

Estimating the prevalence of physical disability in working age adults in Brighton & Hove

The purpose of this paper is to provide estimates of the numbers of working-age people with physical disability in Brighton and Hove. The main focus of the paper is on working age adults. The paper includes information about people in older age groups and makes comments about information about young people in transition to the adult services.

Although it would be helpful to have information about the incidence of physical disability as well as prevalence, this is not routinely available at the general population level and therefore prevalence estimates have been used. While the incidences of specific diseases which may lead to physical disability are available, the incidence of disability associated with the condition is not always available.

Most of the information presented is from national data sources applied to the local population.

1. Definitions of disability

Physical disability affects a wide range of people in a wide range of ways; it can arise as a result of an accident, illness or congenital disorder and may be caused by a range of health conditions such as neurological, circulatory, respiratory and musculo-skeletal disorders. It can affect a person suddenly such as stroke or over a period of time as in multiple sclerosis. It may be a static condition or one which fluctuates as with rheumatoid arthritis. Conditions that lead to physical disability can arise at any stage of life. Some people are affected by more than one condition or have an additional sensory impairment, while others experience significant periods of ill-health as a feature of the disability.

The World Health Organisation (WHO) began the process of defining disability with the International Classification of Impairments, Disabilities and Handicaps (ICIDH). This framework described four terms: pathology, impairment, disability and handicap (see Table 1) (WHO, 1980).

Table 1: Framework of international classification of impairments, disabilities and handicaps

Term	Definition
Pathology	Abnormalities or changes in the structure or function of an organ or organ system.
Impairment:	Any loss or abnormality of psychological, physiological, or anatomical structure or function.
Disability:	Any restriction or lack (resulting from impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.
Handicap:	A disadvantage for a given individual, resulting from an impairment or disability that limits or prevents fulfilment of a role that is normal, depending on age, sex, social or cultural factors' (WHO, 1980).

Within this framework, which is often called the medical model of disability, a person's functional limitations (impairments) are cause of any disadvantages experienced and these disadvantages can therefore only be rectified by treatment or cure.

The International Classification of Functioning, Disability and Health (WHO, 2001) has evolved from the ICIDH and allows for a dynamic rather than static or linear assessment of the interaction between functioning and disability, where: functioning refers to all body functions, activities and participation, while disability refers to impairments, activity limitations and participation restrictions.

The social model of disability is defined by the Union of Impaired People Against Segregation as:

"The disadvantage or restriction of activity caused by a contemporary social organisation which takes little or no account of people who have a physical impairment and thus excludes

them from the mainstream of social activities". (Union of the Physically Impaired Against Segregation. Fundamental Principles of Disability, London, 1976.)

It shifts the focus from impairment onto disability, using this term to refer to disabling social, environmental and attitudinal barriers rather than lack of ability. The social model of disability makes the distinction between 'impairment' and 'disability' (see Table 2).

Table 2: Social model definitions of Impairment and Disability

Term	Definition
Impairment	An injury, illness, or congenital condition that causes or is likely to cause a long term effect on physical appearance and / or limitation of function within the individual that differs from the commonplace.
Disability	The loss or limitation of opportunities to take part in society on an equal level with others due to social and environmental barriers.

2. The population of Brighton & Hove

When making predictions about the prevalence of conditions such as physical disability in a population it is essential to define what that population is. There are a number of different sources of information about the population of Brighton & Hove. The 2001 Census was the last accurate measure of the resident population the city. However, over the past five years the population profile will have changed as the population ages, through births and deaths, and through migration in to and out of the city. The Office for National Statistics (ONS) produces population projections based on fertility, mortality and migration trends over the past 5 years at a national level. These are released on a regular basis, the most recent release being the 2004 mid-year estimates. In addition to these projections, the Brighton & Hove City Council (BHCC) has produced Local Population Projections that are also trend based, but have taken into account what are considered more realistic trend based assumptions for the city of Brighton & Hove (council doc). Although these Local Population Projections were intended to be used to inform future service planning and are based on local data, they are limited in their usefulness in estimating disability prevalence as they do not provide separate estimates for female and male populations. These estimates also aggregate the working age population to encompass all people from 18 years of age to retirement age (BHCC research briefing six), this is different for women (60) and men (65) making age specific estimates difficult.

Comparing the estimated changes in the population of the ONS with the BHCC projections (Table 3) shows that there is very little difference in the actual numbers of the total population (0.2%) and of the working age population (4%) although this comparison will not be entirely accurate due to the differences in the age groups.

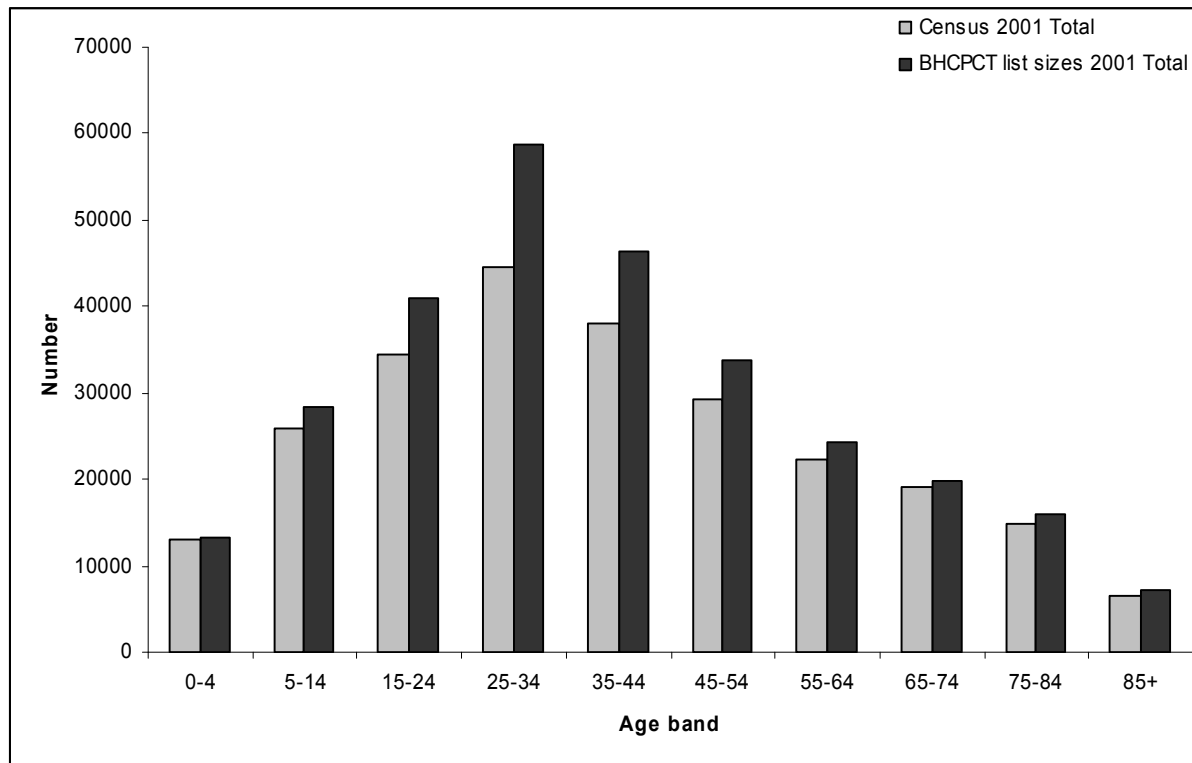
Table 3: Differences in ONS and BHCC population for Brighton & Hove in 2004

Age Group	2001 Census population	ONS 2004 mid-year estimates		BHCC 2004 projections		
		Population	% difference from census	Population	% difference from census	Percent difference from ONS mid-year estimate
All ages	247 817	251 900	+1.6%	252 450	+1.9%	+0.2%
Working age*	168 535	174 900	+3.8%	167850	-0.41%	-4.0%

*ONS & Census – working age 15-64 for men and women
BHCC – working age 16-64 for men and 16-60 for women

A further complication to estimating the population of Brighton & Hove is the difference between the resident population of the city and that of the Primary Care Trust registered population. There are greater numbers of patients registered with the PCT than were recorded in the 2001 Census (Figure 1).

Figure 1: Differences in the 2001 PCT registered population and the 2001 census population for Brighton & Hove, by 5-year age-band



As can be seen in Figure 1 the greatest difference between the census and PCT population is in working-age adults, in particular in those aged 25-34 where there is a 19% difference. Brighton & Hove has a highly mobile population, particularly in this age group. Some of the excess is likely to be due to patients who have registered with a practice and then not notified practices when they have moved to another GP either within the city or elsewhere, so called 'ghost patients'. However, the bulk of these patients are likely to be individuals live outside the boundaries of Brighton & Hove but who are registered with one of the cities GPs either because they work in the city or because they have retained their GP after moving out of the city. As practices move towards restricting registrations to those people who live in close proximity to the practice discrepancy between the populations should diminish.

For this piece of work most of the predictions of levels of disability in Brighton & Hove are based on the 2001 Health Survey for England (see Section 3). As a preliminary step, the population used as a baseline is the 2001 census. Estimates based on other population sources will be calculated once it is agreed which are felt to be the most appropriate. These numbers will be slightly different to the expected currently due to changes in the population. However, the estimated difference in population in 2004 when compared to the 2001 census is small for both the total population and the working age population (see Table 3) meaning that any differences in estimated prevalence of physical disability within the city will also be small.

3. Data sources

3.1 National

3.1.1 2001 Census

The 2001 Census included a question about disability focussed on long term and limiting long term illness. The question used was:

Do you have any long-term-illness, health problem or disability which limits your daily activities or the work you can do?

Though helpful, the question is a broad one and therefore cannot be considered as a pure measure of physical disability.

3.1.2 Health Survey for England

The Health Survey for England (HSE) comprises a series of annual surveys which began in 1991. The series is part of an overall programme of surveys commissioned by the Department of Health and is designed to provide regular information on various aspects of the nation's health. Each year there are a 'core' set of questions and bio-medical measures included in the survey, and each survey has a specific focus topic that is periodically repeated. Physical disability has been the focus of the 1995 and the 2001 HSE.

All surveys have covered the adult population aged 16 and over living in private households in England and children have been included since 1995. The HSE does not provide information on that part of the population living in communal establishments, such as care and nursing homes. Although this limitation is most relevant to older people with physical disability, those people of working-age with severe physical disability living in these establishments may be under represented in the survey.

The 1995 HSE provided baseline data for disability prevalence. However, the 2001 HSE provides the latest estimates of the prevalence of disability among those living in private households. It aimed to provide a representative sample of the population and involved interviews with 15 647 adults (aged 16 and over) and 3993 children aged under 16 (HSE 01).

The Health Survey used an adaptation of the World Health Organisation (WHO) classification system for impairments, disabilities and handicaps, and questions were adapted from the WHO protocol which was designed to estimate the percentages of the population experiencing different levels of long-term disability, with two levels of severity:

- Low (moderate)
- High (serious)

Responses to questions were scored on a scale of 0-2, where 1 and 2 indicated disability and 0 indicating no disability.

The disability questions in the HSE 2001 covered limitations in functional activities (seeing, hearing communication, walking and using stairs) and activities in daily living (getting in and out of bed or a chair, dressing, washing, eating and toileting). These were grouped into five disability types:

- Locomotion;
- Personal care;
- Seeing;

- Hearing; and
- Communication

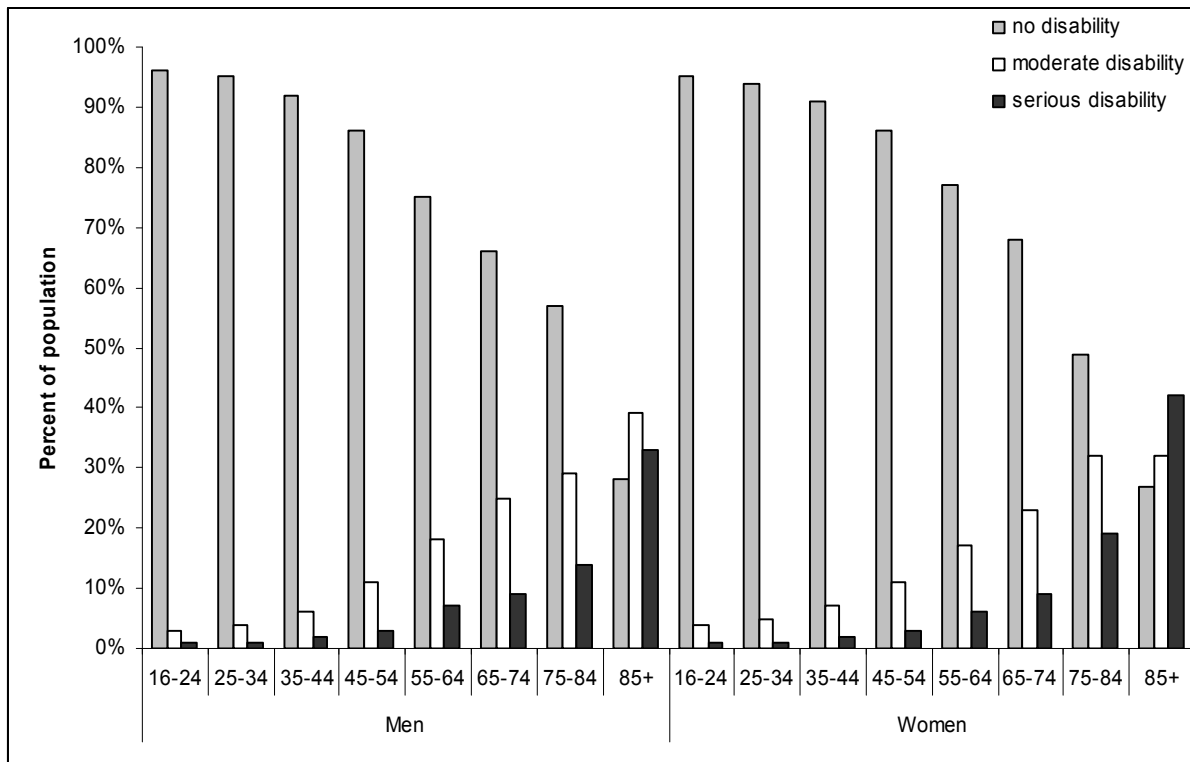
Mental illness was not included.

3.1.3 Findings of the Health Survey for England 2001

3.1.3.1 Prevalence of all disability

- Eighteen percent of males and females of all ages reported having at least 1 of the five types of disability.
- 5% reported having a serious disability.
- The prevalence and severity of disability increases with age for both men and women (Figure 1) with the mean age of those reporting at least one disability 62 compared to 44 for those respondents reporting no disability.

Figure 2: National prevalence of disability* severity by age and sex



* includes locomotor, personal care, hearing, sight and communication disabilities

- For respondents of working age (16-64) the percentage of severe disability was 2.4% for men and 2.1% for women and for moderate disability this was 7.5% for men and 7.3% for women.
- For those aged 65 and over the percent of moderate and severe disability increases for both men and women to 13% and 27% respectively.
- For those respondents age 75 years and over the prevalence of disability was greater in women than men; and for those aged over 85 seven out of ten respondents had at least 1 disability, with 42% of women and 33% of men reporting a serious disability.
- Figure 3 illustrates the number of people estimated to have at least one moderate or serious disability in Brighton & Hove by sex and age. For men the highest numbers reporting

moderate disability occur between the ages of 55 and 74 with serious disability rates highest between 55 and 84. For women the highest numbers of individuals reporting moderate disability occurs slightly later, between the ages of 65 and 84, with serious disability numbers highest in ages 75 and over.

Figure 3: Age profile of those with moderate and serious disability - estimated number using Brighton & Hove 2001 Census population

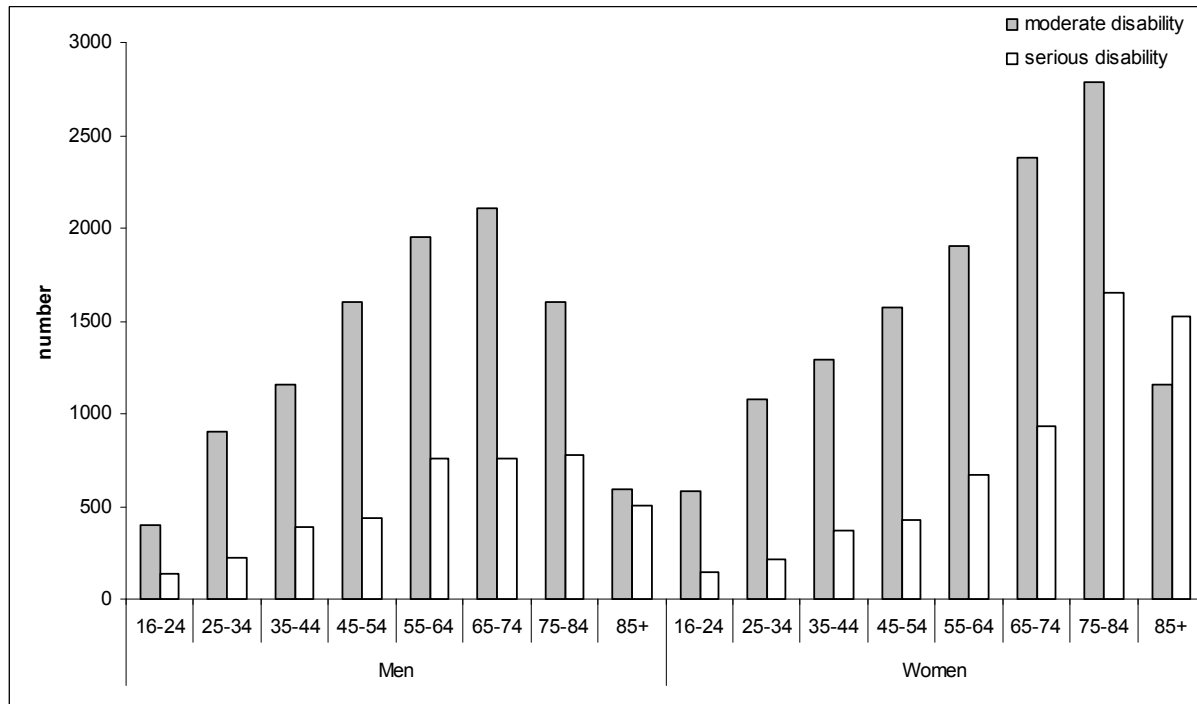


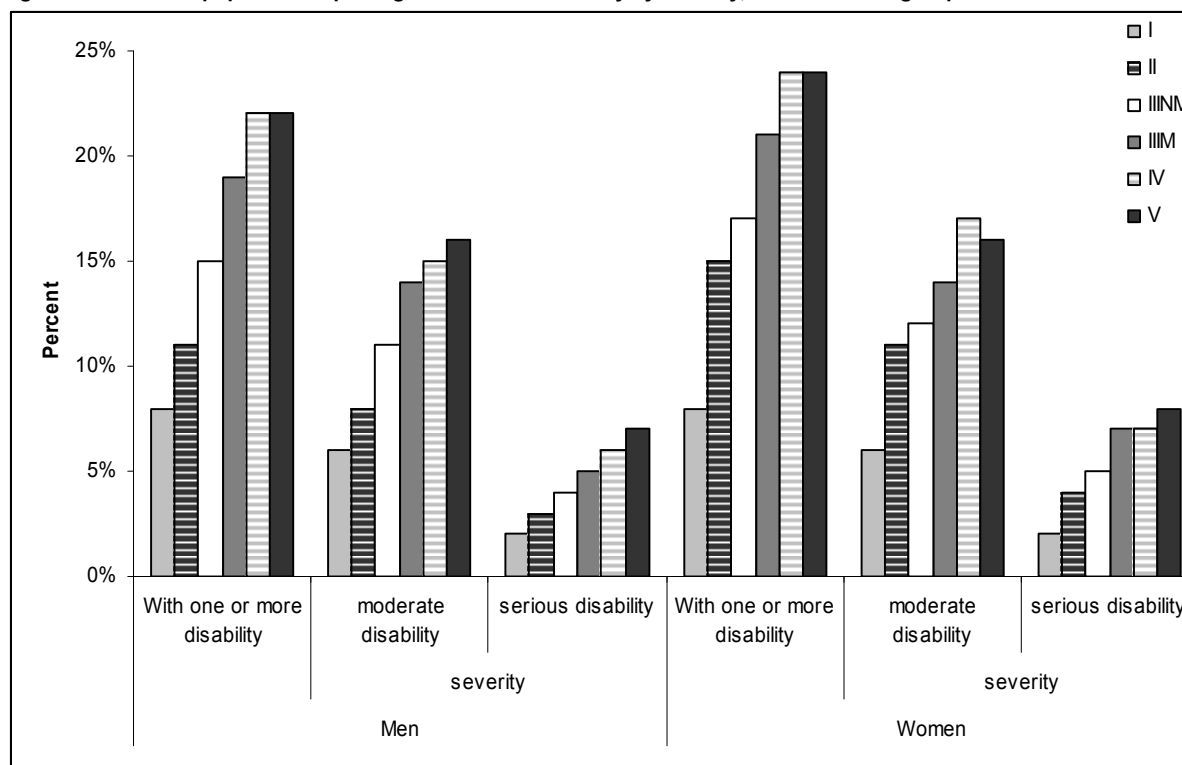
Table 4: Estimates number of people in Brighton & Hove with no disability, moderate disability and serious disability, by age and sex – estimated from 2001 Census population

	men		Women	
	Working age (16-64)	65 and over	Working age (16-64)	65 and over
no disability	72498	9131	71804	12270
moderate disability	6009	4302	6431	6321
serious disability	1939	2035	1832	4105

3.1.3.2 Social Class

There is a strong relationship between disability and social group, with those in lower social groups (IIIM, IV and V) reporting higher rates of disability and more severe forms of disability than those in higher social groups (I, II and IIINM) (Figure 4).

Figure 4: Percent of population reporting one or more disability by severity, sex and social group.



3.1.3.3 Type of disability

Physical disability

There were two forms of physical disability assessed in the HSE:

1. Locomotor disability

Locomotor disability was assessed by asking the participants in the survey whether they required any level of assistance in walking 200 metres, climbing 12 stairs without resting and retrieving things from the floor. Locomotor disability was the most commonly reported type of disability.

- 12% of men and 14% of women reporting this type of disability with 3% men and 4% women reporting serious disability (Figure 5).
- For working age adults 5% of men and women reported having moderate locomotor disability, with 1% of men and 2% of women of the same age reporting a serious locomotor disability.
- This increased in the over 65s with 22% of men and 24% of men reporting moderate locomotor disability and 9% men and 14% women reporting serious locomotor disability.
- For respondents over 85 32% of women and 22% of men had serious locomotor disability.
- Table 4 gives the estimated numbers of people with serious (2390) and moderate (8496) locomotor disability.

Figure 5: Number of adults expected with physical disability by age – estimated number using Brighton & Hove 2001 Census population

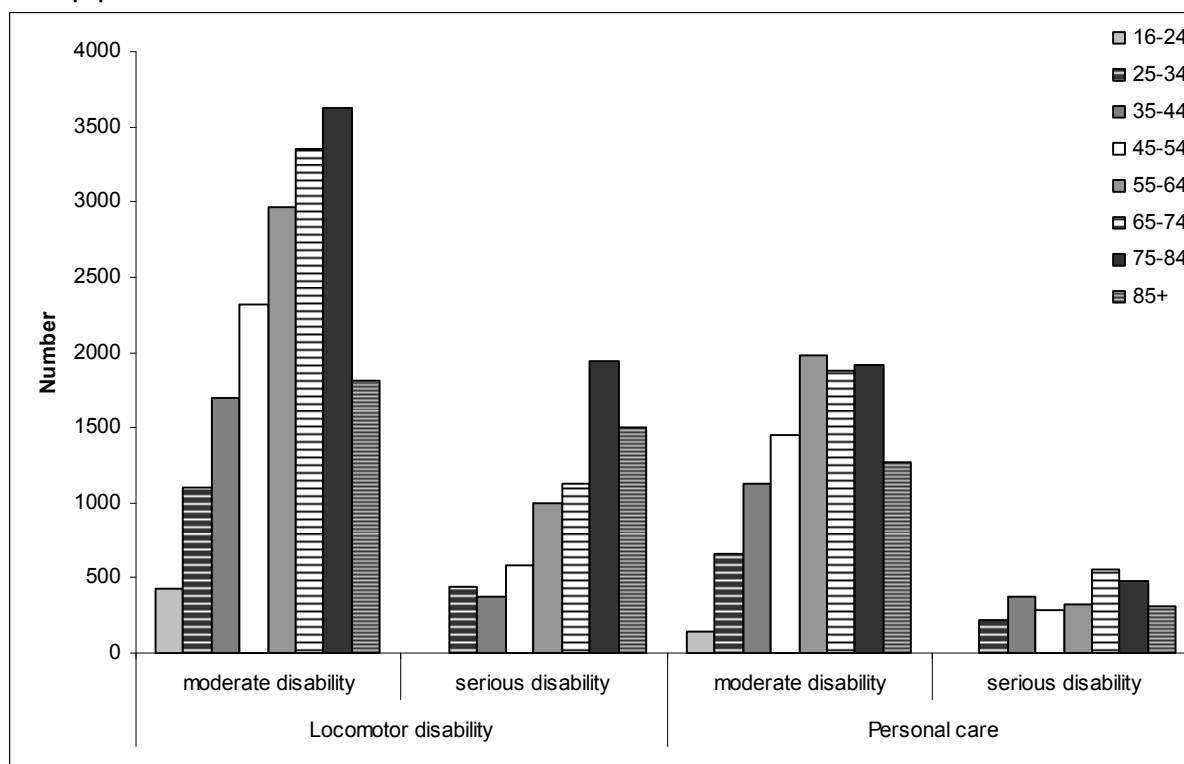


Table 4: Estimated number of people in Brighton & Hove with moderate and serious disability by sex and disability type – estimates based on the 2001 census population fro Brighton & Hove

Disability type	Moderate			serious		
	Men	Women	Total	Men	Women	Total
Locomotor	4146	4350	8496	1143	1247	2390
Personal care	2508	2855	5363	781	439	1220
Sight	804	913	1717	108	112	220
Hearing	2085	1278	3363	108	0	108
Communication	804	585	1389	434	0	434

2. Personal care disabilities

The inability to perform self-care tasks or Activities of Daily Living without help is widely used in social surveys as a measure of physical dependency (HSE01). Personal care disabilities were the second most common type of disability reported in the survey. Activities of Daily living include getting in and out of bed or a chair, dressing, washing, eating and toileting.

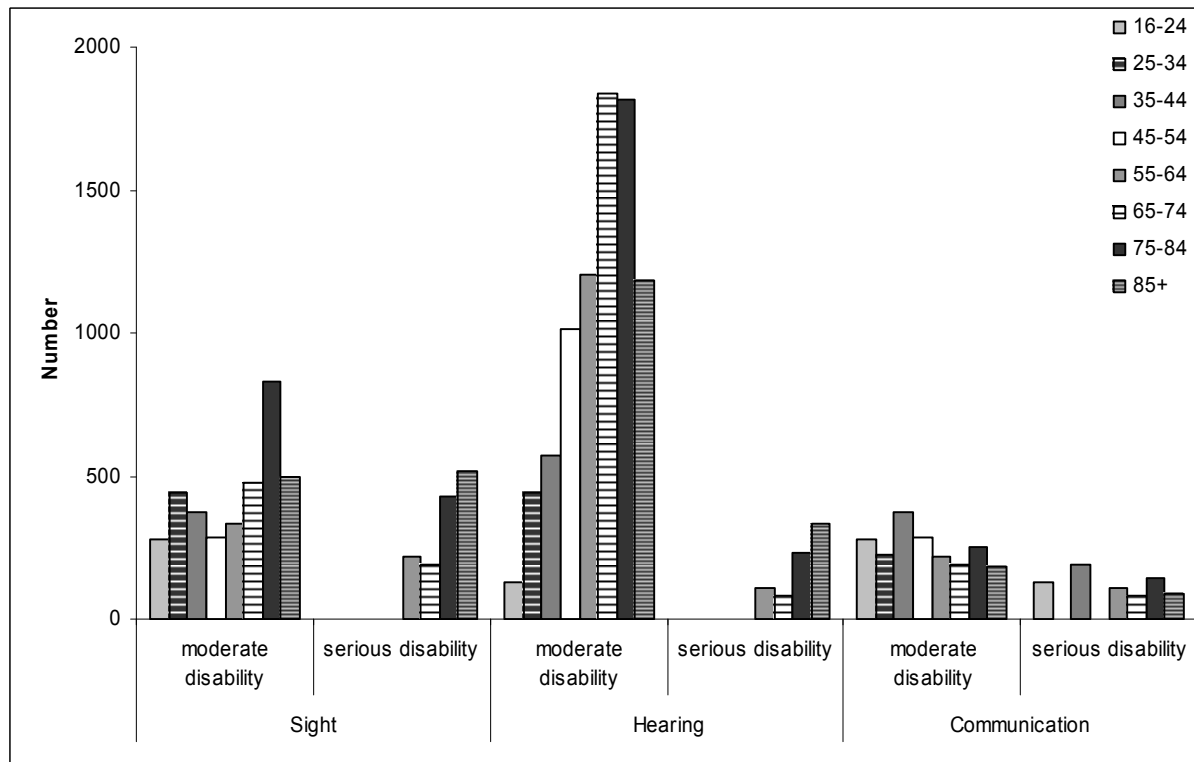
- Figure 5 illustrates the number of people estimated to have at least one personal care disability in Brighton & Hove, by severity.
- Table 4 gives the estimated numbers of people with serious (1220) and moderate (5363) personal care disability.
- Overall 6% of men and 7% of women reporting this type of disability. 1% of men and women were unable to perform any of the Activities of Daily Living.
- 3% of man and 4% of women of working age reported a moderate level of personal care disability with 1% of men and 0.5% women in this age group reporting a serious personal care disability.

Other Disabilities

There were three other types of disability measured in the HSE 2001, hearing, sight and communication. The proportion of individuals reporting these types of disabilities were small, especially for those of working age. See Figure 6 for estimates of people in Brighton & Hove with one of these disabilities by severity.

- Working age men reported a higher rate of hearing disability (3%) than women (2%)
- The prevalence of sight and communication disabilities was low, with only 1% of working age men and women reporting any type of sight disability. Only 1% of men and women across all age groups reported having a communication disability, it has been acknowledged that this may be an under-representation as there may be a non-response bias in this group.
- See Table 4 for the number of people estimated to have sight, hearing and communication disabilities in Brighton & Hove.

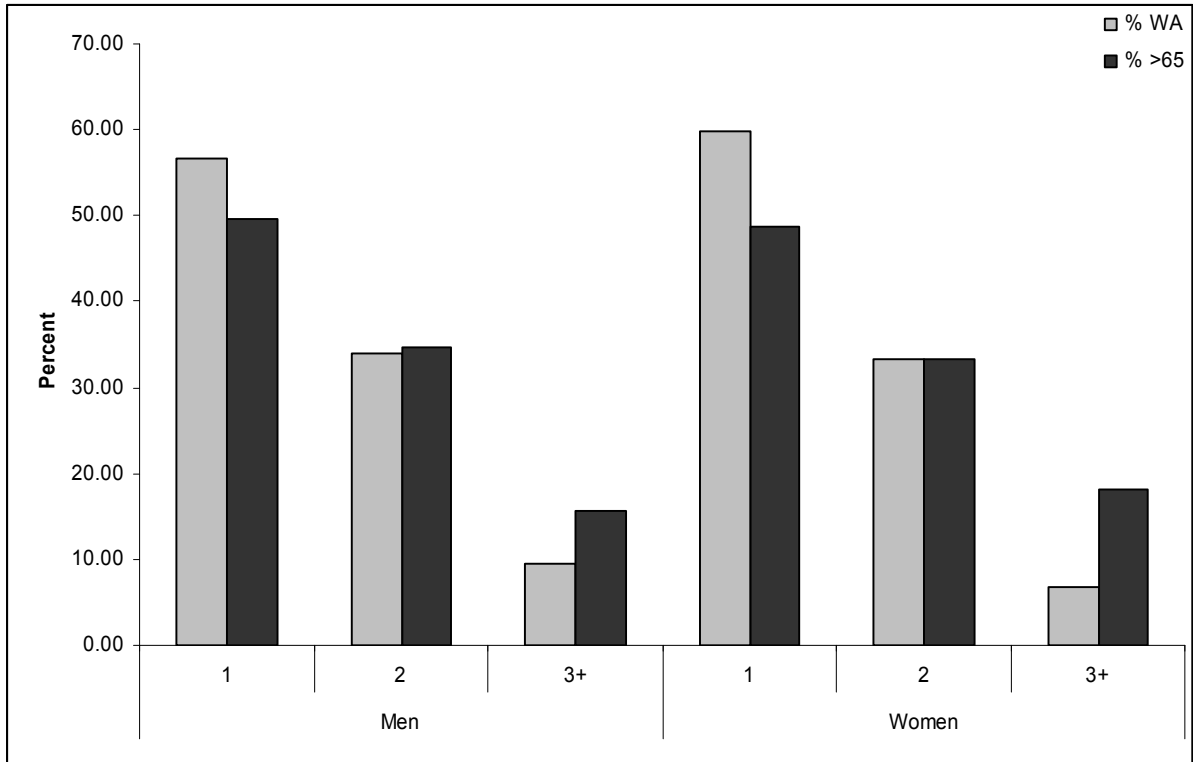
Figure 6: Number of adults expected with other disabilities by age – estimated number using Brighton & Hove 2001 Census population



3.1.3.3 Number of disabilities

- Overall 55% of those respondents with a disability had one disability, with 33% reporting two disabilities and 10% 3 or more disabilities.
- Figure 7 illustrates the relationship between age and number of disabilities, 58% of working age people with a disability have a single disability compared to only 49% of those aged 65 and over. Eight percent of working age respondents reported having 3 or more disabilities, less than half that of those over 65 reporting the same number of disabilities (17%)

Figure 7: Percent of respondents with at least one disability by number of disabilities identified, age and gender.



3.1.4 Other national data sources

There are a range of academic studies which have estimated the prevalence and incidence of various conditions associated with physical disability. These can be used to estimate the prevalence and incidence of specific conditions in Brighton and Hove (see Section 4).

3.2 Local Data

3.2.1 Limiting long-term illness, results from 2001 census

The results for Brighton & Hove from the 2001 census are summarised below in Table 5

Table 5: Numbers of people in Brighton & Hove identifying as having a limiting long-term illness in 2001 census, by age and sex

	Males				Females			
	0 to 15	16 to 49	50 to 64	65 +	0 to 15	16 to 49	50 to 64	65 +
<i>Population</i>	20,865	64,459	18,520	16,053	20,406	64,650	18,473	24,405
With Limiting Long-Term Illness	1,204	6,602	5,107	7,850	873	6,073	4,762	12,468
Good or Fairly Good Health	979	3,861	2,569	4,677	698	3,428	2,545	7,382
Not Good Health	225	2,741	2,538	3,173	175	2,645	2,217	5,086
Without Limiting Long-Term Illness	19,661	57,857	13,413	8,203	19,533	58,577	13,711	11,937
Good or Fairly Good Health	19,545	56,912	13,077	7,948	19,439	57,429	13,337	11,577
Not Good Health	116	945	336	255	94	1,148	374	360

According to the 2001 census 22 544 adults of working age identified themselves as having a limiting long-term illness in Brighton & Hove (Table 5). This figure is much higher than the estimated figure of 16 211 working age adults having at least one moderate or serious disability derived from the HSE01 results (Table 4). This is unsurprising as the census question is much broader in its remit than the HSE

3.2.2 Health counts

In 2003 a local lifestyle and social capital survey, *Health Counts*, was sent out to a 2% sample of the Brighton & Hove population. The survey included questions on general health perceptions, functional status and well being. Compared to the census, a higher proportion of people in the lifestyle survey reported a limiting long-term illness (33% compared to 18.2%). This may be a result of the higher proportion of older people responding to the survey.

This data could be analysed further to examine the responses of those respondents who identified themselves as having a limiting long-term illness.

3.2.3 Disability benefit claimant

The Disability Living Allowance (DLA) provides income support for adults and children who require assistance with personal care or have difficulty walking because of physical or mental disabilities. Incapacity Benefit (IB) Allowance provides income support to those people under the state pension age who cannot work because of illness or disability. The numbers of people registered for these allowances gives some limited information about the level of disability in Brighton & Hove.

Table 6 provides a breakdown, by age, of the number of people claiming the two types of disability allowance in Brighton & Hove in August 2004.

Table 6: Number of disability allowance claimants in Brighton & Hove, August 2004

Allowance	Disability living				Incapacity benefit and severe disablement					
	0-16	17-59	60+	Total	Under 30	30-39	40-49	50-59	60+	Total
Number of claimants*	1310	6050	2800	10 260	1280	2905	3245	3745	1310	12 585

*snapshot taken from www.neighbourhood.statistics.gov.uk/dissemination, August 2004

The number of person's claiming these allowances of working age are 8850 for DLA and 11 175 for IB (to claim IB a person must be of working age, therefore all claimants aged under 30 have been included). It is possible that claimants of DLA will also be receiving IB so it is difficult to determine from these figures the exact number of persons claiming some kind of disability allowance.

3.2.4 Data from Brighton & Hove City Council

Using the Care First information system the City Council has information about residents of Brighton and Hove with physical disability who have been assessed and also those people who have received a service. Not everyone within the city with a physical disability will be in contact with social services.

There are several potential local sources of information about children with physical disability. The education department and the new children's trust may be able to provide information on young people in transition to adult services. Information on the number of children with special needs can also be provided by the Compass database. The latter is a database of children with

special needs. Parents can self-refer and register their children. The parent's views on the severity of their child's condition may differ from the views of the professionals involved in their child's care.

At the end of March 2006 there were 1011 clients aged 16-64 were identified as having a physical disability, of these 986 were in receipt of services and 25 were being assessed. During the financial year 2005/06 1453 clients received a service. During this period no clients transferred from children's services.

A more detailed breakdown of the number of clients and the types of services accessed for the period 2004-05 to 2005-06 was obtained from Care First. However, there were many difficulties in extracting client data from the care first system and there were concerns raised about the accuracy of some of the detail and how it reflected actual service provision. Because of these difficulties and the limited number of years data available the data following should be interpreted with care as it may not reflect the whole picture.

Over 90% of clients were helped to live at home (92.1% 2004-05; 94.4% 2005-06), with only 7% of clients requiring long-term residential care. Of those receiving long-term residential care a larger proportion were male, this was reversed for those receiving help to live at home.

Table 7: Gender breakdown of clients helped to live at home or in long term residential care 2004/05 and 2005/06

	2004-05		2005-06	
	Male	Female	Male	Female
Helped to live at home (n)	46.2% (308)	53.8% (358)	44.7% (448)	55.3% (555)
Long term residential care (n)	59.6% (34)	40.4 (23)	56.7% (34)	43.3% (26)

As can be seen in Table 8 the average length of stay was unsurprisingly much higher for residential services (2.9 years) than for community based service (1.5 years).

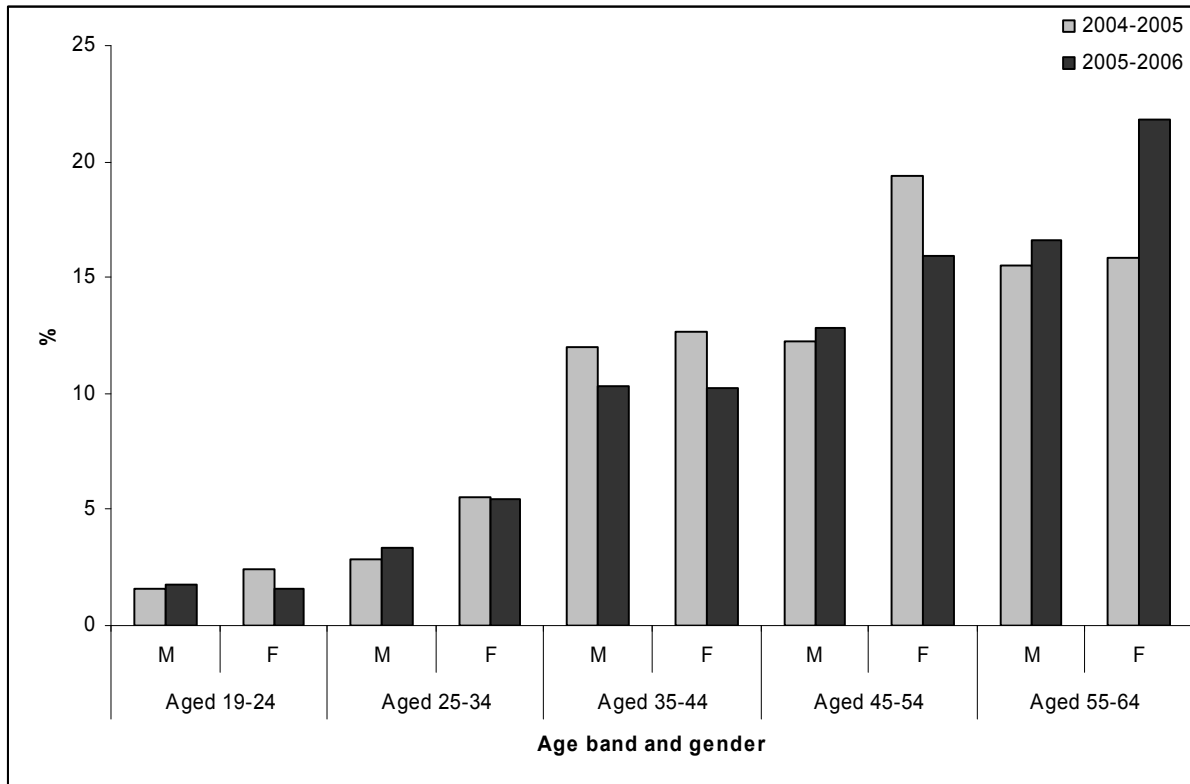
Table 8: Maximum, minimum and average length of stay for community based and residential services, 2004-05 and 2005-06

Length of Stay	Community based Services		Residential Services
	Community based Services	Residential Services	
Days	533	1075	
Years	1.46	2.94	
Minimum length of stay (days)	0	0	
Maximum length of stay (days)	3974	6323	

The ethnic breakdown of clients receiving care reflected the census profile of Brighton & Hove City with over 90% of clients being white British, white Irish or white other. In 2004-05 almost 10% of clients had no ethnicity code recorded, this dropped to under 1% in the 200-06 period.

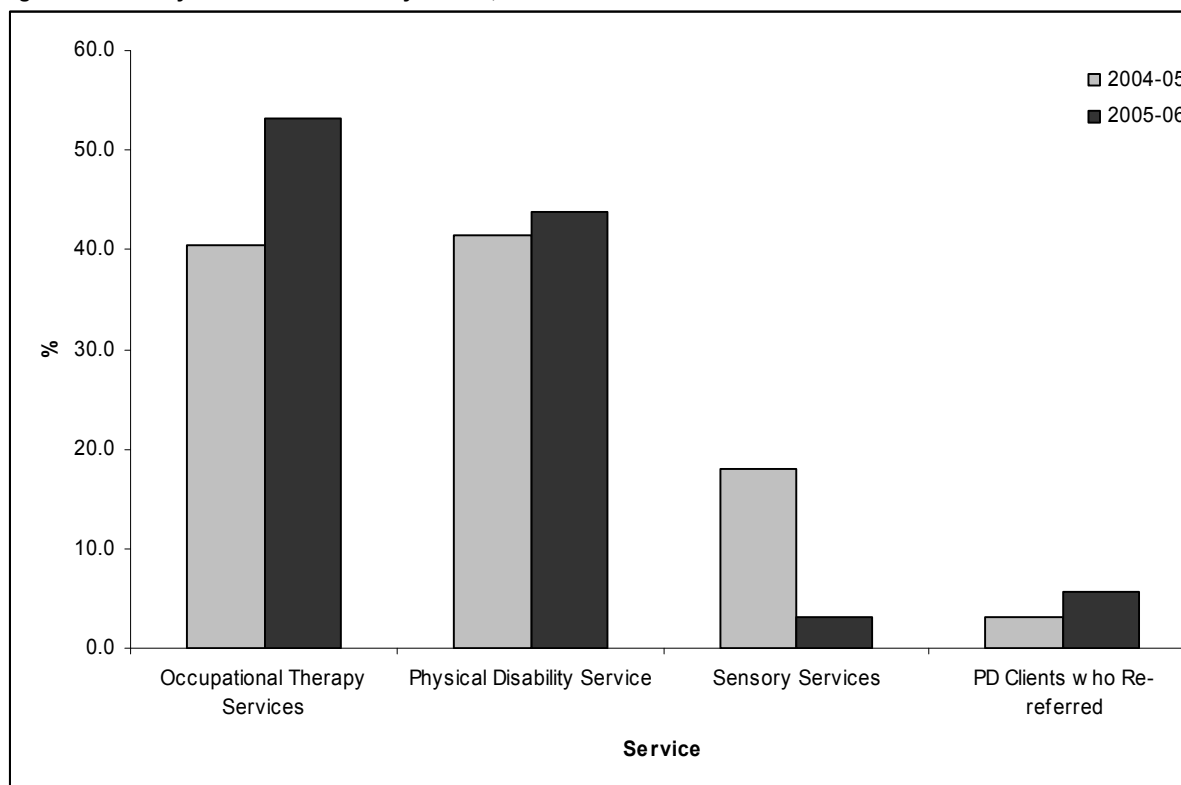
Overall the most clients were aged 45 and over (Figure 8). However, more men than women fell into the 45-54 age group. There were very few clients aged under 34.

Figure 8: Age breakdown of clients receiving services, 2004-05 and 2005-06



The main services clients were assessed by were occupational therapy and physical disability services, which accounted for over 80% of cases during the two years (Figure 9). There was a marked drop in the proportion of clients accessing sensory services in 2005-06 (3.1%) compared to 2004-05 (18%) an drop in absolute numbers of 29 (11 compared to 40) the reasons for this are unclear and may reflect data issues rather than actual changes in service provision.

Figure 9: Summary of clients assessed by service, 2004-05 and 2005-06



4. Specific conditions

4.1 Stroke

Stroke is defined as a neurological impairment of sudden onset that is caused by a disruption of the blood supply to the brain. Numerically stroke patients make up the greatest number of people requiring neurorehabilitation after an acute event.

4.1.1 Stroke epidemiology

In a population of 100 000, there will be approximately 200 first-ever and 40 recurrent strokes per year, of these 30% will die in the first month and of the survivors 65% will recover and be capable of living independently whilst 35% will be significantly disabled (8). Stroke occurs more commonly in people aged over 65. However, in those aged under 65 there are approximately 20 strokes per 100 000 population per year.

In a population the size of Brighton & Hove (approximately 250 000) the estimated number of strokes per year in those aged under 65 would be 40, with approximately 600 new and recurrent strokes occurring in the population as a whole.

According to the HSE 2004 the national prevalence of stroke for working-aged adults (16-64) in 2003 was 2.14% for men and 1.78% for women (ref).

4.2 Multiple sclerosis

Multiple Sclerosis (MS) is a chronic inflammatory demyelinating disease of the central nervous system leading to progressive impairment of various systems (27). There are three forms of the disease:

- Relapsing/Remitting MS: symptoms come and go with periods of health or remission followed by sudden symptoms or relapses (80% of patients at onset).
- Secondary progressive MS: follows on from relapsing/remitting MS. There are gradually more or worsening of symptoms with fewer remissions (approximately 50% if those with relapsing/remitting MS develop secondary progressive MS during the first 10 years of their illness).
- Primary progressive MS: from the onset of the illness symptoms gradually develop and worsen over time (10-15% of patients at onset). (28)

Patients with MS may develop a wide range of functional impairments and disabilities that will impact on their quality of life and degree of handicap (27).

4.2.1 Multiple sclerosis epidemiology

Between 3-7 people per 100 000 population are newly diagnosed with MS each year and about 100-120 people per 100 000 population have MS (28). It has been estimated that 15 years after onset 15% of MS patients will need walking aides and 29% will require the use of a wheelchair (27).

MS is most commonly diagnosed in adults between the ages of 20-40 years of age and women are almost twice as likely to be diagnosed as men (36)

4.3 Rheumatoid arthritis

Rheumatoid arthritis (RA) is a chronic inflammatory disease of the joints (Piptone & Choy 2003). . In time, affected joints typically become damaged. It is usually a chronic relapsing condition, but its course can vary from a mild disease to a severe destructive form in a few years (Young et al). Each relapse leads to damage to the joints and the amount of disability that develops usually depends on the amount of damage done over time (ref). In a minority of cases the disease is constantly progressive and severe joint damage and disability develop rapidly.

4.3.1 Rheumatoid arthritis epidemiology

Approximately 1% of the population have rheumatoid arthritis (RA). Women are two to three times more likely to develop RA than men with one study finding an incidence of 36 per 100 000 population for women and 14 per 100 000 for men (Symmons et al 1994). The disease most commonly develops between the ages of 30 and 60, with approximately 80% of total cases occurring between the ages of 35 and 50 (ref).

Estimating disability levels in RA patients is difficult because of the remitting/relapsing nature of the disease. It has been estimated that 11-14% of patients with RA will require a joint replacement within 5 years (Young, 2000 & Eberhardt, 1997). An English study found that although 60% of RA patients were still in paid employment after 5 years, the level of work disability was 22%, and was higher in manual workers (Young, 2000). The prevalence of severe disability due to RA is 130 per 100 000 population (OTBPH).

4.4 Other conditions

There are a number of conditions that can lead to physical disability some of which are outlined below:

4.4.1 Neurological conditions:

- **Parkinson's Disease:** The annual incidence of 20 per 100 000 generally occurs in older people, but covers the age range of 55 and over (Association of British Neurologists, 1992). Of the 180 per 100 000 with the disease, about 40 % have severe disability (OTBPH).
- **Motor Neuron Disease:** an annual incidence of 2 per 100 000 and a median survival of 1.5 years leads to a prevalence of 6 per 100 000 (Motor Neuron Disease Association), with severe disability. This disease is usually progressive and rapidly fatal, but some patients experience a milder attenuated course.
- **Cerebral palsy, spina bifida, and other muscular dystrophies:** The incidence of cerebral palsy (2 per 1000) and muscular dystrophy (1.3 – 3.3 per 10 000) have remained relatively stable, the prevalence of these conditions (200 and 90 per 100 000 population, respectively) has increased with improved survival (Brett and Lake 1991; Lipkin 1991). The incidence of live births with spina bifida, in contrast, is decreasing as it can now be diagnosed antenatally. The prevalence is now less than 2 per 100 000 school leavers (Ward 1994).

4.4.2 Trauma

- **Brain injury:** Traumatic brain injury (TBI), as a result of head injury, is another leading cause of neurodisability. Unlike stroke, a large number of patients with traumatic brain injuries are likely to be young with a normal, or near normal, life expectancy, but with high residual levels of disability (12). As acute and emergency services have improved in their treatment of head injury, increasing survival rates, the need for rehabilitation services has also increased (13)

Head injuries requiring hospitalisation occur in the UK at the rate of about 300 per 100 000 population annually (4), of these approximately 250-280 will be mild, 15-20 moderate and 5-10 severe (12&13). Within these numbers there are difference in the rate of head injury between urban and rural areas, and there are peaks at 15-24 years of age and >75 years (4). Estimating the numbers of people with residual problems from head injury is difficult (4, 12&14). However, it has been suggested that approximately 150 per 100 000 population have persistent disability resulting from head injury (12,14) although these are likely to be conservative estimates.

- **Spinal cord injury:** Spinal cord injury is less common than brain injury with an annual incidence of traumatic spinal cord injury of 2 per 100 000 population.

4.4.3 Locomotor conditions

- **Osteoarthritis:** The prevalence of severe disability due to osteoarthritis is 300 per 100 000 population (OTBPH)
- **Amputation:** The National Amputee Statistical Database report annually on the number of patients referred to prosthetic service centres around the UK. In 2002/03 there were a total of 5718 new referrals, this was consistent with the number of from the previous years and gives a rate of approximately 9.5 per 100 000 population nationally (24).

In 2002/03 lower limb amputations accounted for 92% of all amputations with upper limb accounting for 5% and congenital amputations accounting for the remaining 3%. The most common cause for upper limb amputation was trauma, lower limb amputations were most frequently the result of conditions that cause a defective blood supply to the limb, most commonly diabetes (75% of all cases) (24).

5. Summary

- Physical disability can arise from a wide range of conditions, which affect people in varying ways. Estimating the prevalence of physical disability in a population based on disease/condition prevalence is difficult as different people will be affected in different ways and at different rates.
- The Health Survey for England 2001 provided information on the number of people who have disability at a national level. It provided information about both physical and sensory disability by severity and allows local level estimations of numbers of people expected to have physical disability
- The prevalence and severity of disability increases with age. The Health Survey for England reported that in 2001 90% of males and 89% of females of working age (16-64) report having no disability, this falls to 28% of men and 27% of women in the oldest age group (85+).
- To estimate the prevalence of physical disability in a population, that population must be defined. There are several sources of information about the working-age population of Brighton & Hove, the 2001 Census although the most recent accurate record of the population of Brighton & Hove is now 5 year out of date. However, when the ONS 2004 mid-year estimate and the 2004 local Brighton & Hove City Council population projections are compared to the census data there is little difference in the working age population. Comparisons of the Local Authority population and the registered PCT population show that there is a large difference between the two, particularly in the working age population. |
- Nationally, 7.5% men and 8 % of women of working age report having moderate disability and 2.5% of men and 2% of women of the same age group reporting serious disability. In Brighton and Hove this would equate to 6009 men and 5849 women with moderate disability and 1939 men and 5849 women with a serious disability.
- Of the five types of disability identified in the Health Survey for England locomotor disability was the most prevalent, followed by personal care disability. Based on the national figures the estimated number of people with moderate locomotor disability in Brighton & Hove equals 4146 men and 4350 women, and for serious locomotor disability 1143 men and 1247 women.
- In comparison to estimates based on the HSE, the 2001 Census, which asked about limiting long-term illness, found 22 544 adults of working age with either a long-term illness, health problem or disability that limited daily activities. This number is higher than the estimated number of people with physical disabilities in Brighton and Hove, but this is to be expected as the question is much broader in its remit.
- The 8850 Disability Living Allowance and 11 175 Incapacity Benefit claimants in Brighton & Hove in August 2004 reflects the estimated number of people with either a serious or moderate disability.
- The information from the Care First database about the number of working age adults receiving services for physical disability in the city illustrates that only a small proportion are accessing these services.
- There are a wide range of studies on the epidemiology of conditions that may result in physical disability. These may be used to estimate the prevalence of these conditions in Brighton & Hove, but may be limited in their application as people with these conditions have varying requirements depending on the progression of the condition.

