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# People with Disabilities Living at Home Have Lower Access to Preventive Care than People without Disabilities

## Exploitation of the Health and Disability Survey, Household Section (2008)

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**Due to an increase in life expectancy, people with disabilities are now confronted with the same age-related diseases as the rest of the population. Access to preventive care and screening procedures should thus make it possible to avoid the premature deterioration of disabled persons' heastatus. Yet, the literature shows that this population is confronted with numerous barriers to accessing both preventive and routine care: difficulties expressing their care needs, more disadvantaged socio-economic situations leading to a lower use of health care services, physical difficulties in accessing doctors' surgeries and unadapted consultation equipment, together with care providers' lack of awareness regarding disability...**

**This study on the use of health care and prevention among people with disabilities living at home examines four screening or prevention procedures based on data provided by the Health and Disability Household survey (HSM), conducted by the DREES and INSEE in 2008: screening against cervical, breast and colon cancers and vaccination against hepatitis B. The aim of the study is to evaluate differences in the use of these preventive care procedures according to disabled persons' situations. Two indicators were retained for the analysis, functional limitations (motor, cognitive, visual or hearing limitations) and administrative recognition of disability.**

As the life expectancy of disabled persons has considerably increased over the last few years, they are now exposed to the same age-related diseases as the rest of the population (Gohet, 2013). Access to preventive care and screening procedures are important levers in avoiding the premature deterioration of health status or the occurrence of complications among disabled persons. However, in 2013 the Jacob report highlighted the lack of basic medical prevention for people with disabilities and the lack of explicit consideration for this population in national prevention campaigns. One of the Jacob report recommendations proposed the mandatory inclusion of a section aimed at disabled persons in all national prevention campaigns.

In their access to both routine and preventive care, disabled persons are confronted with numerous barriers to access. Firstly, the very fact of being disabled can create difficulties in expressing care needs (Van Schrojenstein Lantman de Valk and Walsh, 2008). Disability is often associated with a more disadvantaged socio-economic situation which can result in a lower use of health care services (Lengagne *et al.*, 2015). In addition, environmental factors can limit disabled persons' access to health care: trans-

port problems preventing access to doctors' surgeries, the physical accessibility of consultation offices or unadapted consultation equipment (for example, absence of an adapted gynecological examination table) [DeJong, 1997]. Other obstacles such as care providers' lack of awareness of the disability, or inappropriate payment scheme regarding longer lasting consultations can also be added (McColl, 2005; Bigby and Holmes, 2005; Garner, 2003).

This article presents the second part of a study on the use of routine and preventive care among people with disabilities living at home (Context). Using data from the 2008 Health and Disability Households survey (HSM) [Sources and data insert], access to four screening or prevention procedures (screening against cervical, breast and colon cancers and vaccination against hepatitis B) are examined. These procedures were chosen because they cover several dimensions of preventive care: organised screening against breast and colon cancer, *versus* voluntary screening. Certain preventive procedures concern women only (cervical and breast cancer screening) whereas others concern all individuals in the age bracket concerned by the recommendations. The aim of this study is to evaluate differences in the use of these preventive care procedures, whether among disabled or non-disabled persons. As was the case previously (Lengagne *et al.*, 2014), the analysis of health care use was based on two disability indicators: functional limitations (motor, cognitive, visual or hearing limitations) and administrative recognition of disability (individuals having reported receiving disability-related benefits).

## Four preventive health procedures presenting important public health issues

In France, in 2012, it was estimated that approximately 18,000 deaths per year are caused by colorectal cancer whereas 42,000 new cases are diagnosed each year (Inca, 2013). Breast cancer (49,000 new cases diagnosed each year in France) remains the major cause of death by cancer among women with almost 12,000 deaths per year in France (Inca, 2013), far ahead of cervical cancer (3,000 new cases per year) with 1,100 deaths per year. The recommended time intervals between preventive screening procedures are not all identical: every two years for breast and colon cancer screening, every three years for cervical cancer. In addition, they do not target the same populations: cervical smears are recommended for women aged between 25 to 64 years old whereas breast cancer screening concerns women aged from 50 to 75 years old, and the colon cancer screening test is recommended for all national health insurance beneficiaries aged between 50 to 75 years old, whatever their gender. In 2004, hepatitis B caused around 1,330 deaths in France (InVS, 2009) and vaccination against hepatitis B is recommended every ten years. The preventive screening needs among people with disabilities may also be different from those of the population without disabilities; needs can be greater or occurring earlier (Igas, 2011). The aim here is to compare health care use between people with disabilities and the rest of the population for equivalent levels of medical needs. Proxies of health care needs were thus integrated in order to analyse each type of care. Regarding cervical cancer, health care need proxies included women suffering from pelvic inflammatory disease (or not), women suffering from genital tract infections (or not) and women who had previously suffered from cervical cancer. The need for a mammogram was based on women having reported a breast disease and women having had breast cancer. The care needs variable regarding vaccination against hepatitis B was based on individuals more particularly exposed to the illness. It included individuals with HIV, renal impairment, immigrants and intermediary health and social work professionals. Regarding colon cancer screening, the study was only conducted on individuals living in the pilot regions having experimented the procedure between 2002 and 2005, and prior to its generalisation in 2008 at the time of the survey.

## Sources and data

### The Health and Disability survey

The Health and Disability survey includes a Household section conducted in 2008, and an Institutions section conducted in 2009 by INSEE. The results presented here were obtained from the exploitation of the Household survey data which concerns people living at home. Data was collected in two phases: a first questionnaire on "health and daily life" (VQS) was first administered in the aim of constituting a sample base to prepare for the main survey (second phase). Responses to the VQS survey made it possible to calculate a disability "score" ranging from 0 to 100 for each individual. For the second phase, the sample was selected from four strata according to respondents' age and disability score. The HSM sample was created from the VQS survey's geographical sampling and the four groups of respondents selected according to severity of disability. The groups presenting a presumed severe disability were over-represented which made it necessary to adjust the descriptive statistics and econometric models presented. The survey included questions allowing the evaluation of health status for 29,931 individuals, to identify their disabilities and describe their social and family environments.

### Survey population

The Health and Disability Household survey sample was made up of 29,931 individuals. Sampling for the cancer screening tests analyses (cervical smear, mammogram, Hemoccult®), was carried out according to the age brackets corresponding to national recommendations; the 25-64 age bracket for cervical cancer screening which included 15,329 individuals in the survey, and the 50-74 age bracket for analyses concerning breast and colon cancer screening giving a raw sample of 10,672 individuals in the survey. After eliminating missing values, the sample base allowing for the analysis of cervical cancer screening use contained 8,043 women, 5,755 women for breast cancer screening and finally, the sample base for colon cancer screening was comprised of 1,689 individuals who had never had a colonoscopy and belonged to the pilot regions for the organised screening programme.

The analyses concerning vaccination against hepatitis B were carried out on the population aged from 20 to 59 years old which represented 14,411 individuals in the survey. The 60 year old age limit corresponds to the age at which the transition from social protection for disabled persons to that for elderly dependent persons, and a certain number of benefits specific to disability are replaced by those reserved for the elderly (Gohet, 2013). After eliminating missing values, whether at explained variable level (use of care) or explanatory variable level, the sample base for vaccination against hepatitis B included 13,249 individuals.

## The probability of using preventive care is considerably lower among people with a disability

For each of the four preventive care procedures, the analysis first compared the use of care between people with a disability and those without. The care use indicator used was based on respondents reporting having used the screening services during the time span corresponding to the recommendations specific to each screening procedure; two years for colon and breast cancer screening, three years for cervical

cancer screening and ten years for vaccination against hepatitis B). Disabled persons were successively identified according to reported functional limitations and administrative recognition of disability.

The average use rate for these preventive care procedures is estimated at about 80% for cervical and breast cancer screening, 40% for colon cancer screening and at 45% for vaccination against hepatitis B. The average use rate among people reporting a disability is significantly lower than among people without a disability, whether based on functional limitations or administrative recognition of disability. Among people reporting functional limitations or recognition of disability, the use of cervical cancer screening is thus between 12 to 21 points lower (among individuals reporting at least one hearing limitation or at least one visual limitation respectively) [Table 1], whereas the use rate for the mammogram is 4 to 10 points lower (among individuals with visual and cognitive limitations respectively). The use of colon cancer screening is less frequent among disabled persons (except among those reporting hearing limitations) varying from 13 points (motor limitations) to 18 points (cognitive limitations) whereas the use of hepatitis B screening is lower by 6 to 23 points among individuals reporting cognitive limitations or visual limitations respectively.

## Access to preventive care among individuals reporting at least one functional limitation

The differences in the use of preventive care were then calculated taking into account differences in demographic structure between the populations with and without disabilities, together with part of the care needs that are potentially different in the two populations.

## Context

This *Issues in Health Economics* (QES) presents the results obtained within the framework of a research project aimed at examining access to routine health care (dental, ophthalmological, gynaecological), screening and preventive care (cervical smear, mammogram, colon cancer screening and vaccination against hepatitis B) among persons with a disability living at home or in an institution. It completes the results presented in QES n°197, focused on routine care only and is based on the same method of identification of people with disabilities using the functional limitations and administrative recognition of disability criteria. This IRDES project was entirely financed by the National Solidarity Fund for Autonomy (*Caisse nationale de solidarité pour l'autonomie*, CNSA) within the framework of a call for projects launched by the Public Health Research Institute (*Institut de Recherche en Santé Publique*, IRESP) in 2011.

The analysis was conducted using logistic models that allow for the evaluation of relationships between explanatory varia-

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### Comparison of preventive care use averages according to disability indicators

| | | Cervical smear (every three years) | | | | |
|---|---|---|---|---|---|---|
| | | Raw sample | Care use averages | Chi2 test Value | Chi2 test Probability | Difference |
| **Motor limitations** | Without | 5,775 | 0.8233 | 15.11 | <0.0001 | -0.1690 |
| | At least one | 2,268 | 0.6543 | | | |
| **Cognitive limitations** | Without | 6,772 | 0.8161 | 10.15 | <0.0001 | -0.1419 |
| | At least one | 1,271 | 0.6742 | | | |
| **Visual limitations** | Without | 7,562 | 0.8119 | 9.06 | <0.0001 | -0.2061 |
| | At least one | 481 | 0.6058 | | | |
| **Hearing limitations** | Without | 7,531 | 0.8102 | 5.76 | <0.0001 | -0.1208 |
| | At least one | 512 | 0.6894 | | | |
| **Administrative recognition** | Without | 6,357 | 0.8164 | 13.54 | <0.0001 | -0.1710 |
| | At least one | 1,686 | 0.6454 | | | |

**Reading:** The average use rate among the 2,268 women having reported at least one motor limitation is 65%, 17 points less than the average use rate among women without motor limitations (significant result at the 1% threshold).

| | | Colon cancer screening test (every two years) | | | | |
|---|---|---|---|---|---|---|
| | | Raw sample | Care use averages | Chi2 test Value | Chi2 test Probability | Difference |
| **Motor limitations** | Without | 1,066 | 0.4301 | 5.29 | <0.0001 | -0.1263 |
| | At least one | 623 | 0.3038 | | | |
| **Cognitive limitations** | Without | 1,401 | 0.4280 | 6.36 | <0.0001 | -0.1822 |
| | At least one | 288 | 0.2458 | | | |
| **Visual limitations** | Without | 1,545 | 0.4175 | 3.38 | 0.0009 | -0.1343 |
| | At least one | 144 | 0.2832 | | | |
| **Hearing limitations** | Without | 1,535 | 0.4149 | 1.47 | 0.1431 | -0.0599 |
| | At least one | 154 | 0.3550 | | | |
| **Administrative recognition** | Without | 1,250 | 0.4254 | 5.54 | <0.0001 | -0.1446 |
| | At least one | 439 | 0.2808 | | | |

**Reading:** The average use rate among the 623 individuals having reported at least one motor limitation is 30 %, 13 points lower than the average use rate among individuals without motor limitations (significant result at the 1% threshold.

| | | Mammogram (every two years) | | | | |
|---|---|---|---|---|---|---|
| | | Raw sample | Care use averages | Chi2 test Value | Chi2 test Probability | Difference |
| **Motor limitations** | Without | 3,266 | 0.7990 | 6.60 | <0.0001 | -0.075 |
| | At least one | 2,489 | 0.7240 | | | |
| **Cognitive limitations** | Without | 4,803 | 0.7917 | 6.06 | <0.0001 | -0.0973 |
| | At least one | 952 | 0.6944 | | | |
| **Visual limitations** | Without | 5,282 | 0.7856 | 2.16 | 0.0309 | -0.0453 |
| | At least one | 473 | 0.7403 | | | |
| **Hearing limitations** | Without | 5,272 | 0.7870 | 3.07 | 0.0022 | -0.0651 |
| | At least one | 483 | 0.7219 | | | |
| **Administrative recognition** | Without | 4,420 | 0.7885 | 4.20 | <0.0001 | -0.0571 |
| | At least one | 1,335 | 0.7314 | | | |

**Reading:** The average use rate among the 2,489 women having reported at least one motor limitation is is 72%, 7 points less than the average use rate among women without motor limitations (significant result at the 1% threshold).

| | | Vaccination against hepatitis B (every ten years) | | | | |
|---|---|---|---|---|---|---|
| | | Raw sample | Care use averages | Chi2 test Value | Chi2 test Probability | Difference |
| **Motor limitations** | Without | 10,448 | 0.4585 | 12.84 | <0.0001 | -0.1299 |
| | At least one | 2,801 | 0.3286 | | | |
| **Cognitive limitations** | Without | 11,258 | 0.4546 | 5.19 | <0.0001 | -0.0618 |
| | At least one | 1,991 | 0.3928 | | | |
| **Visual limitations** | Without | 12,571 | 0.4554 | 13.99 | <0.0001 | -0.2323 |
| | At least one | 678 | 0.2231 | | | |
| **Hearing limitations** | Without | 12,475 | 0.4534 | 5.79 | <0.0001 | -0.1027 |
| | At least one | 774 | 0.3507 | | | |
| **Administrative recognition** | Without | 10,227 | 0.4583 | 13.41 | <0.0001 | -0.1321 |
| | At least one | 3,022 | 0.3262 | | | |

**Reading:** the average use rate among the 2,801 individuals having reported at least one motor limitation is 32%, 13 points lower than the average use rate among individuals without motor limitations (significant result at the 1% threshold).

**Scope:** HSM, Irdes calculs.
**Realisation:** Irdes.

Data available for download

bles and the probability of having used the care in question (Method insert).

### Reporting motor or cognitive limitations is associated with a lower probability of using the cervical smear test, the mammogram and the colon cancer screening test

The results are consistent for the three cancer screening tests (cervical smear, mammogram and colon cancer screening) and at the same time underline the singularity of vaccination against hepatitis B. For the first three types of care, access is systematically reduced for persons reporting cognitive limitations in proportions that vary from -7 points for the use of the mammogram to -15 points for the colon cancer screening test (Table 2, model 1). This observation is confirmed for individuals having reported motor limitations, the distinction being made between those needing a wheelchair and individuals having reported motor limitations but not needing a wheelchair. For the three cancer screening tests (cervical smear, mammogram and colon cancer screening), the probability of using care is reduced by a significantly higher proportion among persons needing a wheelchair (respectively 14.5 points, 25 points and 27 points compared to persons without motor limitations) whereas the gap is narrower for people reporting motor limitations but without needing a wheelchair (respectively 9 points, 5 points and 13 points in relation to the same reference) [Table 2, model 1]. On the contrary, among individuals having reported hearing limitations, the use rate for the three cancer screening tests is never significantly different to that for persons without hearing limitations, whereas among individuals having reported visual limitations the use rate is only lower for the cervical smear (-11.5 points). The results for vaccination against hepatitis B are different to those obtained for the other three procedures, as only the fact of being confined to a wheelchair or having reported limited visual limitations reduces the use of this care (respectively -18 points compared to persons without motor limitations and -16 points compared with people without visual limitations).

### After integrating social variables, differences in access remain unchanged for colon cancer and vaccination against hepatitis B

In the second phase of the study, social variables (income, education, complementary health insurance status) [Table 2, model 2] were introduced in order to test whether the differentials in the use of health care revealed in the previous phase persisted or not, which made it possible to explain the differentials. A third phase of the analysis introduced geographic variables (division into urban areas and a variable indicating an overseas département), which marginal-

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## Use of preventive care among individual having reported functional limitations

**Model 1 :** demographic characteristics + screening/vaccination needs – **Model 2 :** model 1 + social characteristics – **Model3 :** model 2 + geographical characteristics

| | Cervical smear (n=8,043) | | |
|---|---|---|---|
| | Model 1 | Model 2 | Model 3 |
| **Wheelchair** (N: 153) | -0.145** *(0.0591)* | -0.113** *(0.055)* | -0.114** *(0.0561)* |
| **Motor limitations but not confined to a wheelchair** (N: 2,117) | -0.0868*** *(0.0201)* | -0.0446** *(0.0191)* | -0.0440** *(0.0191)* |
| **Cognitive limitations** (N: 1,271) | -0.0886*** *(0.0238)* | -0.0457** *(0.0202)* | -0.0443** *(0.0201)* |
| **Visual limitations** (N: 481) | -0.115** *(0.0451)* | -0.106** *(0.0471)* | -0.105** *(0.0467)* |
| **Hearing limitations** (N: 512) | -0.0322 *(0.0296)* | -0.0213 *(0.0286)* | -0.019 *(0.0283)* |

**Reading:** Women having reported using a wheelchair have a 14.5 point lower probability of using screening tests than women without motor limitations at equivalent age, other limitations and screening needs. Robust standard deviations in brackets.

| | Colon cancer screening (n=1,689) | | |
|---|---|---|---|
| | Model 1 | Model 2 | Model 3 |
| **Wheelchair** (N: 65) | -0.267*** *(0.0523)* | -0.248*** *(0.0563)* | -0.250*** *(0.0555)* |
| **Motor limitations but not confined to a wheelchair** (N: 558) | -0.131*** *(0.0399)* | -0.122*** *(0.0429)* | -0.119*** *(0.0436)* |
| **Cognitive limitations** (N: 288) | -0.151*** *(0.0579* | -0.140** *(0.0583)* | -0.129** *(0.0583)* |
| **Visual limitations** (N: 144) | -0.0812 *(0.078)* | -0.0595 *(0.0835)* | -0.0604 *(0.0826)* |
| **Hearing limitations** (N: 154) | 0.0007 *(0.0661)* | -0.0036 *(0.0703)* | 0.0038 *(0.0693)* |

**Reading:** Individuals having reported using a wheelchair have a 26.8 point lower probability of using colon cancer screening tests than individuals without motor limitations at equivalent age, other limitations and screening needs. Robust standard deviations in brackets.

| | Mammogram (n=5,755) | | |
|---|---|---|---|
| | Model 1 | Model 2 | Model 3 |
| **Wheelchair** (N: 164) | -0.253*** *(0.0686)* | -0.227*** *(0.0696)* | -0.241*** *(0.0698)* |
| **Motor limitations but not confined to a wheelchair** (N: 2,325) | -0.0470** *(0.0197)* | -0.022 *(0.0201)* | -0.0253 *(0.0202)* |
| **Cognitive limitations** (N: 952) | -0.0719** *(0.0305)* | -0.0524* *(0.0286)* | -0.0541* *(0.0279)* |
| **Visual limitations** (N: 473) | 0.00271 *(0.0336)* | 0.0083 *(0.0329)* | 0.0113 *(0.0318)* |
| **Hearing limitations** (N: 483) | -0.0185 *(0.0339)* | -0.0136 *(0.0331)* | -0.00809 *(0.0319)* |

**Reading:** Women having reported using a wheelchair have a 25.3 point lower probability of using this care than women without motor limitations at equivalent age, other limitations and screening needs. Robust standard deviations in brackets.

| | Vaccination against hepatitis B (n=13,249) | | |
|---|---|---|---|
| | Model 1 | Model 2 | Model 3 |
| **Wheelchair** (N: 231) | -0.180*** *(0.064)* | -0.195*** *(0.0651)* | -0.195*** *(0.0668)* |
| **Motor limitations but not confined to a wheelchair** (N: 2,573) | -0.0139 (0.023) | -0.0152 (0.0236) | -0.0153 (0.0239) |
| **Cognitive limitations** | -0.0195 (0.0248) | -0.0144 (0.0256) | -0.0098 (0.026) |
| **Visual limitations** (N: 678) | -0.161*** *(0.0392)* | -0.159*** *(0.0395)* | -0.170*** *(0.0389)* |
| **Hearing limitations** (N: 774) | 0.0089 *(0.0362)* | 0.0093 *(0.0365)* | 0.0183 *(0.0372)* |

**Reading:** Individuals having reported using a wheelchair have an 18 point lower probability of using vaccination against hepatitis B than individuals without motor limitations at equivalent age, other limitations and screening needs. Robust standard deviations in brackets.

**Scope:** HSM, Irdes calculs.

**Realisation:** Irdes.

Data available for download

ly modified the disability indicator coefficients in the regressions and thus the interpretation of results.

Whatever the type of preventive care considered, the integration of social variables had little impact on the negative differentials in the use of care characterising individuals needing a wheelchair: -23 points for the mammogram (-25 points before taking social variables into account), -25 points for colon cancer screening (-27 points before), -19.5 points for vaccination against hepatitis B (-18 points before) and -11 points for the cervical smear (-14.5 points before). The stability of these differentials among individuals needing a wheelchair suggests the persistence of difficulties regarding physical access to the health care structures administering these procedures. These results are consistent with those of the previous study regarding dental, ophthalmological and gynaecoligical care (Lengagne *et al.*, 2014). As this study concerns other disability indicators and the four preventive care procedures analysed here, a dividing line appears between the types of care for which taking social variables into account reduces the differentials in access to care for people with a disability, essentially the cervical smear and mammogram, and the two other types of care for which problems of access persist even after neutralisation of the social variables. For the cervical smear and mammogram, the differentials in the use of care diminish significantly among women having reported motor limitations without needing a wheelchair; a drop from from 9 to 4 points for the cervical smear, and are equalised for the mammogram whereas it was almost 5 points lower before taking social variables into account. Part of the differential in the use of these two types of preventive care can be explained by the fact that women having reported functional limitations are more frequently in disadvantaged socio-economic situations, traditionally associated with a lower use and lower awareness of screening procedures. On the contrary, for colon cancer screening and vaccination against hepatitis B, the negative access to care differential for people with a disability only changed marginally after the integration of social variables. Other obstacles can thus explain the persistence of this differential in the use of care: physical difficulties making it difficult to perform the colon cancer screening test, and disabled persons' lack of information or awareness concerning this type of care etc.

## Method

The statistical model used to measure differences in preventive care use was the logistic regression model which allows for measuring the probability of an explained binary variable (here the use of care) according to explanatory variables (disability indicators and other control variables). The coefficients in Tables 2 and 3 correspond to the marginal effects. These make it possible to quantify variations in the probability of the explained variable according to the explanatory variables (here, they quantify the variations in the probability of using care according to our disability indicators). Other than the disability indicators (for administrative recognition), the models presented in Tables 2 and 3 also introduce other explanatory control variables. Three models integrating an increasing number of variables are thus presented: the first includes demographic variables (age and gender), and the care needs variable inherent to the type of care studied. The second is the same as the first model with the addition of socio-economic variables (monthly household income per consumption unit in four segments, education level and a variable crossing complementary health insurance status with eventual co-payment exemption).

## Access to preventive care among persons having reported administrative recognition of disability

### A negative differential in the use of care that essentially affects Adult Disability Allowance (AAH, *Allocation aux adultes handicapés*) beneficiaries

The results obtained for persons benefitting from an administrative recognition of disability are in the majority similar to those obtained for persons reporting functional limitations. Persons benefitting from administrative recognition of disability thus have a lower probability of using the four screening procedures in a proportion that varies from 4 points lower for vaccination against hepatitis B, to 7 points lower for breast cancer screening and close to 14 points lower for cervical and colon cancer screening in relation to persons without administrative recognition of disability (Lengagne *et al.*, 2014). These results, however, mask considerable disparities according to type of administrative recognition of disability. Persons benefitting from Adult Disability Allowance (AAH, *Allocation aux adultes handicapés*) have a considerably reduced probability of using care in comparison with persons without administrative recognition of disability, in a proportion that varies from -9 points for the mammogram and vaccination against hepatitis B, to -17 points for the cervical smear and colon cancer screening test (table 3). On the contrary, the other forms of administrative recognition of disability are more rarely associated with a lower probability of using preventive care. Women benefitting from a disability pension nevertheless have a 4 point lower probability of using a cervical smear compared with those without administrative recognition of disability, whereas persons benefitting from the Personal Autonomy Allowance (APA, *Allocation personnalisée d'autonomie*) have a 21 point lower probability of using the colon cancer screening test than persons without administrative recognition of disability.

### Despite the introduction of social variables, the differential in the use of preventive care persists for AAH beneficiaries

In the two cases where administrative recognition of disability other than AAH is associated with a lower use of preventive care (- 4 points for the cervical smear among women benefitting from a disability pension, and -21 points for the colon cancer screening test for APA beneficiaries), the introduction of social variables cancels out the negative differential. On the contrary, for AAH beneficiaries, the integration of social variables in the analysis only cancels the differential for the mammogram (-9 points before taking social variables into account, non-significant after), as we observed previously. For the other preventive care procedures, the differential is reduced but remains significant: -7 points for the cervical smear (-17 points before integrating social variables), -15 points for colon cancer screening (-19 points before) whereas it remains unchanged for vaccination against hepatitis B, -9 points before and after integrating social variables.

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This study reveals a negative differential in access to preventive care for people with a disability whatever the disability indicator used, functional limitations or administra-

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## Use of preventive care among individuals benefitting from administrative recognition of a disability (by type of administrative recognition)

**Model 1 :** demographic characteristics + screening/vaccination needs – **Model 2 :** model 1 + social characteristics – **Model3 :** model 2 + geographical characteristics

| | Cervical smear (n=8 043) | | |
|---|---|---|---|
| | Model 1 | Model 2 | Model 3 |
| **AAH**[1] (N: 531) | -0.167***<br>*(0.000134)* | -0.0744**<br>*(0.0423)* | -0.0733**<br>*(0.0415)* |
| **Disability pension** (N: 522) | -0.0441*<br>*(0.0995)* | -0.0327<br>*(0.256)* | -0.0313<br>*(0.28)* |
| **Disability annuity** (N: 73) | 0.00445<br>*(0.94)* | -0.0128<br>*(0.848)* | -0.0145<br>*(0.83)* |
| **Other recognition of disability** (N: 557) | -0.0438<br>*(0.137)* | -0.0239<br>*(0.374)* | -0.0241<br>*(0.368)* |

**Reading:** Women having reported benefitting from AAH have a 16.7 point lower probability of using this care than women without administrative recognition of disability at equivalent age, screening needs and functional limitations. Robust standard deviations in brackets.

| | Colon cancer screening (n=1,689) | | |
|---|---|---|---|
| | Model 1 | Model 2 | Model 3 |
| **Apa**[2] (N: 27) | -0.209*<br>*(0.116)* | -0.179<br>*(0.121)* | -0.19<br>*(0.116)* |
| **AAH**[1] (N: 78) | -0.192***<br>*(0.0665)* | -0.150*<br>*(0.0783)* | -0.152*<br>*(0.0787)* |
| **Disability pension** (N: 142) | -0.045<br>*(0.087)* | -0.0376<br>*(0.0852)* | -0.0281<br>*(0.087)* |
| **Disability annuity** (N: 34) | -0.124<br>*(0.109)* | -0.145<br>*(0.101)* | -0.157<br>*(0.101)* |
| **Other recognition of disability** (N: 158) | 0.0513<br>*(0.0789)* | 0.074<br>*(0.0864)* | 0.0651<br>*(0.0847)* |

**Reading:** Individuals having reported benefitting from AAH have a 19.2 point lower probability of using this care than individuals without administrative recognition of disability at equivalent age, gender, screening needs and functional limitations. Robust standard deviations in brackets.

| | Mammogram (n=5,755) | | |
|---|---|---|---|
| | Model 1 | Model 2 | Model 3 |
| **Apa**[2] (N: 100) | -0.0704<br>*(0.057)* | -0.0692<br>*(0.0566)* | -0.0676<br>*(0.0581)* |
| **AAH**[1] (N: 259) | -0.0925**<br>*(0.0471)* | -0.0497<br>*(0.0445)* | -0.046<br>*(0.0446)* |
| **Disability pension** (N: 408) | 0.016<br>*(0.0293)* | 0.0204<br>*(0.0291)* | 0.025<br>*(0.0286)* |
| **Disability annuity** (N: 60) | 0.00315<br>*(0.0781)* | -0.0104<br>*(0.0821)* | -0.0158<br>*(0.0877)* |
| **Other recognition of disability** (N: 508) | 0.0189<br>*(0.0311)* | 0.0249<br>*(0.0299)* | 0.0235<br>*(0.0303)* |

**Reading:** Women having reported benefitting from AAH have a 9 point lower probability of using this care than women without administrative recognition of disability at equivalent age, screening needs and functional limitations. Robust standard deviations in brackets.

| | Vaccination against hepatitis B (n=13,249) | | |
|---|---|---|---|
| | Model 1 | Model 2 | Model 3 |
| **AAH**[1] (N: 912) | -0.0915***<br>*-0.0311* | -0.0867***<br>*-0.0332* | -0.0874***<br>*-0.0331* |
| **Disability pension** (N: 964) | -0.0125<br>*-0.0304* | -0.0252<br>*-0.0316* | -0.0172<br>*-0.0315* |
| **Disability annuity** (N: 220) | -0.0124<br>*-0.0598* | -0.0181<br>*-0.0599* | -0.0122<br>*-0.0604* |
| **Other recognition of disability** (N: 922) | 0.0166<br>*-0.0332* | 0.0132<br>*-0.0341* | 0.0172<br>*-0.0348* |

**Reading:** Individuals having reported benefitting from AAH have a 9 point lower probability of using this care than women without administrative recognition of disability at equivalent age, gender, number of limitations and vaccination needs. Robust standard deviations in brackets.

[1] *Adult Disability Allowance* [2] *Personal Autonomy Allowance*

**Scope:** HSM, Irdes calculs.

**Realisation:** Irdes.

Data available for download

tive recognition of disability. These differentials in the use of preventive care are particularly important for cervical and colon cancer screening tests. These results are consistent with those obtained (Lengagne *et al.*, 2015) for the use of routine care (dentists, ophthalmologists and gynaecologists). Three factors participate in explaining these negative differentials in the use of care among people with a disability: a more disadvantaged social situation, problems of access for persons confined to a wheelchair, and a concentration of inequalities in access to care among AAH beneficiaries. These observations are globally similar for preventive care use even if disabled persons' social situations appear to have less impact on the differences in care use. Taking social variables into account only reduces the care use gap for female cancer screening tests without cancelling them out completely except for the mammogram among women reporting motor limitations but without needing a wheelchair. The physical difficulties in accessing medical buildings or equipment partially explains the differentials in care use, notably among individuals having reported motor limitations, and even more so among those confined to a wheelchair. Specific obstacles are likely to be added such as the difficulty performing the Hemoccult® test, difficulties in expressing care needs, health professionals' attitudes, and inadequate payment scheme for longer lasting consultation required for persons with a disability (Van Schrojenstein Lantman de Valk and Walsh, 2008). Finally, inequalities of access to preventive care is also concentrated among AAH beneficiaries. In a study on access to routine care (Lengagne *et al.*, 2015), the lower use of health care among AAH beneficiaries was explained by the fact that their medical expenditures are not reimbursed at 100% contrary to other forms of administrative recognition of disability, and that remaining out-of-pocket payments discouraged them from using health care services. However, the hypothesis of a socio-economic effect on AAH beneficiaries' use of care cannot be applied here as the majority of preventive care procedures are reimbursed integrally, with the exception of the cervical smear. However, the hypothesis that there is a socio-economic effect on AAH beneficiaries use of female cancer screening tests can be maintained even if is only perceptible for the mammogram and to a lesser degree, the cervical smear. For the other two preventive health procedures, taking into account social variables does not modify the differential in the use of care. Other hypotheses can thus be put forward such as the lack of information and awareness of prevention among this population. ♦

## For further information


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