

# 6. Physical Activity

People who are physically active have a lower risk of CHD. To produce the maximum benefit the activity needs to be regular and aerobic. Aerobic activity involves using the large muscle groups in the arms, legs and back steadily and rhythmically so that breathing and heart rate are significantly increased.

Recent research from the World Health Organization highlighted the importance of physical inactivity as a major risk factor for CHD. The 2002 World Health Report estimated that around 3% of all disease burden in developed countries was caused by physical inactivity, and that over 20% of CHD and 10% of stroke in developed countries was due to physical inactivity (less than 2.5 hours per week moderate intensity activity or 1 hour per week vigorous activity)<sup>1</sup>.

## *Public health targets*

Since 1996, the Government recommendation on physical activity has been that adults should participate in a minimum of 30 minutes of at least moderate intensity activity (such as brisk walking, cycling or climbing the stairs) on five or more days of the week. In 2004 the Chief Medical Officer restated this recommendation in the report *At least five a week*, and highlighted the importance of physical activity in the prevention of CHD, diabetes and obesity<sup>2</sup>.

*Choosing Activity: a physical activity action plan* was published in 2005<sup>3</sup>. This document outlined key commitments relating to physical activity contained within the White Paper *Choosing Health*, which aimed to increase levels of physical activity in adults and children in England<sup>4</sup>.

A target for physical activity in England was proposed in 2002 by the Government's Strategy Unit: to increase the proportion of the adult population who participate in 30 minutes of moderate physical activity five or more times a week to 70% by 2020 (Table 6.1)<sup>5</sup>. This is a very ambitious target requiring participation levels in England to more than double in just over 15 years. HM Treasury proposed that the proportion of children who spend a minimum of two hours per week on high quality sport should increase from 25% in 2002 to 75% by 2006 and 85% by 2008<sup>6</sup>.

In 2003 the Scottish Executive set a target that by 2022, 50% of the adult population should participate in 30 minutes of moderate activity on 5 or more occasions each week. The Scottish target for children is to increase the number of children taking at least one hour a day of moderate activity on 5 or more days a week to 80% by 2022<sup>7</sup> (Table 6.1).

There are no physical activity targets set for Wales or Northern Ireland.

## *Overall levels*

Physical activity levels are low in the UK. Health Survey for England data show that, in 2006, only 40% of men and 28% of women met the current physical activity guidelines suggested by the Government (Table 6.2 and Figure 6.2a). In 2006 around one third of English adults were inactive, that is, participated in less than one occasion of 30 minutes activity a week.

## *Sex and age differences*

Data from 2006 show that physical activity declined rapidly with increasing age for both men and women, although for women this decline did not begin until the mid-forties (Table 6.2 and Figures 6.2a and 6.2b). In England 53% of men and 33% of women aged 16 to 24 were physically active at the recommended level compared to 21% of men and 16% of women in the 65 to 74 age group.

Between 1997 and 2006, the Health Survey for England reported that the overall proportion of adults meeting the recommended level of physical activity increased from 32% to 40% in men and from 21% to 28% in women (Table 6.3).

## *Children and young people*

It is recommended that all children and young people aged 5 to 18 participate in physical activity of at least moderate intensity for one hour a day<sup>2,3</sup>. In 2006 in England, 70% of boys and 59% of girls aged 2 to 15 were active for at least an hour a day (Table 6.4). In girls, participation rates declined with age after about age 10. By the age of 15, only 45% of girls reached the recommended level of activity (Figures 6.4a and 6.4b).

## *National and regional differences*

In 2003, levels of physical activity in Scotland were generally higher for men than in England in 2006 (Table 6.2). This was particularly the case for 25 to 34 year olds, where 57% met physical activity recommendations in Scotland compared to 52% in England in 2006. This was also the case for women: 40% of 25 to 34 year olds met recommendations in Scotland compared to 36% in England in 2006.

Within England there is some variation in the level of activity by region (Table 6.5). In 2006 men were more likely to meet the physical activity recommendations in the South West (44%), South East (43%), Yorkshire and Humber (42%). Women were more likely to meet the physical activity guidelines in the East (31%), South East (31%) and South West (30%).

## *Socio-economic differences*

Socio-economic differences in physical activity are complex. Among English men in 2006, 42% of those in the highest income quintile met current recommended levels of physical activity compared to 35% of those in the lowest income quintile (Table 6.6).

In English women, the pattern was less clear: 28% of those in the highest income quintile met the current recommended levels of physical activity compared 26% of women in the lowest income quintile (Table 6.6).

## *Ethnic differences*

Compared with the general population, in 2004 Indian, Pakistani, Bangladeshi and Chinese men and women were less likely to meet physical activity recommendations. Only 26% of Bangladeshi men and 11% of Bangladeshi women met the current recommended physical activity levels. Irish men and Black Caribbean women were the most likely to be physically active at the recommended level (Table 6.7 and Figure 6.7).

## *International differences*

Levels of activity vary across European member states, with levels of activity in the UK falling just below the EU average (Table 6.8 and Figure 6.8).

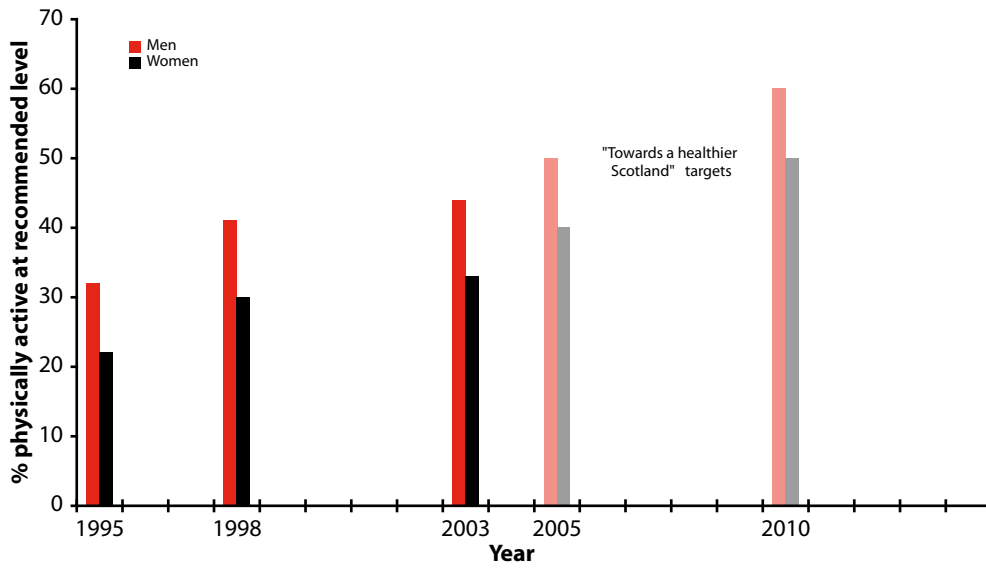
1. World Health Organization (2002) *The World Health Report 2002. Reducing Risks, Promoting Healthy Life*. World Health Organization: Geneva.
2. Department of Health (2004) *At least five a week: evidence on the impact of physical activity and its relationship to health*. Department of Health: London. See [www.dh.gov.uk/assetRoot/04/08/09/81/04080981.pdf](http://www.dh.gov.uk/assetRoot/04/08/09/81/04080981.pdf)
3. Department of Health (2005) *Choosing Activity: a physical activity action plan*. Department of Health: London.
4. Department of Health (2004) *Choosing Health: making healthy choices easier*. Department of Health: London.
5. Strategy Unit (2002) *Game Plan: a strategy for delivering Government's sport and physical activity objectives*. A joint Department of Culture, Media and Sport and Strategy Unit Report. HMSO: London.
6. HM Treasury (2004) *Spending Review*. Department for Culture, Media and Sport. HMSO: London. See [www.hm-treasury.gov.uk/media/965/FB/sr2004\\_ch18.PDF](http://www.hm-treasury.gov.uk/media/965/FB/sr2004_ch18.PDF)
7. The Scottish Executive (2003). *Let's make Scotland more active: a strategy for physical activity*. The Scottish Executive: Edinburgh

**Table 6.1** *Physical activity targets for the United Kingdom*

<b>England<sup>1,2</sup></b>	
Adults <sup>1</sup>	By 2020, 70% of individuals to be undertaking 30 minutes of physical activity on at least 5 days a week. An interim target of 50% of individuals by 2011
Children <sup>2</sup>	To increase the proportion of school children in England who spend a minimum of two hours each week on high quality sport from 25% in 2002, to 75% by 2006 and 85% in 2008
<b>Scotland<sup>3</sup></b>	
Adults - <i>Target</i>	To increase the proportion of all adults aged over 16 years taking the minimum recommended levels of physical activity (30 minutes of moderate activity on 5 or more occasions each week) to 50% by 2022. To meet this goal will need average increases of 1% a year across the population
Children - <i>Target</i>	To increase the proportion of all children aged 16 and under taking the minimum recommended levels of physical activity (1 hour a day of moderate activity on 5 or more days a week) to 80% by 2022. To meet this goal will need average increases of 1% a year across the population
<b>Wales</b>	No target set
<b>Northern Ireland<sup>4</sup></b>	No target set

1. Strategy Unit (2002). *Game Plan: a strategy for delivering Government's sport and physical activity objectives*. A joint Department of Culture, Media and Sport and Strategy Unit Report. HMSO: London.
2. HM Treasury (2004) *Spending review*. Department for Culture, Media and Sport. HMSO: London. See [www.hm-treasury.gov.uk](http://www.hm-treasury.gov.uk)
3. The Scottish Executive (2003) *Let's Make Scotland More Active: A strategy for physical activity*. The Scottish Executive: Edinburgh.
4. *New strategies for CVD in Northern Ireland are being developed by the Department of Health, Social Services and Public Safety and were issued for consultation in 2004.*

Fig 6.1 Physical activity levels 1995, 1998 and 2003, Scotland, with “Towards a healthier Scotland” national targets



Source: The Scottish Executive (2005) The Scottish Health Survey 2003. The Stationery Office: Edinburgh and previous editions.  
 Due to important differences to the relevant questions in the health survey questionnaire, comparisons of the 1998 and 2003 results with 1995 results should be made with caution.

**Table 6.2 Physical activity level by sex and age, England 2006, Scotland 2003, Wales 2004/05 and Northern Ireland 2001**

<i>Summary physical activity level</i>	All ages %	16-24 %	25-34 %	35-44 %	45-54 %	55-64 %	65-74 %	75+ %
<b>ENGLAND</b>								
<b>MEN</b>								
High (above recommended level)	40	53	52	46	38	35	21	9
Medium	30	28	29	30	34	29	33	23
Low	30	19	19	24	28	37	46	68
<i>Weighted base</i>	6,845	1,040	1,127	1,354	1,122	1,012	694	496
<i>Unweighted base</i>	5,561	649	860	1,181	1,049	1,123	415	284
<b>WOMEN</b>								
High (above recommended level)	28	33	36	35	34	27	16	4
Medium	34	36	36	40	35	36	30	15
Low	38	32	27	25	31	38	54	81
<i>Weighted base</i>	7,300	1,011	1,157	1,375	1,141	1,050	768	798
<i>Unweighted base</i>	6,869	792	1,146	1,490	1,279	1,269	463	430
<b>SCOTLAND</b>								
<b>MEN</b>								
High (above recommended level)	42	59	57	45	40	35	23	13
Medium	28	22	26	34	31	26	30	26
Low	30	19	18	21	29	39	47	61
<i>Weighted base</i>	3,857	580	610	761	670	569	406	260
<i>Unweighted base</i>	3,610	336	455	733	616	633	510	327
<b>WOMEN</b>								
High (above recommended level)	30	36	40	39	35	28	16	6
Medium	35	36	42	40	38	37	31	16
Low	35	27	18	22	27	35	53	78
<i>Weighted base</i>	4,538	404	600	887	795	778	581	493
<i>Unweighted base</i>	4,291	566	658	813	691	602	493	468
<b>WALES</b>								
<b>MEN</b>								
High (above recommended level)	36	47	40	42	39	32	26	15
Medium	33	35	41	35	32	30	27	23
Low	31	17	20	22	30	39	48	62
<b>WOMEN</b>								
High (above recommended level)	23	27	23	29	25	25	17	9
Medium	41	52	53	46	43	37	34	18
Low	36	20	23	25	32	38	48	73
<b>NORTHERN IRELAND</b>								
<b>MEN</b>								
High (above recommended level)	30	38	34	36	34	23	20	15
Medium	46	55	54	47	45	44	39	27
Low	24	8	12	17	21	32	41	58
<i>Base</i>	1,968	250	337	347	351	277	266	140
<b>WOMEN</b>								
High (above recommended level)	26	27	32	35	31	24	17	7
Medium	48	60	55	55	46	46	39	27
Low	25	14	13	10	23	30	44	66
<i>Base</i>	2,722	345	476	501	466	357	319	258

Notes: High = 30 minutes or more on at least 5 days a week (above recommended level).  
 Medium = 30 minutes or more on 1 to 4 days a week.  
 Low = lower level of activity.  
 Information on bases for Welsh Health Survey unavailable.

Source: Department of Health (2008) *Health Survey for England 2006*. The Stationery Office: London.  
 Scottish Health Executive (2005) *The Scottish Health Survey 2003: Results*. <http://www.scotland.gov.uk/Publications/2005/11/25145024/50251>  
 National Assembly for Wales (2005) *Welsh Health Survey 2004/05*.  
<http://neu.wales.gov.uk/topics/statistics/publications/health-survey2004-05/?lang=en>  
 Northern Ireland Statistics and Research Agency (2001) *Northern Ireland Health and Social Wellbeing Survey 2001: Physical activity results - Activity level tables*.  
<http://www.csu.nisra.gov.uk/archive/Surveys/HWB/results/2001/Physical%20activity/Activity%20level%20tables.PDF>

Figure 6.2a Proportion meeting physical activity guideline by age and country, men, latest available year, England, Scotland, Wales and Northern Ireland

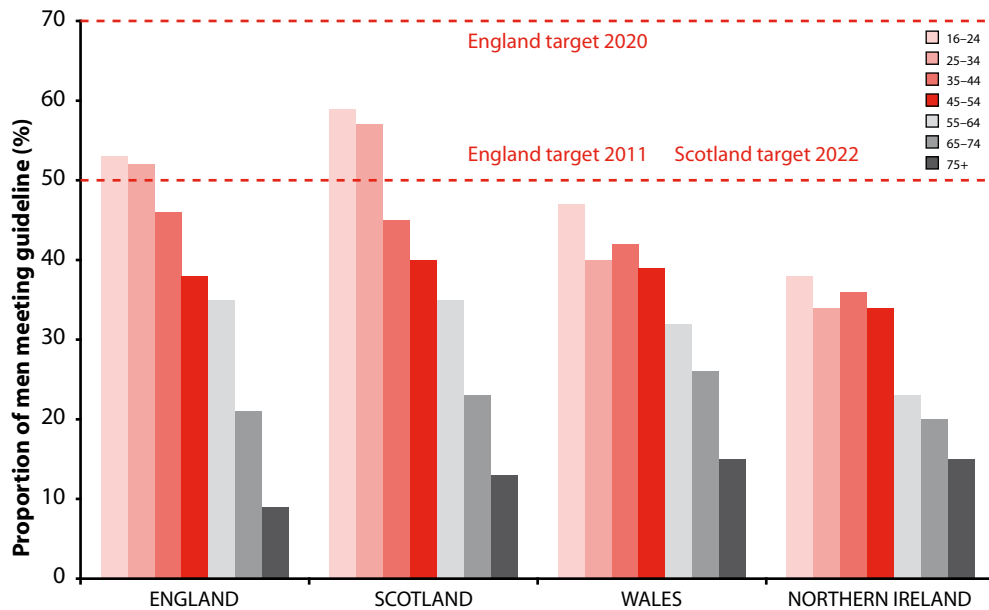
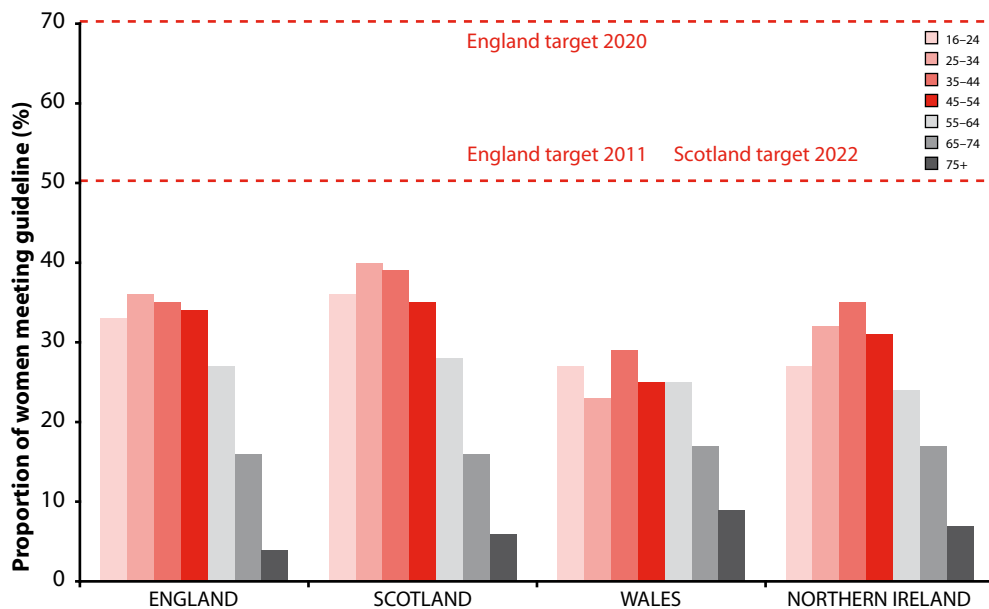


Figure 6.2b Proportion meeting physical activity guideline by age and country, women, latest available year, England, Scotland, Wales and Northern Ireland



**Table 6.3** *Proportion meeting the physical activity guideline by sex and age, adults aged 16 and over, 1997 to 2006 England*

	All ages %	16-24 %	25-34 %	35-44 %	45-54 %	55-64 %	65-74 %	75+ %
<b>MEN</b>								
1997	32	49	41	37	32	23	12	7
1998	34	53	45	41	34	30	14	6
2003	36	52	44	41	38	32	17	8
2004	37	56	46	41	37	32	18	8
2006	40	53	52	46	38	35	21	9
<i>Unweighted base (2006)</i>	5,561	649	860	1,181	1,049	1,123	415	284
<i>Weighted base (2006)</i>	6,845	1,040	1,127	1,354	1,122	1,012	694	496
<b>WOMEN</b>								
1997	21	26	26	29	24	19	8	5
1998	21	28	28	28	25	18	9	3
2003	24	30	29	30	31	23	13	3
2004	25	32	30	32	30	20	14	4
2006	28	33	36	35	34	27	16	4
<i>Unweighted base (2006)</i>	6,869	792	1,146	1,490	1,279	1,269	463	430
<i>Weighted base (2006)</i>	7,300	1,011	1,157	1,375	1,141	1,050	768	798

*Notes:* Data for 2003, 2004 and 2006 are weighted for non response.

Activity sessions lasting for less than 30 minutes in 1997 and 1998 were excluded so that data were comparable with 2003 and 2004.

*Source:* Department of Health (2008) Health Survey for England 2006. The Stationery Office: London.

**Table 6.4 Physical activity level among children aged 2 to 15 by sex and age, 2006, England**

Summary physical activity level	All ages														
	%	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>BOYS</b>															
High	70	69	69	70	69	64	72	71	76	69	73	70	72	72	68
Medium	15	15	13	15	19	20	11	15	14	16	12	15	15	13	15
Low	15	16	18	16	12	16	17	14	10	16	15	15	13	15	16
<b>% physically active at the recommended level</b>	<b>70</b>	<b>69</b>	<b>69</b>	<b>70</b>	<b>69</b>	<b>64</b>	<b>72</b>	<b>71</b>	<b>76</b>	<b>69</b>	<b>73</b>	<b>70</b>	<b>72</b>	<b>72</b>	<b>68</b>
Weighted base	3,219	206	218	191	233	206	244	191	271	244	227	246	244	263	237
Unweighted base	3,440	232	241	213	248	227	255	199	277	264	238	271	270	263	242
<b>GIRLS</b>															
High	59	69	68	68	71	60	53	67	61	60	56	58	57	45	45
Medium	19	11	17	20	15	20	22	17	15	23	20	17	18	23	23
Low	22	20	15	13	14	19	25	17	24	17	24	25	25	32	31
<b>% physically active at the recommended level</b>	<b>59</b>	<b>69</b>	<b>68</b>	<b>68</b>	<b>71</b>	<b>60</b>	<b>53</b>	<b>67</b>	<b>61</b>	<b>60</b>	<b>56</b>	<b>58</b>	<b>57</b>	<b>45</b>	<b>45</b>
Weighted base	3,040	171	224	199	203	198	229	222	215	212	232	224	237	234	237
Unweighted base	3,343	199	243	214	221	229	258	262	243	237	260	239	253	242	243

Notes: High = 60 minutes or more on all 7 days in last week.  
 Medium = 30–59 minutes on all 7 days.  
 Low = lower level of activity.

Source: Department of Health (2008) Health Survey for England: Volume 2. Obesity and other risk factors in children. The Stationery Office: London.

**Table 6.5** *Physical activity levels by Government Office Region and sex, adults aged 16 and over, 2006, England*

Summary physical activity level	Government Office Region								
	North East	North West	Yorkshire & the Humber	East Midlands	West Midlands	East England	London	South East	South West
<b>MEN</b>	%	%	%	%	%	%	%	%	%
High	33	39	42	38	36	39	40	43	44
Medium	27	29	29	32	31	30	26	32	31
Low	40	32	29	30	32	30	33	24	25
Weighted base	342	910	701	603	717	778	1,046	644	1,104
<b>WOMEN</b>									
High	25	29	28	24	25	31	27	31	30
Medium	35	34	33	37	35	31	31	33	35
Low	40	37	39	39	40	38	42	36	36
Weighted base	386	989	746	616	797	797	983	768	1,218

Notes: High activity level = 30 minutes or more on at least 5 days a week.  
 Medium = 30 minutes or more on 1 to 4 days a week.  
 Low = lower levels of activity.  
 Results presented for prevalence in a standardised population only.

Source: Department of Health (2008) Health Survey for England 2006. The Stationery Office: London.

**Table 6.6** *Physical activity by sex and income quintile, adults aged 16 and over, 2006, England*

Summary physical activity level	Equivalent annual household income quintile				
	Highest %	2nd %	3rd %	4th %	Lowest %
<b>MEN</b>					
High	42	45	44	38	35
Medium	35	33	29	24	26
Low	23	22	27	38	39
Unweighted base	1,143	1,083	908	718	666
Weighted base	1,318	1,270	1,107	915	829
<b>WOMEN</b>					
High	28	31	31	28	26
Medium	38	37	33	31	30
Low	33	32	36	41	44
Unweighted base	1,175	1,216	1,160	1,066	942
Weighted base	1,160	1,212	1,213	1,212	967

Notes: Weighted percentages. For method of age-standardisation see source.  
 Data are weighted for non-response.  
 High = 30 minutes or more on at least 5 days a week (above recommended level).  
 Medium = 30 minutes or more on 1 to 4 days a week.  
 Low = lower level of activity.

Source: Department of Health (2008) Health Survey for England 2006. The Stationery Office: London.

*Table 6.7 Physical activity by sex and ethnic group, adults aged 16 and over, 2004, England*

<i>Summary physical activity level</i>	General population	Black Caribbean	Black African	Indian	Pakistani	Bangladeshi	Chinese	Irish
<b>MEN</b>	%	%	%	%	%	%	%	%
High	37	37	35	30	28	26	30	39
Medium	31	29	30	26	21	23	32	28
Low	32	34	35	44	51	51	38	33
<i>Weighted base</i>	46,089	477	373	901	420	177	151	1,776
<i>Unweighted base</i>	2,873	409	386	549	429	408	348	497
<b>WOMEN</b>	%	%	%	%	%	%	%	%
High	25	31	29	23	14	11	17	29
Medium	36	30	28	32	34	21	36	38
Low	39	39	43	45	52	68	47	33
<i>Weighted base</i>	48,643	673	472	1,067	499	207	163	2,369
<i>Unweighted base</i>	3,818	648	467	634	508	477	375	656

Notes: High = 30 minutes or more physical activity on at least 5 days a week (recommended level).

Medium = 30 minutes or more on 1 to 4 days a week.

Low = lower level of activity.

Source: Department of Health (2005) Health Survey for England 2004. The Stationery Office: London.

*Figure 6.7 Percentage meeting physical activity guidelines by sex and ethnic group, adults aged 16 and over, 2004, England*

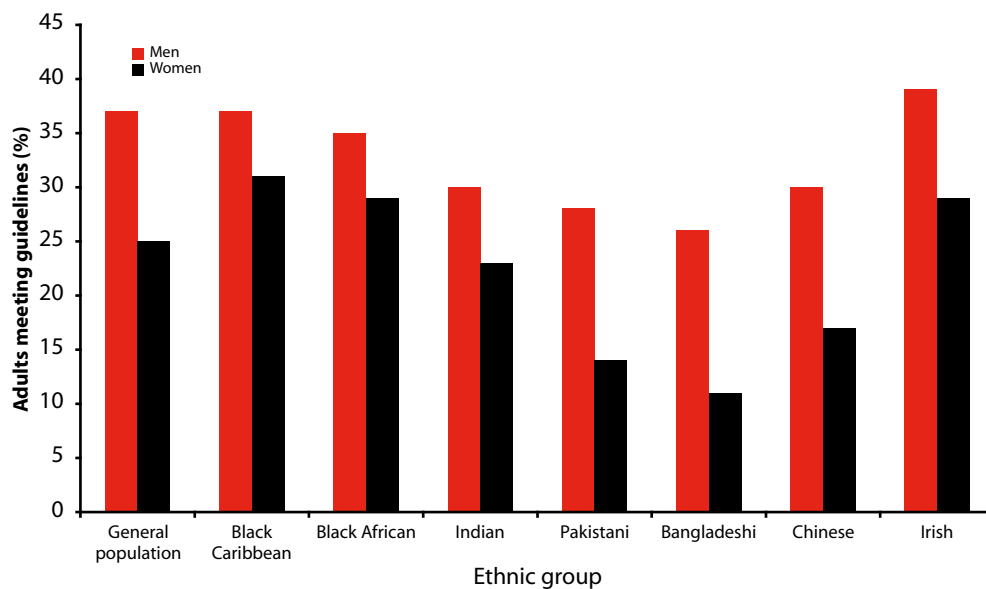


Table 6.8 Self-reported physical activity levels, 2005, selected European countries

	Number of days in last week walked for 10 minutes or more				Number of days in last week undertook moderate physical activity				Number of hours spent sitting on a usual day				
	None	1 to 3	4 to 6	7	None	1 to 3	4 to 6	7	Less than 1	1 to <4	4 to <8	8+	Don't know
	%	%	%	%	%	%	%	%	%	%	%	%	%
<b>EU-25 COUNTRIES</b>													
Austria	18	26	26	27	3	32	27	11	3	6	24	53	18
Belgium	23	28	14	34	0	28	14	18	0	2	27	42	29
Czech Republic	10	16	21	49	5	30	17	18	5	0	19	37	34
Denmark	13	19	13	53	2	29	16	28	2	1	17	44	33
Estonia	8	15	15	61	1	25	17	28	2	1	26	43	24
Finland	12	24	20	44	2	30	16	18	2	5	25	35	31
France	15	23	13	48	1	22	8	15	2	4	35	40	18
Germany	8	18	22	50	3	27	20	24	3	0	25	43	22
Greece	20	22	20	38	0	30	18	25	0	0	17	48	35
Hungary	14	19	21	47	0	27	15	25	0	5	40	34	17
Ireland	21	19	26	33	1	20	14	8	2	2	30	41	17
Italy	22	23	20	32	2	22	12	9	2	9	31	44	14
Latvia	15	18	13	50	4	26	14	21	9	12	30	37	20
Lithuania	14	13	17	51	5	21	15	28	6	11	29	30	16
Luxembourg	15	27	16	40	1	31	10	16	2	3	31	37	26
Malta	32	22	11	34		12	5	5		8	34	35	13
Netherlands	8	19	16	58	1	13	23	43	0	0	16	40	41
Poland	13	21	15	48	2	28	18	20	3	2	29	37	28
Portugal	21	12	20	43	2	16	15	18	3	17	45	27	11
Republic of Cyprus	40	26	12	23		48	22	12		1	24	36	33
Slovakia	5	18	23	49	4	42	18	13	5	0	30	41	23
Slovenia	13	23	18	45	2	31	18	26	1	0	34	37	26
Spain	17	11	13	50	10	12	9	10	8	2	37	39	15
Sweden	12	28	20	41	0	48	32	11	9	1	26	43	28
UK	12	17	18	49	2	20	12	15	2	0	27	40	21
Total EU-25	14	19	18	46	3	24	15	18	3	3	29	41	21
<b>OTHER COUNTRIES</b>													
Bulgaria	6	10	18	64	3	22	15	25	5	0	34	40	17
Croatia	20	20	14	44	1	24	15	30	1	2	34	37	25
Romania	13	14	21	52	1	17	21	24	2	32	27	25	13
Turkey	14	17	12	52	5	19	7	20	3	1	25	46	15
Turkish Cypriot Community	18	30	18	26	9	26	7	16	12	0	20	43	19

Source: European Commission (2006) Health and food. Special Eurobarometer 246/Wave 64.3 - TNS Opinion & Social.  
[http://ec.europa.eu/health/ph\\_publication/leb\\_food\\_en.pdf](http://ec.europa.eu/health/ph_publication/leb_food_en.pdf)

Figure 6.8 Percentage of adults who do no moderate-intensity physical activity in a typical week, 2005, selected European countries

