



Programme « Société et Avenir »

Rapport final – volet « Synthèse de recherche »¹

CONTRAT DE RECHERCHE : [TA/00/15](#)

ACRONYME DU PROJET : **TAHIB**

TITRE: TACKLING HEALTH INEQUALITIES IN BELGIUM

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La présente synthèse vise à diffuser les résultats de la recherche sur Internet. Elle est transmise par le coordinateur du réseau à l'administrateur de programme, pour approbation, en 3 langues : français, néerlandais et anglais.

¹ Voir art. 5.5.2 du contrat de base.

Liens vers les sites Internet où les travaux de l'équipe dans le cadre du projet sont mentionnés :

-<http://www.iph.fgov.be/epidemiologie/epien/index30.htm>

Synthèse

Background and objectives

The health of individuals and groups is influenced by their socioeconomic status therefore the inequalities in the distribution of the society's resources are reflected in steep inequalities in mortality and morbidity between the different social groups. The scientific literature has established that generally mortality and morbidity rates follow the social gradient whereby those at the top of the socioeconomic hierarchy (high educational level, high revenues, or high professional grade) have lower mortality and morbidity rates compared to those at the bottom of this hierarchy. Such health inequalities exist in Belgium as well, where studies have found socioeconomic disparities using a series of health indicators including life expectancy, healthy life expectancy, infant mortality, self reported health, access to health care, and health behaviours such as tobacco use, eating habits and physical activity.

The interest for studying health inequalities is not new. Two centuries ago, the first health statisticians in Great-Britain used to categorize death rates by cause and occupational status. Today, studies on health inequalities have been increasing at an exponential rate resulting in one consistent finding: despite the global reduction in mortality rates, despite the progress in medicine, and despite the policy of universal access to health care and social services, the least advantaged are sicker and die at a younger age than the most advantaged. These health inequalities represent a major challenge for policy makers for two reasons. Firstly, these inequalities are the causes of inequitable and preventable health problems in the population. Secondly, reducing the health problems of the least advantaged in the society may be the best strategy to improve population health as a whole. There is, therefore, a critical need to develop effective policies and interventions to reduce these inequalities in health.

In this context, the TAHIB project (Tackling Health Inequalities in Belgium) focus on generating a better understanding of the determinants of health inequalities in Belgium in order to propose effective entry points to reduce health inequalities. The general aim of this project is to describe the time trends in social inequalities in mortality, morbidity and health behaviours and to analyze the impact of macro-social factors on health inequalities. The TAHIB project is financed by the Service Public Fédéral de Programmation Politique Scientifique (Contract # TA/00/15), and has started in January 2006 and has ended in December 2009. Researchers from three institutions collaborate on this project: the Scientific Institute of Public Health (IPH) that is also the coordinator, the Vrije Universiteit Brussel (VUB), and the l'Université Catholique de Louvain (UCL). For their project, the researchers of the UCL have worked with researchers from two Scottish universities (University of St Andrews and University of

Glasgow).

This report describes the results of the research and analysis undertaken in the context of TAHIB. It contains 10 chapters. Chapter 1 introduces the subject by describing the context, certain concepts and theories that explain how social inequalities become health inequalities. Chapter 10 presents an overview of the conclusions and proposes policy recommendations to reduce social inequalities in health. The other chapters (2 to 9) examine a number of topics in relation to the specific objectives of the project. These objectives are:

Objective 1: Describe the time trends in socioeconomic inequalities in life expectancy and life expectancy without limitations.

To tackle this objective, 3 themes were explored: The time trends in socioeconomic inequalities in life expectancies (chapter 2), the time trends in socioeconomic inequalities in life expectancies without limitations (chapter 3), and the effect of educational level on the association between tobacco use and mortality (chapter 5).

Objective 2: Analyze social inequalities in health in relation to the longitudinal changes in social position and study the effect of changing social position on health.

To tackle this objective, 2 themes were explored: The accumulation of inequalities over the lifecourse (chapter 7), and the influence of a changing socioeconomic status over the lifecourse on health (chapter 8).

Objective 3: Study the effect of macro-social factors on the inequalities in mortality and morbidity.

To tackle this objective, 2 themes were explored: Neighborhood influence on health (chapter 6), and the health of caregivers (chapter 9).

Objective 4: Evaluate the time trends in the association between social inequalities in health and social inequalities in health behaviors

To tackle this objective, 1 theme was explored: The time trends in socioeconomic inequalities in health outcomes and health behaviors (chapter 4).

Main results

Result 1: Health inequalities follow the socioeconomic gradient

Social inequalities in health should not be considered as an issue that opposes the rich to the poor or the highly educated to the least educated. Our data show that generally, social inequalities in health follow a distribution that is socially stratified in the population where each social category show mortality and morbidity rates that are higher than the social category that precedes it on the hierarchy. This gradient means therefore that social inequalities in health have an impact on the society as a whole and not just on the extreme categories. The existence of this gradient has been demonstrated numerous times with Belgian and international data, however it is important to emphasize this point in order to prevent reducing this issue into a false dichotomy.

Result 2: Social inequalities in mortality and morbidity have increased during the last decade

The time trends in social inequalities in life expectancy

- Life expectancy at 25 years has increased between 1991 and 2001 for all educational categories, but this increase is more pronounced for the highly educated.
- As a result, social inequalities in life expectancy at 25 years has widened between 1991 and 2001.

The existence of inequalities in life expectancy is well known in Belgium, but a question still remains as to the evolution of these inequalities. Chapter 2 of this report analyzes the time trends in the evolution of life expectancy by educational level. The analysis is based on census data of 1991 and 2001 providing information on educational level. These data were linked to register data on mortality and emigration for the periods 1991-1994 and 2001-2004. The changes overtime in the inequalities between educational categories have been analyzed using on one hand the absolute differences between educational levels, and on the other hand two summary indices of inequality (relative and absolute).

The results show that life expectancy increased in all educational groups, but this increase was more marked for those with higher educational levels. As a result, inequalities in life expectancy by educational level increased between 1991 and 2001. Summary indices of inequality based on life expectancies show, however, a more complex pattern and point to the importance of including the

shifts in population composition by educational level in an overall assessment of the evolution of inequality by educational level.

The time trends in social inequalities in life expectancy without limitation

- The inequalities in life expectancy without limitation at 25 years between those with tertiary education and those with lower educational level have increased between 1997 and 2004.
- Therefore, those with the highest educational level continue to live even longer in 2004, to live longer without disability and fewer years with disability compared to those with lower educational levels.
- When we account for the measures of statistical significance, our results show that at best there is no evidence that the social inequalities in disability free life expectancy have been reduced in the last decade.

The results of chapter 2 showed that inequalities in life expectancy by educational level have increased between 1991 and 2001. Yet, studying the trends in mortality is not sufficient to examine the trends in the health of the population. In chapter 3, the time trends in healthy life expectancy are analyzed to add a quality dimension to the quantity of years lived. More specifically, this chapter traces the evolution in life expectancy without functional limitations by educational level between 1997 and 2004. For this analysis, data from different sources were combined. Mortality data by educational level come from the linkage of register data and census data based on a unique identifier present in the two databases. Disability data by age, gender and educational level come from the Health Interview Surveys of 1997 and 2004. Life expectancies with and without limitations were estimated by gender and educational level starting by age 25 up to age 100 using the Sullivan method.

Compared to 1997, our results show that in 2004, men and women with the highest educational level continue to live even longer, to live longer without disability and to live fewer years with disability compared to those with lower educational levels. These trends however vary by educational level and gender. For instance, these inequalities are more important for women compared to men. When we account for the measures of statistical significance, our results show that at best there is no evidence that the social inequalities in disability free life expectancy have been reduced in the last decade.

Result 3: No reduction in the social gap in health behaviours and health outcomes in the last decade

- There is a higher prevalence of unhealthy behaviour and of worst health outcomes among groups with a lower socioeconomic status compared to those higher on the social gradient.
- Social inequalities in health behaviours and health outcomes are persistent: there was no evidence of a reduction in these inequalities between 1997 and 2004.

In the other chapters of this report, our results suggest that the inequalities in life expectancy and disability free life expectancy by educational level have widened in the last decade. A possible cause of this evolution may be the evolution of the socioeconomic differential in health behaviors. In fact, the inequalities in health behaviors may have evolved over time to influence life expectancy and disability free life expectancy. Chapter 4 of this report examines this question by exploring the evolution of a series of health behaviors and health outcomes by educational level between 1997 and 2004. For this end, the trends for a number of health behaviors are evaluated: obesity, tobacco use, alcohol abuse, and physical activity; as well as a number of health indicators: subjective health, functional limitations and chronic diseases and handicaps. Educational level was used as a socioeconomic indicator. Data from the health interview surveys of 1997, 2001 and 2004 were used, and absolute and relative inequality indicators were estimated.

Our results show that socioeconomic inequalities exist for almost all the indicators studied. People on the top of the social hierarchy have a lower tendency to smoke, to have a sedentary lifestyle, and to be more obese compared to those lower on the social scale. In the same time, the less educated groups have a higher tendency to evaluate negatively their health, to report more functional limitations in their daily activities, and to report more frequent chronic problems and handicaps. The only exception to this social gradient is alcohol abuse. For this indicator, individuals high on the educational gradient have significantly more risk to abuse alcohol than those less educated.

By evaluating the time trends in social inequalities in these indicators, there is no evidence for a reduction in the social gap. In other words, for certain indicators there has been an increase in the inequalities, for others there has been a reduction in the inequalities, but when accounting for statistical significance of the time trends, we conclude that the inequalities have persisted between 1997 and 2004. It is, however, important to highlight that the period of reference used (1997-2004) may be too short to adequately evaluate these trends.

Result 4: The impact of certain health behaviours may be worst on the more disadvantaged

- Compared to those highly educated, mortality rates for smokers versus non-smokers are higher among men with an intermediate educational level, and among women with low and intermediate educational level.
- The negative impact of tobacco smoke is more pronounced among those with a lower educational level.

The negative impact of tobacco smoke on health is well-known, the negative impact of a low socioeconomic status on health is also well-known, but a question still remains as to the combined effect of these two risk factors. Few studies have tried to answer this question, and the findings of these few studies are controversial. Chapter 5 of this report explores the effect of tobacco smoking on mortality by educational level. For this, two data sources were used: the Health Interview Surveys of 1997 and 2001 to have the information on tobacco by age, gender and educational level; and mortality data of these same people from the national register. To analyze the association between tobacco, educational level and mortality, age standardized mortality rates were calculated, and the relative risks estimated using a Poisson regression.

Our results suggest that in Belgium, the effect of tobacco on mortality is significantly different by educational level. The relative risks of heavy smokers versus non-smokers are higher for those with an intermediate educational level compared to those with a higher educational level and those with a lower educational level. Among women with a higher educational level, tobacco use does not seem to alter their risk of mortality. However, for women with a lower educational level (intermediate and low) the risk of mortality increases for light and heavy smokers. In conclusion, our study suggests that except for men with the lowest educational level, individuals with a higher socioeconomic status are generally less subjected to the negative impact of tobacco smoke compared to those with a lower status.

Result 5: For certain health indicators, social inequalities increase over the lifecourse

- Socioeconomic inequalities in self rated health increase overtime.
- The pattern is different for depression. The data does not show any sign of increasing inequalities with age, on the contrary overtime the gap is slightly reduced.

The majority of cross sectional studies examining socioeconomic inequalities suggest that the social gap decreases with age, while others purport the contrary. The first hypothesis is the “convergence” hypotheses (whereby inequalities converge with age) and the second is the “cumulative disadvantage” or “divergence” hypotheses (whereby inequalities increase with age). Chapter 7 of this report aims at testing the hypothesis of the cumulative disadvantage using two indicators: self rated general health and depression. This study used data from the Belgian Households Panel Survey, an annual face-to-face survey of a cohort of individuals aged 16+ living in private households recruited in 1994 and followed until 2002.

Our results provide a mixed support for the theory of cumulative disadvantage. Inequalities in subjective health have increased overtime: For each additional year, the risk of poor health status of lower educated or intermediate education increased by at least 6% compared with the higher educated. Depression displayed a slightly different pattern. Although lower educated are more at risk of depression than higher educated, overtime this difference is slightly reduced.

Result 6: Characteristics of the residential and family context have an influence on health

The characteristics of the local living environment and health

- Our results show that the risk of reporting worse health is higher for those living in neighbourhoods with a high level of noise pollution; a weak social capital and a weak economic environment, even after controlling for individual socioeconomic status.
- Ethnic minorities have a higher risk of reporting worse health. This risk is explained by their lower socioeconomic status and the lower quality of their local residential environment.

Health inequalities are often examined at the individual level. However, numerous interventions to reduce health inequalities exist only at the collective level. The aim of chapter 6 is to examine the influence of the characteristics of the neighborhood and of the individual on the risk of reporting worse health. Our results show that environmental hazards, especially noise pollution have negative impacts on health. The higher the noise pollution, the worst is subjective health. The contribution of noise hazards on health inequalities is ambiguous: noise pollution plays a role in the inequalities associated with employment or housing. Unemployed people and those renting an apartment have a different risk of reporting worse health from noise pollution compared to other

social categories. Noise pollution however does not explain inequalities in relation to educational status.

Health inequalities have different social dimensions. Our research points to the importance of ethnic inequalities in health and their associations with socioeconomic inequalities. Ethnic minorities have higher rates of worse subjective health compared to the Belgian population. This higher risk is explained by their lower socioeconomic status and the lower quality of their local residential environment

Health of the caregivers

Caregiving, employment and health among adults of working age

- Our results suggest that employment status plays an important role in the association between caregiving and worse health.
- Although having a formal paid employment has a positive impact on health, social policy has to recognize and eventually reduce the potentially negative impact of informal caregiving on health.

Mortality and caregiving along elderly couples

- An elderly spouse caring for a diseased partner report worse health than their non-caregivers counterparts.
- Male caregivers had lower mortality risks than their non-caregivers counterparts. For women, non significant differences were found between caregivers and non-caregivers.

The characteristics of the family structure may also influence health. In OECD countries, informal care provided by members of the family, friends or other people is recognized as essential in maintaining at home the handicaps, the elderly, and those chronically ill. Despite a rich literature examining the association between health and informal care, many questions are still unanswered. Concerning health among adults of working age, certain studies show that there is no significant difference between caregivers and non-caregivers, while others suggest that caregiving has a negative effect, or even a positive effect on health. These controversial results may be due to the complexity of the relation between professional activities, family duties and health. Recently, a number of studies have reported contradictory results concerning informal care and the risk of mortality of caregivers. An increased mortality was reported among those giving care for a spouse with Alzheimer disease. While, three other studies have shown that those providing care have lower mortality rates compared to the non-caregivers. Chapter 9 of this report analyses these two aspects of caregiving.

Our results show that amongst the employed and the unemployed, there is a relationship between caring for more than 20 hours or more per week and worse subjective health, in Great Britain and in Belgium. Despite different social security regimes, employment status plays in both countries an important role in the association between caregiving and health. This supports the idea that informal caring may have a negative impact on one's health even if having an employment is beneficial for health.

Also, this chapter examined the association in elderly couples between informal care and mortality of the caregiver. The results show that male caregivers had lower mortality risks than their non-caregivers counterparts. For women, non-significant differences were found between caregivers and non-caregivers. These results highlight the gender difference in relation to the burn-out associated with caring for a diseased spouse.

Recommendations and conclusion

Currently, Belgium is not in an advanced phase in relation to the implementation of a holistic and integrated action plan to reduce social inequalities in health. There are a number of initiatives but they are fragmented. Based on the research undertaken in the context of the TAHIB project and the European experience in developing policies to reduce health inequalities, we propose 5 policy recommendations: raise awareness on the issue of the social gradient in health in Belgium, discuss and appoint a governance body for health inequalities, develop a national action plan to reduce social inequalities in health, and finally develop a research plan to better understand, monitor and reduce these inequalities.

Important health inequalities exist among socioeconomic groups in Belgium. As seen in this report, these inequalities are not decreasing, on the contrary for some health outcomes these inequalities have been increasing. The elimination of these inequalities cannot be achieved in the near future, but it is possible to reduce them to levels that are more acceptable. The appropriate solution is not solely to invest even more in the health care system and in new technologies, rather it is important to tackle the roots of these inequalities and implement focused actions based on a range of policy entry points that are evidenced based. This takes political commitment, strategies that are effective, sustainable and integrated, and the readiness to engage on the long term.

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