# Trends in Disability and Disability-Free Life Expectancy Among Elderly People in Spain: 1986–1999

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Background. This paper examines recent trends in the prevalence of disability and disability-free life expectancy in the population aged 65 years and older in Spain.

*Methods.* Data were drawn from two National Disability, Impairment and Handicap Surveys conducted in 1986 and 1999. Only severe disability was studied, and disabilities overcome through use of external technical aids were included.

**Results.** In the period 1986–1999, a relative annual decline of 3.7% in overall disability was observed for men. The decline was somewhat less marked in women, participants aged 75 years and older, and those with the lowest educational level. In men, there was a relative annual decline of just over 3% in walking and hearing disabilities, of under 1% in seeing and cognitive disabilities, and a slight rise in self-care disability. Trends among women were similar, though self-care disability rose by 1.78%. In the period 1986–1999, total and disability-free life expectancy rose across all age groups in both sexes. Among men aged 65 years, the proportion of life expectancy with disability fell from 42.1% in 1986 to 21.6% in 1999; the comparable figures for women were 49.8% in 1986 and 30.6% in 1999. Indeed, a reduction in life expectancy with disability was observed even among persons aged 80 years and older.

*Conclusion.* From 1986 through 1999, prevalence of severe disability among Spanish elderly persons decreased substantially, and the duration of life with disability was compressed between a later onset and the time of death. Among women, however, self-care disability—the type of disability requiring most social resources for its attention—underwent a sharp rise.

I N the last two decades, Spain has undergone a very rapid process of major social change. The aging population has risen substantially, from 11.24% aged 65 years and older in 1981 (1) to 16.86% in 2003 (2). Moreover, it is envisaged that this number will reach 20% by 2021, and that in 2050 Spain will have the highest proportion of elderly persons in the world (3). The phenomenon of urbanization has also accelerated substantially in the last two decades, with the population living in rural areas (towns and villages with fewer than 10,000 inhabitants) falling by 11.39% in the period 1991–2001 (4).

For the past 20 years, Spain has been one of the fastest growing countries in the West, in terms of its economy (5) and development of its healthcare system (6). This economic growth has, however, been accompanied by a deterioration in certain traditional lifestyle habits (e.g., diet and increasing sedentariness) (6) and a reduction in family network and support, owing to the fast rate at which women have been incorporated into the workplace (7). Lastly, there has been a substantial improvement in the Spanish population's health, as measured by traditional indicators such as mortality and morbidity due to the leading chronic diseases (6). As a result, Spain is among those countries having the highest life expectancy and lowest mortality amenable to health care in the world (8).

Yet nothing is known about the time trends in disability associated with the rapid social and healthcare changes described above. Although countries with higher life expectancy tend to have a greater proportion of disabilityfree life expectancy (9), this is not a rule. Furthermore, longer total life expectancy and disability-free life is compatible with both morbidity-compression and morbidityexpansion scenarios (10); such scenarios may even coexist in different population groups, according to their sex, age, or educational level (11). The absence of information on disability trends is particularly relevant in elderly persons for two reasons: first, because this is the age group in which disability is most frequent and has the greatest impact on demand for healthcare and social services, both formal and informal; and second, because old age is being reached in relatively prosperous living conditions by some cohorts of persons who, in childhood and at a young adult age, experienced very difficult living conditions (e.g., lack of food, poor sanitation and hygiene, psychosocial stress) stemming from the injustice and strong social tensions in the period leading to the Spanish Civil War, the Civil War itself (1936–1939), and the ensuing poverty that lasted into the 1960s (12).

Accordingly, this study sought, for the first time to our knowledge, to examine recent trends in disability and disability-free life expectancy among the elderly population in Spain, broken down by sex, age, and educational level. Spanish data may serve to complete and better understand the international map of disability trends in recent years. It is noteworthy that time trends in disability among elderly persons show a wide variation in countries which, though enjoying a relatively low mortality and a high degree of economic development, have nevertheless experienced less rapid social change than has Spain. The decline in disability has been minimal or negligible in Holland or Finland, small in Australia and the United Kingdom, only moderate in Sweden and Canada, and fairly considerable in Germany, Japan, and United States (13–16).

# Methods

#### *Participants*

Data were drawn from the two National Disability, Impairment and Handicap Surveys conducted by the National Statistics Institute (Instituto Nacional de Estadística) in 1986 and 1999 (17,18). These are the only two sources of information on this topic with national coverage, including part of the institutionalized population, in Spain. In both surveys, the study population was the population resident in principal family dwellings. It also included the population who had been residing for less than 1 year in nursing homes or sanatoriums, and those persons who had been living for more than 1 year outside their family dwelling but nevertheless retained some link with it, such as spending vacation periods or weekends there. However, the population resident in collective homes (hospitals, penitentiaries, military barracks, monasteries, and convents) was excluded.

The sample comprised residents in 75,000 and 80,000 dwellings in the 1986 and 1999 surveys, respectively. Of these, 15,681 dwellings in 1986 and 10,612 dwellings in 1999 included persons aged 65 years and older. Sampling was conducted in two stages, with census sections stratified by province, size, and type of town or city, and socio-economic level being selected in the first stage, and family dwellings in the second. Survey information was collected by home-based personal interviews.

## Variables

The surveys gathered information on the existence, type, and severity of disability for each member of the dwelling. In addition, data on a number of sociodemographic variables were obtained, of which only age, sex, and educational level were used in our analyses.

Different questionnaires were used in the 1986 and 1999 surveys, but for the purpose of this analysis, we restricted ourselves to a set of variables that were comparable in the two surveys. Consequently, only severe disabilities were selected, which were serious limitations that affected the sufferer's activity either permanently or for a period of 1 year or more, albeit discontinuously. In the case of the 1999 survey, we selected only those disabilities classified as severity 3 or 4, because these were the disabilities that strictly met the above definition. The two surveys included all disabilities, regardless of the fact that these might have been overcome by the use of external technical aids (crutches, wheelchairs, hearing aids, oxygen). In the case of seeing disability, an exception was made, as it was felt that the use of spectacles or contact lenses was generalized, with the result that only disabilities which persisted despite the use of spectacles or contact lenses were included. Disabilities overcome by insertion of internal technical aids, such as pacemakers or artificial limbs and replacements, were excluded.

We selected five major types of disability with comparable definitions in both surveys, i.e., seeing, hearing, selfcare, walking, and cognitive disabilities (see definitions of these disabilities in the Appendix).

### Data Analysis

The analyses applied weights to each participant to take account of the sample design and ensure that the results would be applicable to the overall Spanish population aged 65 years and older. For the calculation of disability rates, intercensus Spanish population projections drawn up by the National Statistics Institute were used as the denominator (19). Thus, to calculate the 1986 rates, the population estimated at December 31, 1985 was used, because this was the closest to February 1986, the date when the 1986 survey data were collected; and for the 1999 rates, the population used was that calculated for July 1, 1999, because the 1999 survey data were collected in the second quarter of that year. Age-adjusted rates were calculated for 1986 by the direct method, using the 1999 Spanish population in five age groups (65–69, 70–74, 75–79, 80–84, ≥85 years) as standard.

Lastly, total and disability-free life expectancy were calculated. For the calculation of disability-free life expectancy, we used Sullivan's method, which combines mortality with disability prevalence data (20). Specifically, this method consists of subtracting years lived with disability from total years lived by a theoretical cohort of 100,000 individuals, on the basis of the mortality patterns observed in the population (20). The mortality tables of Spain elaborated by the National Statistics Institute for 1985–1986 and 1998–1999 were used for this purpose.

Analyses were broken down by sex, age, and educational level, with the exception of life expectancy, which could not be calculated by educational level because this item is not recorded on death certificates.

# RESULTS

In 1999, overall prevalence for the five types of disability studied was 19.3% in men aged 65 years and older. Prevalence of disability was higher in women, and rose with age in both sexes (Table 1). From 1986 through 1999, there was a relative annual decline of 3.7% for disabilities as a whole among men. This decline was somewhat less marked in women and among participants aged 75 years and older in both sexes (Table 1). It should be noted that in both sexes in persons aged 85 years and older, the number of people with disabilities (which is an estimator of the disability burden) increased from 1986 to 1989 despite the observed reduction in the age-adjusted percentage of the population with disabilities over the same time period. This number represented the huge increase in the size of

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Table 1. Number and Percentage of Population With Disability Among Participants Aged 65 Years and Older: Spain, 1986 and 1999

	1986	1999	Percentage	Annual Percentage
Participants	N (%)	N (%)	Difference*	Difference
Men				
Total	750,192 (39.88) <sup>‡</sup>	524,830 (19.28)	-51.64	-3.69
65–69 y	170,396 (25.75)	104,197 (11.07)	-57.02	-4.07
70–74 y	188,908 (35.63)	117,295 (15.30)	-57.07	-4.08
75–79 y	174,167 (45.33)	124,961 (23.33)	-48.54	-3.47
80–84 y	133,823 (62.66)	87,534 (30.81)	-50.83	-3.63
≥85 y	82,898 (76.85)	90,843 (46.92)	-38.94	-2.78
Women				
Total	1,323,261 (48.98) <sup>‡</sup>	1,068,302 (28.06)	-42.70	-3.05
65–69 y	260,036 (31.01)	160,735 (14.66)	-52.71	-3.76
70–74 y	302,564 (40.84)	209,265 (24.17)	-47.42	-3.39
75–79 y	301,389 (51.07)	247,801 (31.77)	-37.80	-2.70
80–84 y	256,082 (67.54)	208,338 (40.14)	-40.56	-2.90
≥85 y	203,190 (86.41)	242,163 (55.40)	-35.88	-2.56
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Notes: \*(Percentage in 1999 – Percentage in 1986)  $\times$  100/Percentage in 1986.

<sup>†</sup>([Percentage in 1999 – Percentage in 1986]  $\times$  100/Percentage in 1986)/ number of years.

<sup>‡</sup>Standardized to the Spanish population aged 65 years and older in 1999.

this population segment that occurred in Spain during the period 1986–1999.

Table 2 shows the number and percentage of persons with the five main types of disabilities studied in 1986 and 1999. All disabilities proved more frequent in women than in men. In both sexes, the most frequent disability was that of walking, and the least frequent was cognitive disability. From 1986 through 1999, there was a relative annual decline of slightly more than 3% in walking and hearing disabilities among men; and, although seeing and cognitive disabilities declined by less than 1%, there was a slight rise in self-care disability. The results registered for women showed the same trend, though the relative annual rise in self-care disability was 1.8%. It should be pointed out, however, that whereas the rise in self-care disability in men was only in evidence among the over-75 age group, in women it was in evidence across all age groups (data not shown). It should also be noted that, although the prevalence of the seeing, self-care, and cognitive disabilities decreased, their population burden has increased because of the increase in the denominators of prevalence, that is, an increase in the elderly population of both sexes over the study period.

Table 3 displays a clear inverse gradient between educational level and prevalence of the five types of disability, in 1986 and 1999 alike. Between these 2 years, participants with the highest educational level registered the lowest increase in frequency of self-care disability, and the greatest decline in the other four types of disability. Nevertheless, from 1986 to 1999 there was a reduction in the absolute difference in prevalence of the five types of disability, between participants with the highest and lowest educational levels.

Figure 1 depicts life expectancy in the Spanish population aged 65 years and older. The period 1986–1999 witnessed a rise in both total and disability-free life expectancy across all age groups in the two sexes. Furthermore, there was an

Table 2. Number and Percentage of Population With Main Types of Disability in Participants Aged 65 Years and Older: Spain 1986 and 1999

	1986	1999	Percentage	Annual Percentage
Participants	$N (\%)^{\ddagger}$	N (%)	Difference*	Difference
Men				
Seeing	82,357 (4.42)	114,309 (4.20)	-4.97	-0.36
Hearing	133,134 (7.08)	105,955 (3.89)	-44.99	-3.21
Self-care	82,470 (4.44)	128,612 (4.73)	6.38	0.46
Walking	533,841 (28.42)	415,510 (15.27)	-46.27	-3.31
Cognitive	39,217 (2.12)	52,931 (1.95)	-8.10	-0.58
Women				
Seeing	173,532 (6.42)	212,410 (5.58)	-13.06	-0.93
Hearing	176,130 (6.66)	159,723 (4.20)	-36.98	-2.64
Self-care	136,545 (5.45)	259,116 (6.81)	24.90	1.78
Walking	1,012,362 (37.50)	949,646 (24.95)	-33.49	-2.39
Cognitive	80,700 (3.09)	120,526 (3.17)	2.36	0.17

*Notes*: Detailed data of the main types of disability by sex and age can be obtained from the authors upon request.

\*(Percentage in 1999 – Percentage in 1986)  $\times$  100/Percentage in 1986.

 $^{\dagger}([Percentage in 1999 - Percentage in 1986] \times 100/Percentage in 1986)/ number of years.$ 

<sup>‡</sup>Standardized to the Spanish population aged 65 years and older in 1999.

overall reduction in life expectancy with disability. As a result, the proportion of life expectancy with disability fell substantially from 1986 to 1999 (Table 4). Among men aged 65 years, the proportion of life expectancy with disability fell from 42.1% in 1986 to 21.6% in 1999. Indeed, this "compression" in disability was even in evidence at the more advanced ages in life (Table 4), e.g., among men aged 85 years, the proportion of life expectancy with disability declined from 78.4% in 1986 to 48.4% in 1999.

Women registered a higher life expectancy than did men but a higher percentage lived with disability. Accordingly, in 1999, the life expectancy of women aged 65 years was 20.2 years versus 16.2 years for men (Figure 1). However, these women lived 6.2 years with disability (30.62% of their life expectancy) versus 3.5 years for men (21.6% of their life expectancy, Table 4). Like men, women also "compressed" their disability over the study period, inasmuch as the proportion of life expectancy with disability in women aged 65 years was 49.8% in 1986. This compression in disability among women was also observed at more advanced ages (Table 4).

#### DISCUSSION

In the period 1986–1999, prevalence of severe disability among the Spanish elderly population declined considerably, disability-free life expectancy rose, and duration of life with disability was reduced, i.e., compressed between a later onset and time of death. These disability trends were in evidence across all sex, age, and educational-level groups, but were less favorable for participants with lower educational levels. The exception to these positive changes was found in self-care disability, which rose (particularly in women) across all age groups. This finding is important, because self-care disability demands the type of attention requiring the most social resources.

	1986 N (%) <sup>‡</sup>	1999 N (%)	Percentage Difference*	Annual Percentage Difference <sup>†</sup>
Participants				
Men				
Illiterate-no formal education	505,492 (51.24)	276,830 (25.69)	-49.85	-3.56
Primary	183,349 (29.79)	183,654 (18.78)	-36.96	-2.64
Secondary and higher	59,573 (22.90)	56,654 (8.50)	-62.86	-4.49
Seeing				
Illiterate-no formal education	54,760 (5.61)	67,139 (6.23)	11.02	0.79
Primary	20,925 (3.48)	34,126 (3.49)	0.29	0.02
Secondary and higher	6522 (2.51)	12,643 (1.90)	-24.24	-1.73
Hearing				
Illiterate-no formal education	84,780 (8.60)	55,635 (5.16)	-39.92	-2.85
Primary	35,086 (5.71)	38,707 (3.96)	-30.66	-2.19
Secondary and higher	12,861 (4.94)	11,453 (1.72)	-65.19	-4.66
Self-care				
Illiterate-no formal education	58,589 (5.99)	74,392 (6.90)	15.22	1.09
Primary	16,664 (2.84)	40,675 (4.16)	46.62	3.33
Secondary and higher	6827 (2.79)	13,544 (2.03)	-27.03	-1.93
Walking				
Illiterate-no formal education	363,429 (36.90)	220,762 (20.49)	-44.48	-3.18
Primary	129,095 (20.98)	144,378 (14.76)	-29.62	-2.12
Secondary and higher	40,334 (15.58)	42,816 (6.43)	-58.73	-4.20
Cognitive				
Illiterate-no formal education	24,189 (2.47)	27,574 (2.56)	3.48	0.25
Primary	10,638 (1.82)	18,815 (1.92)	5.72	0.41
Secondary and higher	4172 (1.63)	6542 (0.98)	-39.67	-2.83
Women				
Illiterate-no formal education	1,111,840 (61.35)	652,688 (36.27)	-40.88	-2.92
Primary	253,277 (14.67)	338,093 (17.98)	22.54	1.61
Secondary and higher	45,918 (23.62)	56,898 (9.15)	-61.28	-4.38
Seeing				
Illiterate-no formal education	131,646 (7.97)	135,842 (7.55)	-5.27	-0.38
Primary	34,213 (4.18)	63,003 (4.55)	8.89	0.64
Secondary and higher	5813 (2.91)	13,264 (2.13)	-26.68	-1.91
Hearing				
Illiterate-no formal education	134,540 (8.39)	103,971 (5.78)	-31.13	-2.22
Primary	33,375 (4.14)	46,169 (3.33)	-19.46	-1.39
Secondary and higher	6946 (3.70)	9078 (1.46)	-60.53	-4.32
Self-care				
Illiterate-no formal education	110,740 (7.42)	172,988 (9.61)	29.47	2.11
Primary	21,488 (2.85)	72,707 (5.25)	84.19	6.01
Secondary and higher	3569 (1.90)	13,422 (2.16)	13.80	0.99
Walking				
Illiterate-no formal education	772,853 (46.92)	581,066 (32.29)	-31.19	-2.23
Primary	194,497 (23.68)	297,935 (21.51)	-9.14	-0.65
Secondary and higher	34,172 (17.58)	50,227 (8.07)	-54.08	-3.86
Cognitive				
Illiterate-no formal education	63,509 (4.03)	78,389 (4.36)	8.12	0.58
Primary	12,702 (1.62)	36,437 (2.63)	62.71	4.48
Secondary and higher	4082 (2.14)	5701 (0.92)	-57.15	-4.08

Table 3. Number and Percentage of Population With Disability in Participants Aged 65 Years and Older, by Educational Level: Spain 1986 and 1999

Notes: \*(Percentage in 1999 – Percentage in 1986) × 100/Percentage in 1986.

<sup>†</sup>([Percentage in 1999 – Percentage in 1986]  $\times$  100/Percentage in 1986)/number of years.

<sup>‡</sup>Standardized to the Spanish population aged 65 years and older in 1999.

In Spain, there is only one published article which allows for a certain comparison of data. This is a recent cohort study addressing basic activities of daily living (BADL), equivalent to the self-care activities covered by our study. The cohort included elderly participants in the town of Leganés (Madrid) over the period 1993–1999 (21,22); the results of this study are consistent with those of ours for men, in that they show a reduction in prevalence of limitations in BADL in both sexes up to age 80 years and a rise in prevalence thereafter (22).



Figure 1. Disability-free life expectancy and life expectancy with disability, in participants aged 65 years and over. Spain, 1986 and 1999. a) men; b) women.

Our results concur with those for Western countries with the greatest reductions in disability, such as the United States, in which a certain compression in disability towards the more advanced ages in life has already been reported (10). Also, there is a U.S. study which, like ours, has shown that compression in disability is greater in the higher socioeconomic strata (11), though the results for U.S.-based studies as a whole are not consistent in their results on trends for the different types of disability by socioeconomic level (14). Lastly, a recent review in the United States has observed discordant results between studies regarding trends in limitations in BADL (14); while the National Long Term Care Surveys record a clear reduction in such limitations for the period 1982–1999 (23), and the National Health Interview Surveys report a stable trend over the period 1982–1996 (24).

In Spain, both the prevalence of disability in 1986 and 1999 as well as its relative decline were very great, and

exceeded comparable figures reported for other Western countries (13–16). For instance, the decline in overall prevalence of disability in the United States only approached 3% during the short period of time from 1994 to 1999 (23). Although the current, very high prevalence of severe disability in Spain is in line with the results of another study on a representative sample of Spanish elderly persons in 2001 (25), caution is needed in comparisons between studies, because sample design and measuring instruments tend to differ. In particular, even small differences in the wording of questions may produce important shifts in the prevalence of disability (26,27). Consequently, the emphasis should be placed on comparison between countries in terms of the mere direction in disability trends, observed in surveys comparable over time.

For a correct interpretation of our results, some remarks on the study methods are needed. First, we used two large-

	% Life Expectancy With Disability		
Participants	1986	1999	
Men			
Age, y			
65	42.12	21.56	
70	49.11	25.83	
75	57.97	31.57	
80	68.32	38.47	
85	78.35	48.40	
Women			
Age, y			
65	49.84	30.62	
70	56.54	35.68	
75	64.05	41.70	
80	72.84	48.07	
85	79.45	55.79	

Table 4. Percentage of Life Expectancy With Disability in ParticipantsAged 65 Years and Older: Spain 1986 and 1999

sized national surveys, with practically identical, rigorous sampling designs. Moreover, even though the questionnaires were different, our analysis was confined to only those types of disability which were comparably measured in the two surveys. Second, the surveys collected information on only one part of the institutionalized elderly population, namely, those who had been institutionalized for less than 1 year and those who, though institutionalized longer, had maintained a certain link with their families. Despite the fact that the percentage of the Spanish institutionalized population aged 65 years and older grew during the study period, reaching 3.2% in 1999 (28), there was no evidence that the link between institutionalized persons and their families had changed across the study period, with the result that the percentage of the institutionalized population included in the surveys probably remained stable. Third, unfortunately, both surveys did not collect information on the number of reports by proxies, although a conservative estimation can be made from the prevalence of hearing and cognitive disability.

Regarding the possible determinants of disability trends, a recent study in Spain shows that the chronic diseases most frequently associated with disability are stroke, anxiety/ depression disorders, and diabetes (29). It also shows that a large proportion of participants attribute their disability to osteoarthritis (29). No data are available on trends in mental disorders in Spain, but stroke mortality has declined substantially in recent decades (30), and prevalence of diabetes has risen (30). Furthermore, though there is no information on trends in osteomuscular diseases, there has been a substantial increase in the use of prostheses, which are effective for dealing with some forms of walking disability (the type of disability that has decreased the most in Spain), for joint replacement (31). It would therefore seem that the trend in these diseases and the use of some internal devices (e.g., hip replacements) cannot fully explain the disability trends in Spain. Indeed, little is known about the factors that underlie the reduction in disability over time in other countries (10), thus rendering this a research priority.

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#### APPENDIX

# Definition of the Disabilities Studied

Seeing disability.-Persons with severe or serious vision impairment (whether near- or far-sightedness), inability to overcome their visual limitation with the use of external aids, such as spectacles or contact lenses. For the 1986 survey, it includes code 11 (total blindness in both eyes, independently of its cause) and code 13 (serious difficulty or inability to distinguish images on the television at a 2-meter distance, read a newspaper, sew, or read time from a wristwatch). For the 1999 survey, it includes code 11 (total blindness in both eyes, independently of its cause), code 12 (impaired capacity to perform activities that require long-distance vision, such as identifying objects in the street) with severity 3 (serious difficulty) or 4 (inability), and code 13 (impaired capacity to perform activities that require short-distance vision, such as distinguishing images on the television at a 2-meter distance, reading a newspaper, sewing, or reading time from a wristwatch) with severity 3 (serious difficulty) or 4 (inability).

*Hearing disability.*—Persons with deafness in both ears (incapable of hearing any sounds, even when these sounds are amplified). For the 1986 survey, it includes code 21 (total deafness in both ears) and 23 (serious difficulty or inability to keep a normal-voice conversation). For the 1999 survey, it includes code 21 (total deafness in both ears), code 22 (impaired capacity to hear sirens, alarms, or warning devices) with severity 3 (serious difficulty) or 4 (inability), and code 23 (impaired capacity to keep a normal-voice conversation) with severity 3 (serious difficulty) or 4 (inability).

*Self-care disability.*—Persons who require the help of another person or external device to perform basic self-care activities of daily living, such as bathing, dressing, feeding, and toileting. For the 1986 survey, it includes code 51 (need help of another person or external device to perform basic self-care activities of daily living, such as bathing, dressing, feeding, and toileting). For the 1999 survey, it includes code 81 (impaired capacity for bathing) with severity 3 (serious difficulty) or 4 (inability), code 82 (impaired capacity for toileting) with severity 3 (serious difficulty) or 4 (inability), code 83 (impaired capacity for dressing) with severity 3 (serious difficulty) or 4 (inability), and code 84 (impaired capacity for feeding) with severity 3 (serious difficulty) or 4 (inability).

Walking disability.—Persons with severe or serious motor problems in moving about their usual environment. This includes persons with walking disability who cannot climb a flight of 10 stairs unaided or leave their homes. It also includes wheelchair users. For the 1986 survey, it includes code 61 (can move only by using a wheelchair), code 62 (serious limitation in the walking capacity so that they need the help of another person, assistive device, or prosthesis), code 71 (serious difficulty or inability to climb a flight of 10 stairs unaided), code 9 (cannot leave home unaided), and code 113 (serious difficulty to stand or to remain seated because of problems in control of the equilibrium). For the 1999 survey, it includes code 51 (serious difficulty in performing basic body movements, so that they are bedconfined), code 52 (serious difficulty in performing basic body movements so that they have serious difficulty getting out of bed, stand, or remaining seated), code 53 (serious difficulty in performing basic body movements so that they have serious difficulty walking and moving at home unaided; it includes wheelchair users), code 71 (serious difficulty in walking out of the home, such as to climb a flight of 10 stairs unaided; it includes wheelchair users,) and code 72 (serious difficulty moving out of home, such as in using public transportation).

Cognitive disability.--Persons who suffer serious or major difficulties in orienting themselves in space and time, recalling information, and acquiring knowledge (whether through instructions or personal experience) due to cognitive and intellectual deficits. This does not include limitations due to sensory deficits (sight, hearing). For the 1986 survey, it includes code 131 (serious difficulty or inability to recognize persons, objects, or situations which are already known to the person; serious difficulty or inability to understand situations or acquiring knowledge due to cognitive and intellectual deficits) and code 132 (behavior that puts person at physical risk, due to intellectual incapacity). For the 1999 survey, it includes code 41 (impaired capacity in orienting themselves in space and time) with severity 3 (serious difficulty) or 4 (inability), code 42 (recalling information whether in the recent or more distant past) with severity 3 (serious difficulty) or 4 (inability), and code 43 (impaired capacity to understand or to implement simple tasks) with severity 3 (serious difficulty) or 4 (inability).