increasing the need for care (Krinsky-McHale *et al.* 2012). Finally, for disabled women, the prevention of sexually transmitted diseases, the right to an emotional and sexual life, maternity and contraception justifies the focus on access to gynaecological care (Jacob, 2013).

To date, few French studies have analysed the question of disabled persons' access to routine medical care. This is essentially due to the lack of data production in general population health surveys which would have allowed this population to be

characterised and their health care use to be measured. The Health and Disability in Households (HSM, *Handicap-Santé Ménages*) and Institutions (HIS, *Handicap-Santé Institutions*) surveys conducted by the DREES (*Direction de la recherche, des études, de l'évaluation et des statistiques*) and INSEE (*Institut national de la statistique et des études économiques*) in 2008-2009 partially filled this information gap.

This edition of *Issues in Health Economics* presents the first part of a study on health care use among disabled persons. Using data from the 2008 HSM survey (Sources insert), this study examines the use of three types of routine medical care among disabled persons aged from 20 to 59: dental, ophthalmological and gynaecological care. The 60 year old age limit corresponds to the age at which social protection reserved for dependent disabled adults in the form of social benefits specific to disability, are transferred to benefits reserved for the dependent elderly (Gohet, 2013).

Identifying disability

According to the definition of disability retained here, (the inability to carry out activities of everyday life, physical limitations, cognitive limitations, administrative recognition of disability etc.), we count between 660,000 and 6.2 million

people with disabilities (Dos Santos and Makdessi, 2010). The existence of multiple disability indicators, generating uncertainty as to their exact numbers, can be explained by the fact that disability cannot be assimilated to a single physiological or mental disorder that is easily classified in a diagnostic category. It results from the interaction between an impairment of body function (impairment of an anatomical structure or function, functional limitations or participation restrictions) and personal and environmental factors including the physical and social environment, cultural and economic norms, perceptions and stereotypes of the society in which the individual lives, etc. (Brouard, 2004; Yee and Breslin, 2010). The result is a wide variety of situations and an extremely heterogeneous population that is particularly vulnerable in terms of social integration.

The analysis of health care use was carried out using two indicators. The first concerns functional limitations which include all difficulties a person encounters in relation to walking, climbing stairs, seeing, hearing... This indicator allows the classification of different types of disability (motor, cognitive, visual or hearing limitations) and is useful in analysing whether a particular type of disability is associated with lower health care use. Only limitations causing major difficulties or those occurring frequently were retained so as to exclude non-serious or very occasional situations. Furthermore, in order

SOURCE

The Health and Disability Households survey (*Enquête Handicap-Santé*)

The Health and Disability Households survey includes a "household" section for which data was collected in 2008, and an "institutions" section conducted in 2009 by the INSEE. The results presented in this edition of *Issues in Health Economics* are based on the "household" section of survey concerning disabled persons living at home. These data were collected in two phases: a first questionnaire on "health and daily living" (*VSQ, Vie quotidienne et santé*) was diffused in the aim of creating a sample frame to prepare for the main survey (second phase). Responses to the VSQ survey made it possible to calculate a disability "score" ranging from 0 to 100 for each respondent. Subsequently, four sample selection strata were formed for the second phase according to individuals' age and disability score.

The HSM sampling frame was carried out using strata based on the VSQ survey's geographical sampling and the four groups created according to the severity of disability. Groups including persons with a presumably severe disability were over-represented leading to the need for weighting the descriptive statistics and econometric models presented.

The survey included questions allowing health status evaluation for 29,931 individuals, the identification of their disabilities and descriptions of their social and family environments. Matching HSM survey data with SNIIRAM data also provided information on health expenditures and out-of-pocket payments for around 70% of respondents. In theory, data matching enables the analysis of health care use based on objectivised use provided by Health Insurance data. However, this strategy based on using matched data was not used given its limitations as individuals that could not be matched could not be identified as consumers or non-consumers of health care.

to introduce the notion of serious motor limitations, persons in wheelchairs were grouped together in a separate category. The second indicator concerns administrative recognition of disability, measured by access to specific allowances, benefits, employment and rights. Administrative recognition officialises certain disabilities and thus renders them more objective. This approach enables testing the effect of the types of benefit received on access to health care: some forms of administrative recognition of disability (invalidity pensions, invalidity insurance benefits) cover co-payments within the limits of Social Security reimbursement rates whereas others (disability allowance for adults, AAH) do not.

Functional limitations: motor, cognitive, visual or hearing limitations

The Health and Disability survey identifies four functional limitation categories: motor, cognitive, visual or hearing limitations and the same individual can cumulate several categories.

Motor and cognitive limitations are more frequent than serious visual or hearing limitations within the population aged from 20-59

Around 13% of 20-59 year olds reported functional motor, cognitive or sensorial limitations. Motor limitations concerned around 6% of persons in this age group (Table 1). Among these, over half had serious difficulties in bending down or kneeling, and the same percentage reported having difficulties carrying a 5 kilo bag over a distance of 10 metres on their own. The third most frequently reported limitation concerned going up or down a flight of stairs without assistance (32%). Finally, the last four limitations (walking 500m, using one's hands and fingers, taking an object with one's hand and lifting one's arm) was difficult for 10 to 25% of respondents.

The percentage of 20-59 year olds reporting at least one cognitive limitation was also 6%. Around a third of these reported frequent forgetfulness, and the same percentage reported learning difficulties; a third reported being regularly impulsive or aggressive. The five other cognitive limitations (having a sense of time, concen-

tration, comprehension, putting oneself in danger and solving problems of everyday life) created serious difficulties for around 10-20% of respondents.

Only 2.4% of the population reported hearing limitations and 2% serious and persistent visual limitations despite the fact that they wore glasses or contact lenses.

However, beyond these differences, all respondents reporting at least one functional limitation, whatever the type, presented on average a more disadvantaged social situation than respondents as a whole. They were more numerous to report low income levels (less than 861€ per consumption unit), a lack of qualifications, and were less numerous to benefit from complementary health coverage.

Administrative recognition of disability

To this first approach to disability based on functional limitations is added a second approach based on the administrative recognition of disability. This indicator includes individuals benefitting from at least one of the following benefits: Disability Allowance for Adults (AAH, *Allocation aux adultes handicapés*); invalidity pension (*pension d'invalidité*), unemployability supplement (*pension pour inaptitude au travail*), constant attendance allowance (with additional disability benefit) [*majoration pour tierce personne, avec allocation supplémentaire d'invalidité*]; disability allowance related to an occupational accident (*rente d'incapacité liée à un accident du travail*), armed services invalidity pension (*pension militaire d'invalidité*); third party assistance compensation (ACTP, *Allocation compensatrice pour tierce personne*); invalidity compensation benefit (PCH, *Prestation de compensation*); disabled person card or priority parking card. This indicator also includes employment aids: employment opportunities funded by the AGEFIPH (*Association de gestion du fonds pour l'insertion professionnelle des personnes handicapées*; fund providing employment opportunities for disabled persons) or FIPHP (*Fonds pour l'insertion des personnes handicapées dans la fonction publique*; fund providing employment opportunities for disabled persons in the public sector), and disabled worker jobs.

Among the 20-59 year olds, around 6% of individuals benefitted from administrative recognition of disability (Table 1). 57% were men and 73% were aged between 41 and 59 years old. In relation to the general population, these individuals reported lower incomes, lower education levels and were more frequently CMU-C (Universal Complementary Health coverage Scheme) beneficiaries or without complementary health insurance. 34% had a monthly income of less than 861 euros against 20% within the general population. Similarly, 36% had no qualifications against 14% within the general population and a little below 9% did not have complementary health coverage (against 7%).

Behind this general overview, we observe considerable disparities according to type of administrative recognition. AAH beneficiaries are characterised by the most disadvantaged socio-economic indicators: 47% had less than 861 euros per month (against 19% of 20-59 year olds) and over 50% had no qualifications (against 14%). The population benefitting from invalidity pensions is, however, more heterogeneous: if many had monthly income below 861 euros, the percentage of individuals with a high income (over 1,821 euros per month) was four times higher than among AAH beneficiaries. Finally, those receiving invalidity pensions as a result of occupational accidents or diseases, presented socio-economic characteristics close to the population that had not reported administrative recognition for disability, with two specificities however: a slightly higher percentage of individuals with a Vocational Training Certificate level of education (CAP, *Certificat d'aptitude professionnelle*) and a very low percentage of individuals without complementary health insurance.

Access to dental, ophthalmological and gynaecological care among disabled persons

The analysis compares health care use among disabled and non-disabled persons for each of the three types of care. The health care use indicator for each

T1 Descriptive statistics for persons reporting at least one functional limitation and benefiting from administrative recognition of disability

	At least one motor limitation		At least one cognitive limitation		Hearing limitations		Visual limitations		Recognition of disability		All 20-59 year olds	
	Raw numbers	% weighted	Raw numbers	% weighted	Effectif brut	% weighted	Effectif brut	% weighted	Effectif brut	% weighted	Effectif brut	% weighted
Sexe												
Man	1,191	36.0	1,056	49.6	409	54.0	349	45.3	1,822	56.5	6,736	49.1
Woman	1,897	64.0	1,205	50.5	455	46.0	417	54.7	1,557	43.5	7,675	50.9
Age												
20 to 25 years	75	3.8	166	12.6	32	2.6	34	4.0	141	4.9	1,211	13.9
26 to 30 years	84	4.1	145	9.0	27	2.1	28	2.4	136	4.3	1,025	11.6
31 to 35 years	156	6.6	198	9.3	57	8.1	41	3.3	219	6.7	1,299	11.4
36 to 40 years	254	11.4	248	14.8	66	13.4	60	8.8	327	11.4	1,681	14.1
41 to 45 years	390	13.7	320	11.5	96	9.2	95	14.8	460	15.0	2,027	13.1
46 to 50 years	523	15.7	365	13.8	177	24.9	150	24.5	533	15.1	2,228	13.3
51 to 55 years	794	22.9	448	17.7	196	21.0	186	22.2	758	20.9	2,586	12.4
56 to 59 years	812	22.0	371	11.4	213	18.7	172	20.0	805	21.8	2,354	10.0
Monthly income per consumption unit												
Less than 861 euros	1,277	37.4	921	32.7	334	27.2	350	29.3	1,315	34.1	4,289	19.5
861 to 1,280 euros	878	28.8	669	29.5	220	25.9	206	30.4	1,038	31.4	3,799	25.1
1,281 to 1,820 euros	573	19.9	398	19.9	184	23.2	125	19.9	620	19.8	3,317	27.2
Above or equal to 1,821 euros	360	13.9	273	18.0	126	23.8	85	20.4	406	14.8	3,006	28.2
Qualifications												
Higher education level	254	9.9	180	11.0	70	10.4	78	14.0	270	9.1	2,914	30.6
Secondary education level (Baccalauréat)	250	10.3	169	12.4	66	11.7	57	9.8	274	10.2	1,998	18.2
Vocational Training Certificate (CAP)	855	32.7	549	29.7	263	38.7	171	32.6	901	29.5	3,987	26.9
Certificate of General Education (Brevet)	214	6.1	145	6.8	46	4.6	47	6.7	226	6.3	969	5.9
Primary School Certificate (Certificat d'études)	399	10.2	174	6.0	108	11.2	69	8.9	364	9.2	105	4.4
No qualifications	1,116	30.8	1,044	34.2	311	23.4	344	28.1	1,344	35.7	3,493	14.0
Complementary health insurance												
Complementary health insurance	705	34.8	631	46.3	329	60.1	205	50.2	596	26.9	7,403	71.1
Complementary health + exemption	1,522	41.4	954	29.8	321	26.8	298	27.8	1,932	52.2	3,862	14.2
CMU-C	547	15.0	380	12.2	129	7.6	138	8.7	439	10.2	1,769	7.1
No complementary health insurance but exemption	207	5.0	177	4.5	42	2.3	72	5.2	304	7.0	532	1.5
Neither complementary health insurance nor exemption	84	3.2	77	5.5	29	2.3	41	5.5	68	2.0	735	5.6
Types of recognition												
Disability Allowance for Adults (AAH)	515	11.1	532	11.4	142	6.1	172	10.5	1,056	26.0	1,056	1.5
Invalidity pension	597	12.8	286	6.9	109	7.1	102	7.5	1,052	30.1	1,052	1.7
Invalidity insurance benefit	111	3.8	54	2.2	19	1.5	13	1.0	242	13.7	242	0.8
Other form of recognition	550	12.7	386	9.0	128	7.7	148	10.2	1,029	30.3	1,029	1.7
Functional limitations												
Motor	3,088	100.0	992	24.5	361	25.1	395	28.4	1,773	41.6	3,088	5.9
Cognitive	992	26.0	2,261	100.0	348	26.3	326	25.2	1,258	32.3	2,261	6.3
Hearing	361	10.2	348	10.1	864	100.0	157	13.7	398	9.4	864	2.4
Visual	395	9.3	326	7.8	157	11.1	766	100.0	435	9.9	766	1.9
Total	3,088	5.9	2,261	6.3	864	2.4	766	2.0	3,379	5.8	14,411	100.0

Reading note: 64% of persons reporting at least one motor limitation are women, 37% reporting at least one motor limitation have a monthly income per consumption unit of less than 861 euros. 3,088 individuals reported at least one motor limitation, of which 992 also reported at least one cognitive limitation.

Source: Enquête Handicap-Santé Ménages, INSEE 2008.

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Realisation: IRDES.

of these three types of care is based on respondents' self-reported use of the care in question over the last twelve months. Disabled persons were first identified by reported functional limitations and then by administrative recognition of disability. The analysis was carried out using logistic regression models to evaluate the relationship between the different explanatory variables and the probability of having used the health care services over the last twelve months (Methods insert).

For each of the types of care examined, three different models were used that progressively integrated an increasing number of variables recognised for their impact on access to and use of health care. Other than the disability markers included in each of the models, the first model included demographic variables (age and gender) and care need variables inherent to the type of care being studied. The second model added socio-economic variables to the first model (living as a couple or not, monthly household income per consumption unit divided into four levels, education level, and a variable crossing status with complementary health insurance and exemption from co-payments if applicable). Finally, the third model took access to care into account using distance from care services and territorial variations in health care supply by adding geographic variables (urban area zoning and overseas departments) to model 2. Taking geographical variables into account did not fundamentally alter the conclusions obtained in model 2, therefore the results

of model 3 are not presented in this article.

Access to routine care among individuals reporting one or more functional limitations

Determining care needs

Determining care needs is decisive in that they can differ according to whether a person is disabled or not. It involves measuring the relationship between disability and health care use for equal care needs. Yet, to determine care needs, one would ideally need to know an individual's health status prior to health care use, information which is not available in the Health and Disability survey which only describes health status after care delivery. For each type of care, and based on available survey data, a method was elaborated to determine the existence of care needs prior to the use of health care services. Dental care needs were thus determined by reported gum disease and other chronic conditions for which prevention and treatment are difficult and that can therefore be assumed to have existed prior to the use of dental care services. The analysis of ophthalmological care was carried out on individuals aged from 20 to 59 years old who wore glasses. The need for care included persons having reported eye diseases (eyelid diseases, lachrymal apparatus or eye socket diseases, conjunctivitis etc.). Finally, gynaecological care needs were determined from the presence of urinary tract diseases, breast condi-

tions, and inflammatory pelvic organ disorders or not, infections during the perinatal period or else by pregnancy at the time of the survey.

A marked difference in access to dental and gynaecological care

A first analysis using only demographic variables (age and gender) and needs specific to the care being studied revealed disparities in access to dental and gynaecological care among individuals reporting functional motor limitations and cognitive limitations. If the probability of using dental care over the last twelve months was 56% within the general population, the use of dental care decreased among individuals reporting motor limitations (-8 percentage points) compared with individuals with no motor limitations for equivalent age, gender, other limitations and dental care needs (model 1 of Table 2), and decreased to -12 points for individuals confined to wheelchairs. The probability of using dental care services was also reduced for individuals reporting cognitive limitations. Similar results were found for gynaecological care: the average probability of using gynaecological care services among the general population was 49% but showed a 12 point decrease among women reporting motor limitations, a 19 point decrease among women confined to a wheelchair, and a 9 point decrease among women reporting cognitive limitations. Visual and hearing limitations do not appear to be correlated with the use of dental or gynaecological care.

Furthermore, none of the four functional limitations or the fact of being confined to a wheelchair seems to have an impact on the probability of using ophthalmological care, amounting to 30% among 20-59 year olds who wore glasses.

After the introduction of social variables, problems of access to care only persist for individuals reporting functional motor limitations

In the second phase, the social variables (model 2, Table 2) were introduced to test whether differential access to care tended to persist. After the introduction of these variables, the differential access to care was not significantly altered for dental and gynaecological care among indi-

METHOD

The statistical model used to measure disparities in routine health care use was the logistic regression model that allows measuring the probability of a binary explanatory variable (here health care use) according to explanatory variables (disability indicators and other control variables). The coefficients in Tables 2 and 3 correspond to the marginal effects. These enable quantifying variations in the probability of using the explained variable according to the explanatory variables (here, they quantify variations in the probability of using health care according to our disability indicators).

Other than the disability indicators (functional limitations or administrative recognition), the models presented in tables 2 and 3 also introduce other explanatory control variables. Three models integrating an increasing number of explanatory control variables are presented: the first included demographic variables (age and gender) and the care need variable inherent to the type of care being studied. The second model added socio-economic variables to the first model (living as a couple or not, household income per monthly consumption unit on four levels, education level and a variable crossing status with complementary health coverage or exemption from co-payments if applicable).

Example of how to read the first coefficient in table 3 (p. 7): In our sample of 14,243 individuals, the probability of using dental care services is 0.56. This probability is 12 points lower for persons confined to a wheelchair compared to persons without motor limitations for equivalent other limitations (cognitive, hearing and visual) and other equivalent factors (gender, age and dental care needs)

viduals reporting cognitive limitations. However, differential access to gynaecological care (-7 points) persisted among individuals reporting motor limitations.

Individuals reporting functional limitations more frequently presented disadvantaged socio-economic characteristics, which could explain their lesser access to dental and gynaecological care. Taking social characteristics into account did not, however, completely eliminate differen-

tial access to gynaecological care among individuals reporting motor limitations.

The relative stability of results obtained for individuals confined to a wheelchair before and after the introduction of social variables (-12 points for dental care and -19 points for gynaecological care) suggests physical difficulties in accessing care structures to which can be added access to the dental chair or the gynaecological table.

The results of the first model showed no differential access to ophthalmological care. After introducing social variables, the probability of care use among individuals reporting cognitive limitations increased by 5 points. The analysis showed that this was specific to individuals reporting being regularly impulsive and aggressive. Even if these symptoms are frequent in certain mental disorders, reporting them as isolated symptoms raises questions on the specificity of this indicator which probably groups together very different individuals in relation to mental illness or cognitive disorders. This reporting bias limits the interpretation that can be made regarding this higher use of ophthalmological care.

Access to routine medical care among individuals benefitting from administrative recognition of disability

Less access to dental and gynaecological care for AAH beneficiaries

The results obtained by introducing administrative recognition of disability were consistent with those based on functional limitations before the introduction of social variables. The probability of accessing dental care among individuals benefitting from administrative recognition of disability was reduced by 5 points. The same applies for the use of gynaecological care (-11 points approximately). However, a finer analysis showed that only one type of administrative recognition, the AAH, explained this reduced access: AAH beneficiaries had a 9 point lower use rate for dental care (Table 3, model 1) and -17 points for gynaecological care. No other administrative recognition of disability resulted in a lower use rate for these two types of care.

Similarly as the results obtained for functional limitations showed, the use of ophthalmological care among individuals benefitting from administrative recognition of their disability neither increased nor decreased before the introduction of social variables. However, significant and contrary effects were observed among AAH beneficiaries whose use rate decreased by around 7 points, (Table 3, model 1), and among individuals benefit-

T2

Use of routine health care services according to functional limitations

	Model 1 (demographic + care needs)	Model 2 (model 1 + social variables)
Use of dental care (n = 14,243)		
• Wheelchair (n = 264) <i>Ref: no motor limitations</i>	-0.117** (0.0493)	-0.115** (0.0585)
• Motor limitations but not in wheelchair (n = 2,796) <i>Ref: no motor limitations</i>	-0.0784*** (0.0217)	-0.0339 (0.0227)
• Cognitive limitations (n = 2,207) <i>Ref: no cognitive limitations</i>	-0.0539** (0.0233)	-0.0160 (0.0235)
• Visual limitations (n = 749) <i>Ref: no visual limitations</i>	-0.0390 (0.0420)	-0.0219 (0.0406)
• Hearing limitations (n = 847) <i>Ref: no hearing limitations</i>	0.0138 (0.0337)	0.0224 (0.0337)
Reading note: The probability of using dental care services among individuals reporting at least one functional motor limitation is reduced by 8 points compared with individuals without motor limitations for equivalent functional limitations, age, gender and dental care needs. Robust standard deviation in brackets.		
	Model 1	Model 2
Use of ophthalmological care (n = 9,410)		
• Wheelchair (n = 175) <i>Ref: no motor limitations</i>	-0.0523 (0.0472)	-0.0512 (0.0504)
• Motor limitations but not in wheelchair (n = 2,171) <i>Ref: no motor limitations</i>	-0.0129 (0.0204)	0.0183 (0.0229)
• Cognitive limitations (n = 1,463) <i>Ref: no cognitive limitations</i>	0.0256 (0.0260)	0.0511* (0.0274)
• Hearing limitations (n = 619) <i>Ref: no hearing limitations</i>	0.0186 (0.0361)	0.0289 (0.0372)
Reading note: The probability of using ophthalmological care among individuals wearing glasses and reporting at least one cognitive limitation increases by 5 points at the 10% threshold compared with individuals wearing glasses but with no cognitive limitations for equivalent functional limitations, gender, age, eye diseases, and socio-economic levels. Robust standard deviation in brackets.		
	Model 1	Model 2
Use of gynaecological care (n = 7,594)		
• Wheelchair (n = 126) <i>Ref: no motor limitations</i>	-0.190*** (0.0614)	-0.174*** (0.0608)
• Motor limitations but not in wheelchair (n = 1,750) <i>Ref: no motor limitations</i>	-0.124*** (0.0264)	-0.0726** (0.0301)
• Cognitive limitations (n = 1,183) <i>Ref: no cognitive limitations</i>	-0.0907*** (0.0314)	-0.0386 (0.0333)
• Visual limitations (n = 407) <i>Ref: no visual limitations</i>	-0.0791 (0.0577)	-0.0726 (0.0604)
• Hearing limitations (n = 448) <i>Ref: no hearing limitations</i>	0.0379 (0.0472)	0.0521 (0.0500)
Reading note: The probability of using gynaecological care among women reporting at least one motor limitation is reduced by 12.4 points compared to women without motor limitations for other equivalent functional limitations, age, gender, gynaecological care needs.		
Source: Enquête Handicap-Santé Ménages, INSEE 2008.		
Realisation: Irdes.		

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ting from invalidity pensions whose use rate increased by over 9 points.

For all these types of care, the difference observed between AAH beneficiaries and those benefitting from invalidity pensions could partially be explained by the fact that the latter benefit from 100% medical expenditure reimbursements, within the limits of Social Security reimbursement tariffs. On the contrary, benefitting from AAH does not exempt beneficiaries from co-payments; only the CMU-C offers

coverage comparable to that of an invalidity pension, but the AAH beneficiaries are not systematically eligible to the CMU-C. Yet AAH beneficiaries receiving the maximum benefit of 628.10 euros per month on January 1st 2008 are not entitled to the CMU-C as the income eligibility threshold was fixed at 620.55 euros per month on January 1st 2008. Some AAH beneficiaries can nevertheless benefit from improved coverage if they are admitted to the Long-term Illness scheme (ALD, *Affections de longue durée*), but in this

case, health expenditure reimbursements only apply to care specific to the exonerating condition. Finally, the invalidity pension provides greater protection than the AAH, which could partially explain differential access to health care.

At equivalent socio-economic level, invalidity pension beneficiaries have a higher use rate for ophthalmological care

After taking social variables into account, the use of dental care among individuals benefitting from administrative recognition of their disability was no longer reduced: in effect, individuals benefitting from administrative recognition of disability were more frequently in a disadvantaged socio-economic situation which tends to reduce health care use. If the use of gynaecological care is not generally affected by administrative recognition of disability after the introduction of social variables, it was again 9 points lower among AAH beneficiaries.

On the other hand, the situation was different for ophthalmological care since after the introduction of social variables, we observed a 7 point increase in the use of this care by individuals benefitting from administrative recognition. However, this result is not valid for all types of administrative recognition: only individuals receiving an invalidity pension showed an 11 point increase in use of ophthalmological care (Table 3, model 2), which can be the result of benefitting from 100% medical expenditure reimbursements. At equivalent socio-economic levels, the invalidity pension thus appears to provide better access to ophthalmological care.

Poverty, physical accessibility and medical expenditure coverage; three barriers to access to care for disabled persons

This study reveals a negative differential access to dental and gynaecological care among disabled persons with severe functional limitations. Identifying disability through administrative recognition allows confirmation of these results on a restricted population sample in which disability is better identified. Our results concerning access to ophthalmological

T3

Use of routine health care services according to type of administrative recognition of disability		
	Model 1 (demographic + care needs)	Model 2 (model 1 + social variables)
Use of dental care (n = 14,243)		
• AAH (n = 1,030) Ref: no recognition	-0.0904*** (0.0313)	-0.0190 (0.0330)
• Invalidity pension (n = 1,045) Ref: no recognition	0.0235 (0.0294)	0.0466 (0.0299)
• Invalidity pension benefit (n = 239) Ref: no recognition	-0.0484 (0.0596)	-0.0472 (0.0624)
• Other form of recognition (n = 1,018) Ref: no recognition	0.0246 (0.0289)	0.0439 (0.0304)
Reading note: The probability of using dental care among persons benefitting from the Disability Allowance for Adults (AAH) is reduced by 9 points compared to individuals without administrative recognition of disability for equivalent age, gender, dental care needs and functional limitations. Robust standard deviation in brackets.		
Use of ophthalmological care (n = 9,410)		
• AAH (n = 587) Ref: no recognition	-0.0654** (0.0302)	-0.0247 (0.0369)
• Invalidity pension (n = 882) Ref: no recognition	0.0947*** (0.0346)	0.107*** (0.0363)
• Invalidity pension benefit (n = 177) Ref: no recognition	0.0223 (0.0678)	0.0281 (0.0678)
• Other form of recognition (n = 710) Ref: no recognition	0.0549* (0.0316)	0.0730** (0.0344)
Reading note: The probability of using ophthalmological care among persons benefitting from the Disability Allowance for Adults (AAH) is reduced by about 6.5 points compared with persons without administrative recognition of disability for equivalent age, gender, care needs and limitations. Robust standard deviation in brackets.		
Use of gynaecological care (n = 7 594)		
• AAH (n = 530) Ref: no recognition	-0.170*** (0.0400)	-0.0924** (0.0465)
• Invalidity pension (n = 499) Ref: no recognition	0.0252 (0.0439)	0.0329 (0.0490)
• Invalidity pension benefit (n = 61) Ref: no recognition	0.0245 (0.111)	0.00963 (0.115)
• Other form of recognition (n = 448) Ref: no recognition	-0.0381 (0.0446)	0.00114 (0.0485)
Reading note: The probability of using gynaecological care among women benefitting from the Disability Allowance for Adults (AAH) is reduced by about 17 points compared to women without administrative recognition for equivalent age, gender, care needs and limitations. Robust standard deviation in brackets.		
Source: Enquête Handicap-Santé Ménages, INSEE 2008.		
Realisation: Irdes.		
Download the Excel® file on the IRDES web site		

care were more contrasted: the approach using functional limitations did not reveal difficulties in access to care, whereas the approach using administrative recognition revealed opposite effects according to type of administrative recognition.

Three factors emerge more particularly, the first concerning disabled persons' social situations. They more often live in disadvantaged social environments with lower income levels, particularly when disability is a barrier to accessing the labour market or prevents access to moderate or high income levels. Numerous studies have shown the impact of social inequalities on access to health care. Our results indicate that the same effects apply to disabled persons: when differential access to health care exists for these individuals, taking social variables into account can reduce or eliminate them.

Beyond the social dimension, problems of physical accessibility can persist as shown by the results obtained for individuals confined to a wheelchair. Taking social variables into account does not reduce difficulties in accessing care, which is

probably due to other accessibility-related problems such as transport, roads or the accessibility of health care structures themselves.

Finally, we observed a concentration of inequalities in access to care among AAH beneficiaries whose incomes are even lower than those provided by invalidity pensions and invalidity insurance benefits, in addition to which they do not benefit from 100% medical expenditure reimbursements contrary to invalidity pension beneficiaries.

These results suggest several possible public action areas. The first should aim at improving disabled persons' financial situations by increasing benefit eligibility thresholds. A second avenue would consist in improving medical expenditure reimbursements either by aligning AAH ceilings with those of the CMU-C so that AAH beneficiaries could either systematically have access to the CMU-C or by systematically exonerating co-payments for all individuals with a recognised disability. It should be noted that the changes in CMU-C and AAH eligibility thresh-

olds since 2008 have not altered this situation. On the other hand, an increase in the income eligibility threshold for the complementary health insurance voucher (ACS, *Aide complémentaire santé*) now allows certain AAH beneficiaries to access this form of financial assistance for complementary health insurance.

Policies in favour of the disabled should not be limited to problems specifically related to disability, which has greatly improved already since the Law of 2005. Beyond equal rights and opportunities, it should also guarantee equitable access to health care by increasing National Health Insurance coverage and by removing barriers, especially financial barriers that restrict access to care.

Finally, this study shows that the teachings obtained from the analysis of access to a specific type of care are not systematically transposable to all forms of care. The follow-up to this study will examine access to other forms of care, in particular preventive care, and will analyse access to routine medical care and preventive care for disabled persons in institutions. ♦

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