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The Effects of Age, Sex, Education, Marital Status, Obesity and Smoking on Disability and Mortality:
A Systematic Literature Review

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1   Introduction

It is well known that the risk of disability increases exponentially with age, that higher education reduces the risk of disability, that the married experience lower disability than the not married and that smoking is a clear risk factor for disability. Results are less clear regarding the impact of sex and body mass index (BMI) on the onset of disability, as well as for the interaction between age and sex and the various risk factors. In general, the effects of risk factors tend to become smaller with age, which is partly caused by selection effects. However, there exist exceptions. For example, a series of studies report positive effects of overweight on the health of the elderly while effects at younger ages are generally negative (Losonczy et al. 1995, Himes 2000, Greenberg 2001).

In order to make reliable projections of the population and to promote and influence political decision processes regarding health care and health systems, it is necessary to rely on an instrument that provides correct and sustainable information. Although there exists a large and complex body of literature about the effects of various socio-demographic factors, as well as of particular risk factors on disability, a suitable instrument to summarize and use this knowledge is still outstanding. The EU-financed project "MicMac - Bridging the Micro-Macro Gap in Population Forecasting" tries to overcome this problem. MicMac is a multistage population projection approach that combines cohort data (usually by age and sex) (macro) with individual biographic data (micro). With this approach detailed demographic forecasts are possible that give reliable information for the development of health care and pension systems. MicMac consists of a methodology, a set of algorithms and user-friendly software. Within this framework we conducted a systematic literature review, focusing on the effects of age, sex, education, marital status, smoking and obesity on various indicators of disability and mortality. The literature review serves as a source of background information and empirical data for the forecasts and scenarios within the project.

The following paper presents details and results of our review approach. In the first three sections we introduce our search strategy as well as the processing of the articles and the underlying criteria for the choice of article. After a theoretical discussion of considered risk factors and outcome variables in Section 5, we give a detailed description of measurements issues as well as the definition of transitions and their measure-

ment in Section 6. Section 7 is devoted to the results based on 55 articles reviewed and in Section 8 we discuss the general findings and conclusions from this literature review.

2   Search Strategy

We started our literature search by analyzing the article „Risk Factors for Functional Status Decline in Community-Living Elderly People: A Systematic Literature Review" by Stuck et al. (1999). Stuck and his colleagues were conducting a systematic literature review of longitudinal studies, published between 1985 and 1997, that reported statistical associations between individual baseline risk factors and subsequent functional status in community-living older persons. Their databases were Medline, PsycINFO and SOCA, plus an additional one, Embase, which we could not consider in our own search because it was not accessible for us. This article is an expert recommendation and served as a first source of articles concerning disability. We ordered and analyzed all articles that Stuck et al. incorporated in their analysis (78 articles). Of these 78 articles, 47 met our initial search criteria (see Section 4) and were included in our analysis. Finally, 12 articles from Stuck et al. were included in our own literature review.

We considered three possible sources for our literature review: recommendations of experts, electronic databases, and references in existing articles. The expert recommendations concentrate on special topics and risk factors; the electronic search is based on three databases and constitutes the biggest part of our search. The databases we used are: Medline, PsycINFO and SOCA (Sociological Abstracts). Medline and PsycINFO are provided by the surface OVID, SOCA is provided by the surface CSA (Cambridge Scientific Abstracts Internet Database Service). The database search was performed in six months from September 2005 to February 2006. Most articles that we included in our analysis were taken from Medline.

Our search is confined to the years 1985–2005. Our systematic search logic contains the following terms: disability, impairments, limitation, decline, function, activities of daily living and/or mobility. We restricted our search to cohort and longitudinal studies. For study we also used the term trial, for longitudinal study also the term follow-up.

To further restrict the search to our risk factors, we were looking for the terms life-style, socio-economic status, education, marital status, obesity, overweight and body mass index, and smoking (including cigarettes or tobacco). We also included the term transition, as well as demographic characteristics (comprising age, sex or gender). We explicitly excluded children and cross-sectional studies. The search was performed in titles, keywords and abstracts.

3   Processing the articles

Applying this search strategy in the electronic databases we got 7729 potential results. These were all shown as abstracts and read by two persons independently. This way we secured that no potential article was overlooked and that we only ordered those articles that are useful to our topic. Supplementary to these 7729 articles, we considered 287 additional sources. Of these, 78 were derived from Stuck (Stuck et al. 1999). Another 49 articles were expert recommendations and 160 articles were taken from references of the present articles. Thus, 8016 articles served as a basis for our literature review. Of these, we ordered 561 articles that met our criteria (for processing criteria see Section 4). All articles that were considered as useful were ordered using the library of the Max Planck Institute for Demographic Research or were, if possible, directly printed from the journals' homepage. Of the 561 articles considered useful in the first selection, i.e. to order and to read them in length, 63 articles were used for our own analysis. We processed these 63 articles in Excel, thus all data was entered into

Table 1: Article selection process

Basis for literature review: 8016 articles		
7729	127	160
Electronic Databases: Medline PsycInfo SOCA	Expert Recommandations 78 Stuck et al. (1999) 49 other	References of Present Articles
561 ordered and searched		
63 used for final analysis		

an Excel work-form. We have divided the Excel sheet into three categories: study characteristics, study results and tables. Table A.5 1 in Appendix 5 gives details about each of the 63 articles.

Apart from those results that were useful to our analysis - applying the above search strategy - we got results concerning the following topics: depression, heart injuries, pulmonary diseases, renal diseases, knee impairments, arthritis, osteoporosis, multiple sclerosis, epilepsy, different types of surgeries, blood pressure, diabetes mellitus, as well as the validation of medical measurements and scales, health education and intervention programs, and quality of life and self-perceived health status. In some exceptional cases we also got results concerning animals and dentistry.

4   Criteria of the included and excluded articles

We included all studies examining either community-dwelling or institutionalized people older than 25 years, and those studies that analyze both groups combined. We also tried to include hospitalized people, but studies concentrating on this risk group are either short in follow-up time – mostly not more then 6 weeks after hospital release – or they consider hospitalization as a risk factor for predicting disability. Moreover, they often focus on chronic conditions and clinical outcomes like knee impairments, arthritis, surgeries, etc.

Originally, we only included whites from industrialized countries, i.e. Europeans, North Americans, Australians, as well as Japanese. Since the medical system in industrialized western countries is different from those in second and third world countries, people have different access to medical care. It is supposed that the health patterns in industrialized countries are different from those in second and third world countries and that the populations are thus not comparable. Nevertheless, there are some studies including non-whites, mostly Blacks and Hispanics. But since their proportion is relatively small compared to the white population (less than 20 percent), we included them in our analysis, if they could not be clearly distinguished from the pure baseline population. Entirely non-white populations were excluded from our analysis. Furthermore, children, veterans, people living in a convent or monastery, and people with different chronic conditions are excluded. We only consider studies that clearly distinguish the disability status at baseline and explore the following four transitions: (1) not disabled to disabled, (2) not disabled to death, (3) disabled to not disabled and (4)

disabled to death. Studies that look at mixed populations at baseline, i.e. disabled and non-disabled people together in one examination unit, are excluded from our analysis. This also means that studies with statistical models like Event-History-Analysis, where the health status is controlled for by a variable, are not included.

Applying these criteria, we selected 561 potential articles that were further processed. Keeping in mind the criteria mentioned above, we excluded studies that did not contain any transitions. We searched for the right outcome, appropriateness of risk factors, kind of disability measure, and kind of statistical measure. We only considered articles in which the outcome was age-related disability. Consequently, we excluded studies that focus on disability caused by injuries, chronic conditions or surgeries. We also excluded studies that look at disability in connection with Alzheimer's disease, Parkinson's disease and stroke.

We only incorporated studies that contained at least one of our six risk factors, age, sex, education, marital status, smoking and obesity. We only considered longitudinal studies with at least a one year follow-up wave. All studies that did not contain odds ratios (OR), rate ratios, relative risks (RR) or incidences as statistical measures were excluded as well.

Finally, it is to mention that we considered articles in German, French and English language. However, only one French and no German article is included.

5   Descriptions of risk factors and outcome

5.1   Description of risk factors

Risk factors are demographic, social, life-style, behavioral, psychological, and biological characteristics of an individual that can affect the presence and severity of impairment, functional limitation and disability. They are predisposing; that is, they exist at or before the outset of the disablement process. They are usually long-term or permanent features of individuals, because those are the sorts of causes that prompt chronic conditions and enduring impacts (Verbrugge & Jette 1994:8).

It can be distinguished between proximate and distal determinants, whereby the former are those risk factors that lead to a disease, whereas the latter are those that cause exposures and determinants. In our literature review we were looking at the influence

of two proximate determinants (Obesity/BMI and smoking), two distal determinants (Education and Marital Status) and two controls (sex and age) on disability.

5.1.1 Obesity

It is an established finding that the incidence of obesity in adults and children is still increasing. It is estimated that two third of the US adult population are obese or overweight (light obese) (Olshansky et al. 2005). Whereas men are more overweight, women are found to be obese more frequently (Himes 2000, Jensen et al. 2002). Similarly, the prevalence of obesity in non-Hispanic Black women is higher than in their white counterparts (Flegal et al. 1998, Himes 2000).

Generally, excess weight is considered to have consequences for health status, functional ability and life expectancy. Overweight and obesity are said to cause several chronic conditions like arthritis, osteoporosis, hypertension, high blood cholesterol, type 2 diabetes, coronary heart disease, etc. Obese persons are considered to have mobility problems and are more likely to develop disabilities than non-obese persons. For that reason, weight losing behaviors as a part of healthy life styles are promoted.

At young ages the relationship between obesity and disability or mortality is a U-shaped or J-shaped one. That means not only persons in the high BMI percentiles are at an increased disability and mortality risk, but also those in the low percentiles. In general, a BMI of 18.5 to 25 is considered to be normal, consequently people below or above this range are on an increased health and mortality risk. People who are slightly obese or light obese at older ages are at a relatively lower risk than people at younger ages (Fontaine 2003). It seems that the prevalence of overweight and obesity is at its peak between 40 and 65 years of age and declines with age (Ferraro 2003, Flegal et al. 1998). Furthermore, the maximum limits for a healthy BMI increases with age (Himes 2000), and the relationship between obesity and health seems to be reversed in old age, i.e. obesity may not be harmful or may even be negatively correlated with mortality. It is very likely that this is due to the fact that weight loss in old age is mostly unintentional and reflects health problems or an existing disease. Thus, in old age, those at the lower extreme of body mass index are at higher risk of disability and mortality (Diehr et al. 1998).

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5.1.2 Smoking

In many studies, smoking is associated with higher levels of disability and a higher probability of dying. Smoking leads to cancer, cardiovascular and heart diseases. Compared to non-smokers, current smokers show higher levels of disability and heavy smokers (more than one pack per day) are in poorer health conditions than light smokers. Likewise, the total life expectancy for smokers is on average 3.2 years shorter compared to non-smokers. But negative effects can be reversed through smoking cessation (Mitra et al. 2004, Ostbye 2002). Accordingly, the probability for ill health decreases with every year of smoking cessation. It is supposed that the negative effects of smoking will be outbalanced after 15 years of a smoking free life. Thus,

> *smokers who quit by their mid-40s will be no more likely to suffer from ill health than lifelong never smokers when they reach their late 50s and early 60s, contingent upon surviving at that age (Ostbye 2002:342).*

Yet, recent former smokers (who quit less than 3 years ago) show higher disability rates than current smokers (Ostbye 2002). This is very likely due to the fact that smoking cessation reflects a preexisting illness. Consequently, if past smoking behavior is not taken into account, this can bias the measurement of disability and mortality differences between smokers and former-smokers.

5.1.3 Education

Education as an indicator for the Socioeconomic Status (SES) of a person is associated with many health related factors and behaviors over the life circle. Generally, it can be distinguished between behavioral and material factors that cause socioeconomic inequalities in morbidity and mortality. Behavioral explanations focus on the behavior and lifestyles adopted by people from different socioeconomic groups, like smoking, dietary habits and physical activities. The material role emphasizes the role of material factors, e.g. income, housing conditions or employment status that differ among socioeconomic groups (Schrijvers et al. 1999).

Education as a part of the multi-dimensional construct of SES is a measure that is often used for reflecting socioeconomic influences on health status and mortality for several reasons. Education is an objective variable that is easily measured and generally fixed early in life. Unlike occupation or income, education can be determined for

all individuals. Although in many studies the effect of education is largely reduced when controlling for income (Menchik 1993, Hoffmann 2006), education is chronologically and causally prior to occupation and income. Therefore, the attained educational level anticipates future occupational chances and income. Moreover, education affects potential earnings and thus access to material sources. The level of education also influences health behavior since it provides better knowledge and access to information about health risks and healthy behaviors, as well as providing the cognitive ability to deal with such information (Hoffmann 2006). Thus, the educational level provides material resources and facilitates the implementation of health promoting behaviors.

It is generally agreed upon that people with lower levels of education tend to have a higher probability to become functionally disabled and have a higher mortality risk compared to people with higher educational levels (Minicuci & Noale 2005, Freedman & Martin 1999, Elo & Preston 1996). Individuals with higher educational levels are often found to smoke fewer cigarettes and exercise more compared to individuals with lower levels of education. Increased levels of educational attainment are also associated with higher levels of self-control, efficacy and happiness.

5.1.4 Marital Status

Research indicates that marriage has health promoting effects. Married persons tend to live longer and are generally healthier than unmarried persons (Waldron et al. 1997, Goldman et al. 1995, Ward & Leigh 1993). Marriage is said to have a protection effect due to greater financial and material resources, greater social support and better health related behavior.

> The increased social ties and networks that typically result from marriage may facilitate access to medical information and services, constrain risk-taking behavior and encourage healthy behavior, act as a buffering mechanism in stressful situations, substitute for formal health care, and provide economic resources that affect the frequency and quality of health care services (Goldman et al. 1995:1718).

Although marriage has a beneficial effect for both sexes it seems that the advantage of marriage is greater among men than among women. This can be explained through the different traditional role models men and women adopt in marriage. While wives

often serve as caretakers, providers of information and inhibitors of unhealthy behaviors, they are also more likely to suffer distress because of their restricted gender role. On the other hand, husbands often provide greater financial support to their wives, which might reduce stress concerning material well-being.

Becoming a widow or a widower or getting divorced is often associated with worse health outcomes compared with never married individuals. This is due to the fact that becoming widowed is a stress-provoking crisis that may lead to worse health and higher mortality rates (Goldman 1995). Also here it seems that widows cope better with their new situation than widowers, because they can more often rely on social relationships.

5.1.5 Sex

It has become a well established fact that there exist gender differences in health and mortality. Whereas women live generally longer than their male counterparts, they become more disabled and remain in that state for a longer period. Women are also more likely to be institutionalized. There are various reasons to explain these gender differences. Whereas men have higher rates of common fatal diseases, e.g. heart disease and cancer, and are more likely to die from these diseases before disabling chronic conditions can progress to disability in old age, women have higher rates of disabling non-fatal chronic conditions like arthritis and osteoporosis. Therefore they remain in a disabled state for a longer period of time (Leveille, Resnick and Balfour 2000:110). Additionally, women have higher comorbidity, which is a factor that contributes to higher rates of disability in women (ibid.)

The composition of the female body is accountable for different disability rates and durations between men and women. For instance, the higher risk of osteoporosis is linked to lower peak bone mass in women and accelerated bone loss beginning at menopause. Since muscle strength plays an important role in preventing disability and since women typically have less muscle strength than men, they may be predisposed to disability in late life (ibid.). Moreover, women have not only naturally higher percent of body fat than men, they also have higher levels of obesity which puts them on a higher risk for chronic conditions associated with disability (ibid.:111). Another important factor associated with a greater disability risk is a more inactive life style in women than in men. That means a lack of physical activity increases the risk of disability in women.

5.1.6 Age

It is generally known that disability and mortality are age-related. It is a natural phenomenon that the older individuals grow the more likely they are to suffer from severe harmful health conditions, like chronic or fatal conditions. Likewise, their mortality risk increases exponentially with age. The mortality risk roughly doubles every 10 years of age. Still facing generally increasing life expectancies, it is important to know at what age people are at particular health risks. When the most important risk factors and the age when they are most likely to occur are known, adequate health care and social policies can be implemented.

5.2   Description of Outcome

'Disablement' refers to impacts that chronic and acute conditions have on the functioning of specific body systems and on people's abilities to act in necessary, usual, expected and personally desired ways in their society. (Verbrugge 1994:1)

Thus, the main outcome measure of our analysis is age-related disability. Disability is an often used concept that is not restricted to a single definition. Therefore, in our analysis we considered 4 different basic concepts of disability – ADL, IADL, mobility function and physical performance. The 4 basic concepts of disability are the following:

5.2.1 ADL (Katz)

ADL – activities of daily living – are, according to Katz (Katz et al. 1963; Katz et al. 1970; Katz & Akpom 1976), a set of basic human functions – activities which people perform habitually and universally. The index of ADL measures the functions bathing, dressing, toileting, transferring, continence and feeding. The performance of these functions is divided into a scale ranging from A to G, where A marks the most independent grade (independent in all functions, and G the most dependent grade (dependent in all six functions).

5.2.2 IADL (Lawton & Brody)

IADL – instrumental activities of daily living – assess, according to Lawton and Brody (1969), everyday functional competence. The scale includes the items using the

telephone, shopping, food preparation, housekeeping, laundry, mode of transportation, responsibility for own medication and ability to handle finances.

5.2.3 Physical Performance (Nagi)

Physical Performance refers, according to Nagi (1976), to sensory-motor functioning of the organism as indicated by limitations in such activities as walking, climbing, bending, reaching, hearing, etc.

5.2.4 Mobility (Rosow & Breslau)

Mobility is a concept that, according to Rosow and Breslau (1966), measures health scale items of self-reported functional health. The items include the ability to go out to movie, church, meeting or visit, walk up and down to second floor, walk half a mile or do heavy work around the house.

Mortality is the outcome of two of our four transitions, i.e. from not disabled to death and from disabled to death. But this outcome does not need a special description here. The measurement for mortality will be addressed in the following section.

6   Measurements

6.1   Measure of risk factors

As described before, we are looking at the influence of certain risk factors on disability and mortality. Risk factors we focus on are: obesity and smoking as proximate determinants, education and marital status as distal determinants and sex and age as basic and rather biological determinants that are often used as control variables to more exactly analyze the more proximate risk factors.

It can be distinguished between discrete and continuous variables. Discrete variables are depicted with a reference group, continuous variables give information about the gradual increase of the risk factor.

Generally, for obesity, people with a body mass index below 18.5 are regarded as underweight, people with a body mass index (BMI) between 18.5 and 25 are considered as normal weight, people with a BMI ranging from 25 to 29.9 are considered overweight, and people with a BMI of 30 and more are regarded as obese, although different categorizations are possible. Thus, the variable body mass index is divided

into four categories. For our analysis we recalculated the reference groups into standardized groups with normal body mass index as reference group.

For the smoking variable, there are different categories. Most frequently, people who have never smoked are compared with current smokers and former smokers. But it also happens that smoking is coded as a dichotomous variable. In this case, smokers are often compared to non-smokers. Where applicable, in our analysis never smokers are considered as reference group.

Education is either coded dichotomous, (e.g. high versus low, <8, >8), as a discrete variable (e.g. <8, 8–12, >12) or as a continuous variable. In any case, the variable is depicted with the categories used in the study. As reference group, we always took the highest educational group.

Marital Status is also a variable with different categories. Very often either two groups are compared (e.g. married vs. not married) or one group is contrasted with two or more other groups (never married vs. divorced vs. widowed), whereby in our analysis, being not married is recalculated as reference group. If necessary we accepted the categories "living with others" versus "living alone" as a sufficient approximation to marital status.

Sex is a dichotomous variable where in our analysis men are the reference group. Age is either coded as a continuous variable or divided into age groups (e.g. 70–79, 80+). In our analysis the categories were kept and identified as those. Reference group is, were applicable, the youngest age group.

6.2   Measure of outcome

Disability measures of contemporary studies still rely on the basic definitions of disability (see Section 5.2.) The existence of disability is either established through self-report data or through objective measurements. The measures and definitions are often modified, combined and/or developed further. As a result, a multitude of disability measures arises, which are hard to relate to a single basic disability definition. Therefore, we generated four categories of disability measures that represent the most frequently used concepts in our analysis.

The first category is based on Katz` concept of Activities of Daily Living (ADL) (see Section 5.2.1.). This concept measures the ability to perform the six basic activities of daily living - bathing, dressing, toileting, transferring, continence and feeding -

without help. In contemporary studies, a person is already considered as disabled if she or he is dependent in one of the above functions. In our analysis the concept of activities of daily living is used most frequently.

As a second category we adapted the concept of Instrumental Activities of Daily Living (IADL) according to Lawton and Brody. This concept also measures everyday functional competence, including the eight items using the telephone, shopping, food preparation, housekeeping, doing laundry, mode of transportation, responsibility for own medication and ability to handle finances. Also here, being unable to perform one or more of these activities counts as disability. However, being disabled in IADLs is relatively rarely occurring in our analysis.

Looking at the concrete operationalization in the selected articles, in some studies Nagi's concept of physical performance and Rosow and Breslau's concept of mobility cannot be clearly distinguished. Several studies include items that are taken from the physical performance concept as well as from the mobility concept. Often the concepts of lower and upper body function are also included. For that reason, for our analysis, we created the Combined Mobility/ Physical Performance Category (M/PP) as a third category. This category includes items like walking several blocks or walking half a mile, climbing one flight of stairs (approximately ten) without resting or walk up and down stairs to the second floor. Items include also lifting or carrying 10 or 25 pounds, stooping, crouching, kneeling, prolonged sitting/ standing, moving large objects or standing or being on the feet for about two ours. It is to mention, that not all studies measuring physical function/ mobility consider all of the above mentioned disability items. Rather they combine some of the items or focus more on one or another aspect of mobility or physical function. Because the concept of mobility/ physical function is used relatively flexible, it is one of the most frequent used in our analysis.

In some studies, the underlying disability category is not clearly distinguishable. Often these studies employ a mixture of elements of the basic disability concepts. Some studies combine elements of IADL and ADL, some combine ADL, IADL and mobility, and some studies use elements of all four disability concepts. Thus, the fourth disability category we created is called Combined Disability Measure (CDM), which combines all three or four of our basic disability concepts (see Section 5.2.) This measure does not indicate on which kind of disability or on which element of a certain disability the focus is more on. But since it was not practicable to create more

reasonable categories that combine all the different aspects of the disability measures applied in the studies analyzed, we decided to create one category that integrates all mixed measurements. The information about all the measured items is given in Table A.5 1 in Appendix 5.

6.3   Transitions

Morbidity and mortality rates are expressed through transitions. Transitions describe the change of functional status between baseline measurements and follow-up. There are two possible initial positions, either being disabled or being not disabled. Possible positions at follow-up are: being disabled, being not disabled, and death.

Figure 1 shows the possible transitions of functional status in the risk populations. We only looked at pure transitions, for instance the transition from being not disabled to being disabled. That means articles that contain a mixed population at baseline (disabled and non-disabled people together in an examination unit) are not included in our analysis.

Altogether we worked with 4 possible transitions (see Figure 1). The most frequent transition was the one from being not disabled to being disabled, examined in 58 of our 63 articles. This transition describes people who were disability free at baseline but whose functional status worsened during follow-up so that they were identified as having at least one indication of disability, all depending on the particular disability criteria of the underlying study. Other transitions identified are being not disabled to death (16 articles), recovery - from disability to no disability (23 articles) and being disabled to death (18 articles).

Figure 1: Transitions

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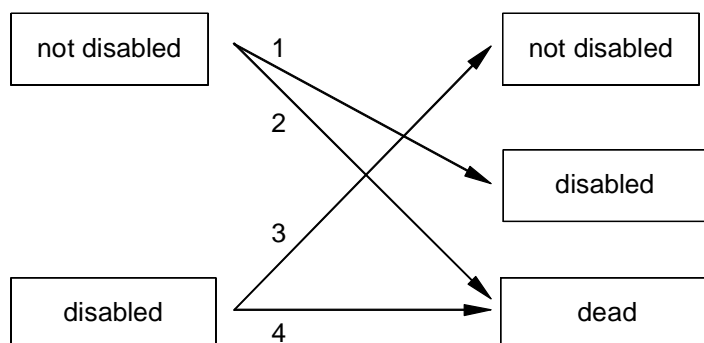
6.4 Transformation of transition rates

In the literature, differences in the transition rates between two groups are usually expressed as relative risks, which are either defined as risk ratios (RR) or odds ratios (OR) or separate incidence rates for both groups. In order to make these three different outcomes comparable for our literature review, we first computed the ratio of the incidences in six articles where incidence was the outcome measure. This resulted in the rate ratio.

The differences between the very frequently used odds ratios and risk ratios are more difficult to eliminate. The differences between these two measures are small and negligible if the event of interest is rare and the ratio between two groups of interest (e.g. smokers and non-smokers) is close to 1. If the outcome is more frequent, the odds ratio overestimates the risk ratio between two groups if it is above 1, and underestimates it when it is less than 1. In 38 of the 63 articles included in this review, the outcome is presented as odds ratios. We decided to transform odds ratios into risk ratios in 13 articles where this was possible, because the risk ratio is a better and unbiased representation of the relation of the risk in two groups. The procedure of transformation was taken from Zhang and Yu (1998) who propose criteria for circum-

Figure 2: The Relation between Risk Ratio (RR) and Odds Ratio by Incidence of the Outcome
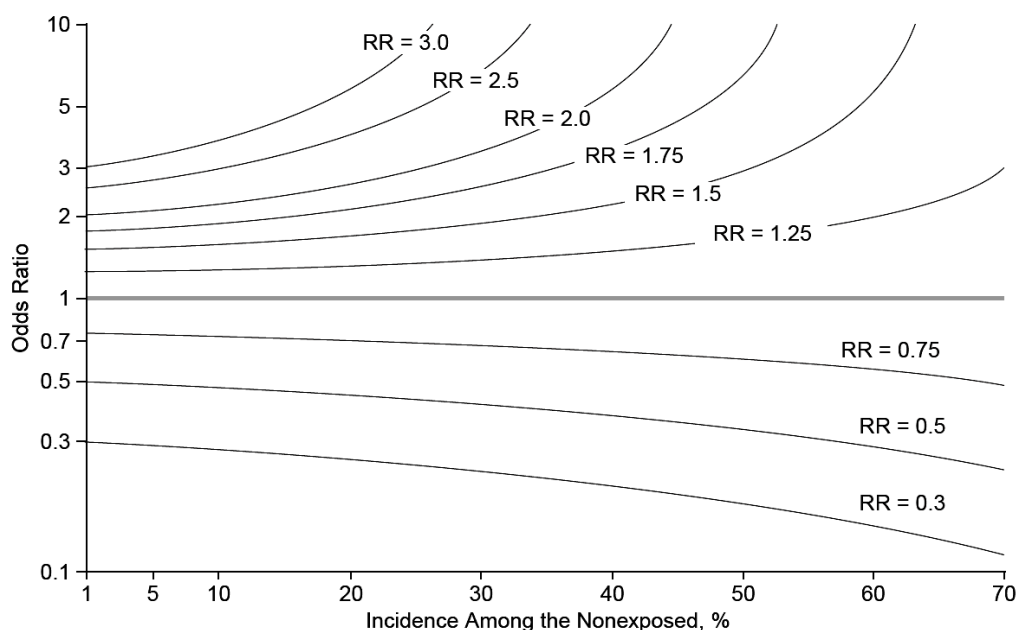
(Source: Zhang & Yu 1998:1690)

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stances where a transformation is necessary, and provide a formula to do this transformation. Necessary means that an odds ratio is assumed to differ substantially from risk ratio. According to Zhang and Yu, odds ratios differ considerably from risk ratios "if the incidence of outcome is more than 10 % and the odds ratio is more than 2.5 or less than 0.5." The relation of these two criteria and their impact on the divergence between the two outcome measures can be seen in Figure 2 (Zhang and Yu 1998:1690).

The formula they propose for the transformation is

$$RR = \frac{OR}{(1 - P_0) + (P_0 \times OR)},$$

where P_0 is the incidence of the outcome of the non-exposed group (Zhang and Yu 1998:1691). Unfortunately, P_0 was not available in all articles where the transformation is desirable. Another way to apply the same transformation is to use the intercept of the model but this information was only available in a few articles. Thus, altogether we were able to increase the number of studies with risk ratios as the outcome measure from 18 to 31, i.e. to decrease the number of sources with odds ratios from 38 to 24. We identified another 20 articles where the transformation is not possible although differences between the two measures are probably large. This means that we could not transform all outcome measures where it would have been desirable. Consequently, in our result section we have to separate odds ratios from risk ratios.

The transformed numbers show that the above criteria are conservative, i.e. many of the numbers that fall in the category of results where a considerable difference between odds ratio and risk ratio was assumed, only show minimal differences. The following table gives an overview of articles that originally contained odds ratios. In table 2 we make a difference between results, where, according to the criteria by Zhang and Yu, a transformation is necessary and those where it is not. Secondly, we divide between articles that provide the necessary information for the transformation and those who do not. The table also shows that in addition to the 13 articles where we actually recalculated and changed the results, there are 5 articles where the odds ratios are directly comparable to the risk ratios because both are very similar according to the assumption by Zhang and Yu.

Table 2: Categorization of 38 articles using odds ratio as the outcome measure

	Transformation possible	Transformation impossible
Transformation necessary	12	20
Transformation unnecessary	1	5

The transformation of all results that could be transformed because P_0 is available confirms the criteria proposed by Zhang and Yu: When the incidence is larger than 10 percent and ratio either lower than 0.5 or higher than 2.5, the risk ratio is considerably different from the odds ratio.

7   Results

7.1   Processing the results

Our results are displayed in two ways. One is a number of diagrams showing relative risks taken from the analyzed studies and the other are the corresponding tables giving detailed information about the data. These tables are very large and can be found in Appendix 1 to 4, each section devoted to one transition.

The diagrams are organized in the following way. The headline of the diagram displays the transition, the risk factor in question, and the kind of measurement involved (discrete versus continuous). Generally, within each transition the six risk factors are shown in different figures. For each risk factor the discrete measurements are shown first, followed by the continuous measurements. For some risk factors there is only one kind of measurement, i.e. either continuous or discrete.

On the next level, i.e. within each Figure, we distinguish between the four measures of disability (if applicable). The first column on the left side of the diagram shows the disability measure. The next column distinguishes between men, women and both sexes combined (f/m). Our next distinguishing feature is the study population. Here we make a distinction between community-based populations (c), institutionalized populations (i) and mixed populations (c/i) containing community-dwelling as well as institutionalized people.

The next column displays the source, i.e. the article, where we got the data from. Thus, for each data point the study of origin is indicated. For further information con-

cerning the original study, see the reference list and **Error! Reference source not found.** in Appendix 5.

The next column displays the data points (black circles) representing risk ratios (RR), odds ratios (OR) or rate ratios relative to the reference group, and then the confidence interval (depicted through "+"). The reference group is represented through a vertical line crossing 1 at the x-axis. In some cases, no confidence intervals are displayed. This is due to the fact that not all studies we referred to offer information about confidence intervals. If they provide the level of significance instead, this information is given in the according table in the appendix but not in the figure itself. In other cases the visible confidence interval may not be exactly symmetric around the risk value. Mostly this is due to the fact that the original value is specified with only one digit, which results in an imprecise representation of the interval in the Figure. In some cases this even results in a missing lower or upper confidence bound, namely in cases where the risk value and the interval bound are the same (e.g. OR 1.1; CI from 1 to 1.1).

Where applicable we included a line that connects the data points of successive categories of the particular risk factor, thereby showing the gradient more clearly.

Finally on the right side of the diagram there is an age-axis that displays the age ranges considered in the studies. The age range is either specified for a single data point or, in those cases where the study does not distinguish between different age ranges, for the entire study. This axis allows seeing the age pattern of the risk factor within one study. In principle, it also allows the comparison of age groups between different studies, but in our figures these age groups are not necessarily next to each other in ascending order because the studies are ordered by the criteria mentioned before that can be seen on the left side of each figure.

The diagrams are completed by the according tables in Appendix 1 to 4, giving detailed information about the data displayed in the diagram. Each table identifies the authors of the study and names the type of disability that is concerned. Furthermore, it informs about the particular sex and the study population (community-living or institutionalized people). Next, the categories used in the article are indicated, first the reference group and then the risk group for each data point. Perhaps this is the most important and frequently used information for the reader in these tables. A problem remains in this literature review, namely that very often the data points refer to different reference categories and are therefore not directly comparable. Naturally, this is no

problem for the risk factor sex, where we recomputed the risks in order to make them all comparable. For variables like education we also recalculated some values to make all risks referring to the same reference group, i.e. highest education. Nevertheless, the exact definition of this highest educational group may still vary between authors.

The next columns in the table contain the measure of risk (RR or OR), the risk value and the confidence intervals shown in the figure. In many cases this is the number that we recalculated from the original data (for a discussion of the recalculation of data see Section 6.4.) To the right it follows the original risk measure, the original value and confidence intervals. In those cases where the data have not been recalculated, the first measurement columns contain the same numbers as the following ones. The next column gives information about confounding variables that were controlled for in the models. The last column provides additional information if necessary.

7.2 Presentation of results

7.2.1 Transition 1 from not disabled to disabled

Risk factor age

Figure 3 and Figure 4 show the age profile of the transition from not disabled to disabled.

In these graphs age is the risk factor as such, whereas in most other graphs of our review age is a control variable for the influence of another risk factor on a specific transition. The majority of the studies focus on ages above 65 with a few exceptions that start with age 40 (Huang et al. 1997) with age 30 (Armenian et al. 1998) or even with age 25 (Zimmer & House 2003). The first figure is based on studies that include age as a categorical variable. The reference group is the lowest age group. Age profiles reported in the same study are connected with a line. Data points from the same study which are not connected by a line such as Kivelä et al. (2001) represent the same age groups but different outcome measures, i.e. RR and OR.

We find that age gradients roughly follow a linear trend. This is equivalent to an exponential trend over age since in the figures odds ratios/relative risks are displayed on a logarithmic scale. The exponential age profile exists for all measures of disability. It seems to be less steep for IADL measures in the study by Sauvaget et al. (1999). The exponential increase applies to both sexes and is true for all adult ages. Since

most of the studied populations are community based it can not be said whether the increase over age is different for institutionalized persons.

An equivalently large number of studies use age as a numerical variable and the results are shown in Figure 4. These studies define their baseline hazard by the time elapsed since beginning of the study and use age as a covariate. Also in these studies the most frequent starting age is 65. Studies report odds ratios in the range of 1.07–1.2 with a geometric mean of 1.10 and relative risks between 1.006–1.197 and a geometric mean of 1.09. There are no substantial differences between the different subgroups and studies.

Risk factor sex

Women are disadvantaged in terms of disability: Figure 5 shows that the great majority of studies find a higher risk for women to become disabled. Generally the sex differences are significant. There are only a few exceptions: Reynolds and Silverstein (2003), Ishizaki et al. (2002) and Grundy and Glaser (2000) find the opposite result, i.e. a significantly lower risk of disablement for women. Different explanations may be found: First, the measure of disability. In this respect it is interesting to note that Reynolds and Silverstein find a higher risk of ADL disability among females than males, but a lower risk of IADL disability. The sex difference in the measure, however, is not confirmed by the study of Ishizaki et al. who find a lower risk for females for both disability measures. A second explanation may be the studied transition: Grundy and Glaser model change/no change in the severity score of those with no disability at baseline rather than the incidence of disability.

Only very few studies look at younger ages, e.g. age 18+ in the study by Armenian et al. (1998) and also very few allow analyzing the age pattern of gender differences in the risk of disablement: one exception, Leveille et al. (2000), reveals an increasingly higher risk for women with increasing age. The disadvantage for women seems to be higher for mobility/physical functioning as disablement measure than for the combined disability measures and ADL.

Risk factor education

The majority of the studies explore the effect of education on the transition from not disabled to disabled by categorizing education into two at maximum three groups. The exact definition, however, of each category differs widely between the studies. Only five studies use a continuous variable based on the number of years in schooling.

A clear trend evolves: Despite the differences in the educational categories almost all studies find that the risk of disability increases with less education. This is true for all definitions of disability, for community dwelling populations as well as for populations that include the institutionalized, for both sexes and for all age groups.

Figure 6 shows the results for education used as a categorical variable. The reference group is high education. Educational gradients within one study are connected with a line. For example, the study by Melzer et al. (2001) reports relative risks for three educational groups based on the number of years in school: 12 and more years (which is the reference group), 8–11 years and 0–7 years. The educational gradients are reported in four five-year age groups from age group 65–69 to age group 80–84. In each of the age groups the risk of disability increases with less education. In the youngest age group the relative risk of disability for males with 0–7 years of education is 1.91 in the oldest age group 1.33. A similar pattern exists for females. From this study it appears that the educational gradient decreases with age.

The figure gives no indication whether the educational gradient differs considerably between different measures of disability and the sexes. Most of the studies report educational gradients adjusted for sex rather than by sex, anyhow.

The geometric mean of excess disability for lower educational groups independent of age groups, sex, disability measures and educational categories is 1.53 in terms of odds ratios (min: 1.13; max: 2.23) and 1.47 in terms of relative risks (min: 1; max: 3.03).

Risk factor marital status

Figure 8 shows the influence of marital status on the transition from not disabled to disabled. The reference group is not married or those living alone. Most of the studies find that being married is associated with a lower disability risk. However one significant data point (Reynolds and Silverstein 2003) and some insignificant ones show that being married is associated with a higher risk of disability, e.g. the study by Avlund et al. (2002) who use the distinction living alone versus living with others. One possible explanation is that these studies are based on people living in private households only and that health selection into institutions may affect the results. Unmarried or those living alone have to be healthier in order to stay out of institutions than those who are taken care of by their partner or others.

The models which include increasing numbers of control variables such as in the study by Avlund et al. (2002) do not find an confounding effect and all show the same odds ratios of marital status. The gender comparison in Avlund et al. (2004) does not show differences between men and women.

Risk factor body mass index

Figure 9 shows the influence of the body mass index (BMI) defined as a categorical variable. The reference group is usually defined as not overweight. Studies generally report a significantly increased risk of disability for high BMI.

Connected data points such as in the study of Wannamethee et al. (2005) refer to the different categories of BMI in one study. The three series of lines depict three different models with varying numbers of variables and show that the increasing risk of disability gets less pronounced the more confounding variables are taken into account.

Comparing the different disability measures there seems to be an indication that ADL disability is less affected by BMI. However, the interpretation has to be careful because of the different age groups and the various categories of BMI used in the studies. The only valid gender comparison within the study by LaCroix et al. (1993) indicates that a higher BMI is insignificantly worse for women than for men. The study by Launer et al. (1999) suggests that a high BMI is more dangerous in younger ages (45–59) than in higher ages (60–74).

The studies based on a continuous measurement of BMI (Figure 10) generally do not find a significantly increased risk with the exception of Seeman et al. (1996) for women. In these studies there is also a tendency that an increased BMI is worse for women than for men (e.g. Seeman et al. 1996), however, the study by Brill et al. (2000) based on a combined disability measure does not show this gender difference.

Risk factor smoking

The overall picture is that smokers have a higher risk to experience the transition from not disabled to disabled. There are no significant results that show the opposite, but there are a few opposite results without statistical significance. Starting from the top of Figure 11 we see two connected data points from the study by LaCroix et al. (1993). These points represent former and current smokers. As expected current smokers have a higher risk than former smokers, but we see these differences only for men.

The numerous data points from the study by Wannamethee et al. (2005) are connected in groups of three because they study those who gave up a long time ago smokers who gave up recently, and current smokers. The differences between these groups are not statistically significant but they indicate that recent ex-smokers have the highest risk of all three groups. This may be because these persons still suffer from the increased risk provoked by smoking and maybe they stopped smoking because of a health problem. The differences between the groups connected by a line are related to different models, i.e. different numbers of control variables.

The same different groups of former versus current smokers are used by Penninx et al. (1999 and 2003) and Clark et al. (1998). The study by Huang et al. (1998) offers an interesting gender comparison; controlled for several covariates smoking increases the risk of disability for men but it decreases this risk for women. However, only the disadvantage for men is statistically significant. The data point by McCurry et al. (1998) that is outside the confidence interval at an OR of 2.82 is probably wrong but shown like that in the article. The identification of an age pattern of the risk of smoking is difficult because in none of the studies different age groups are compared.

Figure 3: Transition from not disabled to disabled; risk factor age; discrete definition with reference group youngest age category.

CDM = combined disability measure

M/PP = mobility/ physical performance

f/m = female and male

c/i = community-dwelling and institutionalized

24
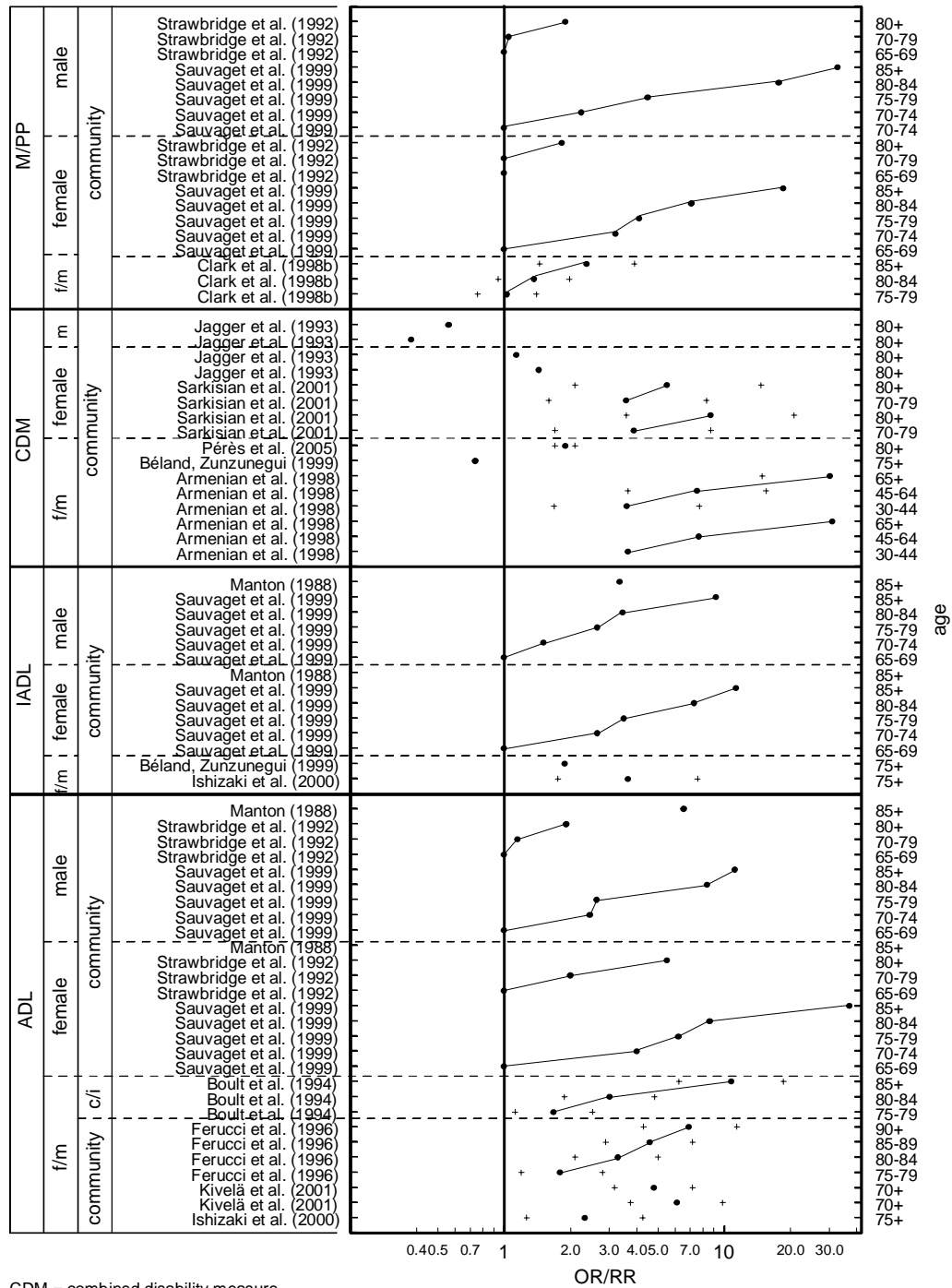
Figure 4: Transition from not disabled to disabled; risk factor age; continuous definition for a one-year increase in age.
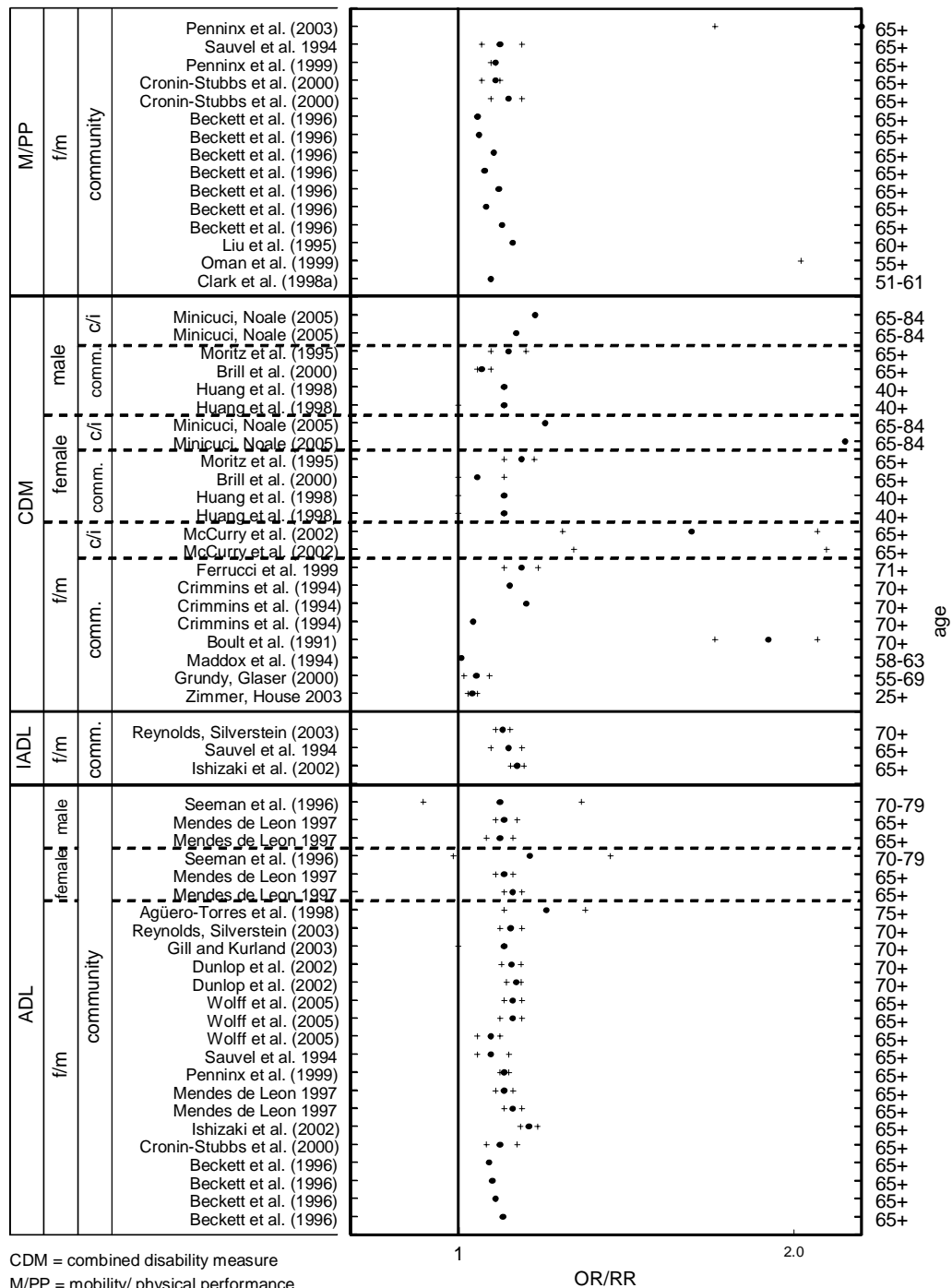
CDM = combined disability measure

M/PP = mobility/ physical performance

f/m = female and male

comm. = community-dwelling

c/i = community-dwelling and institutionalized

Figure 5: Transition from not disabled to disabled; risk factor sex; discrete definition with reference group male.
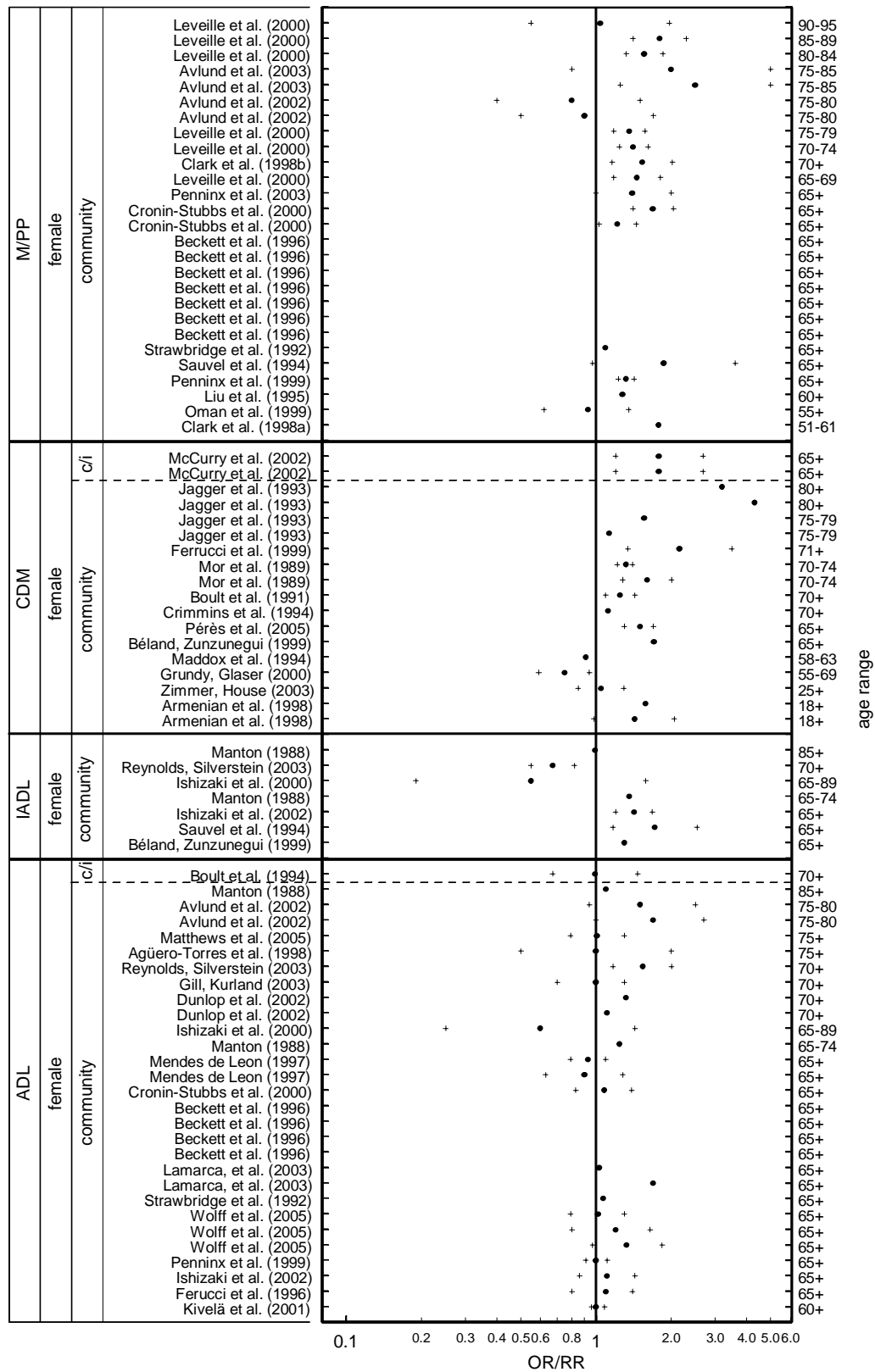
CDM = combined disability measure
M/PP = mobility/ physical performance
c/i = community-dwelling and institutionalized

Figure 6: Transition from not disabled to disabled; risk factor education; discrete definition with reference group high education.

CDM = combined disability measure

M/PP = mobility/ physical performance

f/m = female and male

c/i = community-dwelling and institutionalized

27

Figure 7: Transition from not disabled to disabled; risk factor education; continuous definition for a one-year increase in education.

M/PP = mobility/ physical performance
f/m = female and male

Figure 8: Transition from not disabled to disabled; risk factor marital status; discrete definition with reference group unmarried.

CDM = combined disability measure
M/PP = mobility/ physical performance
f/m = female and male
c = community
c/i = community-dwelling and institutionalized

Figure 9 and Figure 10: Transition form not disabled to disabled; risk factor body mass index; discrete definition with reference group normal weight (BMI=19–24.9 kg/m²) category and continuous definition for a one-point increase in body mass index.
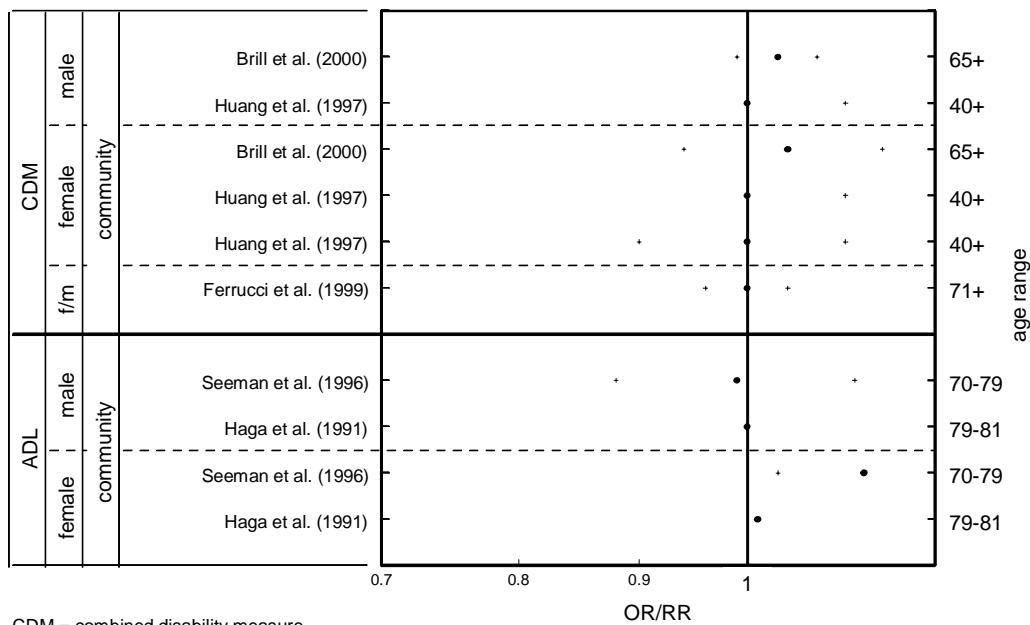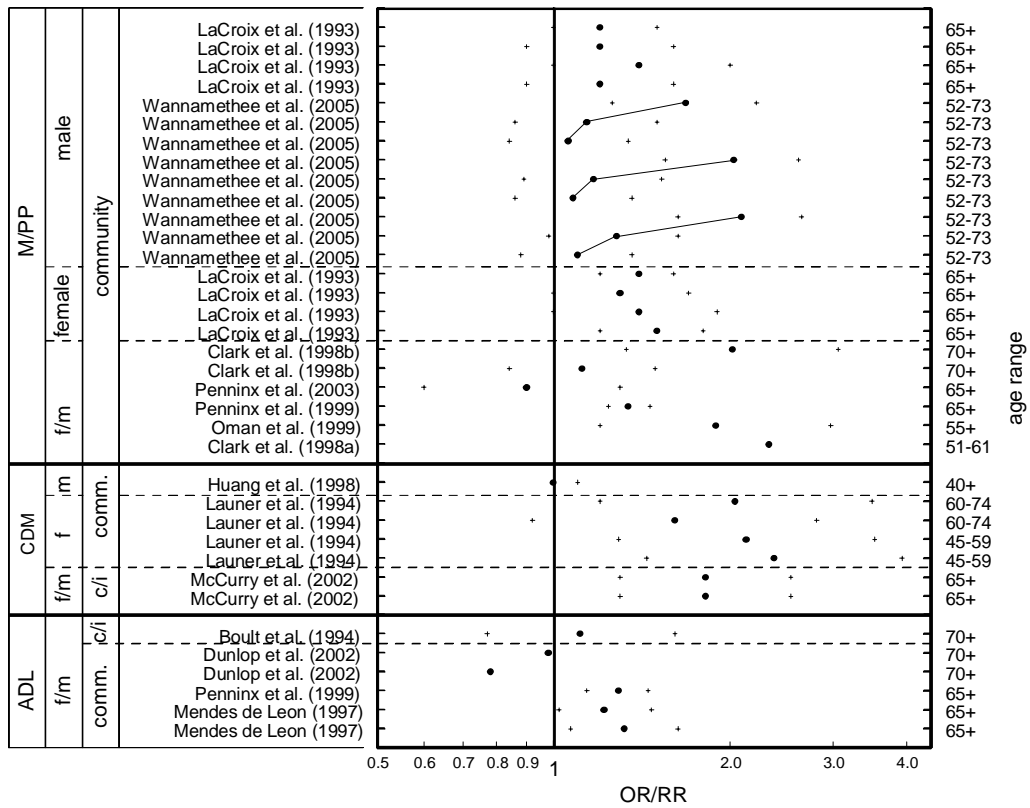
CDM = combined disability measure
M/PP = mobility/ physical performance
f/m = female and male
c/i = community-dwelling and institutionalized

Figure 11: Transition from not disabled to disabled; risk factor smoking; discrete definition with reference group non/never smoker.
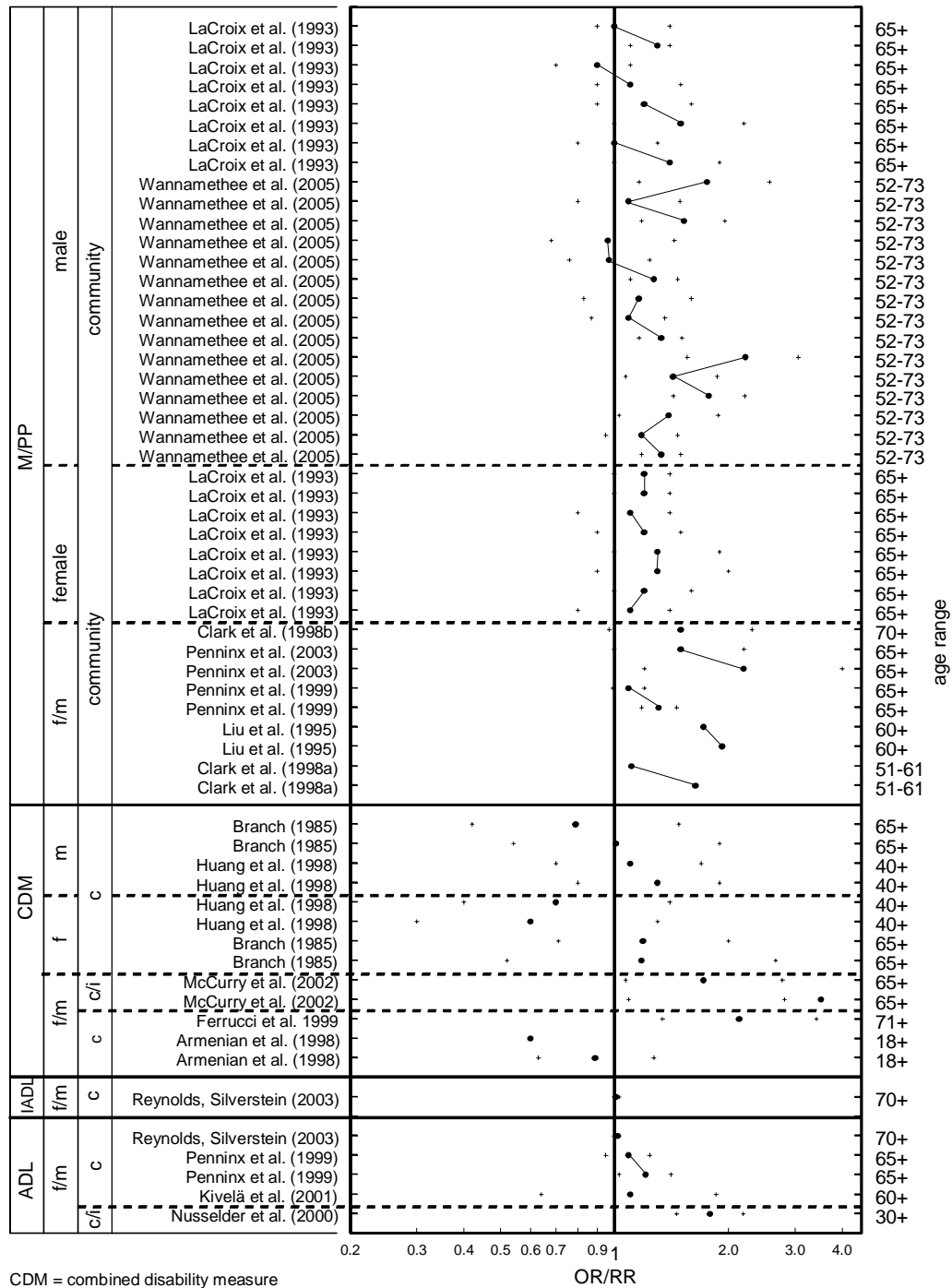
CDM = combined disability measure
M/PP = mobility/ physical performance
f/m = female and male
c = community
c/i = community-dwelling and institutionalized

7.2.2 Transition 2 from not disabled to death

Risk factor age

The risk to experience the transition from not disabled to death increases with age. Regardless whether age is measured as a discrete (Figure 12) or continuous variable (Figure 13) almost all results are statistically significant. The study by Boult et al. (1994) shows a detailed picture of the exponential increase of mortality over age which resembles the exponential trend in the risk of becoming disabled as shown in Figure 3.

The studies in Figure 13 report odds ratios or relative risks in the range of 1.05–1.20 with a geometric mean of 1.10. These summary descriptions are very similar to the numbers obtained from Figure 4 that shows age differences in the risk of becoming disabled (Transition 1). There are no substantial differences between the different subgroups and studies.

Risk factor sex

Figure 14 shows strong gender differences in the transition from not disabled to death. Mortality of females is about half or even less the mortality of males. Thus, these studies confirm our knowledge about the pattern of excess mortality of males. The study by Leveille et al. (2000) report age specific gender differences, however no clear trend emerges.

The only remarkable outlier with a higher mortality risk for females is the study by Zimmer and House (2003). This study, however, explores the risk of death as compared to the risk of improving health and can therefore not be compared with the others.

Risk factor education

Figure 15 and Figure 16 depict the influence of education. Only four data points show statistically significant mortality differences between educational groups. Three of these four indicate that more education is associated with lower mortality. The study by Melzer et al. (2001) allows a comparison between three educational groups and the two points for middle and low educated persons are connected by a line. The reference group is always the highest educated group.

The overall pattern of education and mortality is rather mixed. For men we see the expected mortality disadvantage for middle and low educated groups compared to the

highest group, but the difference between the two lower groups does not always confirm this dose-response relation.

For women the majority of the results indicate that there is a positive correlation between higher education and mortality. This gender difference can be seen in both studies that concentrate on mobility/physical performance as the state of origin, i.e. the study by Melzer et al. (2001) and the study by Avlund et al. (2004). However, the gender comparison by Minicuci & Noale (2005) who use other disability measures (which falls in our CDM-category) shows the opposite gender difference.

Figure 16 shows results from studies that use education as a continuous variable. Please note that the direction of the coefficients change between these two figures; in Figure 16 for the continuous measurement an OR less than 1 indicates that higher education is associated with lower mortality. All three results show the expected association, i.e. higher education means lower mortality.

Risk factor marital status

Figure 17 shows marital status differences. As with the other transitions, Avlund et al. (2004) use the distinction between living alone and with others rather than marital status. None of the studies report significant differences and the first data point from the study by Liu et al. (1995) gives no information about significance. This point is on the expected side of the figure, indicating that married persons have lower mortality. All other results point in the opposite direction probably indicating health selection into institutions.

Risk factor body mass index

Figure 18 shows with two insignificant and one significant result that overweight/obesity (BMI>27) is associated with lower mortality for people free of ADL disability. For ages 70+ the mortality advantage is even statistically significant. The difference between the two data points by Mendes de Leon (1997) results from a different number of control variables.

Risk factor smoking

We could only find one study, Liu et al. (1995) that explores the impact of smoking on the risk of dying without disability: this study shows an increased mortality risk for smokers as compared to non-smokers. As expected, former smokers have a mortality

risk that is in between the risk of those who never smoked and those currently smoke. Results are not significant, however.

Figure 12 and Figure 13: Transition from not disabled to death; risk factor age, discrete definition with reference group youngest age category and continuous definition with a one-year increase in age.

CDM = combined disability measure
f = female; m = male
f/m = female and male
c = community-dwelling
c/i = community-dwelling and institutionalized
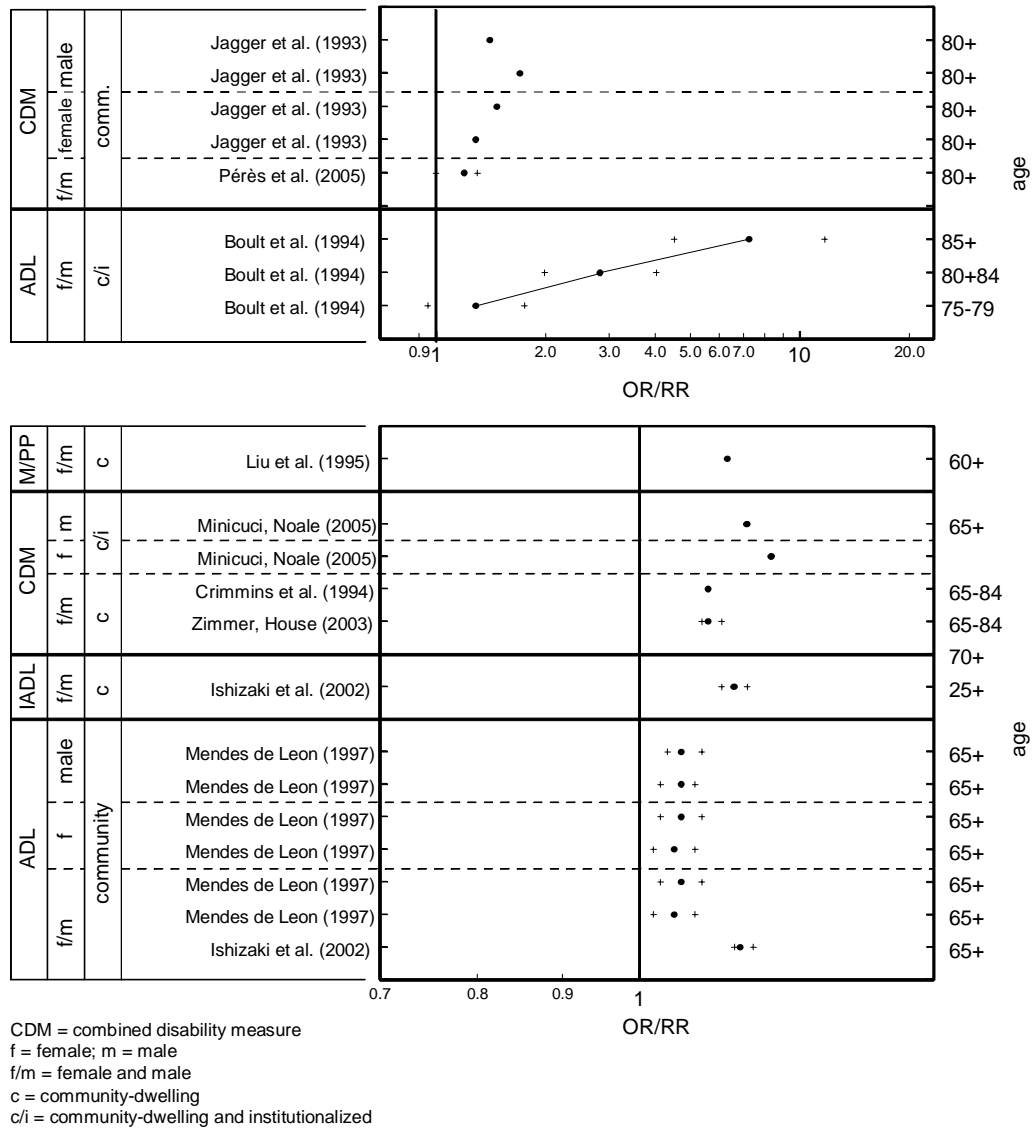
Figure 14: Transition from not disabled to death; risk factor sex; discrete definition with reference group male.
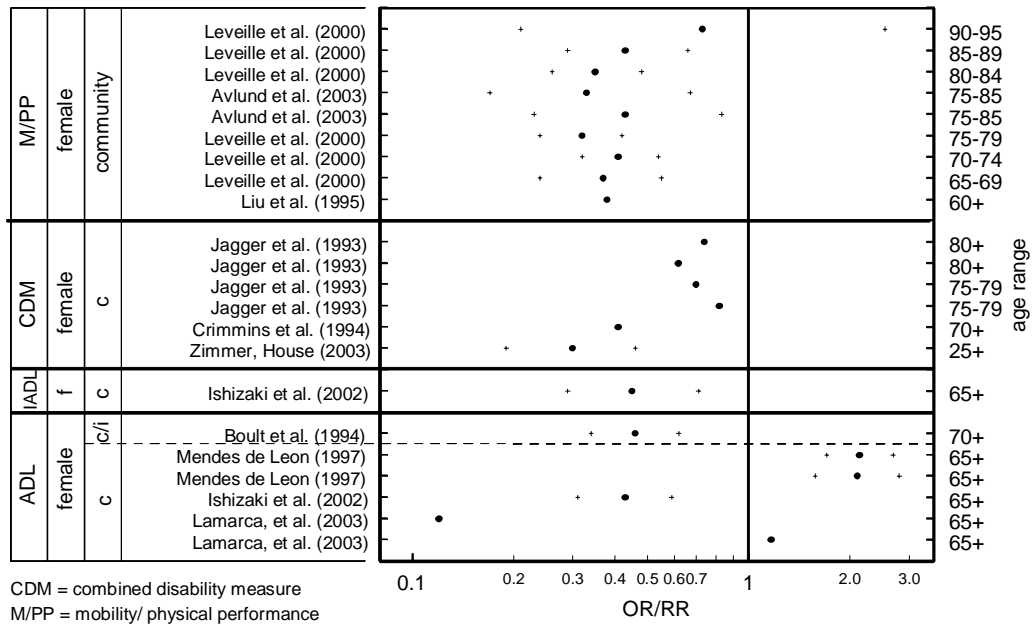
CDM = combined disability measure
M/PP = mobility/ physical performance
f = female
c = community
c/i = community-dwelling and institutionalized

Figure 15 and Figure 16: Transition from not disabled to death; risk factor education; discrete definition with reference group high education and continuous definition for a one-year increase in education.
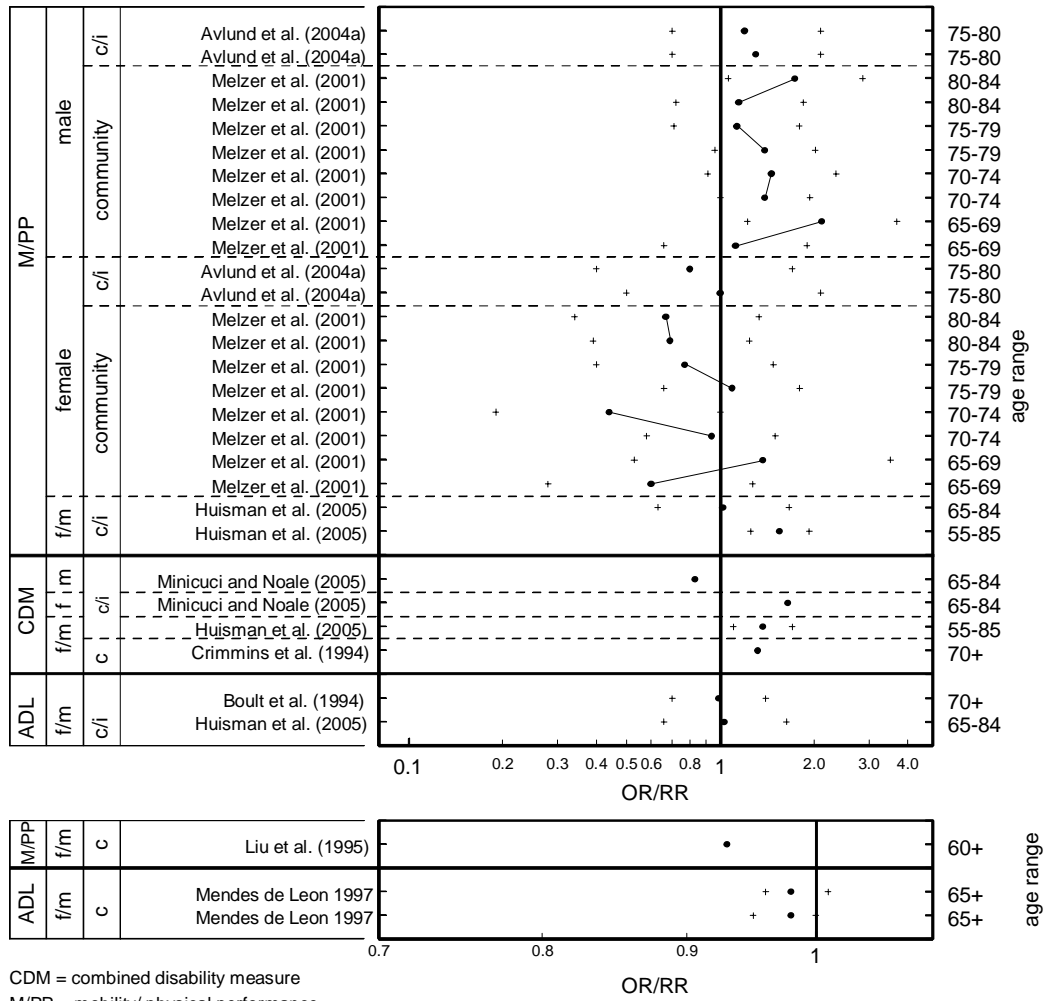
CDM = combined disability measure

M/PP = mobility/ physical performance

f = female; m = male

f/m = female and male

c = community

c/i = community-dwelling and institutionalized

Figure 17: Transition from not disabled to death; risk factor marital status; discrete definition with reference group unmarried.

CDM = combined disability measure
M/PP = mobility/ physical performance
f = female; m = male
f/m = female and male
c = community
c/i = community-dwelling and institutionalized
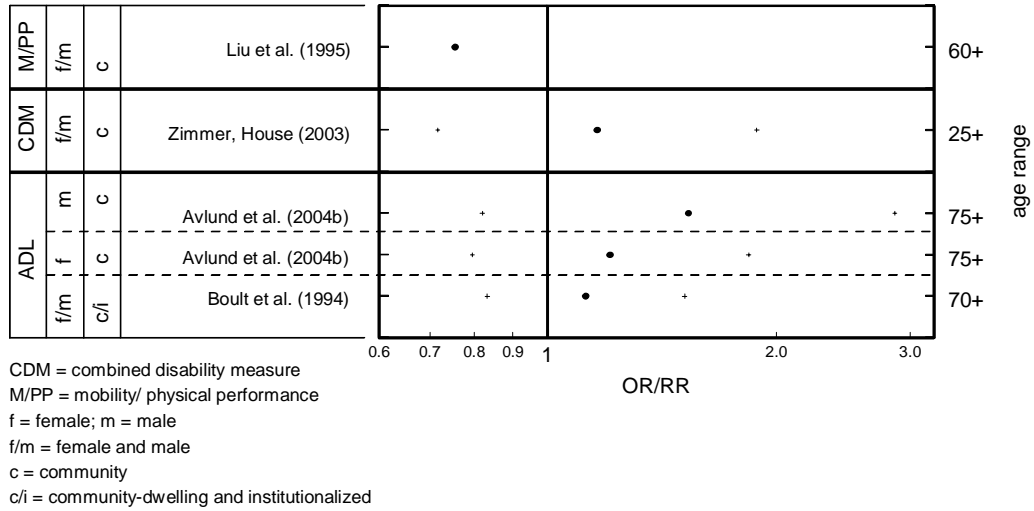
Figure 18: Transition from not disabled to death; risk factor body mass index; discrete definition with reference group normal weight (BMI=19–24.9 kg/m^2) category.

f/m = female and male
comm. = community
c/i = community-dwelling and institutionalized
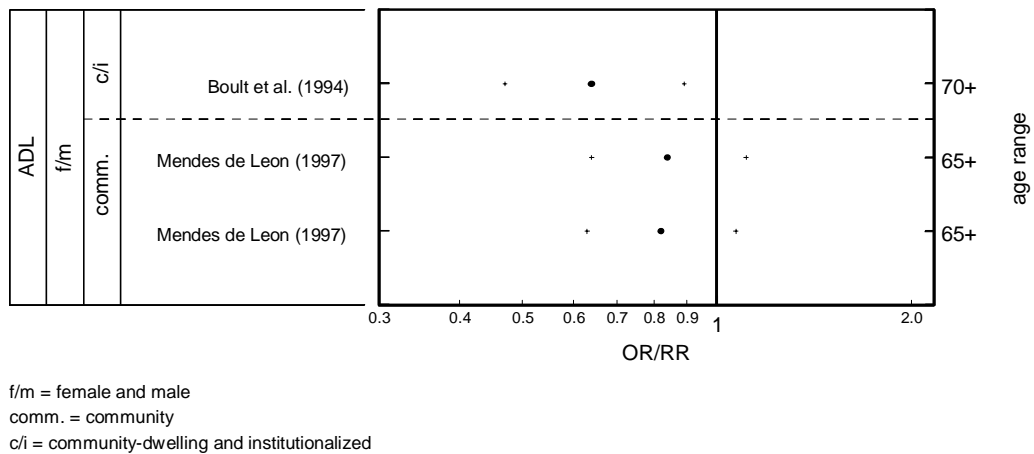
Figure 19: Transition from not disabled to death; risk factor smoking; discrete definition with reference group non/never smoker.

M/PP = mobility/ physical performance
f/m = female and male
c/i = community-dwelling and institutionalized
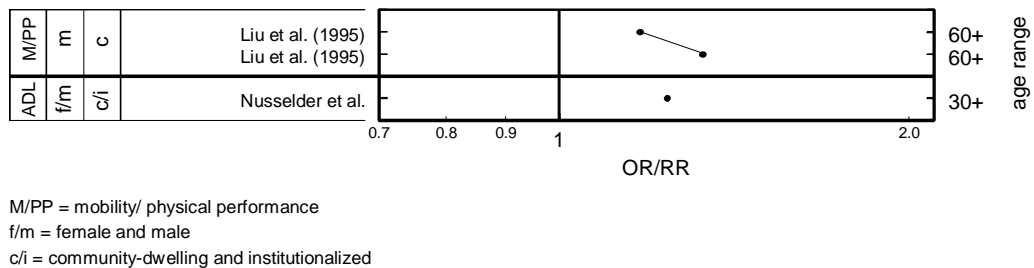
7.2.3 Transition 3 from disabled to not disabled

Risk factor age

Recovery is principally different from the other transitions because we look at health improvement, which is expected to be rather rare in old age. Accordingly Figure 20 for the discrete measurement of age shows that the "risk" to experience this transition is substantially lower at age 80+ compared to the age group 75–79.

Also the studies based on a continuous age measurement point in the same direction; the chance of recovery decreases with age. Within the study by Becket et al. (1996) there are results for different federal states of the USA. Additionally, within our disability category mobility/physical performance (M/PP) they apply a measure of physical activity (Nagi) but also a measure of mobility (Rosow & Breslau). Within the same federal states we see a slightly steeper decrease of the transition risk by year of age for the mobility measures than for the measures of physical performance.

Direct gender comparisons are possible within the study by Minicuci et al (1994) and the study by Mendes de Leon (1997). Both do not show substantial gender differences in the age pattern of the chance of recovery.

Overall studies in Figure 21 report odds ratios and relative risks in the range of 0.43–1.00 with a geometric mean of 0.93.

7.2.4 Risk factor sex

Figure 22 contains gender differences in the recovery rate and shows a general trend that women have a lower transition rate from disabled to not disabled. There are only a few exceptions such as Ishizaki et al. (2002) and Mendes de Leon (1997).

The large differences between the two data points reported by Crimmins et al. (1994) results from different definitions of disability within our CDM-category.

Risk factor education

Figure 23 shows the differences in recovery between educational groups. The overall result is that less educated groups have a lower rate of recovery from disability. All but two data points show this association. The more detailed differences between low and middle educated persons are not consistent; in many comparisons of these two groups provided in the study by Melzer et al. (2001) the least educated have a higher rate of recovery than the middle educated. But these differences are small and the confidence intervals largely overlap.

Within the study by Melzer et al. (2001) the difference between high educated and the two other groups are more often significant for women than for men. On the other hand, Minicuci et al. (2005) do not show gender differences in the educational pattern of the recovery risk.

We also do not see substantial age differences in this pattern. Figure 24 containing results based on the continuous measurement of education shows three data points suggesting the expected direction, i.e. more education increases the change of recovery, and two data point in the opposite direction. The first one from the study by Liu et al. (1995) is not statistically significant.

The two differing results by Mendes de Leon (1997) are based on two different populations. One indicates a significant decrease of the rate of recovery with more education and the other points in the opposite direction but is not statistically significant.

Risk factor marital status

Figure 25 shows marital status differences in recovery. There are only three data points. They show inconsistent result and are not statistically significant: Liu et al. (1995) show that married persons have a lower rate of recovery, Clark et al. (1998) show the expected result that married persons have a higher rate of recovery, and Hardy & Gill (2005) show again that those living with a partner have a lower recovery rate.

Risk factor body mass index

Figure 26 and Figure 27 show differences in recovery between different groups of Body mass index. In these figures the data points would be expected to be lower than one because values above one indicate that a higher BMI is associated with a higher rate of recovery.

The overall pattern is that overweight or obese persons have a lower rate of recovery, only the study by Hardy and Gill (2005) does not follow this trend. One possible explanation is that BMI is used as a continuous rather than as a categorical variable.

In Figure 26 the two series of three data points connected with a line show that obese men between age 52 and 73 have almost the same rate of recovery than men with normal weight (Wannamethee et al. 2005). It is surprising that men who are only overweight and not obese have a lower rate of recovery compared to normal weight and obese persons. This pattern is independent from the number of control variables.

Risk factor smoking

Figure 28 shows differences in recovery between different groups of smokers. Wannamethee et al. (2005) distinguish between different categories of smokers which in the figure are displayed as four series of three data points connected with a line. Each point represents current smokers, former smokers and long-term former smokers, all compared to never smoked. None of the results by Wannamethee et al. are statistically significant and there exists no consistent trend.

The studies by Liu et al. (1995) and Clark et al. (1998) both indicate that current smokers have a lower chance of recovery than former smokers, the recovery rate of the latter group being only slightly lower than the rate of non-smokers. The surprising result by Hardy & Gill (2005) that non-smokers have a lower chance of recovery is not statistically significant.

Figure 20 and Figure 21: Transition from disabled to not disabled; risk factor age; discrete definition with reference group youngest age category and continuous definition for a one-year increase in age.
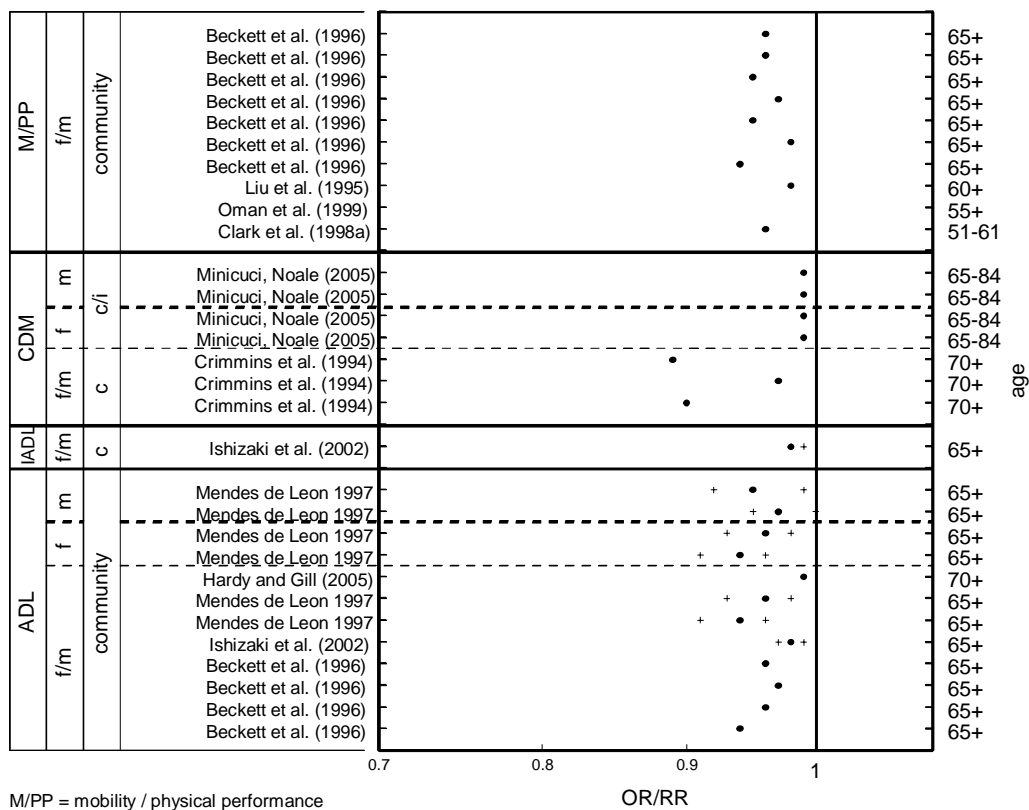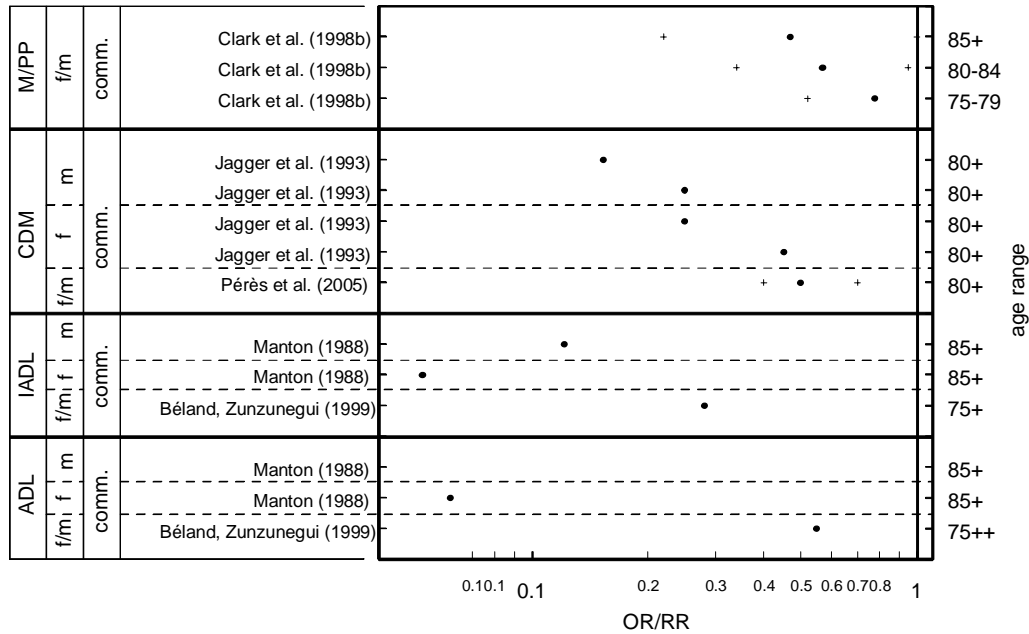
M/PP = mobility / physical performance
CDM = combined disability measure
f = female; m = male
f/m = female and male
comm. = community-dwelling

Figure 22: Transition from disabled to not disabled; risk factor sex; discrete definition with reference group male.
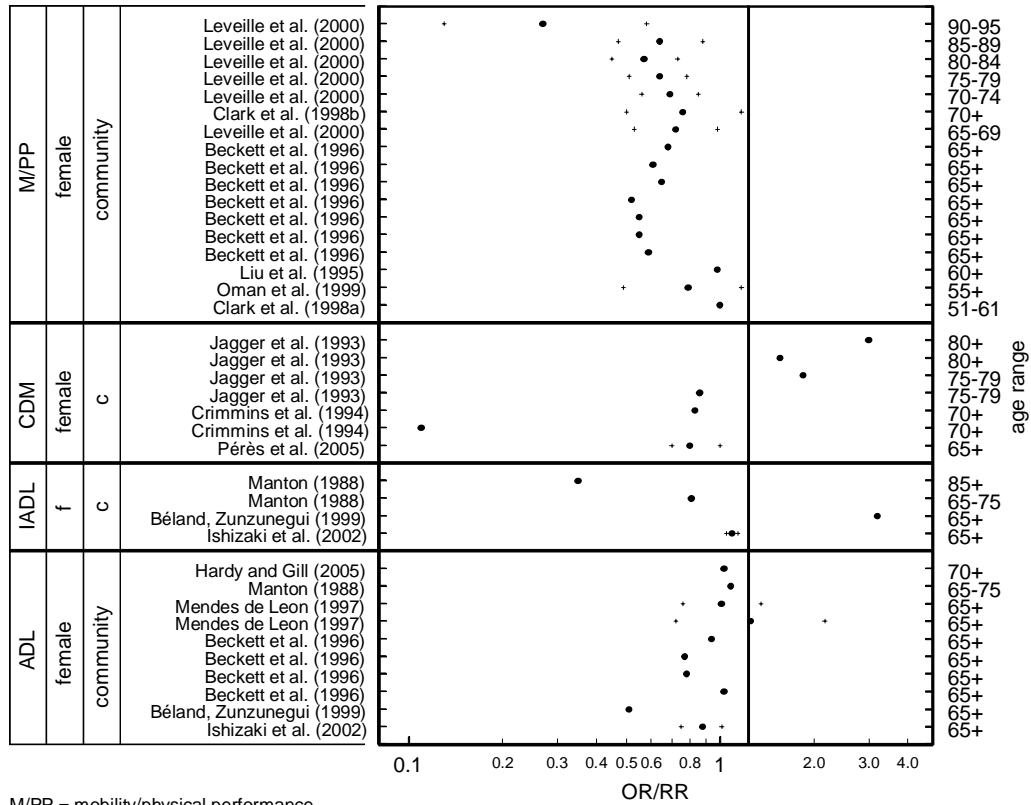
M/PP = mobility/physical performance

CDM = combined disabilty measure

f = female

c = community

Figure 23 and Figure 24: Transition from disabled to not disabled; risk factor education; discrete definition with reference group high education and continuous definition for a one-year increase in education.
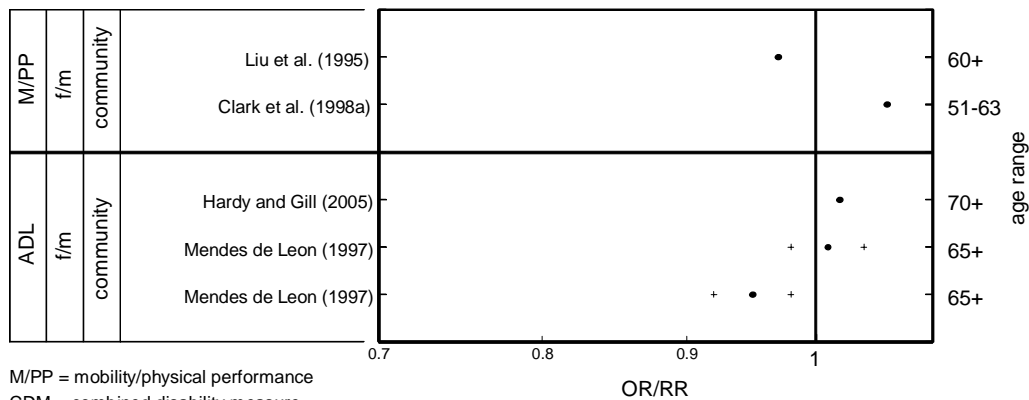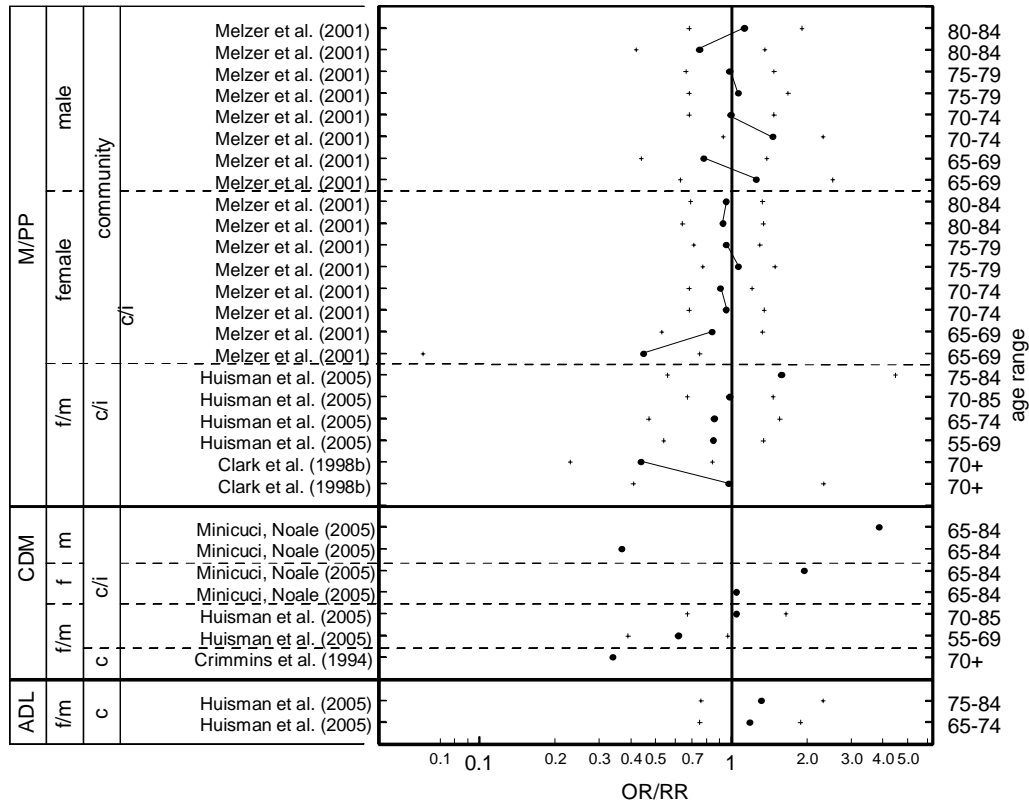
M/PP = mobility/physical performance
CDM = combined disability measure
f/m = female and male
c = community-dwelling
c/i = community-dwelling and institutionalized

Figure 25: Transition from disabled to not disabled; risk factor marital status; discrete definition with reference group unmarried.

CDM = combined disability measure
M/PP = mobility/ physical performance
f/m = female and male
c = community
c/i = community-dwelling and institutionalized
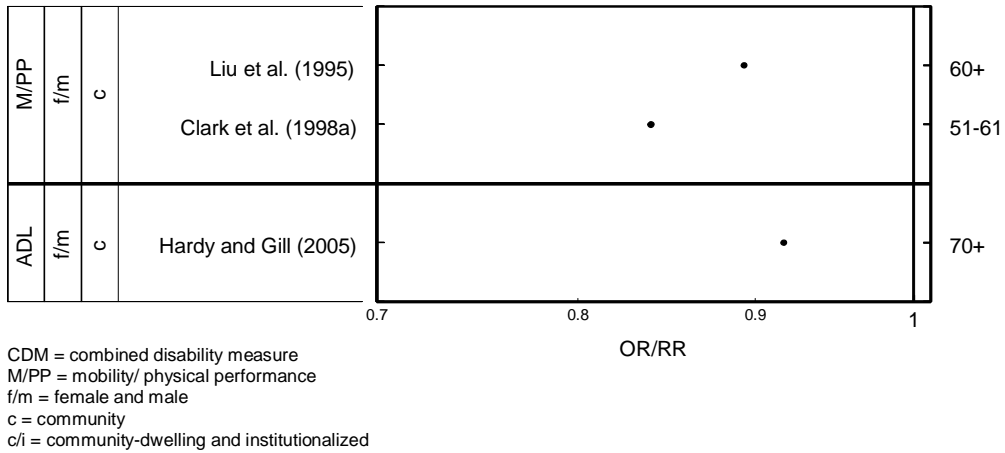
Figure 26 and Figure 27: Transition from disabled to not disabled; risk factor body mass index; discrete definition with reference group normal weight (BMI =19–24.9 kg/m^2) category.

M/PP = mobility/ physical performance
f/m = female and male
comm. = community-dwelling
c/i = community-dwelling and institutionalized

M/PP = mobility/physical performance
f/m = female and male
comm. = community-dwelling
c/i = community-dwelling and institutionalized
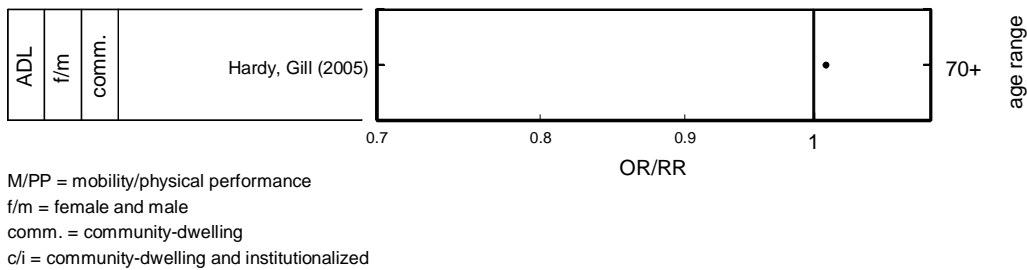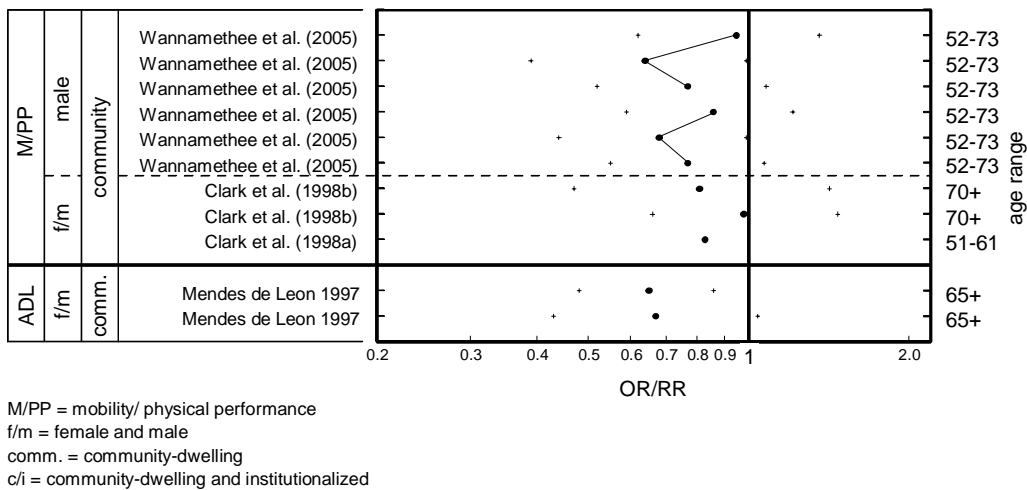
Figure 28: Transition from disabled to not disabled; risk factor smoking; discrete definition with reference group non/never smoker.
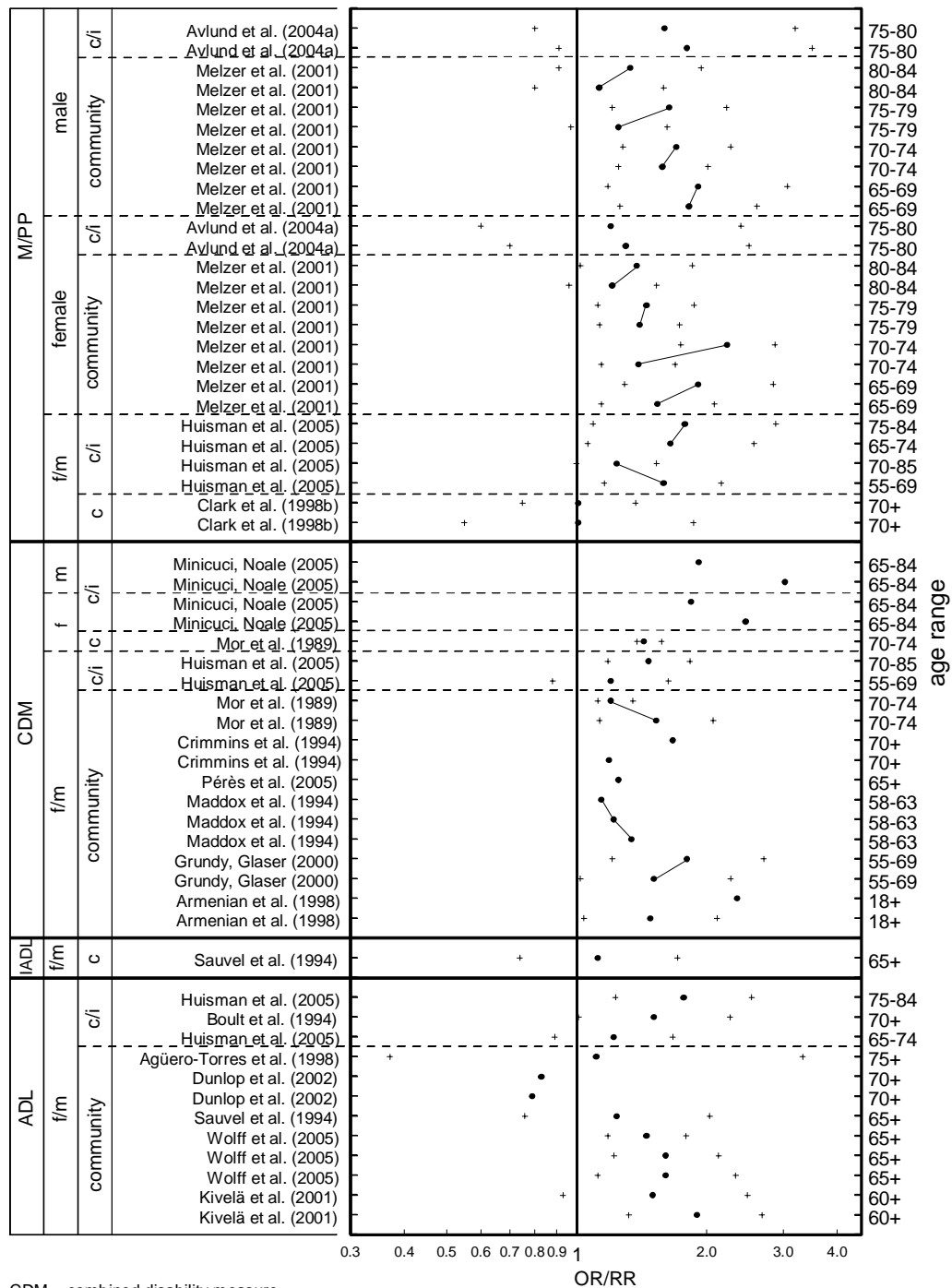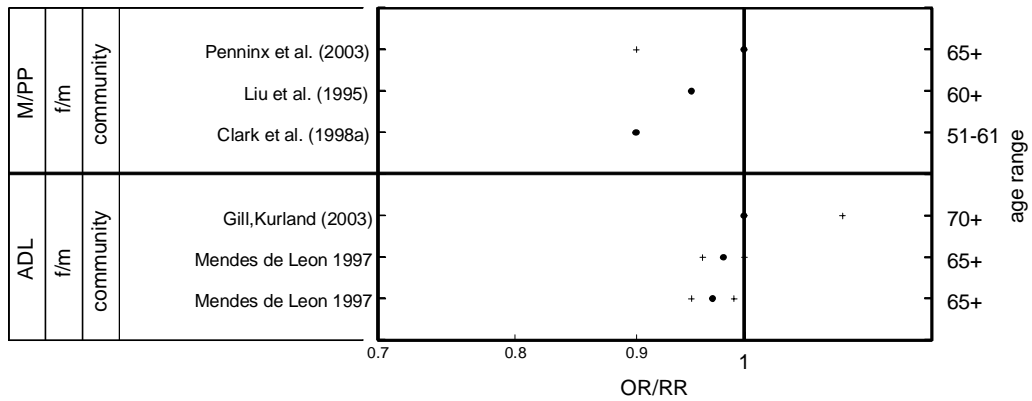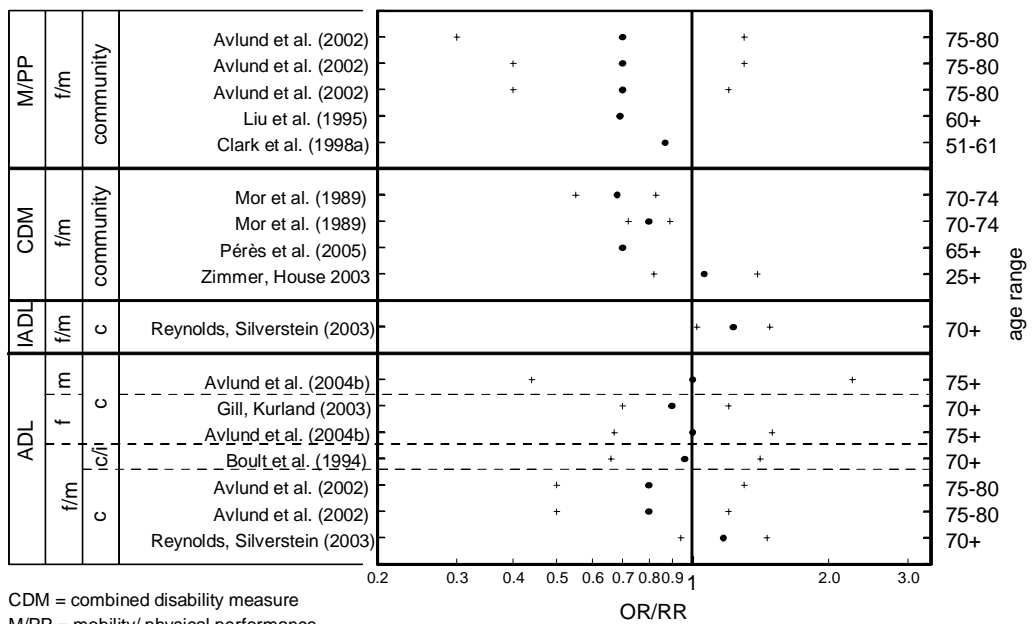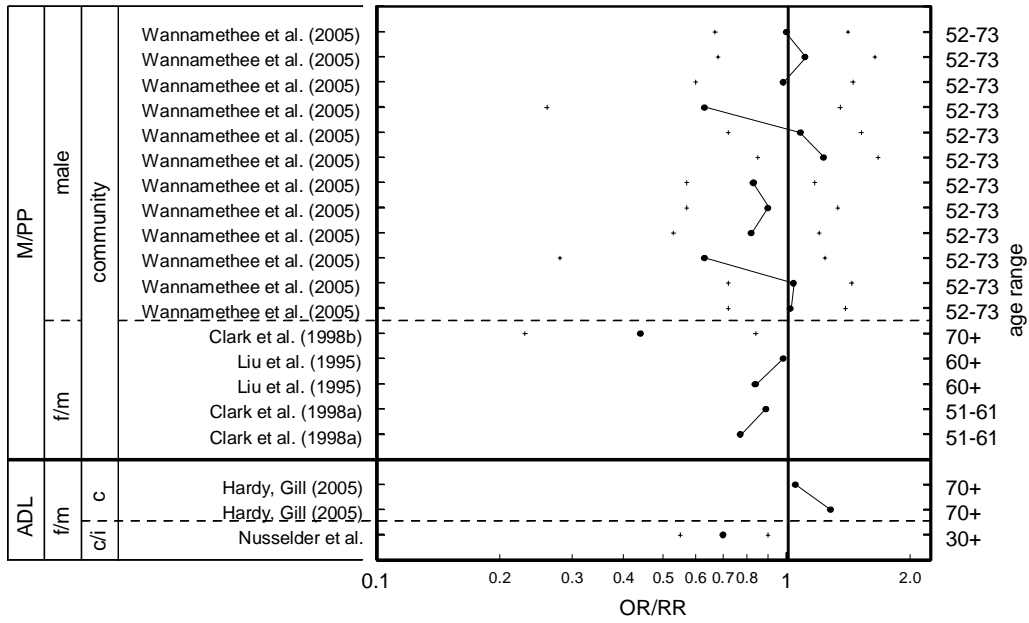

M/PP = mobility/physical performance

f/m = female and male

c = community-dwelling

7.2.5 Transition 4 from disabled to death

Risk factor age

All studies report a significant increase in the transition from disabled to death with age. Those studies that contain separate estimates for males and females (Minicuci and Noale 2005 and Mendes de Leon 1997) indicate that the transition increases faster with age among males than females. The size of the age effect and the difference between the two sexes is particularly striking in the study of Minicuci and Noale, probably because it includes both institutionalized and private households. Another study with a rather large effect of age is Zimmer and House (2003) which may be explained by the fact that the study population starts at age 25 and because it studies the transition to death as compared to improvement.

The geometric mean of the odds ratios reported in studies using age as a continuous variable is 1.04, of the relative risks 1.06. The three studies that use age as a discrete measure show the risk of transitions for ages 80+, 84+ and 88+ as compared to the younger reference groups. The effect sizes range from 1.20 (comparison of age 80+ to ages below 80) to 1.48 (comparison ages 88+ to ages below 88).

Risk factor sex

Similar to the transition from not disabled to death we find strong gender differences for dying disabled. Women clearly have a significantly lower mortality risk: in terms of odds ratios the geometric mean is 0.77; in terms of relative risks, 0.45. The study by Leveille et al. (2000) report age-specific gender differences, however no clear trend emerges.

The only remarkable outlier with a higher mortality risk for females is the study by Zimmer and House (2003). This study, however, explores the risk of death as compared to the risk of improving health and can therefore not be compared with the others.

Risk factor education

We find five studies with the most detailed information contained in the study by Melzer et al. (2001). In this study sex and age specific educational gradients are reported. With the exception of Minicuci and Noale (2005) all studies are confined to private households. In Figure 32 educational gradients within one study are connected with a line.

From the study by Melzer et al. we get a clear indication that increased education reduces the risk of death in all age groups, although confidence intervals reveal that the results are not significant. The positive effect seems to diminish with age, particularly among males. Two studies use education as a continuous variable, their results, however, are not conclusive.

Overall, the effect sizes of education vary largely between the different studies. Minicuci and Noale find larger effect sizes of education than the other studies most probably due to the inclusion of the institutionalized population; Zimmer and House (2003) report comparatively small effects, which again might be explained by the age range of the study (25+) and the unique specification of the studied transition.

Risk factor marital status

Although results are generally not significant they indicate that the married have a lower risk of experiencing the transition from disabled to death (Figure 34). This result applies to the age group 25+ as well as to old ages. Unfortunately, we do not have studies that show gender specific effects of marital status.

Risk factor body mass index

We only find one study (Mendes de Leon 1997) that reports the effect of BMI on the transition from disabled to death (Figure 35). This study reports a protective effect of high BMI (>27) in two independent community dwelling study populations (New Haven & North Carolina). Results, however, are not significant.

Risk factor smoking

The only study, Liu et al. (1995), that explores the impact of smoking on the risk of dying with disability shows an unexpected result: Current smokers and those who were smoking before have a lower risk to die. This result, however, is not significant.

Figure 29 and Figure 30: Transition from disabled to death; risk factor age; discrete definition with reference group youngest age category and continuous definition for a one-year increase.
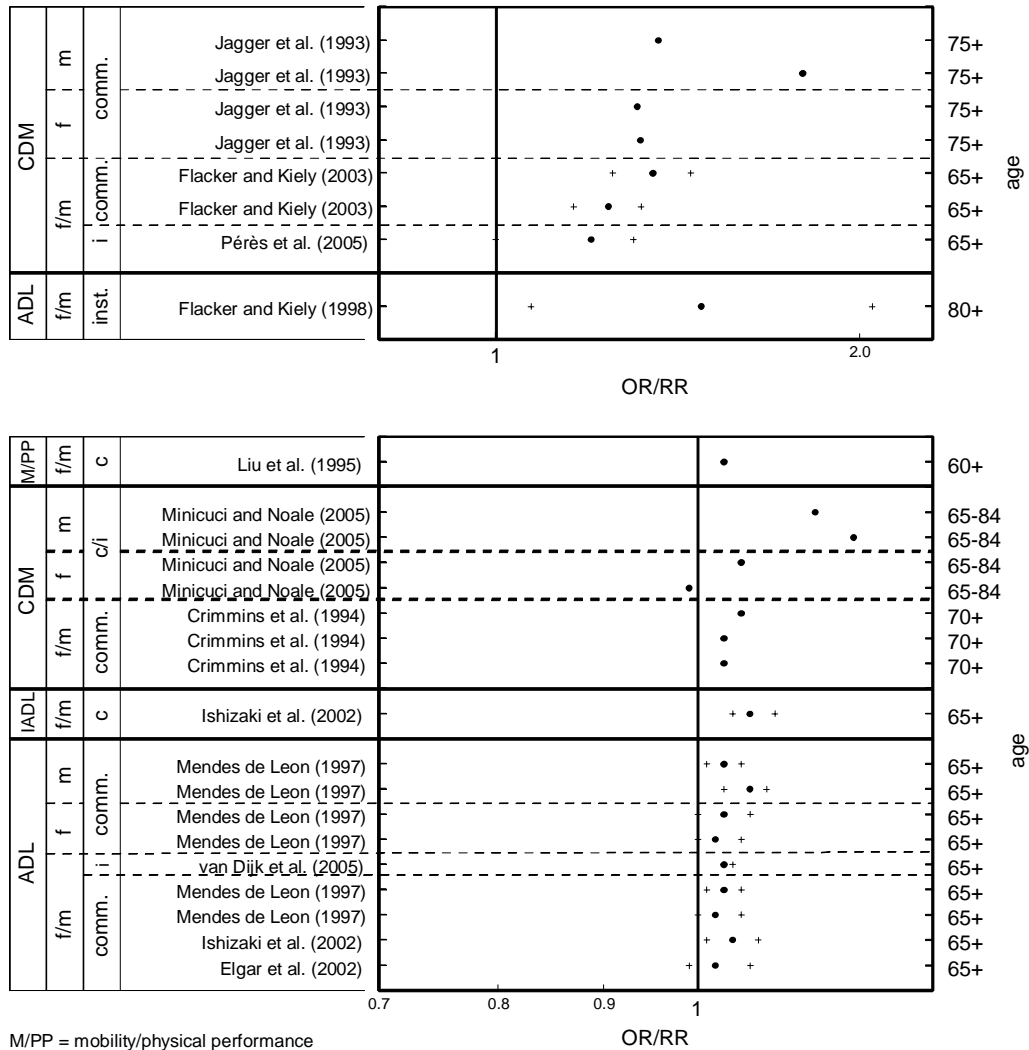
M/PP = mobility/physical performance
CDM = combined disability measure
f = female; m = male
f/m = female and male
c; comm. = community-dwelling
inst. = institutionalized
c/i = community-dwelling and institutionalized

Figure 31: Transition from disabled to death; risk factor sex; discrete definition with reference group male.
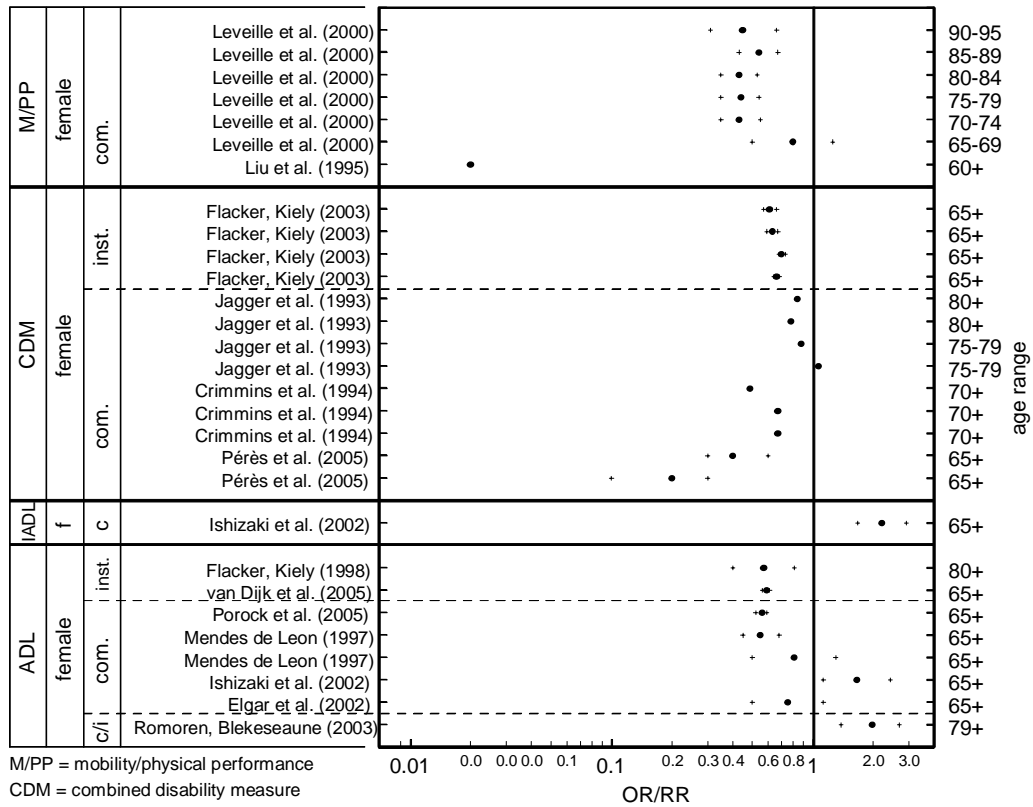
M/PP = mobility/physical performance
CDM = combined disability measure
f = female
com. = community-dwelling
inst. = institutionalized
c/i = community-dwelling/institutionalized

Figure 32 and Figure 33: Transition from disabled to death, risk factor education; discrete definition with reference group high education and continuous definition for a one-year increase in education.

M/PP = mobility/physical performance
CDM = combined disability measure
f = female; m = male
f/m = female and male
c = community-dwelling
c/i = community-dwelling and institutionalized
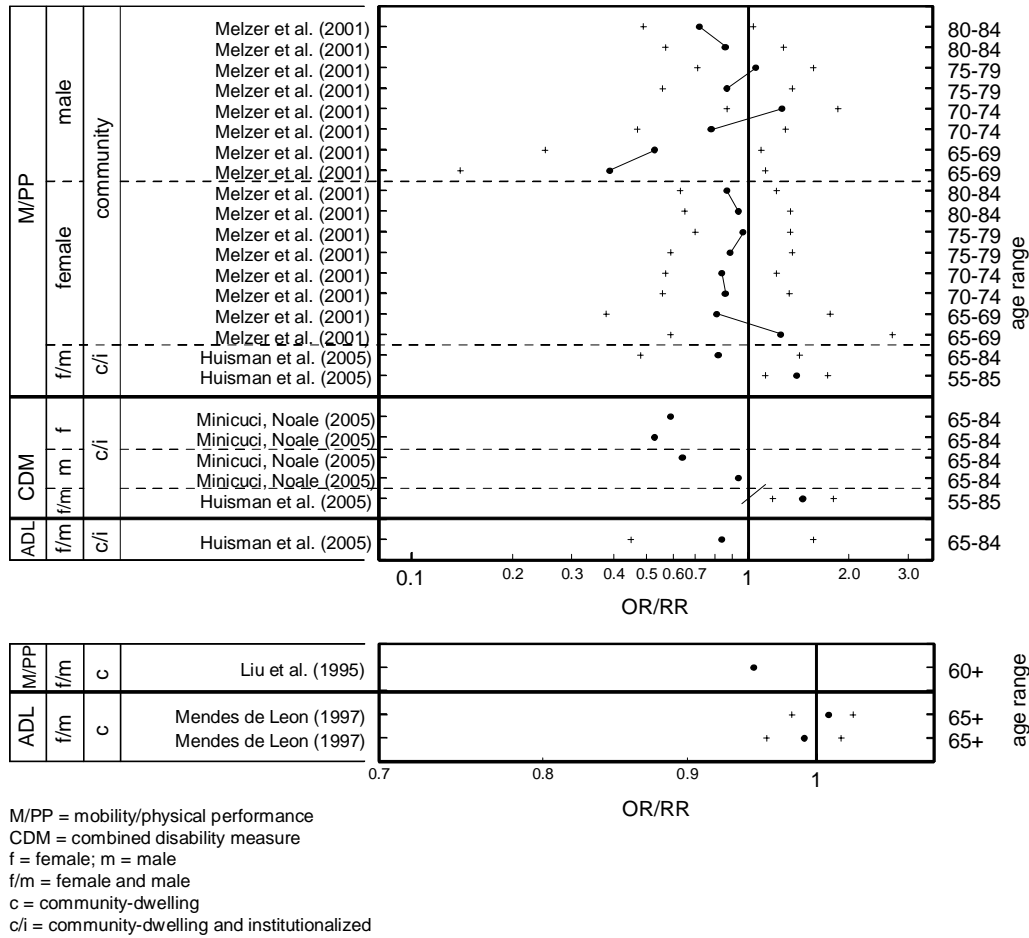
Figure 34: Transition from disabled to death; risk factor marital status; discrete definition with reference group unmarried.

M/PP = mobility/ physical performance
f/m = female and male
c = community
c/i = community-dwelling and institutionalized
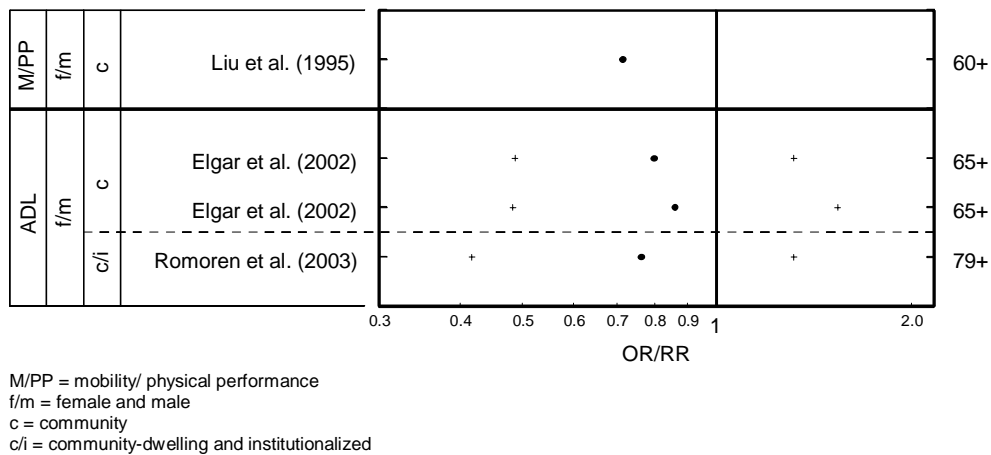
Figure 35: Transition from disabled to death; risk factor body mass index, discrete definition with reference group normal weight (BMI=19–24.9 kg/m^2) category.
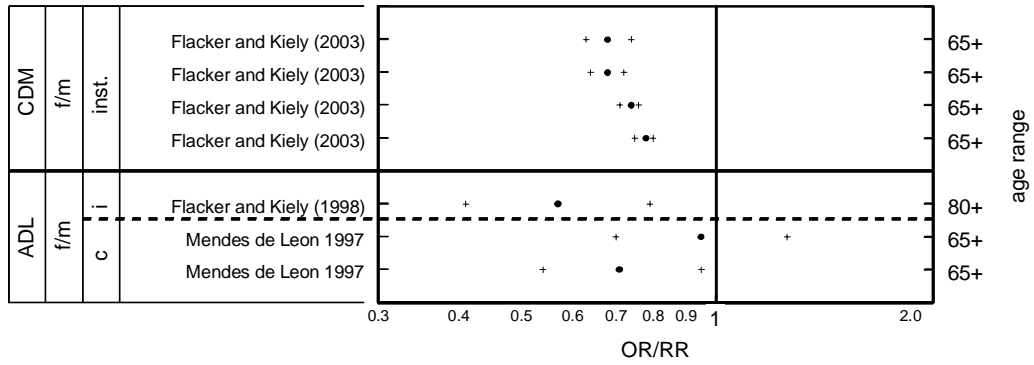
f/m = female and male

c = community-dwelling

i = institutionalized

Figure 36: Transition from disabled to death; risk factor smoking; discrete definition with reference group non/never smoker.
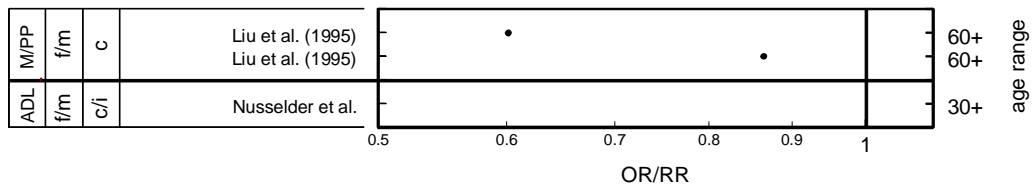
M/PP = mobility/physical performance

f/m = female and male

c = community-dwelling

8   Discussion

This literature review took initially 8016 articles into account that present empirical results about risk factors for disability and mortality. After applying broad and very specific criteria of what exact kind of empirical results we want to analyze, 55 research articles were left and underwent a detailed procedure of collecting, recalculating, summarizing and presenting the available information. We structured the large amount of results in the previous section according to the transition for which the risk factors and their relative impact are shown. Secondly, we went downwards several levels to show risk factors for each transition, different disability measures, gender and population specific differences, age differences, different statistical measures and finally the different findings by the authors who published their results for the specific combination of factors in question.

The result section shows that the available results in the literature are not evenly distributed across the different categories. To begin with, we find by far the most results for Transition 1 from not disabled to disabled (51 articles). The remaining three transitions are relatively similar in their frequency (14, 17 and 15 articles). This frequency distribution could partly be due to external reasons like data availability or research traditions, but we think that it reflects a specific perspective on the process of health deterioration. It is justified to focus mainly on the transition from a healthy status to disability because it is the initial, the most important and the most informative one, since it reveals the most information about possible preventions and interventions.

Compared to the first transition the second transition from not disabled to death is rare. Most deaths occur after a certain period of illness and disability because most risk factors need time to show their effect and to accumulate, and to eventually lead to a severe physical decline. The third transition is recovery, which is principally rare when we look at old age. A specific health problem may be cured, but the sum of health problems tends to increase with age and improving health is only a temporary event. The transition from disabled to death occurs as often as the first transition but maybe it is studied less because it occurs in a later state of the disablement process. In this state, many of the risk factors that we look at (education, marital status, obesity, smoking) have already influenced the health trajectory and it may be more difficult for other factors or for an improvement of these factors, e.g. smoking cessa-

tion, to have a positive effect on the overall health status. Moreover, the measurement of this transition includes a simplification: from many different disability statuses observed at baseline, only transitions to one single state, the state of death, are observed. In contrast to this, Transition 1 offers much more alternatives where different risk factors can influence the body in different directions and provoke many different kinds of disability. For analyzing the different impacts of different risk factors, this is probably the more interesting setting because it offers more variety to be analyzed.

Within one transition we also find a very unequally distributed frequency of results for our six risk factors. In the studies included in our literature review, the most results exist for the risk factor age. This is not surprising because the use of age-specific disability and age specific models was a search criterion in our selection. Age may also be so frequently used because it is almost automatically included in most analysis and models, since it serves as the most important control variable. Not all studies that present results for this variable really focus on its impact, they rather control for the impact of age to show the net impact of other variables.

The next variable is education, with almost as many results as for age. Although it is not clear if education is the best indicator for socioeconomic status it is a good indicator and may be more easily available than income. Thus, researchers who want to include the socioeconomic status, which produces large differences in health and mortality, choose education very often. Almost half of the amount of results for age we find for gender or sex. As a control variable for an epidemiological analysis it is as important as age. It may be less frequent in our collection of studies because many analysis are already separately done for each sex, so that a direct risk ratio for men versus women is not available and necessary, or the study as a whole only focus on either men or women.

We have roughly the same number of data points in our review for the risk factors marital status, obesity and smoking. Marital status is probably the most available of these three, but maybe the epidemiological relevance is not so clear. Regarding smoking and obesity, we can assume that they are only rarely analyzed because appropriate data is difficult to find. Note that in the design of this literature analysis we set high standards for the quality of the study, including the standard of a longitudinal perspective, which as such requires longitudinal, and therefore more expensive and rare data sets. Additional to that, the measurement of health behavior like smoking and rather personal information like the body mass index is more dif-

ficult than to ask a respondent about his or her marital status or age. Generally, if we find in the present literature review that certain risk factors are analyzed rarely, it does not mean that the overall number of studies with this risk factor is small. But we can say that this risk factor is rarely used in studies that fulfill our criteria, e.g. longitudinal study, defined transitions, only one baseline status etc.

Interpreting the relative frequency of our six risk factors, we can say that there is a lack of representatives of proximate risk factors like smoking and obesity. Besides the possible reasons for this under-representation already mentioned above, this may be, because proximate causes, i.e. the unhealthy factors directly affecting health, are less informative and less helpful for improving the heath status and health care. Perhaps it is more important to get knowledge about the underlying fundamental factors that make people smoke or make them eat too much or refrain from doing sport (Link & Phelan 1995). Another practical reason for the low number of studies about obesity and smoking may be that these factors are more often analyzed in shorter clinical cross-sectional studies and are thus excluded from our specific literature review.

Research results in the literature differ very much concerning the quality and consistency of findings. For the risk factors age and sex we have clear and statistically significant evidence for all transitions that the risk of disability and mortality increases with age. Women have on the one hand a higher risk of disability and a lower risk of recovery but also a lower mortality risk. For education we only have consistent and significant results for the first transition (becoming disabled). For all other transitions we can only show very few significant data points for the impact of education. Given the fact that education is already the most frequently used indicator for socioeconomic status with a high significance as an indicator and also as a cause for health differences, it is surprising that the scientific evidence is rather weak. The same is true for marital status, which is another indicator for social, respectively psychosocial circumstances that can influence health and mortality. Again, for the first transition we have a clear pattern, but the remaining three transitions show few results and even fewer significant results. As mentioned above, smoking and obesity are least represented in our research articles. They show consistent patterns for the first transition but mixed and very often insignificant results for other transitions.

To conclude, only for the risk factors age and sex we find enough evidence about their impact on disability and mortality, and only for the first transition we can find significant results

for all risk factors. Age and sex are the most important determinants of mortality, but in terms of behavior and health policy they are much less interesting because age and sex can not be changed; only the age composition of the society as a whole will change. For the implementation of promising health measures it would be much more important to have knowledge about factors that can be influenced by social factors and explicit policy.

Based on the four different transitions that we included in our literature analysis, it is possible to describe different effects of the same risk factor on different transitions. For some risk factors we see the same impact for all transitions: this is particularly true for age and sex. Note that, of course age and sex have literally different effects on our transitions, e.g. Transition 3 is principally different because it means recovery and men and women have different disability and mortality levels, but this shall not be further discussed here. Rather it is noteworthy that for the risk factor education, we see that there are clear gender differences in Transition 2 indicating that lower education seems to increase the risk to die in good health for men, but it seems to decrease this risk for women (**Error! Reference source not found.**). For marital status we see a relatively clear impact on the risk to die unhealthy (although not statistically significant) and less clear namely mixed results for all other transition. Maybe in the transition from poor health to death a spouse is more relevant than for earlier transitions or recovery because the spouse can prevent an ill person from dying. For the risk factor obesity we see a disadvantage for obese persons in the risk to become disabled, but a slight mortality advantage for the same group. This could be an indicator that obesity increases the risk of disability but is not as dangerous concerning mortality. Smoking shows its negative impact on all transition but the results for recovery are surprisingly mixed, i.e. once an illness is developed, non-smokers or former smokers do not have much of an advantage compared to smokers.

The first category on the left side of each figure is the measure of disability. Our review failed to reveal clear differences between these different measures. If large differences in the results in one figure occur, which is the case in many of them, the pattern does not show that the choice of disability measure influences the results. One reason could be that the four different basic concepts we introduced in Section 5.2 or the four different categories of disability measures we propose in Section 6.2 all do sufficiently fine in measuring the health status so that different measures would come to the same evaluation of the same health status. On the other hand it is possible that these different measures are not consistent and overlap so

that different measures within one of our categories, or within one of the basic concepts, measure different and relatively independent aspects of the health status. We consider the existence of a large and sometimes confusing number of different ways to measure disability as a fact that expresses the variety of approaches. But this variety also complicates all attempts to unify research findings and to make the existing findings easier to use and to interpret.

Our literature review is an attempt to summarize the variety and the large amount of research findings. It puts us into the position to identify areas where more research is needed. In the past the main emphasis has been put on measuring disability and developing new indices and scales of disability. This has led to an enormous variety of concepts of health and disability that now pose large obstacles when trying to extract common trends and patterns from the different studies. In the future it should be worked more on the harmonization of the different concepts of health and disability rather than on capturing specific aspects. Otherwise it would require constantly more effort, resources and specialized knowledge to profit from the existing literature. It is unlikely that all researchers or institutions that need general epidemiological findings have the time and the money to perform a large scale literature review as we offer here.

In general, more thought should be given to the state-space that exists in disability studies. Many studies that we do not find eligible for this review, particularly in the area of mortality, are based on populations where at baseline no distinction between disabled and not disabled was made. For example, there exists an enormous amount of literature of the effect of education on mortality. Most of these studies, however, either control for the disability status at baseline or do not consider disability at all rather than exploring the mortality of disabled or not disabled separately.

Although the transition from not disabled to disabled is the most challenging for public policy makers in terms of prevention measures, we need more information on recovery, and the transition from either not disabled or disabled to death. Particularly the latter one seems to be under-explored, given the still open question of a compression or expansion of disability with increasing life expectancy. We were particularly surprised that we could only find one study that looks at the effect of smoking separately for the transition from not disabled and disabled to death.

We generally need more studies on risk factors of transitions other than sex and age. In our review we find a protective effect of high BMI in terms of mortality but a negative effect on

disability and recovery. We certainly need more studies to confirm this result, and to rule out that the protective effect is simply the result of weight loss due to morbidity prior to death.

To conclude, future research should try to harmonize the concepts of disability and health in order to allow more efficient use of the numerous particular research findings. Research should give more attention to the state-space of disability and the possible transitions should prioritize the transition from disability to death and should put more emphasis on risk factors other than sex and age.

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Appendix

Appendix 1: Tables describing the graphs for transition 1 from not disabled to disabled

Table A.1 1: Transition from not disabled to disabled; risk factor age; discrete definition with reference group youngest age category.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Strawbridge et al. (1992)	M/PP	m	com.	65-69	80+	incid ence	0.38		RR	1.90			--	
Strawbridge et al. (1992)	M/PP	m	com.	65-69	70-79	incid ence	0.21		RR	1.05			--	
Strawbridge et al. (1992)	M/PP	m	com.	65-69	65-69	incid ence	0.20		RR	1.00			--	
Sauvaget et al. (1999)	M/PP	m	com.	65-69	85+	incid ence	13.10		RR	32.75			-	
Sauvaget et al. (1999)	M/PP	m	com.	65-69	80-84	incid ence	7.10		RR	17.75			-	
Sauvaget et al. (1999)	M/PP	m	com.	65-69	75-79	incid ence	1.80		RR	4.50			-	
Sauvaget et al. (1999)	M/PP	m	com.	65-69	70-74	incid ence	0.90		RR	2.25			-	
Sauvaget et al. (1999)	M/PP	m	com.	65-69	70-74	incid ence	0.40		RR	1.00			-	
Strawbridge et al. (1992)	M/PP	f	com.	65-69	80+	incid ence	0.44		RR	1.83			--	
Strawbridge et al. (1992)	M/PP	f	com.	65-69	70-79	incid ence	0.24		RR	1.00			--	
Strawbridge et al. (1992)	M/PP	f	com.	65-69	65-69	incid ence	0.24		RR	1.00			--	

Author	Type of Disab- ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article				Measure recalculated and shown in Figure		Signifi- cance	Control Variables	Additional Information
							Value	CI			Value	CI			
Sauvaget et al. (1999)	M/PP	f	com.	65-69	85+	incid ence	16.70			RR	18.56			-	
Sauvaget et al. (1999)	M/PP	f	com.	65-69	80-84	incid ence	6.40			RR	7.11			-	
Sauvaget et al. (1999)	M/PP	f	com.	65-69	75-79	incid ence	3.70			RR	4.11			-	
Sauvaget et al. (1999)	M/PP	f	com.	65-69	70-74	incid ence	2.90			RR	3.22			-	
Sauvaget et al. (1999)	M/PP	f	com.		65-69	incid ence	0.90			RR	1.00			-	
Clark et al. (1998b)	M/PP	f/m	com.	70-74	85+	OR	2.38	1.45	3.91					adjusted for sex, race, education, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	
Clark et al. (1998b)	M/PP	f/m	com.	70-74	80-84	OR	1.37	0.94	1.98					adjusted for sex, race, education, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
							Value	CI	Value	CI			
Clark et al. (1998b)	M/PP	f/m	com.	70-74	75-79	OR	1.03	0.76 1.40				adjusted for sex, race, education, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	
Jagger et al. (1993)	CDM	m	com.	75-79	80+	Rate Ratio	0.56					--	7 yrs follow-up
Jagger et al. (1993)	CDM	m	com.	75-79	80+	Rate Ratio	0.38					--	5 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	75-79	80+	Rate Ratio	1.14					--	7 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	75-79	80+	Rate Ratio	1.44					--	5 yrs follow-up
Sarkisian et al. (2001)	CDM	f	com.	67-69	80+	OR	5.50	2.10 14.70				adjusted for age, level of education, number of comorbidities, cognitive function, BMI, gait speed, grip strength, visual acuity, physical activity leve, social network score, Geriatric Depression Scale (GDS) score, enrollment site	

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Sarkisian et al. (2001)	CDM	f	com.	67-69	70-79	OR	3.60	1.60	8.30				adjusted for age, level of education, number of comorbidities, cognitive function, BMI, gait speed, grip strength, visual acuity, physical activity leve, social network score, Geriatric Depression Scale (GDS) score, enrollment site
Sarkisian et al. (2001)	CDM	f	com.	67-69	80+	OR	8.70	3.60	20.80				-
Sarkisian et al. (2001)	CDM	f	com.	67-69	70-79	OR	3.90	1.70	8.70				-
Pérès et al. (2005)	CDM	f/m	com.	65-79	80+	RR	1.90	1.70	2.10			p<.001	adjusted for sex, stroke, cardiovascular disease, visual impairment, cognitive impairment, education
Béland and Zunzunegui (1999)	CDM	f/m	com.	65-75	75+	RR	0.74						--
Armenian et al. (1998)	CDM	f/m	com.	18-29	65+	OR	30.23	14.88	61.42				adjusted for sex
Armenian et al. (1998)	CDM	f/m	com.	18-29	45-64	OR	7.53	3.66	15.51				adjusted for sex
Armenian et al. (1998)	CDM	f/m	com.	18-29	30-44	OR	3.61	1.69	7.73				adjusted for sex
Armenian et al. (1998)	CDM	f/m	com.	18-29	65+	OR	30.94						-
Armenian et al. (1998)	CDM	f/m	com.	18-29	45-64	OR	7.68						-

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article		Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
						Value	CI	Value	CI			
Armenian et al. (1998)	CDM	f/m	com.	18-29	30-44	OR	3.66					-
Manton (1988)	IADL	m	com.	65-74	85+	Rate Ratio	3.36					adjusted for mortality
Sauvaget et al. (1999)	IADL	m	com.	65-69	85+	incid ence	32.10	RR	9.17			-
Sauvaget et al. (1999)	IADL	m	com.	65-69	80-84	incid ence	12.10	RR	3.46			-
Sauvaget et al. (1999)	IADL	m	com.	65-69	75-79	incid ence	9.30	RR	2.66			-
Sauvaget et al. (1999)	IADL	m	com.	65-69	70-74	incid ence	5.30	RR	1.51			-
Sauvaget et al. (1999)	IADL	m	com.		65-69	incid ence	3.50	RR	1.00			-
Manton (1988)	IADL	f	com.	65-74	85+	Rate Ratio	2.44					adjusted for mortality
Sauvaget et al. (1999)	IADL	f	com.	65-69	85+	incid ence	22.60	RR	11.30			-
Sauvaget et al. (1999)	IADL	f	com.	65-69	80-84	incid ence	14.60	RR	7.30			-
Sauvaget et al. (1999)	IADL	f	com.	65-69	75-79	incid ence	7.00	RR	3.50			-

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Sauvaget et al. (1999)	IADL	f	com.	65-69	70-74	incid ence	5.30		RR	2.65			-	
Sauvaget et al. (1999)	IADL	f	com.		65-69	incid ence	2.00		RR	1.00			-	
Béland and Zunzunegui (1999)	IADL	f/m	com.	65-74	75+	RR	1.89						--	
Ishizaki et al. (2000)	IADL	f/m	com.	<75	75+	OR	3.65	1.76	7.56			p<.001	adjusted for sex, hand-grip strength, history of hospitalization, habit of taking a walk	
Manton (1988)	ADL	m	com.	65-74	85+	Rate Ratio	6.55						adjusted for mortality	
Strawbridge et al. (1992)	ADL	m	com.	65-69	80+	incid ence	0.25		Rate Ratio	1.92			--	
Strawbridge et al. (1992)	ADL	m	com.	65-69	70-79	incid ence	0.15		Rate Ratio	1.15			--	
Strawbridge et al. (1992)	ADL	m	com.	65-69	65-69	incid ence	0.13		Rate Ratio	1.00			--	
Sauvaget et al. (1999)	ADL	m	com.	65-69	85+	incid ence	12.30		RR	11.18			-	
Sauvaget et al. (1999)	ADL	m	com.	65-69	80-84	incid ence	9.20		RR	8.36			-	

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Significance	Control Variables	Additional Information
							Value	CI		Value	CI			
Sauvaget et al. (1999)	ADL	m	com.	65-69	75-79	incidence	2.90		RR	2.64				-
Sauvaget et al. (1999)	ADL	m	com.	65-69	70-74	incidence	2.70		RR	2.45				-
Sauvaget et al. (1999)	ADL	m	com.		65-69	incidence	1.10		RR	1.00				-
Manton (1988)	ADL	f	com.	65-74	85+	Rate Ratio	5.83							adjusted for mortality
Strawbridge et al. (1992)	ADL	f	com.	65-69	80+	incidence	0.44		Rate Ratio	5.50				--
Strawbridge et al. (1992)	ADL	f	com.	65-69	70-79	incidence	0.16		Rate Ratio	2.00				--
Strawbridge et al. (1992)	ADL	f	com.	65-69	65-69	incidence	0.08		Rate Ratio	1.00				--
Sauvaget et al. (1999)	ADL	f	com.	65-69	85+	incidence	18.50		RR	37.00				-
Sauvaget et al. (1999)	ADL	f	com.	65-69	80-84	incidence	4.30		RR	8.60				-
Sauvaget et al. (1999)	ADL	f	com.	65-69	75-79	incidence	3.10		RR	6.20				-
Sauvaget et al. (1999)	ADL	f	com.	65-69	70-74	incidence	2.00		RR	4.00				-

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article				Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI			Value	CI		
Sauvaget et al. (1999)	ADL	f	com.		65-69	incid ence	0.50			RR	1.00			-
Boult et al. (1994)	ADL	f/m	com. /inst.	70-74	85+	OR	10.78	6.23	18.63				p<.0001	adjusted for chronic conditions, sex, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts
Boult et al. (1994)	ADL	f/m	com. /inst.	70-74	80-84	OR	3.02	1.88	4.82				p<.0001	adjusted for chronic conditions, sex, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts
Boult et al. (1994)	ADL	f/m	com. /inst.	70-74	75-79	OR	1.68	1.12	2.52				p<.05	adjusted for chronic conditions, sex, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts
Ferucci et al. (1996)	ADL	f/m	com.	69-74	90+	RR	6.90	4.30	11.40					adjsuted for age
Ferucci et al. (1996)	ADL	f/m	com.	69-74	85-89	RR	4.60	2.90	7.20					adjsuted for age
Ferucci et al. (1996)	ADL	f/m	com.	69-74	80-84	RR	3.30	2.10	5.00					adjsuted for age

(Table A.1 1 continued)

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
						RR/OR	Value	CI	Value	CI			
Ferucci et al. (1996)	ADL	f/m	com.	69-74	75-79	RR	1.80	1.20 2.80				adjsuted for age	
Kivelä et al. (2001)	ADL	f/m	com.	60-69	70+	RR	4.80	3.18 7.20				-	
Kivelä et al. (2001)	ADL	f/m	com.	60-69	70+	OR	6.10	3.76 9.85				adjusted for self-perceived health, education, physical disease	
Ishizaki et al. (2000)	ADL	f/m	com.	<75	75+	OR	2.33	1.27 4.27			p=.006	adjusted for sex, hand-grip strength, history of hospitalization, serum albumin, intellectual activity, social role, habit of taking a walk	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.1 2: Transition from not disabled to disabled; risk factor age; continuous definition for a one-year increase in age.

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Penninx et al. (2003)	M/PP	f/m	age	per 10 years	continuous	OR	2.3	1.7 - 3.2			p<.001		
Sauvel et al. 1994	M/PP	f/m	age	per 1 year	continuous	OR	1.09	1.05 - 1.14				adjusted for age, sex, visual impairment, hearing impairment, dyspnea, joint pain, CES-D score, MMSE score	
Penninx et al. (1999)	M/PP	f/m	age	per 1 year	continuous	RR	1.08	1.07 - 1.08				adjusted for sex	
Cronin-Stubbs et al. (2000)	M/PP	f/m	age	per 1 year	continuous	OR	1.08	1.05 - 1.09			p?.01	-	
Cronin-Stubbs et al. (2000)	M/PP	f/m	age	per 1 year	continuous	OR	1.11	1.07 - 1.14				-	
Beckett et al. (1996)	M/PP	f/m	age	per 1 year	continuous	OR	1.0408					adjusted for African-American stratum	North Carolina
Beckett et al. (1996)	M/PP	f/m	age	per 1 year	continuous	OR	1.0439					adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	M/PP	f/m	age	per 1 year	continuous	OR	1.0768					adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	M/PP	f/m	age	per 1 year	continuous	OR	1.0565					-	East Boston, MA
Beckett et al. (1996)	M/PP	f/m	age	per 1 year	continuous	OR	1.0876					-	East Boston, MA
Beckett et al. (1996)	M/PP	f/m	age	per 1 year	continuous	OR	1.0597					-	Iowa
Beckett et al. (1996)	M/PP	f/m	age	per 1 year	continuous	OR	1.0953					-	Iowa
Liu et al. (1995)	M/PP	f/m	age	per 1 year	continuous	OR	1.12		RR 1.12		p?.01	-	

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI		
Oman et al. (1999)	M/PP	f/m	age	per 10 years	continuous	OR	2.62	2.03 - 3.38				p<.001	adjusted for sex, number of chonic illnesses, vision problems, exercise, obesity, alcohol use, outside activities, social activities, poor memory, depression	
Clark et al. (1998a)	M/PP	f/m	age	per 1 year	continuous	OR	1.07					p?.001	adjusted for sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, smoking, CAGE scale score, high level of physical activity, low level of physical activity	
Minicuci and Noale (2005)	CDM	m	age	per 1 year	continuous	OR	1.1735		RR	1.1735		p<.05	adjusted for education	
Minicuci and Noale (2005)	CDM	m	age	per 1 year	continuous	OR	1.1275		RR	1.1275		p<.05	adjusted for education	
Moritz et al. (1995)	CDM	m	age	per 1 year	continuous	OR	1.11	1.07 - 1.15					adjusted for housing type, race, baselin chronic conditions, incident chronic conditions, cognitive function	
Brill et al. (2000)	CDM	m	age	per 1 year	continuous	OR	1.05	1.04 - 1.07					adjusted for high strength group, BMI, treadmill time, new helath problems, follow-up years	
Huang et al. (1998)	CDM	m	age	per 1 year	continuous	OR	1.1	1.1 - 1.1						physical activity

(Table A.1 2 continued)

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article				Measure recalculated and shown in Figure			Significance	Control Variables	Additional Information
							Value	CI			Value	CI			
Huang et al. (1998)	CDM	m	age	per 1 year	continuous	OR	1.1	1 -	1.1						physical fitness
Minicuci and Noale (2005)	CDM	f	age	per 1 year	continuous	OR	1.1972			RR	1.1972		p<.05	adjusted for education	
Minicuci and Noale (2005)	CDM	f	age	per 1 year	continuous	OR	2.2255			RR	2.2255		p<.05	adjusted for education	
Moritz et al. (1995)	CDM	f	age	per 1 year	continuous	OR	1.14	1.1 -	1.17					adjusted for housing type, race, baselin chronic conditions, incident chronic conditions, cognitive function	
Brill et al. (2000)	CDM	f	age	per 1 year	continuous	OR	1.04	1 -	1.1					adjusted for high strength group, BMI, treadmill time, new helath problems, follow-up years	
Huang et al. (1998)	CDM	f	age	per 1 year	continuous	OR	1.1	1 -	1.1						physical activity
Huang et al. (1998)	CDM	f	age	per 1 year	continuous	OR	1.1	1 -	1.1						physical fitness
McCurry et al. (2002)	CDM	f/m	age	per 10 years	continuous	OR	1.62	1.24 -	2.1					adjusted for sex, stroke, blood pressure, arthritis, hearing problem, self-assessment of health, choice reaction time, BMI, smoking status, race, language, time to follow-up	
McCurry et al. (2002)	CDM	f/m	age	per 10 years	continuous	OR	3.36	1.27 -	2.14					adjusted for smoking status, diabetes, depression, race, time to follow-up	value is not in CI to this information is given wrong in the article

(Table A.1 2 continued)

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Significance	Control Variables	Additional Information
							Value	CI		Value	CI			
Ferrucci et al. 1999	CDM	f/m	age	per 1 year	continuous	OR	1.14	1.1 - 1.18					adjusted for serum concentration interleukin 6, sex, education, smoking, cognitive function, BMI, history of stroke, history of heart attack, WBC, albmuni concentration, iron concentration, total cholesterol concentration, HDL cholesterol concentration	
Crimmins et al. (1994)	CDM	f/m	age	per 1 year	continuous	OR	1.113					p?.05	adjusted for sex, race, education	no functioning problems to unable to provide personal care
Crimmins et al. (1994)	CDM	f/m	age	per 1 year	continuous	OR	1.151					p?.05	adjusted for sex, race, education	no functioning problems to unable to provide independent living
Crimmins et al. (1994)	CDM	f/m	age	per 1 year	continuous	OR	1.031					p?.05	adjusted for sex, race, education	no functioning problems to some functioning problems
Boult et al. (1991)	CDM	f/m	age	per 1 year	continuous	OR	1.9	1.7 - 2.1				p<.0000		
Maddox et al. (1994)	CDM	f/m	age	per 1 year	continuous	OR	1.01		RR	1.0069			adjusted for sex, income, education	
Grundy and Glaser (2000)	CDM	f/m	age	per 1 year	continuous	OR	1.039	1.012 - 1.067	RR	1.0387	1.012 - 1.066		adjusted for age, education, health, tenure status, manual worker/ no single usual job	

(Table A.1 2 continued)

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Zimmer and House 2003	CDM	f/m	age	per 1 year	continuous	OR	1.03	1.02 - 1.04				.01<p<.05	adjusted for education, income, sex, race, marital status	
Reynolds and Silverstein (2003)	IADL	f/m	age	per 1 year	continuous	OR	1.096	1.08 - 1.113				<0,01	adjusted for hypertension, diabetes, cancer, lung disease, heart condition, psychiatric problems, arthritis, stroke, sex, marital status, hispanic, African American, family network, asset complexity, negative affect, cognition, home modifications, weight, # Nagi impairments, current smoker, current service use, supplemental health insurance	
Sauvel et al. 1994	IADL	f/m	age	per 1 year	continuous	OR	1.11	1.07 - 1.14					adjusted for age, sex, education, visual impairment, hearing impairment, dyspnea, joint pain, CES-D score, MMSE score	
Ishizaki et al. (2002)	IADL	f/m	age	per 1 year	continuous	OR	1.1298	1.114 - 1.145	RR	1.1298	1.114 - 1.145	p<.001	adjusted for sex	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Seeman et al. (1996)	ADL	m	age	per 1 year	continuous	OR	1.09	0.93 - 1.29	RR	1.09	0.93 - 1.29		adjusted for systolic blood pressure, BMI, metabolic disease, Rosow/Nagi disability, physical performance, cognitive performance, depression, no close ties with children, no close relatives, maximum instrumental support, maximum emotional support	
Mendes de Leon 1997	ADL	m	age	per 1 year	continuous	OR	1.1	1.08 - 1.13					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	m	age	per 1 year	continuous	OR	1.09	1.06 - 1.12					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Seeman et al. (1996)	ADL	f	age	per 1 year	continuous	OR	1.16	0.99 - 1.37	RR	1.16	0.99 - 1.37		adjusted for systolic blood pressure, BMI, metabolic disease, Rosow/Nagi disability, physical performance, cognitive performance, depression, no close ties with children, no close relatives, maximum instrumental support, maximum emotional support	
Mendes de Leon 1997	ADL	f	age	per 1 year	continuous	OR	1.1	1.08 - 1.12					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina

Author	Type of Disab- ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi- cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Mendes de Leon 1997	ADL	f	age	per 1 year	continuous	OR	1.12	1.1 - 1.14				adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Agüero-Torres et al. (1998)	ADL	f/m	age	per 1 year	continuous	OR	1.2	1.1 - 1.3				adjusted for sex, education, dementia, cerebrovascular disease, heart disease, cancer, hip fracture, MMSE score	
Reynolds and Silverstein (2003)	ADL	f/m	age	per 1 year	continuous	OR	1.115	1.09 - 1.14			<,001	adjusted for hypertension, diabetes, cancer, lung disease, heart condition, psychiatric problems, arthritis, stroke, sex, marital status, hispanic, African American, family network, asset complexity, negative affect, cognition, home modifications, weight, # Nagi impairments, current smoker, current service use, supplemental health insurance	
Gill and Kurland (2003)	ADL	f/m	age	per 1 year	continuous	HR	1.1	1 - 1.1			p<.001	adjusted for sex, race, living status, education, chronic conditions, cognitive impairment, physical frailty, prior history of disability	

Author	Type of Disab- ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi- cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Dunlop et al. (2002)	ADL	f/m	age	per 1 year	continuous	RR	1.1163	1.094 - 1.139				adjusted for time from baseline, sex, race, education chronic conditions at baseline (arthritis, cancer, cardiovascular diseases, diabetes, hearing impairment, incontinence, obesity, osteoporosis, vision impairment)	severe limitation
Dunlop et al. (2002)	ADL	f/m	age	per 1 year	continuous	RR	1.1275	1.105 - 1.139				adjusted for time from baseline, sex, race, education chronic conditions at baseline (arthritis, cancer, cardiovascular diseases, diabetes, hearing impairment, incontinence, obesity, osteoporosis, vision impairment)	moderate limitation
Wolff et al. (2005)	ADL	f/m	age	per 1 year	continuous	OR	1.12	1.1 - 1.14				adjusted for sex, education, number of chronic conditions at baseline, number of newly diagnosed chronic conditions at 12 months	
Wolff et al. (2005)	ADL	f/m	age	per 1 year	continuous	OR	1.12	1.09 - 1.14				adjusted for sex, education, number of chronic conditions at baseline, number of newly diagnosed chronic conditions at 12 months	
Wolff et al. (2005)	ADL	f/m	age	per 1 year	continuous	OR	1.07	1.04 - 1.09				adjusted for sex, education, number of chronic conditions at baseline, number of newly diagnosed chronic conditions at 12 months	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Sauvel et al. 1994	ADL	f/m	age	per 1 year	continuous	OR	1.07	1.04 - 1.11					adjusted for age, sex, education visual impairment, hearing impairment, dyspnea, joint pain, CES-D score, MMSE score	
Penninx et al. (1999)	ADL	f/m	age	per 1 year	continuous	RR	1.1	1.09 - 1.11					adjusted for sex	
Mendes de Leon 1997	ADL	f/m	age	per 1 year	continuous	OR	1.1	1.08 - 1.12					adjusted for sex, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	age	per 1 year	continuous	OR	1.12	1.1 - 1.14					adjusted for sex, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Ishizaki et al. (2002)	ADL	f/m	age	per 1 year	continuous	OR	1.1572	1.137 - 1.178	RR	1.1572	1.137 - 1.178	p<.001	adjusted for sex	
Cronin-Stubbs et al. (2000)	ADL	f/m	age	per 1 year	continuous	OR	1.09	1.06 - 1.13				p?.01	-	
Beckett et al. (1996)	ADL	f/m	age	per 1 year	continuous	OR	1.0661					p=.05	adjusted for African-American stratum	North Carolina
Beckett et al. (1996)	ADL	f/m	age	per 1 year	continuous	OR	1.0736					p=.05	adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	ADL	f/m	age	per 1 year	continuous	OR	1.08					p=.05	-	East Boston, MA
Beckett et al. (1996)	ADL	f/m	age	per 1 year	continuous	OR	1.0975					p=.05	-	Iowa

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.1 3: Transition from not disabled to disabled; risk factor sex; discrete definition with reference group male.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Leveille et al. (2000)	M/PP	f	sex	male	female	RR	1.04	0.55 - 1.97				-	
Leveille et al. (2000)	M/PP	f	sex	male	female	RR	1.80	1.41 - 2.30				-	
Leveille et al. (2000)	M/PP	f	sex	male	female	RR	1.56	1.32 - 1.85				-	
Avlund et al. (2003)	M/PP	f	sex	male	female	OR	2.00	0.80 - 5.00				adjusted by sex, housing tenure, social participation (paying visits to others, receiving visits, participationg in social activities outside the home)	
Avlund et al. (2003)	M/PP	f	sex	male	female	OR	2.50	1.25 - 5.00				-	
Avlund et al. (2002)	M/PP	f	sex	male	female	OR	0.80	0.40 - 1.50				adjusted for locality	
Avlund et al. (2002)	M/PP	f	sex	male	female	OR	0.90	0.50 - 1.70				-	
Leveille et al. (2000)	M/PP	f	sex	male	female	RR	1.36	1.18 - 1.57				-	
Leveille et al. (2000)	M/PP	f	sex	male	female	RR	1.41	1.24 - 1.62				-	
Clark et al. (1998b)	M/PP	f	sex	male	female	OR	1.53	1.16 - 2.02				adjusted for age, race, education, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	
Leveille et al. (2000)	M/PP	f	sex	male	female	RR	1.46	1.18 - 1.81				-	
Penninx et al. (2003)	M/PP	f	sex	male	female	OR	1.40	1.00 - 2.00			p=.05		
Cronin-Stubbs et al. (2000)	M/PP	f	sex	male	female	OR	1.69	1.41 - 2.04			p?.01	-	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Cronin-Stubbs et al. (2000)	M/PP	f	sex	male	female	OR	1.22	1.03 - 1.45			p?.05	-	
Beckett et al. (1996)	M/PP	f	sex	male	female	1.57	#REF!					adjusted for African-American stratum	North Carolina
Beckett et al. (1996)	M/PP	f	sex	male	female	1.75	#REF!					adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	M/PP	f	sex	male	female	1.45	#REF!					adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	M/PP	f	sex	male	female	2.03	#REF!					-	East Boston, MA
Beckett et al. (1996)	M/PP	f	sex	male	female	1.30	#REF!					-	East Boston, MA
Beckett et al. (1996)	M/PP	f	sex	male	female	1.63	#REF!					-	Iowa
Beckett et al. (1996)	M/PP	f	sex	male	female	1.67	#REF!					-	Iowa
Strawbridge et al. (1992)	M/PP	f	sex	male	female	RR	1.09					--	
Sauvel et al. 1994	M/PP	f	sex	male	female	OR	1.87	0.97 - 3.61				adjusted for sex, visual impairment, hearing impairment, dyspnea, joint pain, CES-D score, MMSE score	
Penninx et al. (1999)	M/PP	f	sex	male	female	RR	1.32	1.23 - 1.42				adjusted for age	
Liu et al. (1995)	M/PP	f	sex	male	female	OR	1.28		RR 1.28			-	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Oman et al. (1999)	M/PP	f	sex	male	female	OR	0.92	0.60 - 1.40	RR	0.93	0.62 - 1.35		adjusted for age, number of chonic illnesses, vision problems, exercise, obesity, alcohol use, outside activities, social activities, poor memory, depression	
Clark et al. (1998a)	M/PP	f	sex	male	female	OR	1.78					p?.0001	adjusted for age, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, smoking, CAGE scale score, high level of physical activity, low level of physical activity	
McCurry et al. (2002)	CDM	f f	sex	male	female	OR	1.79	1.20 - 2.68					adjusted for age, stroke, blood pressure, arthritis, hearing problem, self-assessment of health, choice reaction time, BMI, smoking status, race, language, time to follow-up	
McCurry et al. (2002)	CDM	f	sex	male	female	OR	1.79	1.20 - 2.68					adjusted for age, stroke, blood pressure, arthritis, hearing problem, self-assessment of health, choice reaction time, BMI, smoking status, race, language, time to follow-up	
Jagger et al. (1993)	CDM	f	sex	male	female	Rate Ratio	3.20						--	7 yrs follow-up

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article		Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
						Value	CI	Value	CI			
Jagger et al. (1993)	CDM	f	sex	male	female	Rate Ratio 4.33					--	5 yrs follow-up
Jagger et al. (1993)	CDM	f	sex	male	female	Rate Ratio 1.56					--	7 yrs follow-up
Jagger et al. (1993)	CDM	f	sex	male	female	Rate Ratio 1.13					--	5 yrs follow-up
Ferrucci et al. 1999	CDM	f	sex	male	female	OR 2.16	1.34 - 3.49				adjusted for serum concentration interleukin 6, age, education, smoking, cognitive function, BMI, history of stroke, history of heart attack, WBC, albmuni concentration, iron concentration, total cholesterol concentration, HDL cholesterol concentration	
Mor et al. (1989)	CDM	f	sex	male	female	OR 1.32	1.22 - 1.40				adjusted for marital status, education, diabetes, arthritis, past stroke, visual impairment, no regular exercise, never walks 1 mile	
Mor et al. (1989)	CDM	f	sex	male	female	RR 1.60	1.28 - 2.01				adjusted for marital status, education, diabetes, arthritis, past stroke, visual impairment, no regular excercise, never walking a mile	
Boult et al. (1991)	CDM	f	sex	male	female	OR 1.25	1.09 - 1.43					

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Crimmins et al. (1994)	CDM	f	sex	male	female	OR	1.12					p?.05	adjusted for age, race, education	no functioning problems to some functioning problems
Pérès et al. (2005)	CDM	f	sex	male	female	RR	1.50	1.30 - 1.70				p<.001		
Béland and Zunzunegui (1999)	CDM	f	sex	male	female	Rate Ratio	1.71						--	
Maddox et al. (1994)	CDM	f	sex	male	female	OR	0.87		RR	0.91		p<.01	adjusted for age, income, education	
Grundy and Glaser (2000)	CDM	f	sex	male	female	OR	0.74	0.59 - 0.94	RR	0.75	0.59 - 0.94		adjusted for age, education, health, tenure status, manual worker/ no single usual job	
Zimmer and House 2003	CDM	f	sex	male	female	OR	1.05	0.85 - 1.29					adjusted for education, income, age, race, marital status	
Armenian et al. (1998)	CDM	f	sex	male	female	OR	1.58						-	
Armenian et al. (1998)	CDM	f	sex	male	female	OR	1.43	0.98 - 2.06					adjusted for age	
Manton (1988)	IADL	f	sex	male	female	Rate Ratio	0.99						adjusted for mortality	

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Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Reynolds and Silverstein (2003)	IADL	f	sex	male	female	OR	0.67	0.55 - 0.82				<0,001	adjusted for hypertension, diabetes, cancer, lung disease, heart condition, psychiatric problems, arthritis, stroke, age, marital status, hispanic, African American, family network, asset complexity, negative affect, cognition, home modifications, weight, # Nagi impairments, current smoker, current service use, supplemental health insurance	
Ishizaki et al. (2000)	IADL	f	sex	male	female	OR	0.55	0.19 - 1.58				p=.267	adjusted for sex, hand-grip strength, history of hospitalization, habit of taking a walk	
Manton (1988)	IADL	f	sex	male	female	Rate	1.36						adjusted for mortality	
Ishizaki et al. (2002)	IADL	f	sex	male	female	RR	0.71	0.60 - 0.84	RR	1.42	1.20 - 1.68	p<.001	adjusted for age	
Sauvel et al. 1994	IADL	f	sex	male	female	OR	1.72	1.17 - 2.54					adjusted for sex, education visual impairment, hearing impairment, dyspnea, joint pain, CES-D score, MMSE score	
Béland and Zunzunegui (1999)	IADL	f	sex	male	female	Rate Ratio	1.30						--	
		f												

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Boult et al. (1994)	ADL	f	sex	male	female	OR	0.99	0.67 - 1.47				adjusted for chronic conditions, age, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts	
Manton (1988)	ADL	f	sex	male	female	Rate	1.10					adjusted for mortality	
Avlund et al. (2002)	ADL	f	sex	male	female	OR	1.50	0.94 - 2.50				adjusted for locality	
Avlund et al. (2002)	ADL	f	sex	male	female	OR	1.70	1.00 - 2.70			p<.05	-	
Matthews et al. (2005)	ADL	f	sex	male	female	OR	1.01	0.79 - 1.30				-	
Agüero-Torres et al. (1998)	ADL	f	sex	male	female	OR	1.00	0.50 - 2.00				adjusted for age, education, dementia, cerebrovascular disease, heart disease, cancer, hip fracture, MMSE score	
Reynolds and Silverstein (2003)	ADL	f	sex	male	female	OR	1.54	1.17 - 2.01			<,01	adjusted for hypertension, diabetes, cancer, lung disease, heart condition, psychiatric problems, arthritis, stroke, age, marital status, hispanic, African American, family network, asset complexity, negative affect, cognition, home modifications, weight, # Nagi impairments, current smoker, current service use, supplemental health insurance	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Gill and Kurland (2003)	ADL	f	sex	male	female	HR	1.00	0.70 - 1.30			p=.84	adjusted for age, race, living status, education, chronic conditions, cognitive impairment, physical frailty, prior history of disability	
Dunlop et al. (2002)	ADL	f	sex	male	female	RR	1.32				ns	adjusted for baseline age (y), time from baseline, education, race, chronic conditions at baseline (arthritis, cancer, cardiovascular diseases, diabetes, hearing impairment, incontinence, obesity, osteoporosis, vision impairment)	severe limitation
Dunlop et al. (2002)	ADL	f	sex	male	female	RR	1.11				ns	adjusted for baseline age (y), time from baseline, education, race, chronic conditions at baseline (arthritis, cancer, cardiovascular diseases, diabetes, hearing impairment, incontinence, obesity, osteoporosis, vision impairment)	moderate limitation
Ishizaki et al. (2000)	ADL	f	sex	male	female	OR	0.60	0.25 - 1.43			p=.249	adjusted for sex, hand-grip strength, history of hospitalization, serum albumin, intellectual activity, social role, habit of taking a walk	
Manton (1988)	ADL	f	sex	male	female	Rate Ratio	1.24					adjusted for mortality	

(Table A.1 3 continued)

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
							Value	CI	Value	CI			
Mendes de Leon 1997	ADL	f	sex	male	female	OR	0.93	0.79 - 1.09				adjusted for age, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f	sex	male	female	OR	0.90	0.63 - 1.28				adjusted for age, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Cronin-Stubbs et al. (2000)	ADL	f	sex	male	female	OR	1.08	0.83 - 1.39				-	
Beckett et al. (1996)	ADL	f	sex	male	female	OR	1.28				p=.05	adjusted for African-American stratum	North Carolina
Beckett et al. (1996)	ADL	f	sex	male	female	OR	1.30				p=.05	adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	ADL	f	sex	male	female	OR	1.40				p=.05	-	East Boston, MA
Beckett et al. (1996)	ADL	f	sex	male	female	OR	1.22				p=.05	-	Iowa
Lamarca, et al. (2003)	ADL	f	sex	male	female	Rate Ratio	1.03					--	from not disabled to dependent
Lamarca, et al. (2003)	ADL	f	sex	male	female	Rate Ratio	1.70					--	from not disabled to difficulties
Strawbridge et al. (1992)	ADL	f	sex	male	female	RR	1.07					--	
Wolff et al. (2005)	ADL	f	sex	male	female	OR	1.02	0.79 - 1.30				adjusted for age, education, number of chronic conditions at baseline, number of newly diagnosed chronic conditions at 12 months	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Wolff et al. (2005)	ADL	f	sex	male	female	OR	1.20	0.80 - 1.65					adjusted for age, education, number of chronic conditions at baseline, number of newly diagnosed chronic conditions at 12 months	
Wolff et al. (2005)	ADL	f	sex	male	female	OR	1.33	0.97 - 1.84					adjusted for age, education, number of chronic conditions at baseline, number of newly diagnosed chronic conditions at 12 months	
Penninx et al. (1999)	ADL	f	sex	male	female	RR	1.00	0.91 - 1.11					adjusted for age	
Ishizaki et al. (2002)	ADL	f	sex	male	female	RR	0.90	0.70 - 1.16	RR	1.11	0.86 - 1.43	p=.427	adjusted for age	
Ferucci et al. (1996)	ADL	f	sex	male	female	RR	1.10	0.80 - 1.40					adjsuted for age	
Kivelä et al. (2001)	ADL	f	sex	male	female	RR	1.00	0.96 - 1.08					-	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.1 4: Transition from not disabled to disabled; risk factor education; discrete definition with reference group high education.

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
							Value	CI	Value	CI			
Avlund et al. (2004a)	M/PP	m	com./inst.	high	low	OR	1.60	0.80 - 3.20				adjusted by vocational training, individual income, housing tenure	
Avlund et al. (2004a)	M/PP	m	com./inst.	high	low	OR	1.80	0.91 - 3.50				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.33	0.91 - 1.94				-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.13	0.80 - 1.59				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.64	1.21 - 2.22			p<0.05	-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.25	0.97 - 1.62				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.70	1.28 - 2.27			p<0.05	-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.58	1.25 - 2.01			p<0.05	-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.91	1.18 - 3.07			p<0.05	-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.82	1.26 - 2.61			p<0.05	-	
Avlund et al. (2004a)	M/PP	f	com./inst.	high	low	OR	1.20	0.60 - 2.40				adjusted by vocational training, individual income, housing tenure	
Avlund et al. (2004a)	M/PP	f	com./inst.	high	low	OR	1.30	0.70 - 2.50				-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	1.38	1.02 - 1.85			p<0.05	-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	1.21	0.96 - 1.53				-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	1.45	1.12 - 1.87			p<0.05	-	

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article				Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
							Value	CI		Value	CI			
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	1.40	1.13 -	1.73			p<0.05	-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	2.23	1.74 -	2.87			p<0.05	-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	1.39	1.14 -	1.69			p<0.05	-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	1.91	1.29 -	2.85			p<0.05	-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	1.54	1.14 -	2.08			p<0.05	-	
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	1.78	1.09 -	2.89				-	ILSA
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	1.65	1.06 -	2.57				-	ILSA
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	1.24	1.00 -	1.53				-	LASA
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	1.59	1.16 -	2.16				-	LASA
Clark et al. (1998b)	M/PP	f/m	com.	12+ yrs	7-11 yrs	OR	1.01	0.75 -	1.37				adjusted for age, sex, race, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	
Clark et al. (1998b)	M/PP	f/m	com.	12+ yrs	0-6 yrs	OR	1.01	0.55 -	1.86				adjusted for age, sex, race, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	

Author	Type of Disab- ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi- cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Minicuci and Noale (2005)	CDM	m	com. /inst.	high/medi um	low	OR	1.92		RR 1.92		p<.05	adjusted for age	
Minicuci and Noale (2005)	CDM	m	com. /inst.	high/medi um	low	OR	3.03		RR 3.03		p<.05	adjusted for age	
Minicuci and Noale (2005)	CDM	f	com. /inst.	high/medi um	low	OR	1.84		RR 1.84		p<.05	adjusted for age	
Minicuci and Noale (2005)	CDM	f	com. /inst.	high/medi um	low	OR	2.46		RR 2.46		p<.05	adjusted for age	
Mor et al. (1989)	CDM	f	com.	some college	not college education	OR	1.43	1.38 - 1.57				adjusted for work not usual activity, diabetes, past stroke, visual impairment, arthritis, fallen in last 12 months, no regular exercise, never walks 1 mile	
Huisman et al. (2005)	CDM	f/m	com. /inst.	high	low	Rate Ratio	1.47	1.18 - 1.83				-	LASA
Huisman et al. (2005)	CDM	f/m	com. /inst.	high	low	Rate Ratio	1.20	0.88 - 1.63				-	LASA
Mor et al. (1989)	CDM	f/m	com.	some college	not college education	OR	1.20	1.12 - 1.35				adjusted for sex, marital status, diabetes, arthritis, past stroke, visual impairment, no regular exercise, never walks 1 mile	
Mor et al. (1989)	CDM	f/m	com.	some college	No college	RR	1.53	1.13 - 2.07				adjusted for sex, marital status, diabetes, arthritis, past stroke, visual impairment, no regular excercise, never walking a mile	

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Crimmins et al. (1994)	CDM	f/m	com.	high education	low	OR	1.67					p?.05	adjusted for age, sex, race	no functioning problems to unable to provide independent living
Crimmins et al. (1994)	CDM	f/m	com.	high education	low	OR	1.19					p?.05	adjusted for age, sex, race	no functioning problems to some functioning problems
Pérès et al. (2005)	CDM	f/m	com.	high	low	RR	1.25	1.25 - 1.25				p<.001	adjusted for age, sex, stroke, cardiovascular disease, visual impairment	
Maddox et al. (1994)	CDM	f/m	com.	college	some college	OR	1.21		RR	1.14			adjutsted for age, sex, income	
Maddox et al. (1994)	CDM	f/m	com.	college	high-school	OR	1.35		RR	1.22		p<.001	adjutsted for age, sex, income	
Maddox et al. (1994)	CDM	f/m	com.	college	< high school	OR	1.57		RR	1.34		p<.001	adjutsted for age, sex, income	
Grundy and Glaser (2000)	CDM	f/m	com.	> 10 yrs	none	OR	1.81	1.21 - 2.74	RR	1.80	1.21 - 2.71		adjusted for age, sex, health, tenure status, manual worker/ no single usual job	
Grundy and Glaser (2000)	CDM	f/m	com.	> 10 yrs	? 10 years	OR	1.52	1.02 - 2.29	RR	1.51	1.02 - 2.27		adjusted for age, sex, health, tenure status, manual worker/ no single usual job	
Armenian et al. (1998)	CDM	f/m	com.	high school diploma	no high school diploma	OR	2.35						-	
Armenian et al. (1998)	CDM	f/m	com.	high school diploma	no high school diploma	OR	1.48	1.04 - 2.11					adjsuted for age, sex	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Sauvel et al. 1994	IADL	f/m	com.	? secondary	no education or primary	OR	1.12	0.74 - 1.71				adjusted for age, sex, visual impairment, hearing impairment, dyspnea, joint pain, CES-D score, MMSE score	
Huisman et al. (2005)	ADL	f/m	com. /inst.	high	low	Rate Ratio	1.77	1.23 - 2.54				-	ILSA
Boult et al. (1994)	ADL	f/m	com. /inst.	>8yrs	< 8yrs	OR	1.51	1.01 - 2.26			p<.05	adjusted for chronic conditions, age, sex, race, exercise routine, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts	
Huisman et al. (2005)	ADL	f/m	com. /inst.	high	low	Rate Ratio	1.22	0.89 - 1.67				-	ILSA
Agüero-Torres et al. (1998)	ADL	f/m	com.	high	low	OR	1.11	0.37 - 3.33				adjusted for age, sex, dementia, cerebrovascular disease, heart disease, cancer, hip fracture, MMSE score	
Dunlop et al. (2002)	ADL	f/m	com.	high school	< high school	RR	0.83				ns	adjusted for baseline age (y), time from baseline, sex, race, chronic conditions at baseline (arthritis, cancer, cardiovascular diseases, diabetes, hearing impairment, incontinence, obesity, osteoporosis, vision impairment)	severe limitation

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Dunlop et al. (2002)	ADL	f/m	com.	high school	< high school	RR	0.79				ns	adjusted for baseline age (y), time from baseline, sex, race, chronic conditions at baseline (arthritis, cancer, cardiovascular diseases, diabetes, hearing impairment, incontinence, obesity, osteoporosis, vision impairment)	moderate limitation
Sauvel et al. 1994	ADL	f/m	com.	? secondary	no education or primary	OR	1.24	0.76 - 2.03				adjusted for age, visual impairment, hearing impairment, dyspnea, joint pain, CES-D score, MMSE score	
Wolff et al. (2005)	ADL	f/m	com.	> high school	? high school	OR	1.45	1.18 - 1.79				adjusted for age, sex, number of chronic conditions at baseline, number of newly diagnosed chronic conditions at 12 months	36 months of follow-up
Wolff et al. (2005)	ADL	f/m	com.	> high school	? high school	OR	1.61	1.22 - 2.13				adjusted for age, sex, number of chronic conditions at baseline, number of newly diagnosed chronic conditions at 12 months	24 months follow-up
Wolff et al. (2005)	ADL	f/m	com.	> high school	? high school	OR	1.61	1.12 - 2.33				adjusted for age, sex, number of chronic conditions at baseline, number of newly diagnosed chronic conditions at 12 months	12 months follow-up

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Kivelä et al. (2001)	ADL	f/m	com.	high	low	OR	1.50	0.93 - 2.48				adjusted for age, self-perceived health, physical disease	
Kivelä et al. (2001)	ADL	f/m	com.	? compulsory	< compulsory	RR	1.90	1.32 - 2.68				-	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.1 5: Transition from not disabled to disabled; risk factor education; continuous definition for a one-year increase in education.

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Penninx et al. (2003)	M/PP	f/m	com.	per 1 year	continuous	OR	1.00	0.90 - 1.00				p=.27		
Liu et al. (1995)	M/PP	f/m	com.	per 1 year	continuous	OR	0.95		RR	0.95		.01<p?.0 5 -		
Clark et al. (1998a)	M/PP	f/m	com.	per 1 year	continuous	OR	0.90					p?.0001	adjusted for age, sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, medicaid incurance, private health insurance, working for pay, BMI, smoking, CAGE scale score, high level of physical activity, low level of physical activity	
Gill and Kurland (2003)	ADL	f/m	com.	per 1 year	continuous	HR	1.00	1.00 - 1.10				p=.21	adjusted for age, sex, race, living status, chronic conditions, cognitive impairment, physical frailty, prior history of disability	
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	0.98	0.96 - 1.00					adjusted for age, sex, age by sex, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	0.97	0.95 - 0.99					adjusted for age, sex, age by sex, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.1 6: Transition from not disabled to disabled; risk factor marital status; discrete definition with reference group unmarried.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI		
Avlund et al. (2002)	M/PP	f/m	com.	live with others	alone	OR	0.70	0.30 - 1.30					adjusted for tired in 2-4 activities, tired in 1 activity, cognitive function, self-rated health
Avlund et al. (2002)	M/PP	f/m	com.	live with others	alone	OR	0.70	0.40 - 1.30					adjusted for social relations
Avlund et al. (2002)	M/PP	f/m	com.	live with others	alone	OR	0.70	0.40 - 1.20					-
Liu et al. (1995)	M/PP	f/m	com.	notmarried	married	OR	0.69		RR	0.69		.01<p?.05	-
Clark et al. (1998a)	M/PP	f/m	com.	nonmarried	married	OR	0.87						adjusted for age, sex, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, smoking, CAGE scale score, high level of physical activity, low level of physical activity
Mor et al. (1989)	CDM	f/m	com.	unmarried	married	RR	0.68	0.55 - 0.83					adjusted for sex, education, diabetes, arthritis, past stroke, visual impairment, no regular excercise, never walking a mile
Mor et al. (1989)	CDM	f/m	com.	unmarried	married	OR	0.80	0.72 - 0.89					adjusted for sex, education, diabetes, arthritis, past stroke, visual impairment, no regular exercise, never walks 1 mile
Pérès et al. (2005)	CDM	f/m	com.	nonmarried	married	RR	0.70					p>.001	

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Zimmer and House 2003	CDM	f/m	com.	nonmarried	married	OR	1.06	0.82 - 1.39					adjusted for education, income, age, sex, race	
Reynolds and Silverstein (2003)	IADL	f/m	com.	nonmarried	married	OR	1.23	1.02 - 1.48				<0,05	adjusted for hypertension, diabetes, cancer, lung disease, heart condition, psychiatric problems, arthritis, stroke, age, sex, hispanic, African American, family network, asset complexity, negative affect, cognition, home modifications, weight, # Nagi impairments, current smoker, current service use, supplemental health insurance	
Avlund et al. (2004b)	ADL	m	com.	live alone	live with others	OR	1.00	0.40 - 2.50 RR	1.00	0.44 - 2.26		n.s.	-	
Gill and Kurland (2003)	ADL	f	com.	male	female	HR	0.90	0.70 - 1.20				p=.57	adjusted for age, sex, race, education, chronic conditions, cognitive impairment, physical frailty, prior history of disability	
Avlund et al. (2004b)	ADL	f	com.	live alone	live with others	OR	1.00	0.60 - 1.67 RR	1.00	0.67 - 1.50		n.s.	-	
Boult et al. (1994)	ADL	f/m	com./inst.	unmarried	married	OR	0.96	0.66 - 1.41					adjusted for chronic conditions, age, sex, race, exercise routine, education, income, locus of control, volunteering, informal caregiver, recent social contacts	

(Table A.1 6 continued)

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Avlund et al. (2002)	ADL	f/m	com.	live with others	alone	OR	0.80	0.50 - 1.30				adjusted for social relations	
Avlund et al. (2002)	ADL	f/m	com.	live with others	alone	OR	0.80	0.50 - 1.20				-	
Reynolds and Silverstein (2003)	ADL	f/m	com.	nonmarried	married	OR	1.17	0.94 - 1.46				adjusted for hypertension, diabetes, cancer, lung disease, heart condition, psychiatric problems, arthritis, stroke, age, sex, hispanic, African American, family network, asset complexity, negative affect, cognition, home modifications, weight, # Nagi impairments, current smoker, current service use, supplemental health insurance	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.1 7: Transition from not disabled to disable; risk factor body mass index; discrete definition with references group normal weight (BMI = 19-24.9 kg/m2).

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
LaCroix et al. (1993)	M/PP	m	com.	21-80 percentile	> 80th percentile	RR	1.20	1.00 - 1.50					adjusted for age, alcohol consumption, physical activity, BMI	community-stratified summary
LaCroix et al. (1993)	M/PP	m	com.	21-80 percentile	> 80th percentile	RR	1.20	0.90 - 1.60					adjusted for age, smoking, alcohol consumption, physical activity	New Haven, CT
LaCroix et al. (1993)	M/PP	m	com.	21-80 percentile	> 80th percentile	RR	1.40	1.00 - 2.00					adjusted for age, smoking, alcohol consumption, physical activity	Iowa
LaCroix et al. (1993)	M/PP	m	com.	21-80 percentile	> 80th percentile	RR	1.20	0.90 - 1.60					adjusted for age, smoking, alcohol consumption, physical activity	East Boston, MA
Wannamethee et al. (2005)	M/PP	m	com.	<25	?30	OR	1.80	1.29 - 2.51	RR	1.68	1.26 - 2.22		adjusted for chronic diseases, breathlessness, calf pain on walking	
Wannamethee et al. (2005)	M/PP	m	com.	<25	27,5-29,9	OR	1.16	0.85 - 1.58	RR	1.14	0.86 - 1.50		adjusted for chronic diseases, breathlessness, calf pain on walking	
Wannamethee et al. (2005)	M/PP	m	com.	<25	25-27,4	OR	1.07	0.83 - 1.39	RR	1.06	0.84 - 1.34		adjusted for chronic diseases, breathlessness, calf pain on walking	
Wannamethee et al. (2005)	M/PP	m	com.	<25	?30	OR	2.26	1.64 - 3.10	RR	2.03	1.55 - 2.62		adjusted for age, physical activity, smoking, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	<25	27,5-29,9	OR	1.19	0.88 - 1.61	RR	1.17	0.89 - 1.53		adjusted for age, physical activity, smoking, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	<25	25-27,4	OR	1.09	0.85 - 1.41	RR	1.08	0.86 - 1.36		adjusted for age, physical activity, smoking, alcohol intake, social class	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article				Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI			Value	CI			
Wannamethee et al. (2005)	M/PP	m	com.	<25	?30	OR	2.34	1.73 -	3.15 RR	2.09	1.63 -	2.65		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	<25	27,5-29,9	OR	1.31	0.98 -	1.73 RR	1.28	0.98 -	1.63		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	<25	25-27,4	OR	1.11	0.87 -	1.41 RR	1.10	0.88 -	1.36		adjusted for age	
LaCroix et al. (1993)	M/PP	f	com.	21-80 percentile	> 80th percentile	RR	1.40	1.20 -	1.60					adjusted for age, alcohol consumption, physical activity, BMI	community-stratified summary
LaCroix et al. (1993)	M/PP	f	com.	21-80 percentile	> 80th percentile	RR	1.30	1.00 -	1.70					adjusted for age, smoking, alcohol consumption, physical activity	New Haven, CT
LaCroix et al. (1993)	M/PP	f	com.	21-80 percentile	> 80th percentile	RR	1.40	1.00 -	1.90					adjusted for age, smoking, alcohol consumption, physical activity	Iowa
LaCroix et al. (1993)	M/PP	f	com.	21-80 percentile	> 80th percentile	RR	1.50	1.20 -	1.80					adjusted for age, smoking, alcohol consumption, physical activity	East Boston, MA
Clark et al. (1998b)	M/PP	f/m	com.	<19	?30	OR	2.02	1.33 -	3.06					adjusted for age, sex, race, education, net worth, private insurance, medicaid, smoking, drinking, diseases, sight, hearing, memory	
Clark et al. (1998b)	M/PP	f/m	com.	<19	? 25 and < 30	OR	1.12	0.84 -	1.49					adjusted for age, sex, race, education, net worth, private insurance, medicaid, smoking, drinking, diseases, sight, hearing, memory	
Penninx et al. (2003)	M/PP	f/m	com.	20-27	>28	OR	0.90	0.60 -	1.30				p=.5		
Penninx et al. (1999)	M/PP	f/m	com.	20-28	>28	RR	1.34	1.24 -	1.46					adjusted for age, sex	

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article		Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
						Value	CI	Value	CI			
Oman et al. (1999)	M/PP	f/m	com.	?26	>26	OR	1.89	1.20 - 2.97			p<.001	adjusted for sex, age, number of chonic illnesses, vision problems, exercise, alcohol use, outside activities, social activities, poor memory, depression	
Clark et al. (1998a)	M/PP	f/m	com.	normal	obese	OR	2.33				p?.0001	adjusted for age, sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, smoking, CAGE scale score, high level of physical activity, low level of physical activity	
Huang et al. (1998)	CDM	m	com.	not current smoker	current	OR	1.00	1.00 - 1.10					physical fitness
Launer et al. (1994)	CDM	f	com.	<23,8	high (28,10)	OR	2.04	1.20 - 3.49				adjusted for age, smoking status, educational level, time to follow-up	past BMI (old-old)
Launer et al. (1994)	CDM	f	com.	<22,10	high (27,04)	OR	1.61	0.92 - 2.81				adjusted for age, smoking status, educational level, time to follow-up	past BMI (old-old)
Launer et al. (1994)	CDM	f	com.	<23,9	high (27,90)	OR	2.13	1.29 - 3.53				adjusted for age, smoking status, educational level, time to follow-up	current BMI (young-old)
Launer et al. (1994)	CDM	f	com.	<22,10	high (27,04)	OR	2.38	1.44 - 3.93				adjusted for age, smoking status, educational level, time to follow-up	past BMI (young-old)

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
McCurry et al. (2002)	CDM	f/m	com. /inst.	? 30	>30	OR	1.82	1.30 - 2.54				adjusted for age, sex, stroke, blood pressure, arthritis, hearing problem, self-assessment of health, choice reaction time, smoking status, race, language, time to follow-up	
McCurry et al. (2002)	CDM	f/m	com. /inst.	?30	>30	OR	1.82	1.30 - 2.54				adjusted for age, sex, stroke, blood pressure, arthritis, hearing problem, self-assessment of health, choice reaction time, smoking status, race, language, time to follow-up	
Boult et al. (1994)	ADL	f/m	com. /inst.	<27,3	?27,3	OR	1.11	0.77 - 1.61				adjusted for chronic conditions, age, sex, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts	
Dunlop et al. (2002)	ADL	f/m	com.	<30	?30	RR	0.98				ns	adjusted for baseline age (y), time from baseline, sex, education, race, chronic conditions at baseline (arthritis, cancer, cardiovascular diseases, diabetes, hearing impairment, incontinence, osteoporosis, vision impairment)	moderate limitation

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
							Value	CI	Value	CI			
Dunlop et al. (2002)	ADL	f/m	com.	<30	?30	RR	0.78				ns	adjusted for baseline age (y), time from baseline, sex, education, race, chronic conditions at baseline (arthritis, cancer, cardiovascular diseases, diabetes, hearing impairment, incontinence, osteoporosis, vision impairment)	severe limitation
Penninx et al. (1999)	ADL	f/m	com.	20-28	>28	RR	1.29	1.14 - 1.45				adjusted for age, sex	
Mendes de Leon 1997	ADL	f/m	com.	23-27	>27	OR	1.22	1.02 - 1.47				adjusted for age, sex, age by sex, education, annual income, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	23-27	>27	OR	1.32	1.07 - 1.63				adjusted for age, sex, age by sex, education, annual income, poor cognitive function, chronic illnesses, race, age by race	New Haven

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.1 8: Transition from not disabled to disabled; risk factor body mass index; continuous definition for a one-point increase in body mass index.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Brill et al. (2000)	CDM	m	com.	per 1 year	continuous	OR	1.03	0.99 - 1.07				adjusted for high strength group, age, treadmill time, new helath problems, follow-up years	
Huang et al. (1998)	CDM	m	com.	per 1 unit	continuous	OR	1.00	1.00 - 1.10					physical activity
Brill et al. (2000)	CDM	f	com.	per 1 unit	continuous	OR	1.04	0.94 - 1.14				adjusted for high strength group, age, treadmill time, new helath problems, follow-up years	
Huang et al. (1998)	CDM	f	com.	per 1 unit	continuous	OR	1.00	1.00 - 1.10					physical activity
Huang et al. (1998)	CDM	f	com.	per 1 year	continuous	OR	1.00	0.90 - 1.10					physical fitness
Ferrucci et al. 1999	CDM	f/m	com.	per 1 unit	continuous	OR	1.00	0.96 - 1.04				adjusted for serum concentration interleukin 6, age, sex, education, smoking, cognitive function, history of stroke, history of heart attack, WBC, albmuni concentration, iron concentration, total cholesterol concentration, HDL cholesterol concentration	

(Table A.1 8 continued)

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Significance	Control Variables	Additional Information
							Value	CI		Value	CI			
Haga et al. (1991)	ADL	m	com.	per 1 unit	continuous	OR	1.00							-
Seeman et al. (1996)	ADL	m	com.	per 1 unit	continuous	OR	0.99	0.88 - 1.11 RR		0.99	0.88 - 1.11		age, adjusted for systolic blood pressure, metabolic disease, Rosow/Nagi disability, physical performance, cognitive performance, depression, no close ties with children, no close relatives, maximum instrumental support, maximum emotional support	
Haga et al. (1991)	ADL	f	com.	per 1 unit	continuous	OR	1.01					p<0.05	-	
Seeman et al. (1996)	ADL	f	com.	per 1 unit	continuous	OR	1.12	1.03 - 1.23 RR		1.12	1.03 - 1.23		age, adjusted for systolic blood pressure, metabolic disease, Rosow/Nagi disability, physical performance, cognitive performance, depression, no close ties with children, no close relatives, maximum instrumental support, maximum emotional support	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.1 9: Transition from not disabled to disabled; risk factor smoking; discrete definition with reference group non/never smoker.

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
LaCroix et al. (1993)	M/PP	m	com.	never	former	RR	1.00	0.90 - 1.40					adjusted for age, smoking, alcohol consumption, physical activity	community-stratified summary
LaCroix et al. (1993)	M/PP	m	com.	never	current	RR	1.30	1.10 - 1.40					adjusted for age, smoking, alcohol consumption, physical activity	community-stratified summary
LaCroix et al. (1993)	M/PP	m	com.	never	former	RR	0.90	0.70 - 1.10					adjusted for age, alcohol consumption, physical activity, BMI	New Haven, CT
LaCroix et al. (1993)	M/PP	m	com.	never	current	RR	1.10	0.90 - 1.50					adjusted for age, alcohol consumption, physical activity, BMI	New Haven, CT
LaCroix et al. (1993)	M/PP	m	com.	never	former	RR	1.20	0.90 - 1.60					adjusted for age, alcohol consumption, physical activity, BMI	Iowa
LaCroix et al. (1993)	M/PP	m	com.	never	current	RR	1.50	1.00 - 2.20					adjusted for age, alcohol consumption, physical activity, BMI	Iowa
LaCroix et al. (1993)	M/PP	m	com.	never	former	RR	1.00	0.80 - 1.30					adjusted for age, alcohol consumption, physical activity, BMI	East Boston, MA
LaCroix et al. (1993)	M/PP	m	com.	never	current	RR	1.40	1.00 - 1.90					adjusted for age, alcohol consumption, physical activity, BMI	East Boston, MA
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	gave up before 1996	OR	1.90	1.18 - 3.04	RR	1.76	1.16 - 2.57		adjusted for age, number of chronic diseasse, calf pain on walking, breathlessness, initial BMI, alcohol intake, social class, changes in body weight, physical activity	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	ex-smoker at 1992	OR	1.10	0.78 - 1.56	RR	1.09	0.80 - 1.49		adjusted for age, number of chronic diseasse, calf pain on walking, breathlessness, initial BMI, alcohol intake, social class, changes in body weight, physical activity	
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	continuing	OR	1.61	1.20 - 2.16	RR	1.53	1.18 - 1.96		adjusted for age, number of chronic diseasse, calf pain on walking, breathlessness, initial BMI, alcohol intake, social class, changes in body weight, physical activity	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	recent (ex-smoker at 1992)	OR	0.96	0.66 - 1.49	RR	0.96	0.68 - 1.44		adjusted for chronic diseases, breathlessness, calf pain on walking	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	long-term ex-smoker	OR	0.97	0.75 - 1.26	RR	0.97	0.76 - 1.24		adjusted for chronic diseases, breathlessness, calf pain on walking	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	current	OR	1.30	1.11 - 1.52	RR	1.27	1.10 - 1.47		adjusted for chronic diseases, breathlessness, calf pain on walking	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	recent (ex-smoker at 1992)	OR	1.17	0.82 - 1.67	RR	1.16	0.83 - 1.60		adjusted for age, physical activity, BMI alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	long-term ex-smoker	OR	1.10	0.86 - 1.40	RR	1.09	0.87 - 1.36		adjusted for age, physical activity, BMI alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	current	OR	1.36	1.17 - 1.57	RR	1.33	1.16 - 1.51		adjusted for age, physical activity, BMI alcohol intake, social class	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	gave up before 1996	OR	2.52	1.65 - 3.85	RR	2.22	1.56 - 3.07		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	ex-smoker at 1992	OR	1.49	1.08 - 2.04	RR	1.43	1.07 - 1.87		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	continuing	OR	1.93	1.49 - 2.51	RR	1.78	1.43 - 2.21		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	recent (ex-smoker at 1992)	OR	1.43	1.03 - 2.00	RR	1.39	1.03 - 1.88		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	long-term ex-smoker	OR	1.20	0.95 - 1.52	RR	1.18	0.95 - 1.47		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	current	OR	1.36	1.19 - 1.56	RR	1.33	1.18 - 1.50		adjusted for age	
LaCroix et al. (1993)	M/PP	f	com.	never	former	RR	1.20	1.00 - 1.40					adjusted for age, alcohol consumption, physical activity, BMI	community-stratified summary
LaCroix et al. (1993)	M/PP	f	com.	never	current	RR	1.20	1.00 - 1.40					adjusted for age, alcohol consumption, physical activity, BMI	community-stratified summary
LaCroix et al. (1993)	M/PP	f	com.	never	former	RR	1.10	0.80 - 1.40					adjusted for age, alcohol consumption, physical activity, BMI	New Haven, CT

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
LaCroix et al. (1993)	M/PP	f	com.	never	current	RR	1.20	0.90 - 1.50				adjusted for age, alcohol consumption, physical activity, BMI	New Haven, CT
LaCroix et al. (1993)	M/PP	f	com.	never	former	RR	1.30	1.00 - 1.90				adjusted for age, alcohol consumption, physical activity, BMI	Iowa
LaCroix et al. (1993)	M/PP	f	com.	never	current	RR	1.30	0.90 - 2.00				adjusted for age, alcohol consumption, physical activity, BMI	Iowa
LaCroix et al. (1993)	M/PP	f	com.	never	former	RR	1.20	1.00 - 1.60				adjusted for age, alcohol consumption, physical activity, BMI	East Boston, MA
LaCroix et al. (1993)	M/PP	f	com.	never	current	RR	1.10	0.80 - 1.40				adjusted for age, alcohol consumption, physical activity, BMI	East Boston, MA
Clark et al. (1998b)	M/PP	f/m	com.	not current smoker	currently	OR	1.50	0.97 - 2.31				adjusted for age, sex, race, education, net worth, private insurance, medicaid, drinking, BMI, diseases, sight, hearing, memory	
Penninx et al. (2003)	M/PP	f/m	com.	never	former	OR	1.50	1.00 - 2.20			p=.04		
Penninx et al. (2003)	M/PP	f/m	com.	never	current	OR	2.20	1.20 - 4.00			p=.01		
Penninx et al. (1999)	M/PP	f/m	com.	nonsmoker	former	RR	1.09	0.99 - 1.20				adjusted for age, sex	
Penninx et al. (1999)	M/PP	f/m	com.	nonsmoker	current	RR	1.31	1.18 - 1.46				adjusted for age, sex	
Liu et al. (1995)	M/PP	f/m	com.	never	smoking before	OR	1.72		RR	1.72	.01<p?.05	-	
Liu et al. (1995)	M/PP	f/m	com.	never	currently smoking	OR	1.93		RR	1.93	p?.01	-	

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Clark et al. (1998a)	M/PP	f/m	com.	never smoked	former	OR	1.11						adjusted for age, sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, CAGE scale score, high level of physical activity, low level of physical activity	
Clark et al. (1998a)	M/PP	f/m	com.	never smoked	current	OR	1.64					p?.01	adjusted for age, sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, CAGE scale score, high level of physical activity, low level of physical activity	
Branch (1985)	CDM	m	com.	never	current or past	OR	0.52	0.13 - 2.08	RR	0.79	0.42 - 1.48		crude	
Branch (1985)	CDM	m	com.	never or past	current	OR	1.03	0.37 - 2.86	RR	1.01	0.54 - 1.90		crude	
Huang et al. (1998)	CDM	m	com.	not current smoker	current	OR	1.10	0.70 - 1.70						physical fitness
Huang et al. (1998)	CDM	m	com.	not current smoker	current	OR	1.30	0.80 - 1.90						physical activity

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Huang et al. (1998)	CDM	f	com.	not current smoker	current	OR	0.70	0.40 - 1.40						physical activity
Huang et al. (1998)	CDM	f	com.	not current smoker	current	OR	0.60	0.30 - 1.30						physical fitness
Branch (1985)	CDM	f	com.	never	current or past	OR	1.54	0.62 - 3.85	RR	1.19	0.71 - 2.00	crude	
Branch (1985)	CDM	f	com.	never or past	current	OR	1.49	0.40 - 5.56	RR	1.18	0.52 - 2.67	crude	
McCurry et al. (2002)	CDM	f/m	com./inst.	not current smoking	current smoker	OR	1.72	1.07 - 2.78					adjusted for age, sex, stroke, blood pressure, arthritis, hearing problem, self-assessment of health, choice reaction time, BMI, language, time to follow-up	
McCurry et al. (2002)	CDM	f/m	com./inst.	not current smoking	current smoker	OR	3.52	1.09 - 2.82					adjusted for age, diabetes, depression, race, time to follow-up	value is not in CI to this information is given wrong in the article
Ferrucci et al. 1999	CDM	f/m	com.	past smoked	present	OR	2.14	1.34 - 3.42					adjusted for serum concentration interleukin 6, age, sex, education, cognitive function, BMI, history of stroke, history of heart attack, WBC, albmuni concentration, iron concentration, total cholesterol concentration, HDL cholesterol concentration	

(Table A.1 9 continued)

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Armenian et al. (1998)	CDM	f/m	com.	never	ever smoked OR		0.60					-	
Armenian et al. (1998)	CDM	f/m	com.	never	ever smoked OR		0.89	0.63 - 1.27				adjusted for age, sex	
Reynolds and Silverstein (2003)	IADL	f/m	com.	not current smoker	current	OR	1.01	1.00 - 1.03				adjusted for hypertension, diabetes, cancer, lung disease, heart condition, psychiatric problems, arthritis, stroke, age, sex, marital status, hispanic, African American, family network, asset complexity, negative affect, cognition, home modifications, weight, # Nagi impairments, current service use, supplemental health insurance	
Reynolds and Silverstein (2003)	ADL	f/m	com.	not current smoker	current	OR	1.02	1.00 - 1.03			<0,05	adjusted for hypertension, diabetes, cancer, lung disease, heart condition, psychiatric problems, arthritis, stroke, age, sex, marital status, hispanic, African American, family network, asset complexity, negative affect, cognition, home modifications, weight, # Nagi impairments, current service use, supplemental health insurance	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Penninx et al. (1999)	ADL	f/m	com.	nonsmoker	former	RR	1.09	0.95 - 1.24				adjusted for age, sex	
Penninx et al. (1999)	ADL	f/m	com.	nonsmoker	current	RR	1.21	1.03 - 1.41				adjusted for age, sex	
Kivelä et al. (2001)	ADL	f/m	com.	nonsmoker or exsmoker	current smoker	RR	1.10	0.64 - 1.86				-	
Nusselder et al. (2000)	ADL	f/m	c/i	nonsmoker	smoker	RR	1.79	1.46 - 2.19				adjusted for age, sex	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Appendix 2: Tables describing the graphs for transition 2 from not disabled to death

Table A.2 1: Transition from not disabled to death; risk factor age; discrete definition with reference group youngest age category.

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
							Value	CI	Value	CI			
Jagger et al. (1993)	CDM	m	com.	75-80	80+	Rate Ratio	1.4074				--		7 yrs follow-up
Jagger et al. (1993)	CDM	m	com.	75-80	80+	Rate Ratio	1.7059				--		5 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	75-80	80+	Rate Ratio	1.4737				--		7 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	75-80	80+	Rate Ratio	1.2857				--		5 yrs follow-up
Pérès et al. (2005)	CDM	f/m	com.	65-79	80+	RR	1.2	1 - 1.3			p<.05	-	
Boult et al. (1994)	ADL	f/m	com./inst.	70-74	85+	OR	7.27	4.51 - 11.71			p<.0001	adjusted for chronic conditions, sex, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts	
Boult et al. (1994)	ADL	f/m	com./inst.	70-74	(80-84)	OR	2.83	1.99 - 4.04			p<.0001	adjusted for chronic conditions, sex, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article		Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
						Value	CI	Value	CI			
Boult et al. (1994)	ADL	f/m	com. /inst.	70-74	(75-79)	OR	1.29 0.95 - 1.75				adjusted for chronic conditions, sex, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.2 2: Transition from not disabled to death; risk factor age; continuous definition for a one-year increase in age.

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Liu et al. (1995)	M/PP	f/m	com.	per 1 year	continuous	OR	1.13		RR	1.13		p?.00	-	
Minicuci and Noale (2005)	CDM	m	com. /inst.	per 1 year	continuous	OR	1.16		RR	1.16		p<.05	adjusted for education	
Minicuci and Noale (2005)	CDM	f	com. /inst.	per 1 year	continuous	OR	1.20		RR	1.20		p<.05	adjusted for education	
Crimmins et al. (1994)	CDM	f/m	com.	per 1 year	continuous	OR	1.10					p?.05	adjusted for sex, race, education	no functioning problems to death
Zimmer and House 2003	CDM	f/m	com.	per 1 year	continuous	OR	1.10	1.09 - 1.12				p<.01	adjusted for education, income, sex, race, marital status	
Ishizaki et al. (2002)	IADL	f/m	com.	per 1 year	continuous	OR	1.14	1.12 - 1.16	RR	1.14	1.12 - 1.16	p<.001	adjusted for sex	
Mendes de Leon 1997	ADL	m	com.	per 1 year	continuous	OR	1.06	1.04 - 1.09					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	m	com.	per 1 year	continuous	OR	1.06	1.03 - 1.08					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Mendes de Leon 1997	ADL	f	com.	per 1 year	continuous	OR	1.06	1.03 - 1.09					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f	com.	per 1 year	continuous	OR	1.05	1.02 - 1.08					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	1.06	1.03 - 1.09					adjusted for sex, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	1.05	1.02 - 1.08					adjusted for sex, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Ishizaki et al. (2002)	ADL	f/m	com.	per 1 year	continuous	OR	1.15	1.14 - 1.17	RR	1.15	1.14 - 1.17	p<.001	adjusted for sex	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.2 3: Transition from not disabled to death; risk factor sex; discrete definition with reference group male.

Author	Type of Disab- ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi- cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.73	0.21 - 2.54				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.43	0.29 - 0.66				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.35	0.26 - 0.48				-	
Avlund et al. (2003)	M/PP	f	com.	male	female	OR	0.33	0.17 - 0.67				adjusted by sex, housing tenure, social participation (paying visits to others, receiving visits, participationg in social activities outside the home)	
Avlund et al. (2003)	M/PP	f	com.	male	female	OR	0.43	0.23 - 0.83				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.32	0.24 - 0.42				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.41	0.32 - 0.54				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.37	0.24 - 0.55				-	
Liu et al. (1995)	M/PP	f	com.	male	female	OR	0.38		RR 0.38		p?.01	-	
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	0.74				--		7 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	0.62				--		5 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	0.70				--		7 yrs follow-up

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	0.82						--	5 yrs follow-up
Crimmins et al. (1994)	CDM	f	com.	male	female	OR	0.41					p?.05	adjusted for age, race, education	no functioning problems to death
Zimmer and House 2003	CDM	f	com.	male	female	OR	0.30	0.19 - 0.46				p<0,01	adjusted for education, income, age, race, marital status	
Ishizaki et al. (2002)	IADL	f	com.	male	female	RR	0.45	0.29 - 0.71	RR	2.21	1.41 - 3.44	p<.001	adjusted for age	
Boult et al. (1994)	ADL	f	com. /inst.	male	female	OR	0.46	0.34 - 0.62				p<.0001	adjusted for chronic conditions, age, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts	
Mendes de Leon 1997	ADL	f	com.	male	female	OR	0.47	0.37 - 0.58					adjusted for age, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f	com.	male	female	OR	0.47	0.35 - 0.63					adjusted for age, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven

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Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Ishizaki et al. (2002)	ADL	f	com.	male	female	RR	0.43	0.31 - 0.59	RR	2.32	1.69 - 3.18	p<.001	adjusted for age	
Lamarca, et al. (2003)	ADL	f	com.	male	female	Rate Ratio	0.12						--	
Lamarca, et al. (2003)	ADL	f	com.	male	female	Rate Ratio	1.17						--	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.2 4: Transition from not disabled to death; risk factor education; discrete definition with reference group high education.

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Avlund et al. (2004a)	M/PP	m	com./inst.	high	low	OR	1.20	0.70 - 2.10				adjusted by vocational training, individual income, housing tenure	
Avlund et al. (2004a)	M/PP	m	com./inst.	high	low	OR	1.30	0.70 - 2.10				-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.15	0.72 - 1.85				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.74	1.06 - 2.87			p<0.05	-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.39	0.96 - 2.02				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.13	0.71 - 1.79				-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.39	1.00 - 1.94			p<0.05	-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.46	0.91 - 2.35				-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.12	0.66 - 1.90				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	2.12	1.22 - 3.69				-	
Avlund et al. (2004a)	M/PP	f	com./inst.	high	low	OR	0.80	0.40 - 1.70				adjusted by vocational training, individual income, housing tenure	
Avlund et al. (2004a)	M/PP	f	com./inst.	high	low	OR	1.00	0.50 - 2.10				-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.69	0.39 - 1.24				-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	0.67	0.34 - 1.33				-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	1.09	0.66 - 1.80				-	

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
							Value	CI	Value	CI			
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	0.77	0.40 - 1.48				-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.94	0.58 - 1.50				-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	0.44	0.19 - 1.00				-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.60	0.28 - 1.27				-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	1.37	0.53 - 3.52				-	
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	1.02	0.63 - 1.66				-	ILSA
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	1.55	1.25 - 1.93				-	LASA
Minicuci and Noale (2005)	CDM	m	com. /inst.	high/medium	low	OR	0.83		RR 0.83		p<.05	adjusted for age	
Minicuci and Noale (2005)	CDM	f	com. /inst.	high/medium	low	OR	1.65		RR 1.65		p<.05	adjusted for age	
Huisman et al. (2005)	CDM	f/m	com. /inst.	high	low	Rate Ratio	1.37	1.10 - 1.70				-	LASA
Crimmins et al. (1994)	CDM	f/m	com.	high education	low	OR	1.32				p?.05	adjusted for age, sex, race	not functioning problems to death

(Table A.2 4 continued)

Author	Type of Disab- ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi- cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Boult et al. (1994)	ADL	f/m	com. /inst.	>8 yrs	< 8yrs	OR	0.99	0.70 - 1.40				adjusted for chronic conditions, age, sex, race, exercise routine, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts	
Huisman et al. (2005)	ADL	f/m	com. /inst.	high	low	Rate Ratio	1.03	0.66 - 1.63			-		ILSA

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.2 5: Transition from not disabled to death; risk factor education; continuous definition for a one-year increase in education.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article				Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI			Value	CI			
Liu et al. (1995)	M/PP	f/m	com.	per 1 year	continuous	OR	0.927			RR	0.927		.01<p?.0 - 5		
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	0.98	0.96 -	1.01					adjusted for age, sex, age by sex, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	0.98	0.95 -	1					adjusted for age, sex, age by sex, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.2 6: Transition from not disabled to death; risk factor marital status; discrete definition with reference group unmarried.

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Significance	Control Variables	Additional Information
							Value	CI		Value	CI			
Liu et al. (1995)	M/PP	f/m	com.	not married	married	OR	0.756		RR	0.756			-	
Zimmer and House 2003	CDM	f/m	com.	nonmarried	married	OR	0.86	0.53 - 1.39						adjusted for education, income, age, sex, race
Avlund et al. (2004b)	ADL	m	com.	live alone	live with others	OR	1.6667	0.833 - 3.333	RR	1.5333	0.82 - 2.867	n.s.	-	
Avlund et al. (2004b)	ADL	f	com.	live alone	live with others	OR	1.25	0.781 - 2	RR	1.21	0.796 - 1.84	n.s.	-	
Boult et al. (1994)	ADL	f/m	com. /inst.	unmarried	married	OR	1.1236	0.833 - 1.515						adjusted for chronic conditions, age, sex, race, exercise routine, education, income, locus of control, volunteering, informal caregiver, recent social contacts

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.2 7: Transition from not disabled to death; risk factor body mass index; discrete definition with references group normal weight (BMI=19-24.9 kg/m2).

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Boult et al. (1994)	ADL	f/m	com. /inst.	<27,3	? 27,3	OR	0.64	0.47 - 0.89			p<.05	adjusted for chronic conditions, age, sex, race, exercise routine, education, income, martial status, locus of control, volunteering, informal caregiver, recent social contacts	
Mendes de Leon 1997	ADL	f/m	com.	23-27	>27	OR	0.84	0.64 - 1.11				adjusted for age, sex, age by sex, education, annual income, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	23-27	>27	OR	0.82	0.63 - 1.07				adjusted for age, sex, age by sex, education, annual income, poor cognitive function, chronic illnesses, race, age by race	New Haven

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.2 8: Transition from not disabled to death; risk factor smoking; discrete definition with reference group non/never smoker.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI		
Liu et al. (1995)	M/PP	f/m	com.	never	smoking before	OR	1.175		RR	1.175		-	
Liu et al. (1995)	M/PP	f/m	com.	never	currently	OR	1.33		RR	1.3299		-	
Nusselder et al. (2000)	ADL	f/m	c/i	nonsmoker	smoker	RR	1.24	0.87 - 1.76				adjusted for age, sex	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Appendix 3: Tables describing the graphs for transition 3 from disabled to not disabled.

Table A.3 1: Transition from disabled to not disabled; risk factor age; discrete definition with reference group youngest age category.

Author	Type of Disab- ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi- cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Clark et al. (1998b)	M/PP	f/m	age	70-74	85+	OR	0.47	0.22 - 1				adjusted for sex, race, education, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	
Clark et al. (1998b)	M/PP	f/m	age	70-74	80-84	OR	0.57	0.34 - 0.95				adjusted for sex, race, education, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	
Clark et al. (1998b)	M/PP	f/m	age	70-74	75-79	OR	0.78	0.52 - 1.16				adjusted for sex, race, education, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	
Jagger et al. (1993)	CDM	m	age	75-81	80+	Rate Ratio	0.1538					--	7 yrs follow-up
Jagger et al. (1993)	CDM	m	age	75-81	80+	Rate Ratio	0.25					--	5 yrs follow-up
Jagger et al. (1993)	CDM	f	age	75-81	80+	Rate Ratio	0.25					--	7 yrs follow-up
Jagger et al. (1993)	CDM	f	age	75-81	80+	Rate Ratio	0.4516					--	5 yrs follow-up
Pérès et al. (2005)	CDM	f/m	age	65-79	80+	RR	0.5	0.4 - 0.7			p<.001	adjusted for sex, diabetes, visual impairment, cognitive impairment, dyspnoea	

(Table A.3 1 continued)

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article		Measure recalculated and shown in Figure		Signifi- cance	Control Variables	Additional Information
						Value	CI	Value	CI			
Manton (1988)	IADL	m	age	65-74	85+	Rate Ratio 0.1216					adjusted for mortality	
Manton (1988)	IADL	f	age	65-74	85+	Rate Ratio 0.0521					adjusted for mortality	
Béland and Zunzunegui (1999)	IADL	f/m	age	65-74	75+	Rate Ratio 0.2815					--	
Manton (1988)	ADL	f	age	65-74	85+	Rate Ratio 0.0616					adjusted for mortality	
Béland and Zunzunegui (1999)	ADL	f/m	age	65-74	75+	Rate Ratio 0.5488					--	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.3 2: Transition from disabled to not disabled; risk factor age; continuous definition for a one-year increase in age.

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Beckett et al. (1996)	M/PP	f/m	com.	per 1 year	continuous	OR	0.96						adjusted for African-American stratum	North Carolina
Beckett et al. (1996)	M/PP	f/m	com.	per 1 year	continuous	OR	0.96						adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	M/PP	f/m	com.	per 1 year	continuous	OR	0.95						adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	M/PP	f/m	com.	per 1 year	continuous	OR	0.97						-	East Boston, MA
Beckett et al. (1996)	M/PP	f/m	com.	per 1 year	continuous	OR	0.95						-	East Boston, MA
Beckett et al. (1996)	M/PP	f/m	com.	per 1 year	continuous	OR	0.98						-	Iowa
Beckett et al. (1996)	M/PP	f/m	com.	per 1 year	continuous	OR	0.94						-	Iowa
Liu et al. (1995)	M/PP	f/m	com.	per 1 year	continuous	OR	0.91		RR	0.98		p?.01	-	
Oman et al. (1999)	M/PP	f/m	com.	per 10 years	continuous	OR	0.43	0.32 - 0.59				p<.001	adjusted for sex, number of chonic illnesses, vision problems, exercise, obesity, alcohol use, outside activities, social activities, poor memory, depression	

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article		Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
						Value	CI	Value	CI			
Clark et al. (1998a)	M/PP	f/m	com.	per 1 year	continuous	OR 0.96				p?.05	adjusted for sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, smoking, CAGE scale score, high level of physical activity, low level of physical activity	
Minicuci and Noale (2005)	CDM	m	com. /inst.	per 1 year	continuous	OR 0.80		RR 1.14			adjusted for education	
Minicuci and Noale (2005)	CDM	m	com. /inst.	per 1 year	continuous	OR 0.84		RR 1.19		p<.05	adjusted for education	
Minicuci and Noale (2005)	CDM	f	com. /inst.	per 1 year	continuous	OR 0.87		RR 1.05			adjusted for education	
Minicuci and Noale (2005)	CDM	f	com. /inst.	per 1 year	continuous	OR 0.85		RR 0.99		p<.05	adjusted for education	
Crimmins et al. (1994)	CDM	f/m	com.	per 1 year	continuous	OR 0.89				p?.05	adjusted for sex, race, education	unable to provide independent living to no functioning problems

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Crimmins et al. (1994)	CDM	f/m	com.	per 1 year	continuous	OR	0.97					p?.05	adjusted for sex, race, education	some functioning problems to no functioning problems
Crimmins et al. (1994)	CDM	f/m	com.	per 1 year	continuous	OR	0.90					p?.05	adjusted for sex, race, education	unable to provide personal care to no functioning problems
Ishizaki et al. (2002)	IADL	f/m	com.	per 1 year	continuous	OR	0.91	0.89 - 0.93	RR	0.98	0.98 - 0.99	p<.001	adjusted for sex	
Mendes de Leon 1997	ADL	m	com.	per 1 year	continuous	OR	0.95	0.92 - 0.99					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	m	com.	per 1 year	continuous	OR	0.97	0.95 - 1.00					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Mendes de Leon 1997	ADL	f	com.	per 1 year	continuous	OR	0.96	0.93 - 0.98					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina

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Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Mendes de Leon 1997	ADL	f	com.	per 1 year	continuous	OR	0.94	0.91 - 0.96					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Hardy and Gill (2005)	ADL	f/m	com.	per 1 year	continuous	HR	0.99					p=.25	-	
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	0.96	0.93 - 0.98					adjusted for sex, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	0.94	0.91 - 0.96					adjusted for sex, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Ishizaki et al. (2002)	ADL	f/m	com.	per 1 year	continuous	OR	0.94	0.91 - 0.97	RR	0.98	0.97 - 0.99	p<.001	adjusted for sex	
Beckett et al. (1996)	ADL	f/m	com.	per 1 year	continuous	OR	0.96					p=.05	adjusted for African-American stratum	North Carolina
Beckett et al. (1996)	ADL	f/m	com.	per 1 year	continuous	OR	0.97					p=.05	adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	ADL	f/m	com.	per 1 year	continuous	OR	0.96					p=.05	-	East Boston, MA
Beckett et al. (1996)	ADL	f/m	com.	per 1 year	continuous	OR	0.94					p=.05	-	Iowa

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.3 3: Transition from disabled to not disabled; risk factor sex; discrete definition with reference group male.

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.27	0.13 - 0.58				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.64	0.47 - 0.88				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.57	0.45 - 0.73				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.64	0.51 - 0.78				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.69	0.56 - 0.85				-	
Clark et al. (1998b)	M/PP	f	com.	male	female	OR	0.76	0.50 - 1.17				adjusted for age, race, education, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.72	0.53 - 0.98				-	
Beckett et al. (1996)	M/PP	f	com.	male	female	OR	0.68					adjusted for African-American stratum	North Carolina
Beckett et al. (1996)	M/PP	f	com.	male	female	OR	0.61					adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	M/PP	f	com.	male	female	OR	0.65					adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	M/PP	f	com.	male	female	OR	0.52					-	East Boston, MA
Beckett et al. (1996)	M/PP	f	com.	male	female	OR	0.55					-	East Boston, MA
Beckett et al. (1996)	M/PP	f	com.	male	female	OR	0.55					-	Iowa
Beckett et al. (1996)	M/PP	f	com.	male	female	OR	0.59					-	Iowa
Liu et al. (1995)	M/PP	f	com.	male	female	OR	0.93		RR	0.98		-	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article				Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI			Value	CI			
Oman et al. (1999)	M/PP	f	com.	male	female	OR	0.70	0.37 -	1.31 RR		0.79	0.49 - 1.17		adjusted for age, number of chonic illnesses, vision problems, exercise, obesity, alcohol use, outside activities, social activities, poor memory, depression	
Clark et al. (1998a)	M/PP	f	com.	male	female	OR	1.00							adjusted for age, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, smoking, CAGE scale score, high level of physical activity, low level of physical activity	
Jagger et al. (1993)	CDM	f f	com.	male	female	Rate Ratio	3.00							--	7 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	1.56							--	5 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	1.85							--	7 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	0.86							--	5 yrs follow-up
Crimmins et al. (1994)	CDM	f	com.	male	female	OR	0.83						p?.05	adjusted for age, race, education	some functioning problems to no functioning problems

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Crimmins et al. (1994)	CDM	f	com.	male	female	OR	0.11					p?.05	adjusted for age, race, education	unable to provide personal car to no functioning problems
Pérès et al. (2005)	CDM	f	com.	male	female	RR	0.80	0.70 - 1.00				p<.05		
		f												
Manton (1988)	IADL	f	com.	male	female	Rate Ratio	0.35						adjusted for mortality	
Manton (1988)	IADL	f	com.	male	female	Rate Ratio	0.81						adjusted for mortality	
Béland and Zunzunegui (1999)	IADL	f	com.	male	female	RR	3.20						--	
Ishizaki et al. (2002)	IADL	f	com.	male	female	RR	0.92	0.88 - 0.95	RR	1.09	1.05 - 1.14	p<.001	adjusted for age	
		f												
		f												
		f												
		f												
Hardy and Gill (2005)	ADL	f	com.	male	female	RR	1.03					p=,78	-	
Manton (1988)	ADL	f	com.	male	female	Rate Ratio	1.08						adjusted for mortality	
Mendes de Leon 1997	ADL	f	com.	male	female	OR	1.01	0.76 - 1.35					adjusted for age, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina

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(Table A.3 3 continued)

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Mendes de Leon 1997	ADL	f	com.	male	female	OR	1.25	0.72 - 2.17				adjusted for age, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Beckett et al. (1996)	ADL	f	com.	male	female	OR	0.94				p=.05	adjusted for African-American stratum	North Carolina
Beckett et al. (1996)	ADL	f	com.	male	female	OR	0.77				p=.05	adjusted for housing stratum	New Haven, CT
Beckett et al. (1996)	ADL	f	com.	male	female	OR	0.78				p=.05	-	East Boston, MA
Beckett et al. (1996)	ADL	f	com.	male	female	OR	1.03				p=.05	-	Iowa
Béland and Zunzunegui (1999)	ADL	f	com.	male	female	RR	0.51					--	
Ishizaki et al. (2002)	ADL	f	com.	male	female	RR	1.14	0.97 - 1.34 RR	0.88	0.75 - 1.01	p=.259	adjusted for age	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.3 4: Transition from disabled to not disabled; risk factor education; discrete definition with reference group high education.

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
							Value	CI	Value	CI			
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.13	0.68 - 1.91				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	0.75	0.42 - 1.36				-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	0.99	0.66 - 1.48				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.07	0.68 - 1.68				-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.00	0.68 - 1.48				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.47	0.93 - 2.31				-	
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	0.78	0.44 - 1.38				-	
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	1.26	0.63 - 2.52				-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.96	0.69 - 1.33				-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	0.93	0.64 - 1.34				-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.96	0.71 - 1.30				-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	1.07	0.77 - 1.49				-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.91	0.68 - 1.21				-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	0.96	0.68 - 1.35				-	
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.84	0.53 - 1.33				-	
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	0.45	0.06 - 0.75			p<0.05	-	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	1.59	0.56 - 4.48				-	ILSA
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	0.99	0.67 - 1.47				-	LASA
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	0.86	0.47 - 1.56				-	ILSA
Huisman et al. (2005)	M/PP	f/m	com. /inst.	high	low	Rate Ratio	0.85	0.54 - 1.34				-	LASA
Clark et al. (1998b)	M/PP	f/m	com.	12+ yrs	7-11 yrs	OR	0.44	0.23 - 0.84					adjusted for age, sex, race, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory
Clark et al. (1998b)	M/PP	f/m	com.	12+ yrs	0-6 yrs	OR	0.98	0.41 - 2.32					adjusted for age, sex, race, net worth, private insurance, medicaid, smoking, drinking, BMI, diseases, sight, hearing, memory
Minicuci and Noale (2005)	CDM	m	com. /inst.	high/medi um	low	OR	3.86		RR	3.86			adjusted for age
Minicuci and Noale (2005)	CDM	m	com. /inst.	high/medi um	low	OR	0.37		RR	0.37		p<.05	adjusted for age
Minicuci and Noale (2005)	CDM	f	com. /inst.	high/medi um	low	OR	1.95		RR	1.95			adjusted for age
Minicuci and Noale (2005)	CDM	f	com. /inst.	high/medi um	low	OR	1.05		RR	1.05			adjusted for age

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Huisman et al. (2005)	CDM	f/m	com. /inst.	high	low	Rate Ratio	1.05	0.67 - 1.65			-		LASA
Huisman et al. (2005)	CDM	f/m	com. /inst.	high	low	Rate Ratio	0.62	0.39 - 0.97			-		LASA
Crimmins et al. (1994)	CDM	f/m	com.	high education	low	OR	0.34				p?.05	adjusted for age, sex, race	unable to provide personal car to no functioning problems
Huisman et al. (2005)	ADL	f/m	com. /inst.	high	low	Rate Ratio	1.32	0.76 - 2.31			-		ILSA
Huisman et al. (2005)	ADL	f/m	com. /inst.	high	low	Rate Ratio	1.19	0.75 - 1.88			-		ILSA

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.3 5: Transition from not disabled to not disabled; risk factor education; continuous definition for a one-year increase in education.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI		
Liu et al. (1995)	M/PP	f/m	com.	per 1 year	continuous	OR	0.87		RR	0.97			-	
Clark et al. (1998a)	M/PP	f/m	com.	per 1 year	continuous	OR	1.06					p?.05	adjusted for age, sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, medicaid incurance, private health insurance, working for pay, BMI, smoking, CAGE scale score, high level of physical activity, low level of physical activity	
Hardy and Gill (2005)	ADL	f/m	com.	per 1 year	continuous	HR	1.02					p=,38	-	
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	1.01	0.98 - 1.04					adjusted for age, sex, age by sex, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	0.95	0.92 - 0.98					adjusted for age, sex, age by sex, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.3 6: Transition from disabled to not disabled; risk factor marital status; discrete definition with reference group unmarried.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article		Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Liu et al. (1995)	M/PP	f/m	com.	not married	married	OR	0.609		RR	0.8935			-	
Clark et al. (1998a)	M/PP	f/m	com.	nonmarried	married	OR	0.84						adjusted for age, sex, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, smoking, CAGE scale score, high level of physical activity, low level of physical activity	
Hardy and Gill (2005)	ADL	f/m	com.	living alone	live with partner	RR	0.9174					p=.43	-	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.3 7: Transition from disabled to not disabled; risk factor body mass index; discrete definition with references group normal weight (BMI=19-24.9 kg/m^2).

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article				Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI			Value	CI			
Wannamethee et al. (2005)	M/PP	m	com.	<25	?30	OR	0.93	0.53 -	1.64 RR		0.95	0.62 -	1.36		adjusted for chronic diseases, calf pain on walking, breathlessness, physical activity, smoking, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	<25	27,5-29,9	OR	0.55	0.30 -	0.99 RR		0.64	0.39 -	0.99		adjusted for chronic diseases, calf pain on walking, breathlessness, physical activity, smoking, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	<25	25-27,4	OR	0.69	0.42 -	1.13 RR		0.77	0.52 -	1.08		adjusted for chronic diseases, calf pain on walking, breathlessness, physical activity, smoking, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	<25	?30	OR	0.81	0.49 -	1.35 RR		0.86	0.59 -	1.21		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	<25	27,5-29,9	OR	0.59	0.35 -	0.99 RR		0.68	0.44 -	0.99		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	<25	25-27,4	OR	0.70	0.45 -	1.10 RR		0.77	0.55 -	1.07		adjusted for age	
Clark et al. (1998b)	M/PP	f/m	com.	<19	?30	OR	0.81	0.47 -	1.42						adjusted for age, sex, race, education, net worth, private insurance, medicaid, smoking, drinking, diseases, sight, hearing, memory	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Clark et al. (1998b)	M/PP	f/m	com.	<19	? 25 and < 30	OR	0.98	0.66 - 1.47				adjusted for age, sex, race, education, net worth, private insurance, medicaid, smoking, drinking, diseases, sight, hearing, memory	
Clark et al. (1998a)	M/PP	f/m	com.	normal	obese	OR	0.83					adjusted for age, sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, smoking, CAGE scale score, high level of physical activity, low level of physical activity	
Mendes de Leon 1997	ADL	f/m	com.	23-27	>27	OR	0.65	0.48 - 0.86				adjusted for age, sex, age by sex, education, annual income, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	23-27	>27	OR	0.67	0.43 - 1.04				adjusted for age, sex, age by sex, education, annual income, poor cognitive function, chronic illnesses, race, age by race	New Haven

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.3 8: Transition from disabled to not disabled, risk factor body mass index; continuous definition for a one-point increase in body mass index.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article		Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
						Value	**CI**	**Value**	**CI**			
Hardy and Gill (2005)	ADL	f/m	com.	per 1 point increase	continuous	HR	1.01				p=.51	-	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.3 9: Transition from disabled to not disabled; risk factor smoking; discrete definition with reference group non/never smoker.

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	long-term ex-smoker	OR	1.00	0.58 - 1.74	RR	1.00	0.67 - 1.41		adjusted for chronic diseases, calf pain on walking, breathlessness, BMI, physical activity, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	recent (ex-smoker at 1992)	OR	1.17	0.59 - 2.31	RR	1.11	0.68 - 1.64		adjusted for chronic diseases, calf pain on walking, breathlessness, BMI, physical activity, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	current	OR	0.97	0.51 - 1.83	RR	0.98	0.60 - 1.45		adjusted for chronic diseases, calf pain on walking, breathlessness, BMI, physical activity, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	gave up before 1996	OR	0.55	0.20 - 1.55	RR	0.63	0.26 - 1.35		adjusted for age, chronic disease, calf pain on walking, breathlessness, BMI, physical activity, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	ex-smoker at 1992	OR	1.11	0.65 - 1.90	RR	1.08	0.72 - 1.52		adjusted for age, chronic disease, calf pain on walking, breathlessness, BMI, physical activity, alcohol intake, social class	
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	continuing	OR	1.35	0.81 - 2.24	RR	1.23	0.85 - 1.67		adjusted for age, chronic disease, calf pain on walking, breathlessness, BMI, physical activity, alcohol intake, social class	

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	long-term ex-smoker	OR	0.77	0.48 - 1.26	RR	0.83	0.57 - 1.17		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	recent (ex-smoker at 1992)	OR	0.86	0.48 - 1.57	RR	0.90	0.57 - 1.33		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	never smoked	current	OR	0.76	0.44 - 1.32	RR	0.82	0.53 - 1.20		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	gave up before 1996	OR	0.55	0.22 - 1.36	RR	0.63	0.28 - 1.24		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	ex-smoker at 1992	OR	1.05	0.65 - 1.73	RR	1.04	0.72 - 1.44		adjusted for age	
Wannamethee et al. (2005)	M/PP	m	com.	long-termon nonsmoker	continuing	OR	1.03	0.65 - 1.64	RR	1.02	0.72 - 1.39		adjusted for age	
Clark et al. (1998b)	M/PP	f/m	com.	not current smoker	currently	OR	0.44	0.23 - 0.84					adjusted for age, sex, race, education, net worth, private insurance, medicaid, drinking, BMI, diseases, sight, hearing, memory	
Liu et al. (1995)	M/PP	f/m	com.	never	smoking before	OR	0.90		RR	0.98			-	

(Table A.3 9 continued)

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Liu et al. (1995)	M/PP	f/m	com.	never	currently	OR	0.47		RR	0.84			-	
Clark et al. (1998a)	M/PP	f/m	com.	never smoked	former	OR	0.89						adjusted for age, sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, CAGE scale score, high level of physical activity, low level of physical activity	
Clark et al. (1998a)	M/PP	f/m	com.	normal	current	OR	0.77						adjusted for age, sex, martial status, not born in the United States, Mexican American, African American, family income, net worth, education, medicaid incurance, private health insurance, working for pay, BMI, CAGE scale score, high level of physical activity, low level of physical activity	
Hardy and Gill (2005)	ADL	f/m	com.	nonsmoker	fomer	HR	1.05					p=,69	-	
Hardy and Gill (2005)	ADL	f/m	com.	nonsmoker	current	HR	1.28					p=,24	-	
Nusselder et al. (2000)	ADL	f/m	c/i	nonsmoker	smoker	RR	0.70	0.55 - 0.90					adjusted for age, sex	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Appendix 4: Tables describing the graphs for transition 4 from disabled to death.

Table A.4 1 Transition from disabled to death; risk factor age; discrete definition with reference group youngest age category

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Jagger et al. (1993)	CDM	m	age	75-82	80+	Rate Ratio	1.3636					--	7 yrs follow-up
Jagger et al. (1993)	CDM	f	age	75-82	80+	Rate Ratio	1.3103					--	7 yrs follow-up
Jagger et al. (1993)	CDM	m	age	75-82	80+	Rate Ratio	1.7955					--	5 yrs follow-up
Jagger et al. (1993)	CDM	f	age	75-82	80+	Rate Ratio	1.3191					--	5 yrs follow-up
Flacker and Kiely (2003)	CDM	f/m	age	<84	84+	HR	1.35	1.25 - 1.45				adjusted for shortness of breath, feeding tube, unstable conditions, sex, > 25% of food uneaten, congestive heart failure, low functional ability, weight loss, diabetes mellitus, BMI	
Flacker and Kiely (2003)	CDM	f/m	age	<84	84+	HR	1.24	1.16 - 1.32				adjusted for shortness of breath, feeding tube, unstable conditions, sex, > 25% of food uneaten, congestive heart failure, low functional ability, weight loss, diabetes mellitus, BMI	
Pérès et al. (2005)	CDM	f/m	age	65-79	80+	RR	1.2	1 - 1.3			p<.05	adjusted for sex	
Flacker and Kiely (1998)	ADL	f/m	age	?88	88+	OR	1.48	1.07 - 2.05			p=.019	adjusted for functional ability score, weight loss, shortness of breath, swallowing problems, sex, BMI, congestive heart failure	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.4 2: Transition from disabled to death; risk factor age; continuous definition for a one-year increase in age.

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Liu et al. (1995)	M/PP	f/m	com.	per 1 year	continuous	OR	1.04		RR	1.03			-	
Minicuci and Noale (2005)	CDM	m	com./inst.	per 1 year	continuous	OR	1.14		RR	1.14		p<.05	adjusted for education	
Minicuci and Noale (2005)	CDM	m	com./inst.	per 1 year	continuous	OR	1.19		RR	1.19		p<.05	adjusted for education	
Minicuci and Noale (2005)	CDM	f	com./inst.	per 1 year	continuous	OR	1.05		RR	1.05		p<.05	adjusted for education	
Minicuci and Noale (2005)	CDM	f	com./inst.	per 1 year	continuous	OR	0.98		RR	0.99			adjusted for education	
Crimmins et al. (1994)	CDM	f/m	com.	per 1 year	continuous	OR	1.05					p?.05	adjusted for sex, race, education	some functioning problems to death
Crimmins et al. (1994)	CDM	f/m	com.	per 1 year	continuous	OR	1.03					p?.05	adjusted for sex, race, education	unable to provide independent living to death
Crimmins et al. (1994)	CDM	f/m	com.	per 1 year	continuous	OR	1.03					p?.05	adjusted for sex, race, education	unable to provide personal care to death
Ishizaki et al. (2002)	IADL	f/m	com.	per 1 year	continuous	OR	1.06	1.04 - 1.09	RR	1.06	1.04 - 1.09	p<.001	adjusted for sex	
Mendes de Leon 1997	ADL	m	com.	per 1 year	continuous	OR	1.03	1.01 - 1.05					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina

(Table A.4 2 continued)

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Mendes de Leon 1997	ADL	m	com.	per 1 year	continuous	OR	1.06	1.03 - 1.08					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Mendes de Leon 1997	ADL	f	com.	per 1 year	continuous	OR	1.03	1.00 - 1.06					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f	com.	per 1 year	continuous	OR	1.02	1.00 - 1.05					adjusted for age, sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
van Dijk et al. 2005	ADL	f/m	inst.	per 1 year	continuous	OR	1.03	1.03 - 1.04	RR	1.03	1.03 - 1.04		adjusted for sex, cancer, cancer by age, renal failure, heart failure, emphysema/ chronic obstructive, pulmonary disease, dementia, diabetes mellitus, anemia	

(Table A.4 2 continued)

Author	Type of Disab- ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi- cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	1.03	1.01 - 1.05					adjusted for sex, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	1.02	1.00 - 1.05					adjusted for sex, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Ishizaki et al. (2002)	ADL	f/m	com.	per 1 year	continuous	OR	1.04	1.01 - 1.07	RR	1.04	1.01 - 1.07	p=.002	adjusted for sex	
Elgar et al. (2002)	ADL	f/m	com.	per 1 year	continuous	RR	1.02	0.99 - 1.06				0.259		

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.4 3: Transition from disabled to death; risk factor sex; discrete definition with reference group male.

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI		
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.45	0.31 - 0.66				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.54	0.43 - 0.67				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.43	0.35 - 0.53				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.44	0.35 - 0.54				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.43	0.35 - 0.55				-	
Leveille et al. (2000)	M/PP	f	com.	male	female	RR	0.80	0.50 - 1.26				-	
Liu et al. (1995)	M/PP	f	com.	male	female	OR	0.01		RR	0.02		-	
Flacker and Kiely (2003)	CDM	f	inst.	male	female	RR	0.61	0.57 - 0.66					adjusted for shortness of breath, feeding tube, unstable conditions, > 25% of food uneaten, congestive heart failure, low functional ability, weight loss, BMI, diabetes mellitus, age
Flacker and Kiely (2003)	CDM	f	inst.	male	female	RR	0.63	0.59 - 0.67					adjusted for shortness of breath, feeding tube, unstable conditions, > 25% of food uneaten, congestive heart failure, low functional ability, weight loss, BMI, diabetes mellitus, age

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Flacker and Kiely (2003)	CDM	f	inst.	male	female	RR	0.70	0.68 - 0.73				adjusted for cancer, shortnes of breath, congestive heart failure, bedfast, unstable conditions, > 25% of food uneaten, low functional ability score, swalloing problem, bowel incontinence, BMI	
Flacker and Kiely (2003)	CDM	f	inst.	male	female	RR	0.66	0.64 - 0.68				adjusted for cancer, shortnes of breath, congestive heart failure, bedfast, unstable conditions, > 25% of food uneaten, low functional ability score, swalloing problem, bowel incontinence, BMI	
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	0.84					--	7 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	0.78					--	5 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	0.88					--	7 yrs follow-up
Jagger et al. (1993)	CDM	f	com.	male	female	Rate Ratio	1.07					--	5 yrs follow-up
Crimmins et al. (1994)	CDM	f	com.	male	female	OR	0.49				p?.05	adjusted for age, race, education	some functioning problems to death
Crimmins et al. (1994)	CDM	f	com.	male	female	OR	0.67				p?.05	adjusted for age, race, education	unable to provide independent living to death

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Crimmins et al. (1994)	CDM	f	com.	male	female	OR	0.67					p?.05	adjusted for age, race, education	unable to provide personal car to death
Pérès et al. (2005)	CDM	f	com.	male	female	RR	0.40	0.30 - 0.60				p>.001		from moderate disabled to death
Pérès et al. (2005)	CDM	f	com.	male	female	RR	0.20	0.10 - 0.30				p>.001		from mild disabled to death
Ishizaki et al. (2002)	IADL	f f	com.	male	female	RR	0.45	0.34 - 0.60	RR	2.21	1.67 - 2.92	p<.001	adjusted for age	
Flacker and Kiely (1998)	ADL	f	inst.	male	female	OR	0.57	0.40 - 0.81				p=.001	adjusted for functional ability score, weight loss, shortness of breath, swallowing problems, BMI, congestive heart failure, age	
van Dijk et al. 2005	ADL	f	inst.	male	female	OR	0.58	0.56 - 0.61	RR	0.59	0.56 - 0.61		adjusted for age, cancer, cancer by age, renal failure, heart failure, emphysema/ chronic obstructive, pulmonary disease, dementia, diabetes mellitus, anemia	
Porock et al. (2005)	ADL	f	com.	male	female	OR	0.56	0.52 - 0.59	RR	0.56	0.52 - 0.59		-	
Mendes de Leon 1997	ADL	f	com.	male	female	OR	0.55	0.45 - 0.68					adjusted for age, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI			
Mendes de Leon 1997	ADL	f	com.	male	female	OR	0.81	0.50 - 1.30					adjusted for age, age by sex, education, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven
Ishizaki et al. (2002)	ADL	f	com.	male	female	RR	0.60	0.41 - 0.88	RR	1.66	1.13 - 2.42	p=.009	adjusted for age	
Elgar et al. (2002)	ADL	f	com.	male	female	RR	0.75	0.50 - 1.13				0.169		
Romoren and Blekeseaune (2003)	ADL	f	c/i	male	female	OR	2.64	1.55 - 4.51	RR	1.98	1.38 - 2.69	p=.000	adjusted for age at death, sex, marital status, SES	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.4 4: Transition from disabled to death; rsk factor education; discrete definition with reference group high education.

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	0.72	0.49 - 1.04			-		
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	0.86	0.57 - 1.28			-		
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.06	0.71 - 1.57			-		
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	0.87	0.56 - 1.36			-		
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	1.27	0.87 - 1.86			-		
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	0.78	0.47 - 1.30			-		
Melzer et al. (2001)	M/PP	m	com.	12+	8-11	RR	0.53	0.25 - 1.10			-		
Melzer et al. (2001)	M/PP	m	com.	12+	0-7	RR	0.39	0.14 - 1.13			-		
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.87	0.63 - 1.22			-		
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	0.94	0.65 - 1.34			-		
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.97	0.70 - 1.34			-		
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	0.89	0.59 - 1.36			-		
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.84	0.57 - 1.22			-		
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	0.86	0.56 - 1.33			-		
Melzer et al. (2001)	M/PP	f	com.	12+	8-11	RR	0.81	0.38 - 1.76			-		

(Table A.4 4continued)

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Significance	Control Variables	Additional Information
							Value	CI		Value	CI		
Melzer et al. (2001)	M/PP	f	com.	12+	0-7	RR	1.26	0.59 - 2.70				-	
Huisman et al. (2005)	M/PP	f/m	com./inst.	high	low	Rate Ratio	0.82	0.48 - 1.43				-	ILSA
Huisman et al. (2005)	M/PP	f/m	com./inst.	high	low	Rate Ratio	1.40	1.13 - 1.73				-	LASA
Minicuci and Noale (2005)	CDM	m	com./inst.	high/medium	low	OR	0.59		RR	0.59		p<.05	adjusted for age
Minicuci and Noale (2005)	CDM	m	com./inst.	high/medium	low	OR	0.53		RR	0.53			adjusted for age
Minicuci and Noale (2005)	CDM	f	com./inst.	high/medium	low	OR	0.64		RR	0.64			adjusted for age
Minicuci and Noale (2005)	CDM	f	com./inst.	high/medium	low	OR	0.94		RR	0.94			adjusted for age
Huisman et al. (2005)	CDM	f/m	com./inst.	high	low	Rate Ratio	1.46	1.19 - 1.80				-	LASA
Huisman et al. (2005)	ADL	f/m	com./inst.	high	low	Rate Ratio	0.84	0.45 - 1.57				-	ILSA

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.4 5: Transition from disabled to death; risk factor education; continuous definition for a one-year increase in education.

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI		
Liu et al. (1995)	M/PP	f/m	com.	per 1 year	continuous	OR	0.93		RR	0.95		-	
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	1.01	0.98 - 1.03					adjusted for age, sex, age by sex, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	per 1 year	continuous	OR	0.99	0.96 - 1.02					adjusted for age, sex, age by sex, annual income, BMI, poor cognitive function, chronic illnesses, race, age by race	New Haven

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.4 6: Transition from disabled to death; risk factor marital status; discrete definition with reference group unmarried.

Author	Type of Disability	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure			Significance	Control Variables	Additional Information
							Value	CI		Value	CI			
Liu et al. (1995)	M/PP	f/m	com.	not married	married	OR	0.623		RR	0.7155		-		
Elgar et al. (2002)	ADL	f/m	com.	unmarried	married	RR	0.8	0.486 - 1.316				0.382		
Elgar et al. (2002)	ADL	f/m	com.	living alone	live with others	RR	0.8621	0.483 - 1.538				0.622		
Romoren and Blekeseaune (2003)	ADL	f/m	c/i	never married	ever married	OR	0.7161	0.355 - 1.442	RR	0.7652	0.418 - 1.316	p=.349	adjusted for age at death, sex, marital status, SES	

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.4 7: Transition from disabled to death; risk factor body mass index; discrete definition with references group normal weight (BMI=19-24.9 kg/m^2).

Author	Type of Disab-ility	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Flacker and Kiely (2003)	CDM	f/m	inst.	<23	?23	RR	0.68	0.63 - 0.74				adjusted for shortness of breath, feeding tube, unstable conditions, sex, > 25% of food uneaten, congestive heart failure, low functional ability, weight loss, diabetes mellitus, age	
Flacker and Kiely (2003)	CDM	f/m	inst.	<23	?23	RR	0.68	0.64 - 0.72				adjusted for shortness of breath, feeding tube, unstable conditions, sex, > 25% of food uneaten, congestive heart failure, low functional ability, weight loss, diabetes mellitus, age	
Flacker and Kiely (2003)	CDM	f/m	inst.	<23	?23	RR	0.74	0.71 - 0.76				adjusted for cancer, shortnes of breath, congestive heart failure, bedfast, sex, unstable conditions, > 25% of food uneaten, low functional ability score, swalloing problem, bowel incontinence	
Flacker and Kiely (2003)	CDM	f/m	inst.	<23	?23	RR	0.78	0.75 - 0.80				adjusted for cancer, shortnes of breath, congestive heart failure, bedfast, sex, unstable conditions, > 25% of food uneaten, low functional ability score, swalloing problem, bowel incontinence	

Author	Type of Disab-ility	Sex	Com./Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI	Value	CI			
Flacker and Kiely (1998)	ADL	f/m	inst.	? 22	>22	OR	0.57	0.41 - 0.79			p<.001	adjusted for functional ability score, weight loss, shortness of breath, swallowing problems, sex, congestive heart failure, age	
Mendes de Leon 1997	ADL	f/m	com.	23-27	>27	OR	0.95	0.70 - 1.29				adjusted for age, sex, age by sex, education, annual income, poor cognitive function, chronic illnesses, race, age by race	North Carolina
Mendes de Leon 1997	ADL	f/m	com.	23-27	>27	OR	0.71	0.54 - 0.95				adjusted for age, sex, age by sex, education, annual income, poor cognitive function, chronic illnesses, race, age by race	New Haven

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Table A.4 8: Transition from disabled to death; risk factor smoking; discrete definition with reference group non/never smoker.

Author	Type of Disability	Sex	Com./ Inst.	RG	Category of Risk Factor	Measure originally used in Article			Measure recalculated and shown in Figure		Signifi-cance	Control Variables	Additional Information
							Value	CI		Value	CI		
Liu et al. (1995)	M/PP	f/m	com.	never	smoking before	OR	0.497		RR	0.6023		-	
Liu et al. (1995)	M/PP	f/m	com.	never	currently smoking	OR	0.81		RR	0.8654		-	
Nusselder et al. (2000)	ADL	f/m	c/i	nonsmoker	smoker	RR	1.24	0.87 - 1.76					adjusted for age, sex

RG = reference group; CI = confidence interval; Sign. = Significance; ADL = Activities of daily living; IADL = Instrumental activities of daily living; CDM = combined disability measure; M/PP = mobility/physical performance; f = female; m = male; f/m = female and male; c = community-dwelling; i = institutionalized; c/i = community-dwelling and institutionalized; OR = odds ratio; RR = risk ratio; I = incidence

Appendix 5: Overview of article characteristics of all 63 analyzed articles

Table A.5 1: Overview of article characteristics of all 63 analyzed articles

Author	Country	Study Name	Study Population	Baseline year	Length of Study in Months	Baseline Age	Analytic Sample Size	Transition	disability	Definition of Disability	Risk Factor	Categories of Risk Factor	Method
Agüero-Torres et al. (1998)	Sweden	Kungsholmen Project	76% women, com.	1987	2.8-4.0	75+	707 (developing dependence), 182 (functional decline)	1	ADL	bathing, dressing, going to the toilet, transferring, continence, feeding	age / sex / education	continuous / female/male / low/high	logistic regression
Armenian et al. (1998)	USA	Epidemiological Catchment Area Study	62% (baseline), 63% (follow-up) women, com.	1981	12	18+	3841	1	CDM	ADL: getting in and out of bed, dressing and undressing, taking a bath or a shower, using the toilet, using a knife and fork to cut up food such as meat and fruit; IADL: keeping track of money and bills, cleaning the house, preparing meals, using the telephone; mobility: walking a distance of a quarter of a mile (.4km), walking up and down a flight of stairs without rsting, bending down and picking up a shoe from the floor while standing, standing for long periods of time, sitting for long periods of time; upper-extremity disability: using the arms to reach or using the fingers to grasp or handle	age / sex / education / smoking	30-44; 45-64; 65+/18-29 / female/male / no high school diploma/ high school diploma / ever smoked/never	logistic regression
Avlund et al. (2002)	Denmark & Finland	Nordic Research on Ageing (NORA)	~61% women, com.	1989	5	75	517	1	ADL, M/PP	PADL-Help-Scale: comb hair, wash upper body, wash lower body, cut fingernails, cut toenails; Mobility-Help-Scale: get outdoors, walk on stairs, walk outside in nice weather	sex / marital status	female/male / alone/live with others	logistic regression
Avlund et al. (2004)	Finnland & Denmark	Nordic Research on Ageing (NORA)	57.5% women, com.	1989	5	75	425 (only survivors); 565 (incl. Deads); 651 (incl. Missings)	1, 2	ADL	combing hair, washing the upper and lower body, using the toilet, dressing the upper and lower body, cutting fingernails and toenails	marital status	alone/live with others	logistic regression

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Avlund et. al (2003)	USA	based on prospective aging studies of 75 and 80 year old people at Centre of Preventive Medicine	50% women, com.	1994	5	75-85	136	1, 2	M/PP	Mob-H-Scale: rising from bed or chair, walking indoors, getting outdoors, walking outdoors in nice and poor weather, and managing stairs	sex	female/male	logistic regression
Avlund et. al (2004)	Denmark	prospective aging studies of 75 and 80 year old people at Centre of Preventive Medicine	52.15% women, com. /inst.	1989	5	75-80	506	1, 2	M/PP	Mob-H-Scale: transferring, walking indoors going outdoors, walking outdoors in nice and poor weather, climbing stairs	education	low/high	logistic regression
Beckett et al. (1996)	USA, Iowa	National Insitute on Aging Established Populations for Epidemiologic Studies of the Elderly	com.	1982	9	65+	?	1, 3	ADL, M/PP	**ADL =** Katz: bathing, dressing, walking acros a room, transferring from a bed to a chair, eating, toileting; **mobility**=Rosow-Breslau: walking half a mile, climbing stairs, doing heavy work around the house; physical activities=Nagi: bending, stooping, crouching, pushing or pulling an objekct like a chair, reaching above the shoulders	age sex	continuous female/male	Markov model, results: log odds
Béland and Zunzunegui (1999)	Spain	longitudinal study: Ageing in Leganés	50.24% women, com.	1993	2	65+	810	1, 3	ADL, IADL, CDM	**ADL:** bathing, dressing, going to the toilet, transferring from bed to chair, eating, grooming and walking across a small room; **IADL:** Lawton scale; **CDM:** functional limitation = physical limitation	age sex	75+/65-74 female/male	transition probabilities recalculated into relative
Boult et al. (1991)	USA	LSOA	63.5% women, com.	1984	2	70+	3798	1	CDM	defined as inability to perform one or more activities without help (cooking, light cleaning, bathing, dressing, eating, reaching and using the toilet, and transferring (in and out of bed or chair), or by a subject's presence in a nursing home or on a waiting list to enter a nursing home.	age, sex sex	continuous female/male	logistic regression
Boult et al. (1994)	USA	Longitudinal Study of Aging (LSOA)	63.7% women, com. /inst.	1984	4	70+	2089	1, 2	ADL	**ADL:** eating; transferring between bed and chair; using a toilet; dressing; bathing; preparing meals; light cleaning	age sex education marital status BMI	75-79; 80-84; 85+/70-74 female/male <8yrs/>8yrs married/unmarried ? 27,3/ <27	logistic regression

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Branch (1985)	USA	Massachusetts Health Care Panel Study	62% women, com.	1974/75	6	65+	391	1	CDM	able to do heavy work around the house like washing windows or floors without help; able to walk up and down stairs without help; able to walk half a mile without help; have no physical condition, illness or health problems that bothered them then	smoking	current/never or past; current or past/ never	logistic regression
Brill et al. (2000)	USA, Texas	evaluation at the Cooper Clinic in Dallas, Texas	16.1% women, com.	1980-89	1-9	30-82	3589	1	CDM	ability to perform light, moderate, and strenuous recreational, household, daily living, personal care tasks	age	continuous	logistic regression
											BMI	continuous	
Clark et al. (1998a)	USA	Health and Retirement Survey	men and women women, com.	1992	1	51-61	6376	1, 3	M/PP	walking one block, walking several blocks, climbing one flight of stairs without resting	age	continuous	logistic regression
											sex	female/male	
											education	continuous	
											marital status	married/nonmarried	
											BMI	obese/normal	
											smoking	former; current/never	
Clark et al. (1998b)	USA, Michigan	Assets and Health Dynamics (AHEAD)	men and women women, com.	1993	2	70+	2857 (no difficulty) + 1871 with mobility difficulty)	1, 3	ADL, M/PP	--	age	75-79; 80-84; 85+/70-74	logistic regression
											sex education	female/male 0-6; 7-11/12+	
											BMI	? 25 and < 30; ?30/<19	
											smoking	current/not current	
Crimmins et al. (1994)	USA	Longitudinal Study on Aging (LSOA)	com.	1984	6	70+	?	1, 2, 3, 4	CDM	**ADL:** bathing, dressing, eating, getting in and out of bed, toileting, residence in an institution; **IADL:** preparing own meal, shopping for personal items, managing money, using the telephone, doing light housework; mobility: walking one-quarter of a mile, walking up 10 steps without rest, standing or being on feet for two hours, sitting for two hours, stooping/crouching/kneeling, lifting or carrying ten pounds	age	continuous	--
											sex	female/male	
											education	low/high	

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Cronin-Stubbs et al. (2000)	USA	Established Populations for Epidemiologic Studies of the Elderly (EPESE)	com.	1982	6	65+	?	1	ADL, M/PP	Katz (ADL); Rosow-Breslau (mobility); Nagi (physical performance)	age sex	continuous female/male	Markov model
Dunlop et al. (2002)	USA	Longitudinal Study of Aging (LSOA)	67% women, com.	1984	6	70+	3217	1	ADL	**ADL:** walk across a room, transfer in and out of bed, dress, groom, toilet, bathe, eat; none (0), moderate (1-2 ADLs), severe (>=3 ADLs) limitations	age sex education BMI	continuous female/male <high school/high school ?30/<30	discrete hazard analysis
Elgar et al. (2002)	Canada	Capacity of community-based long-term care (CBLTC) program	59.07% women, com.	1990	10	65+	?	4	ADL	ADL=Barthel Index: personal care, mobility, omitting everyday tasks essential for life in the community (e.g. cooking, shopping)	age sex marital status	continuous female/male live with others/live alone; married/not married	logistic regression
Ferrucci et al. (1996)	USA	Established Populations for Epidemiologic	com.	1981	4	65+	212 (progress ive	1	ADL	ADL: walking across a small room, bathing, dressing, eating, transferring from bed to chair, using the toilet	age sex	75-79; 80-84; 84-89; 90+/69-74 female/male	cox proportional hazard
Ferrucci et al. (1999)	USA, Iowa	Established Populations for Epidemiologic Studies fo the Elderly (EPESE)	men and women women, com.	1981/83	4	71+	1029	1	CDM	ADL: walking across a small room, bathing, dressing, eating, transferring from bed to chair, using the toilet; mobility: walking half a mile or climbing a flight of stairs	age sex BMI smoking	continuous female/male continuous present/past smoked	logistic regression
Flacker and Kiely (1998)	USA, Missouri	Minimum data set	75.9% women, inst.	1994	1	ca 80+	765	4	ADL	mobility=functional ability: bed mobility, transferring, eating, toiletting, hygiene, locomotion on unit, dressing	age sex BMI	>88/?88 female/male >22/?22	proportional hazard model, step-
Flacker et al. (2003)	USA	Minimum data set (MDS) + National Death Index (NDI)	~71% women, inst.	1994-1997	0	65+	120348	4	CDM	bed mobility; transferring; eating; toileting; hygiene; locomotion on unit; dressing	age sex BMI	? 84/<84 female/male ?23/<23	logistic regression
Gill and Kurland (2003)	USA	Precipitating Events Project	men and women women, com.	1998/99	1.5	70+	580	1	ADL	bathing, dressing, walking inside the house, transferring from a chair	age sex education marital status	continuous female/male continuous married/nonmarried	cox proportional hazard model

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Grundy and Glaser (2000)	UK	Retirement Survey	men and women women, com.	1988/89	5	55-69	2243	1	CDM	locomotion, reaching and stretsching, dexterity, personal care, seeing, hearing, continence, communication, consciousness, behaviour, intellectual functioning, eating, drinking, degestion, disfigurement	age / sex / education	continuous / female/male / none; ? 10 yrs/>10 yrs	logistic regression
Haga et al. (1991)	Japan, Tokyo	Koganei Study	53.3% baseline, 55,8% analytic women, com.	1976	10	69-71	238	1	ADL	ADL: walking, eating, toileting, bathing and dressing	BMI	continuous	logistic regression
Hardy and Gill (2005)	USA	longitudinal study	com.	?	?	70+	420	3	ADL	ADL: bathing, dressing, walking, transferring	age / sex / education / marital status / BMI / smoking	continuous / female/male / continuous / live with partner/live alone / continuous / former; current/nonsmoker	proportional hazard regression
Huang et al. (1997)	USA	Aerobics Center Longitudinal Study	25.16% women, com.	1980-88	5.5	40-90	?	1	CDM	lifting or carrying 10 pounds, stooping, crouching, kneeling, prolonged sitting/standing; strenuous daily activities such as walking 1/4 mile, climbing 10 stairs with no rest, lifting or carrying 25 pounds, mobing large objects such as a heavy chair; struous household activities such as digging in garden, mowing, scrubbing floors, shoveling snow, washing cars	age / BMI / smoking	continuous / continuous / current/not current	logistic regression
Huisman et al. (2005)	Italy	Italian Longitudinal Study on Aging (ILSA)	47.69% women, com. /inst.	1992	3	65-84	?	1, 2, 3, 4	ADL, M/PP	**ADL:** washing themself, getting dressed, going to the toilet, getting in and out of bed or rising from a chair, having a meal, continence; M/PP: rising from a chair, climbing a step, walking on a straight line, standing up on one leg, walking 5 m at usual speed, making a turn of 180°; CDM: climbing stairs, cutting own toenails, using own or public transport; **M/PP:** putting on and taking off a cardigan, walking a short distance, rising from and sitting down in a chair	education	low/high	--
Ishizaki et al. (2000)	Japan	Longitudinal Interdisciplinary Study on Aging	55.9% women, com.	1992	3	65-89	509	1	ADL, IADL	**ADL:** walking, feeding, continence, bathing, dressing; **IADL:** using public transportation, shopping for daily necessities, preparing meals, paying bills, handling one's own banking	age / sex	?75/<75 / female/male	logistic regression

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Ishizaki et al. (2002)	Japan	Saku Longitudinal Study on Aging	59.2% women, com.	1992	1	65+	9207	1, 2, 3, 4	ADL, IADL	**ADL:** bathing; dressing; standing; using the toilet; eating; **IADL:** public transportation; shopping for daily necessities; preparing meals; paying bills; handling a bank account	age; sex	continuous; female/male	logistic regression
Jagger et al. (1993)	USA	Melton Mowbray survey	68% women, com.	1980	5 and 7	75+	693 (after 5 yrs), 503 (after 7 yrs)	1, 2, 3, 4	CDM	ADL: getting into and out of a chair, getting into an dout of bed, dressing, getting around the house, getting to and from the toilet; Physical disability	age; sex	80+/75-79; female/male	transition probabilities recalculated into relative risks
Kivelä et al. (2001)	Finnland, Ähtäri	a survey of depression in old age	58,9% (actual) women, com.	1984/1985	5	60+	786	1	ADL	ADL: negotiating stairs, dressing, undressing, washing and bathing, eating, toileting	age; sex; education; smoking	70+/60-69; female/male; low/high; <compulsory/? compulsory; current/non or ex-smoker	bivariate analyses: means relative risks; incidences, stepwise logistic regression
LaCroix et al. (1993)	USA	EPESE (Established Populations for Epidemiologic Studies of the Elderly)	56.37% women, com.	1981-1983	4	65+	6981	1	M/PP	impaired for those who reported the inability either to walk half mile or walk up and down stairs without help or both	BMI; smoking	> 80th percentile/21-80th percentile; current; former/never	logistic regression
Lamarca, et al. (2003)	Spain	Health Interview Survey of Barcelona	61.36% women, com.	1986/87	8	65+	1294	1, 3	ADL	ADL: walking, going up/down stairs, bathing, using the toilet, brushing hair/shaving, dressing, sitting, going outside, eating	sex	female/male	transition probabilities recalculated into relative risks
Launer et al. (1994)	USA	NHANES I	100% women, com.	1971-1975 (study); 1982-84 (analytic)	3-5	45-75	1124	1	CDM	any difficulty in executing: walking 400 m; walking across a room; climbing two steps; doing heavy chores; carrying a full bag of groceries; running errands; bending to the floor; or transferring from a car, bed, bath, chair or toilet	BMI	27.04/<22.1; 29.9/<23.9	logistic regression

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Leveille et al. (2000)	USA	Established Populations for Epidemiological Studies of the Elderly (EPESE)	men and women women, com.	1981-83	7	65-95	?	1, 2, 3, 4	M/PP	mobility: walk up and down stairs to the second floor, walk half a mile	sex	female/male	Markov-chain, logistic link functions
Liu et al. (1995)	Japan	two-wave national probability sample survey	54.6% women, com.	1987	3	60+	1935?	1, 2, 3, 4	M/PP	three indicators (1) bathing oneself; (2) climbing two or three flights of stairs; (3) walking about 200-300 meters or a few blocks; definition of functionally disabled if difficulties in performing at least one of the three activities	age; sex; education; marital status; smoking	continuous; female/male; continuous; married/not married; smoking before; current/never	logistic regression
Maddox et al. (1994)	USA	LRHS	men and women women, com.	1969	10	58-63	6270	1	CDM	health and physical functioning, sense of well being, self-care capacity (ADL+IADL)	age; sex; education	continuous; female/male; < high school; high school; some college/college	discrete time hazard function
Manton (1988)	USA	National Long Term Care Survey	men and women women, com.	1982	2	65+	22182	1, 3	ADL, IADL	--	age; sex	85+/65-74; female/male	transition probabilities recalculated
Matthews et al. (2005)	UK	Melton Mowbray survey	com.	1987	16	75+	719	1	ADL	getting to and from the toilet, getting in and out of a chair, getting in and out of bed, dressing, feeding themsleves	sex	female/male	logistic regression
McCurry et al. (2002)	USA	The Kame Project (Japanese Americans), The Adult Changes in Thought	com. /inst.	1991	4	65+	?	1	CDM	Katz ADL scale: walking around the house; getting out of bed or chair; feeding themselves (holding a fork, cutting food, drinking from a glass); dreesing themselves (putting on a shirt, buttoning, zipping, putting on/ tying shoes); bathing or taking a shower; getting to or use the toilet; Branch IADL scale: shopping for personal items; preparing meals; managing money; using the telephone; Rosow-Breslau-Functional-Health scale: walking one-half mile; walking uo a flight of stairs; doing heavy housework (washing the car, cleaning up the garage, yard work); doing light housework (washing or drying dishes, making a bed, tidying up a workshop or room); Nagi-Physical-Performance scale: lifting or carrying something as heavy as 10 pounds; reaching out and above your head with your arms; gripping small objects with your hands	age; sex; BMI; smoking	continuous; female/male; >30/? 30; current/not current	logistic regression

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Melzer et al. (2001)	USA	Established Populations for Epidemiological Studies of the Elderly (EPESE)	59.94% women, com.	1981-83	7	65-84	8871	1, 2, 3, 4	M/PP	mobility: walk up and down stairs to the second floor, walk half a mile	education	0-7; 7-11/12+	Markov-chain, logistic link functions
Mendes de Leon (1997)	USA, New Haven	Established Populations for the Epidemiologic Studies of the Elderly (EPESE) Project	com.	1982	9	65+	?	1, 2, 3, 4	ADL	bathing, dressing, eating, using the toilet, walking across a small room, transferring from bed to chair	age / sex / education / BMI	continuous / female/male / continuous / >27/23-27	logistic regression
Minicuci and Noale (2005)	Italy	Italian Longitudinal Study on Aging (ILSA)	com. /inst.	--	4	65-84	3728	1, 2, 3, 4	CDM	ADL: eating, transferring in and out of bed, toileting, dressing and bathing; IADL: using the telephone, shopping, preparing meals, perfoming housework, doing the laundry, using transportation, taking medication and managing money	age / education	continuous / low/medium; high	multinominal logistic expression; total life expectancy;
Mor et al. (1989)	USA	Longitudinal Study of Aging (LSOA)	53.4% women, com.	1984	2	70-74	852	1	CDM	ADL, IADL: items from the Nagi battery / extended function: climbing 10 stairs; carrying 25lb; walking 1/4 mile; performing heavy housework or other heavy chores	sex / education / marital status	female/male / no college/some college / married/unmarried	logistic regression
Moritz et al. (1995)	USA	Yale Health and Aging Project	57.5% women, com.	1982	4	65+ (baseline)	1856	1	CDM	Katz Activities of Daily Living: inhability to walk across a small room, dress, bathe, eat, groom, move from bed to a chair, use the toilet; Rosow-Breslau Scale: inhability to do heavy housework; to walk up and down stairs without help; to walk half a mile without help	age	continuous	logistic regression
Nusselder et al. (2000)	Netherlands	GLOBE	men and women women, c/i	1991	4	30-74	5107	1, 2, 3, 4	ADL	--	smoking	smoker/nonsmoker	Poisson regression
Oman et al. (1999)	USA	Study of community-dwelling residents of Marin County, California	57.37% women, com.	1989-91	4	55+	1393	1, 3	M/PP	lower-body disability (physical performance) + lower body strength (five chair stands from a seated position within 60 seconds) + lower-body mobility (ability to walk 100 feet in 60 seconds)	age / sex / BMI	continuous / female/male / >26/?26	logistic regression

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Penninx et al. (2003)	USA	Established Populations for Epidemiologic Studies of the Elderly (EPESE)	43.72% women, com.	1988 (analytic)	4	65+	1146	1	M/PP	physical performance: standing balance, walking speed, rise from a chair (5-level-score, see comment)	age sex education BMI smoking	continuous female/male continuous >28/20-27 current/never	logistic regression
Penninx et al. (1999)	USA	Established Populations for Epidemiological Studies of the Elderly (EPESE)	men and women women, com.	1982/83	5	65+	6247	1	ADL, M/PP	ADL: bathing, eating, dressing, transferring, from a bed to a chair, use the toilet, walk across a small room; mobility: walk up and down stairs to the second floor, walk half a mile	age sex BMI smoking	continuous female/male >28/20-28 former/current	cox proportional hazards
Pérès et al. (2005)	France	PAQUID (Personnes Agees QUID)	57.3% women, com.	1988	10	65+	3198	1, 2, 3, 4	CDM	ADL: bathing, dressing, toileting, transferring, eatin; IADL: telephoning, shopping, transferring, managing medication and finances, for women: doing housework, meal preparation, doing the laundry; mobility doing heavywork, walking half a mile, climbing stairs	age sex education marital status	80+/65-79 female/male low/high married/nonmarried	transition intensities ratios (TIR=exponential ß) ^=RR
Porock et al. (2005)	USA	MDS	73.16% women, com.	1999	0.5	65+	?	4	ADL	ADL: bed mobility, transfer between surfaces (bed to chair), locomotion on unit, dressing, eating, personal hygiene, toilet	Sex	female/male	logistic regression
Reynolds and Silverstein (2003)	USA	Asses and Health Synamics among the Oldest Old (AHEAD)	63.1% women, com.	1993	5	70+	4228	1	ADL, IADL	ADL: bathing, bed transfer, dressing, eating, toileting, walking; IADL: using the phone, grocery shopping, preparing meals, taking medications, managing money	age sex marital status smoking	continuous female/male married/nonmarried current/not current	logistic regression
Romoren and Blekeseaune (2003)	Larvik, Norway	comprehensive Larvik study	71% women, c/i	1981	18	79+	434	4	ADL	washing, dressing, toileting, transferring (in and out of bed), eating, walking about indoors on a flat floor, indoor mobility	sex marital status	female/male ever married/never married	logistic regression
Sarkisian et al. (2001)	USA	Study of Osteoporotic Fractures	100% women, com.	1986-88	4	65+	657	1	CDM	doing heavy housework, doing other chores, walking 2-3 blocks, washing oneself, getting in and out of car, climbing 10 steps, shopping, bending down to pick up clothes, dressing oneself, preparing meals, getting in and out of bed, turning on faucets, lifting a cup to one's muth	age	70-79; 80+/67-69	logistic regression

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Sauvaget et al. (1999)	Japan	Wakuya longitudinal study of aging	men and women women, com.	1994	2	65+	2936	1	ADL, IADL, M/PP	ADL: bathing, dressing, transferring from a bed to a chair, eating; IADL: shopping for daily necessities, preparing meals, managing money; mobility: ability to walk 50m and to climb stairs	age	70-74; 75-79; 80-84; 85+/65-69	incidences
Sauvel et al. (1994)	France, Paris	projet PAQUID (QUID sur les Personnes Agées)	58,5% (analytic) women, com.	32142	1	65+	1850	1	ADL, IADL, M/PP	ADL: dressing, using toilet, continence, bathing; IADL: use a telephone, transition, eating, do courses, use transports, medicamentation, managing money; M/PP: being restricted in/out of bed, restricted at home, next neighborhood, in the quarter	age / sex / education	continuous / female/male / no education or primary/? secondary	logistic regression
Seeman et al. (1996)	USA	MacArthur Studies of Successful Aging	57% women, com.	1988-1989	3	70-79	1031	1	ADL	7-item ADL scale from Katz	age / BMI	continuous / continuous	logistic regression
Strawbridge et al. (1992)	USA, California	Alameda Coundy Study	men and women women, com.	1984	6	65+	356	1	ADL, M/PP	ADL: bathing, eating, dressing, using the toilet, walking, transferring from bed to chair, grooming; M/PP: walking 1/2 mile, climbing a flight of stairs	age / sex	70-79; 80+/65-69 / female/male	incidences
van Dijk et al. (2005)	USA, Missouri	Minimum data set	men and women women, inst.	1999	1	65+	?	4	ADL	ADL: toileting, locomotion on unit, eating, personal hygiene	age / sex	continuous / female/male	logistic regression
Wannamethe e et al. (2005)	England, Scottland & Wales	The British Regional Heart Study	0% women, com.	1978-1980	1.5	40-59	5075	1, 3	M/PP	difficulty in any one or more: going out of the house; walking 400 yards; going up or down stairs	BMI / smoking	25-27,4; 27,5-29; ?30/<25 / long-term ex-smoker; recent; current/never smoked; ex-smoker at 1992; gave up before 1996; continuing/long-term nonsmoker	logistic regression
Wolff et al. (2005)	USA	Medicare Current Beneficiary Survey (MCBS)	57.6% women, com.	1997/98	1-3	65+	4968	1	ADL	ADL: bathing, dressing, eating, transferring, walking, using the toilet	age / sex / education	continuous / female/male / ? high school/> high school	logistic regression
Zimmer and House (2003)	USA	American's Changing Lives survey	men and women women, com.	1986	8	25+	3617	1, 2	CDM	ability walking, climbing stairs, getting in/out of a chair	age / sex / marital status	continuous / female/male / married/nonmarried	logistic regression