

Chronic Diseases and Employment: Impact on Social Inequalities

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Epidemiology of occupational and social determinants of health

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Burden of Chronic Disease and Risk Factors

■ Epidemiological burden

- Responsible for most of the disease and deaths throughout the world
- In high income countries (*Source: WHO 2008*)
 - 87% of deaths
 - 86% of DALYs (i.e., lost years of "healthy" life)
 - Neuropsychiatric disorders 31%
 - Cardiovascular diseases 17%
 - Cancers 17%
 - Rising burden on poor and young/middle-aged populations
 - 60% of all DALYs attributable to chronic diseases lost before age 60 years

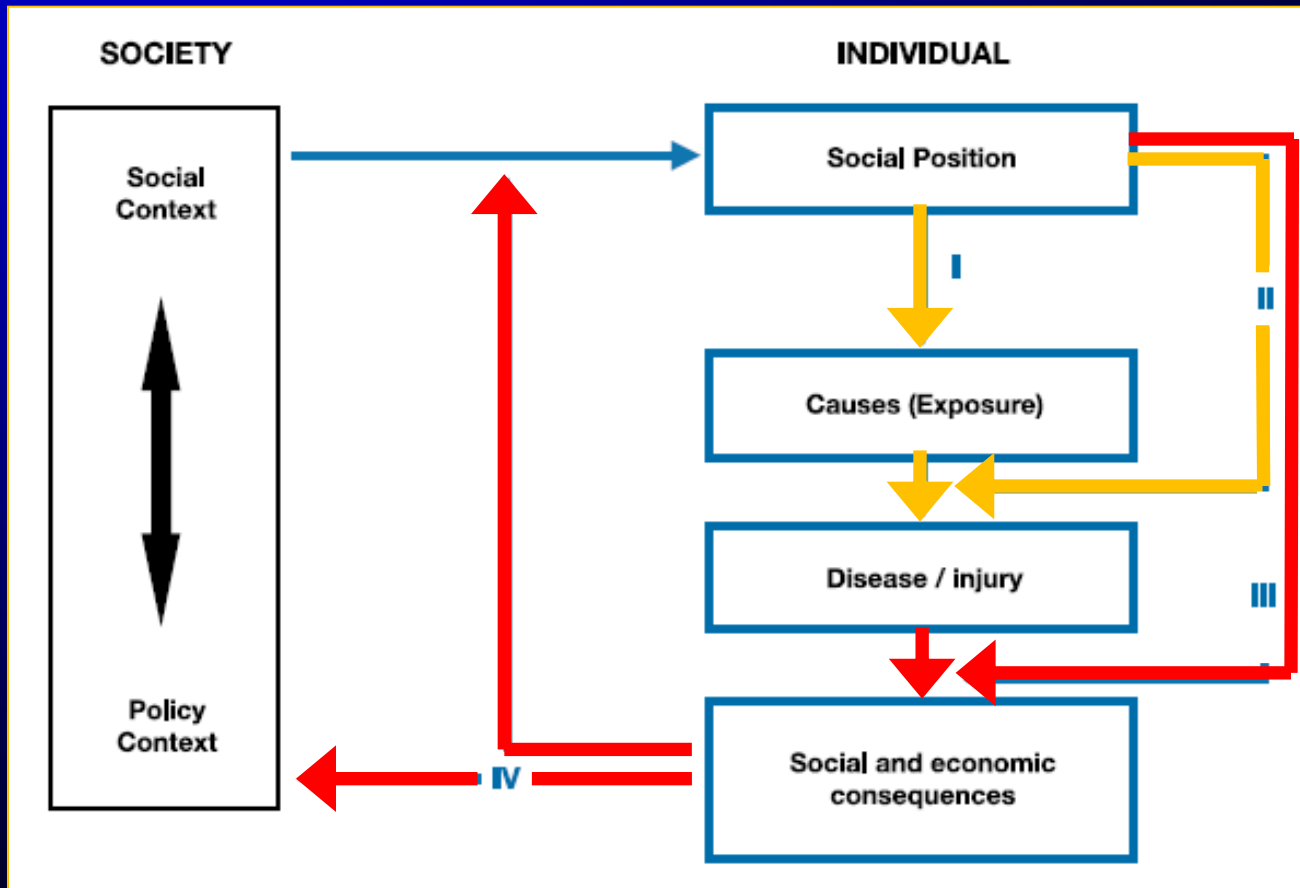
■ Social and economic burden

- On individuals and households
 - Workforce participation and labour productivity
 - Household financial situation
- On national health and welfare systems and economic growth

Social Inequalities in Health

Two major underlying pathways

Diderichsen's model of the social production of disease



Source: Diderichsen 2001

Chronic Disease and Employment

Current context

- Consequences of chronic disease on employment may play a substantial role in the process of social health inequalities in the current context
 - Increasing numbers of people affected by a chronic disease among the working aged population
 - Increasing numbers of people affected by a chronic disease overall
 - Population ageing
 - Improvements in diagnosis
 - Therapeutic advances
 - Decreasing age at onset of cardiovascular risk factors
 - Raising age at retirement
 - Increasing rates of health-related work disability
 - 6% of the working aged population in Europe (*Source: OECD 2010*)
 - Major contribution of chronic disease

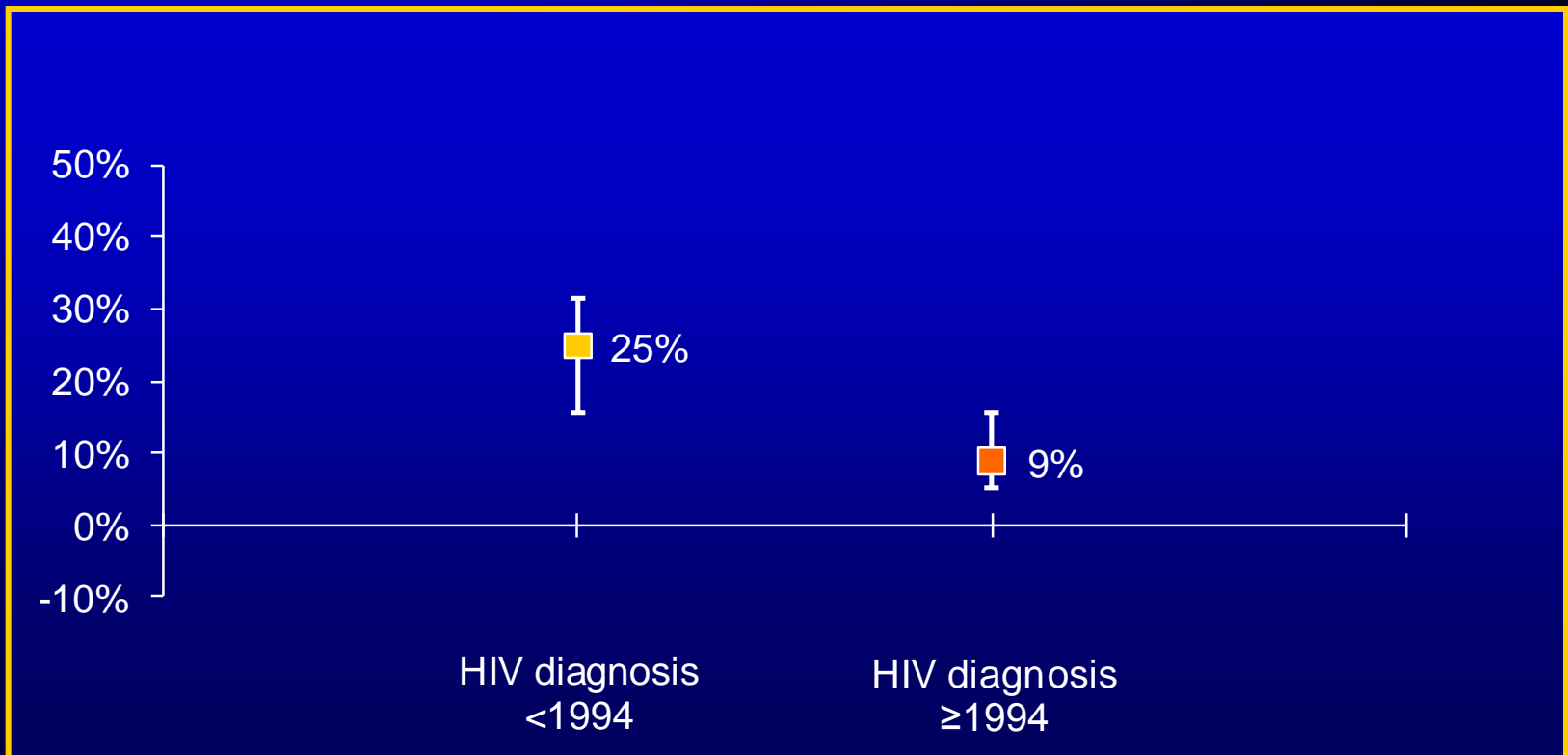
Chronic Disease and Employment

State of knowledge (1)

- **Consequences of chronic disease and risk factors on employment**
 - Evidence of an association between the presence of various chronic conditions and
 - Decreased workforce participation
 - Early retirement
 - Work limitations
 - Sickness absence from work
 - Low access/return to work
 - Unanswered questions
 - Causal linkages?
 - Underlying pathways?

Impact of HIV Infection on Employment

Differential in employment rates* between the French general population and people living with HIV infection in France in 2003 (ANRS-VESPA Study)



* Adjusted for age, gender, citizenship, and education using direct standardization

Impact of Diabetes on Early Work Cessation in the GAZEL Cohort Study

Risks of disability, retirement and death in working aged (<60 years) participants with vs. without diabetes

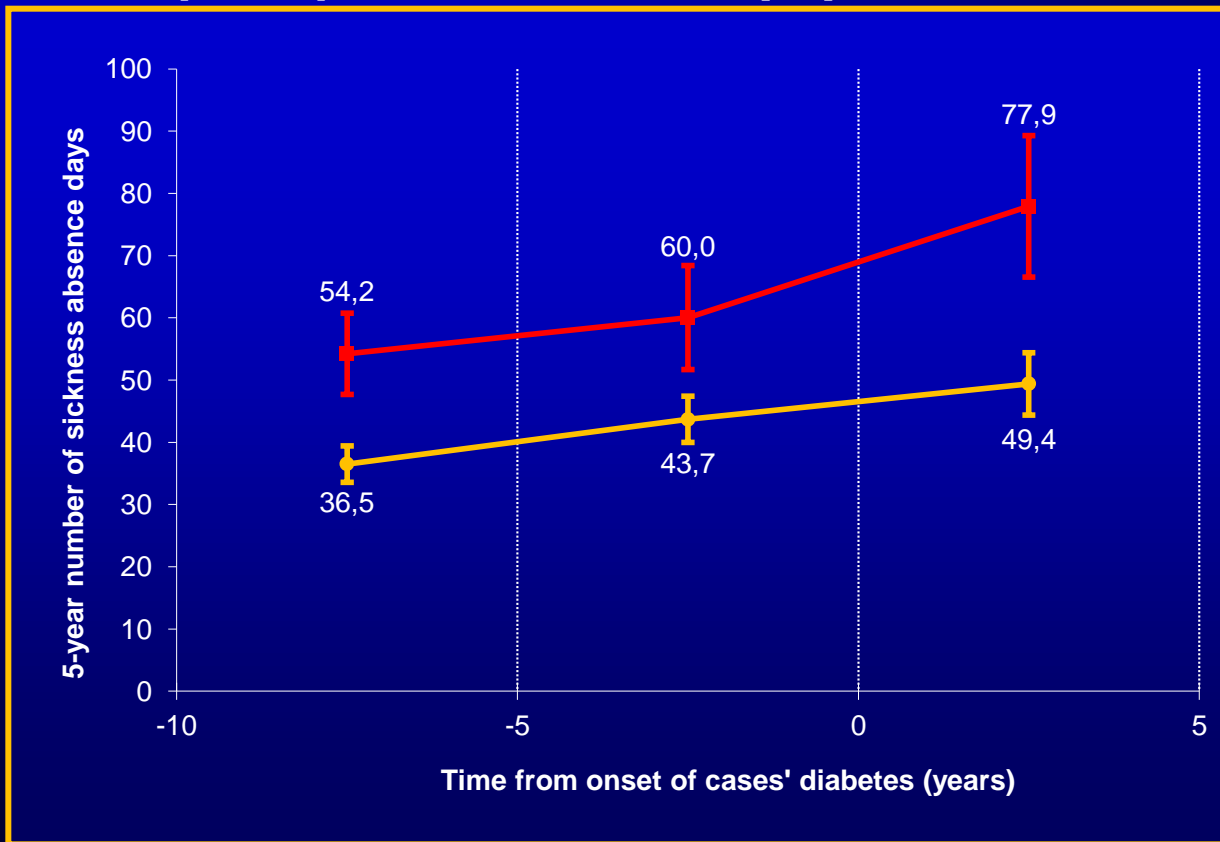
	Participants With Diabetes (N=506)		Participants Without Diabetes* (N=2530)		Hazard Ratio** [95% CI]
	# events	Incidence Rate per 1000 PY	# events	Incidence Rate per 1000 PY	
Transition from employment to...					
Disability	15	7.9	162	2.7	1.7 [1.0 ; 2.9]
Retirement	399	209.1	2221	37.6	1.6 [1.5 ; 1.8]
Death	13	6.8	22	0.4	7.3 [3.6 ; 14.6]

* Matched for sex + year, age and occupational grade at hiring

** Multistate Cox model

Impact of Diabetes on Sickness Absence from Work in the GAZEL Cohort Study

Estimated* numbers of sickness absence days over time among the 506 participants with diabetes (—) and the 2530 without (—) diabetes



* Linear mixed-effects models adjusted for sex + year, age and occup. grade at hiring

Dray-Spira et al, Diabetic Medicine (Accepted)

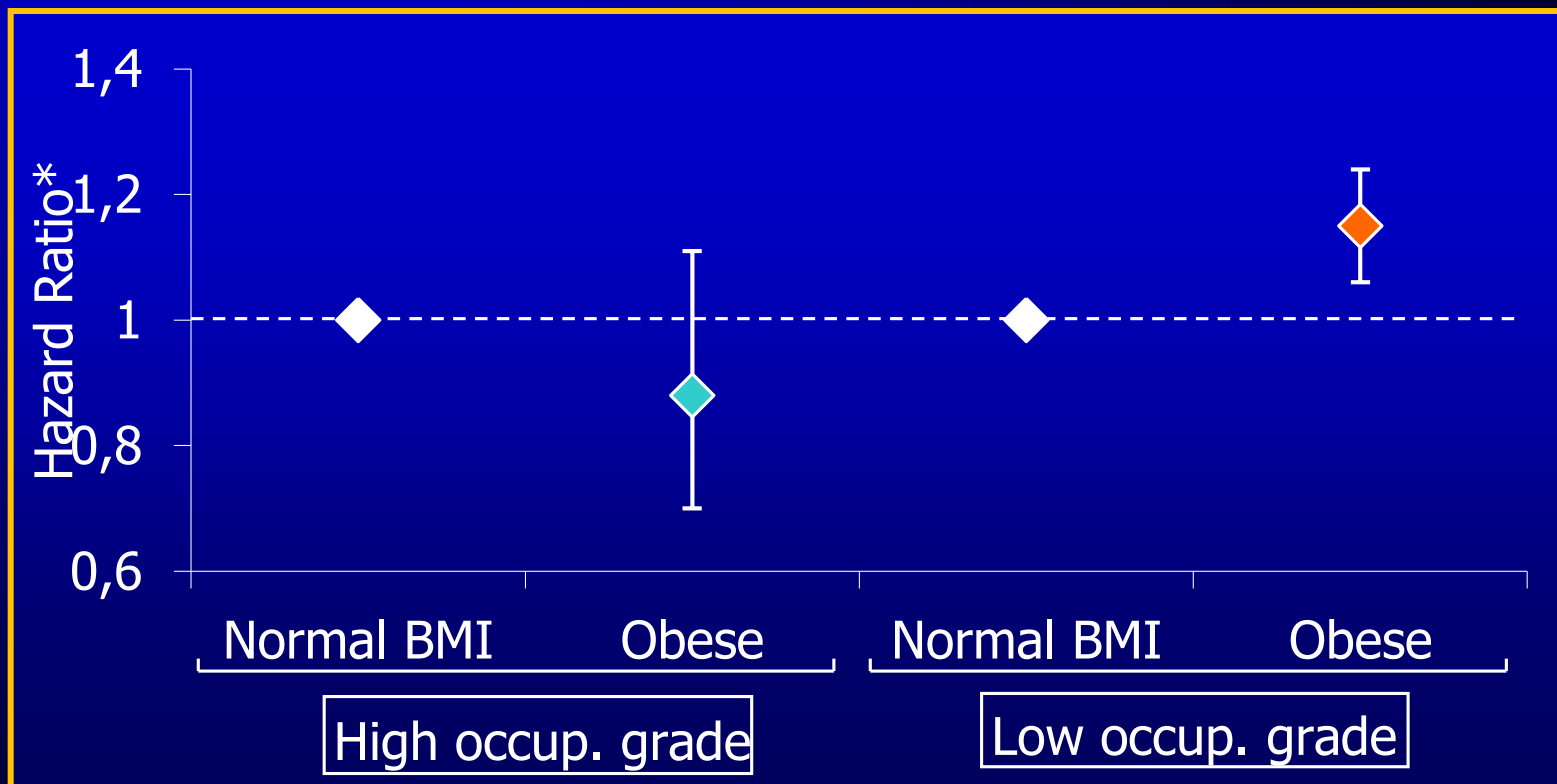
Chronic Disease and Employment

State of knowledge (2)

- **Social inequalities in the employment consequences of chronic disease and risk factors**
 - Data from the general population
 - Evidence of social differences in the consequences of ill health ("limiting longstanding illness") on labour market outcomes
 - Major role of
 - Labor market policies
 - Social protection system
 - Economic recession
 - Limited data focusing on specific health conditions
 - Essential to investigate underlying mechanisms of these inequalities
 - Role of
 - the nature of the health problem and/or its management?
 - characteristics of the healthcare system?

Inequalities in the Impact of Obesity on Employment

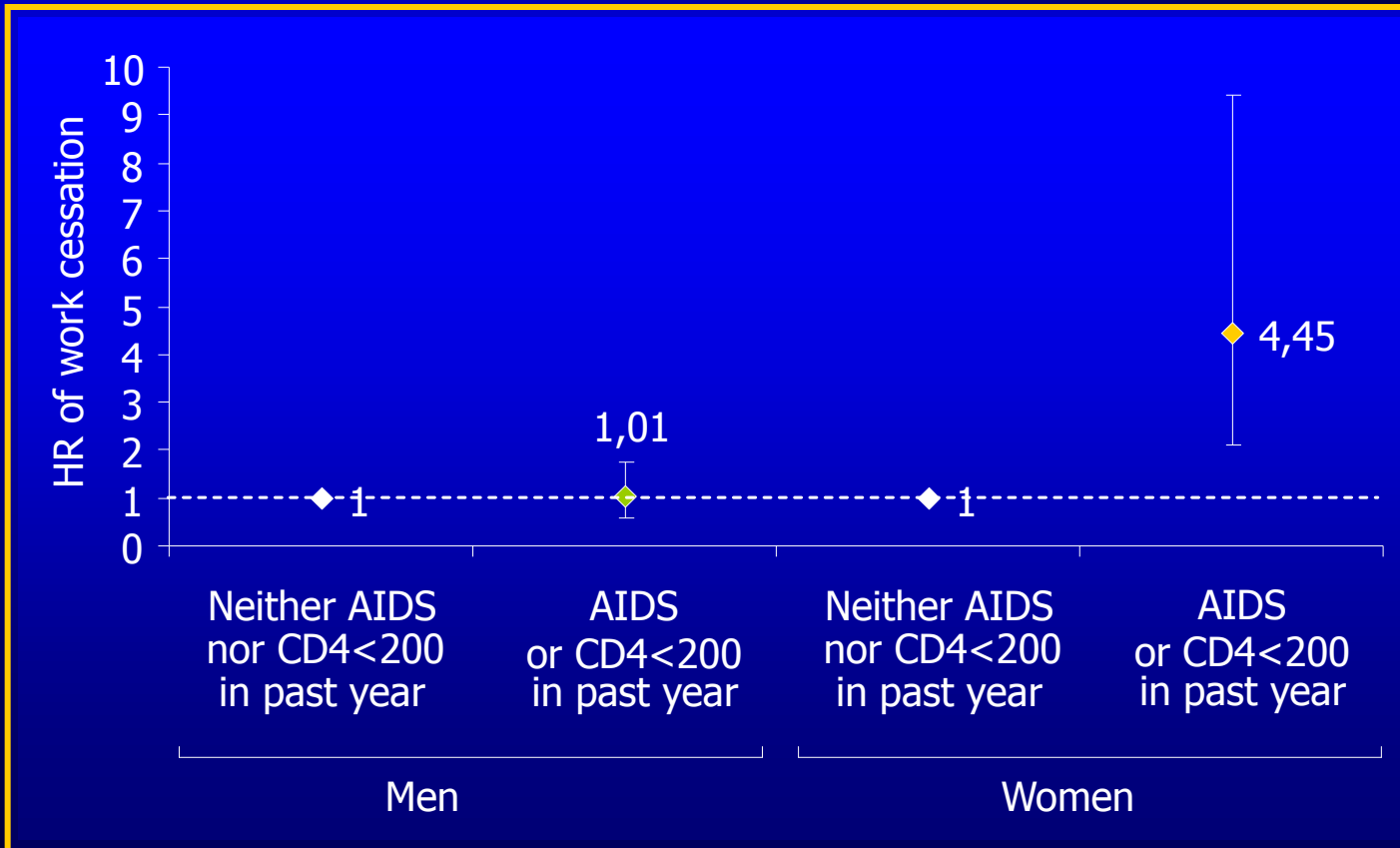
Impact of obesity at age 50 years on early retirement among participants of the GAZEL Cohort, by occupational grade



* Multistate Cox model adjusted for sex, characteristics at hiring (age, year and occupational grade) and comorbidities

Inequalities in the Impact of HIV infection on Employment (1)

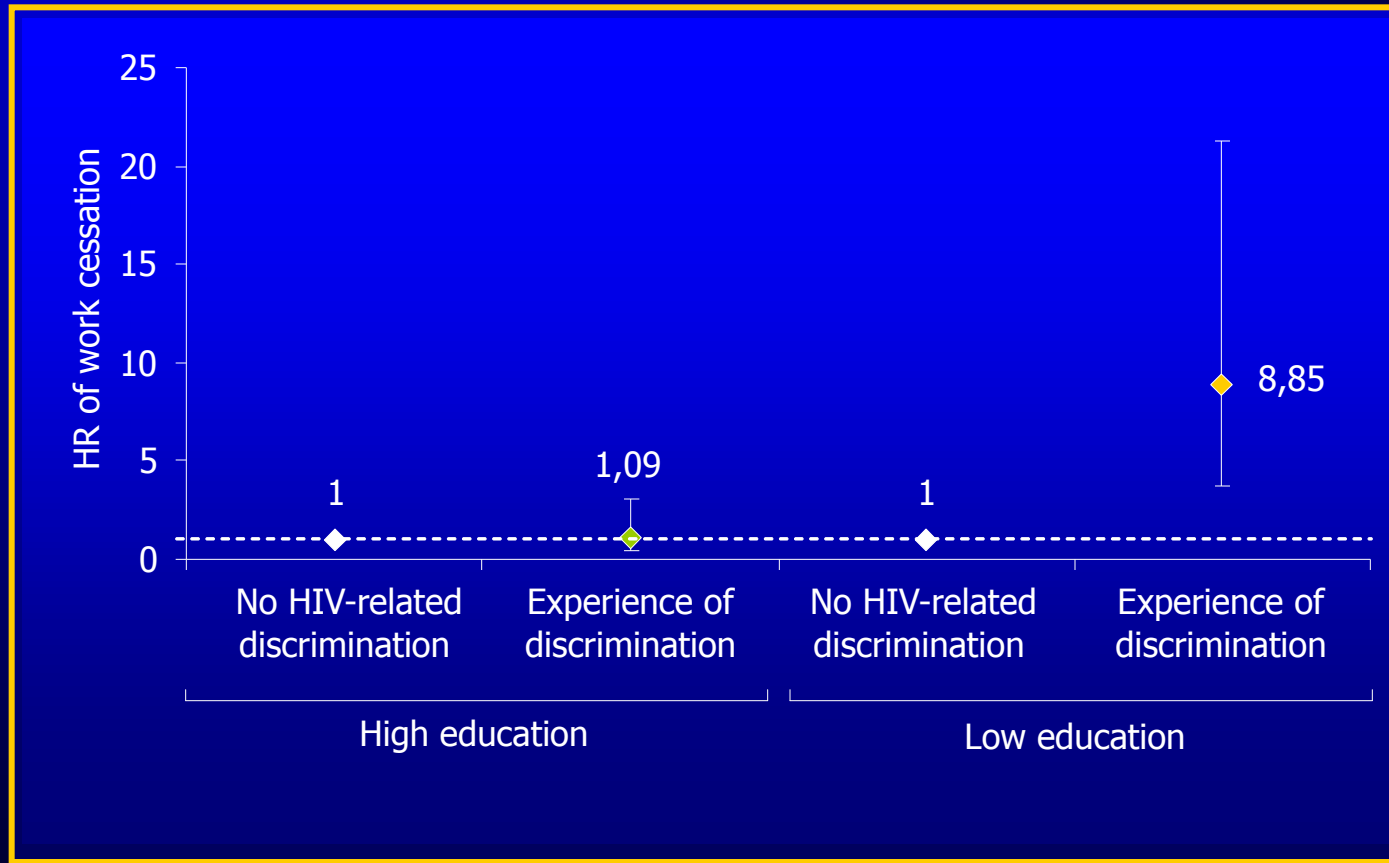
HIV disease severity and the risk of work cessation over time since HIV diagnosis, by sex (ANRS-VESPA Study; N=478)



* Cox model adjusted for characteristics at HIV diagnosis (age, geographic origin, education, occup. grade and employment status) and self-reported experience of HIV-related discriminations

Inequalities in the Impact of HIV infection on Employment (2)

Self-reported experience of discrimination and the risk of work cessation over time since HIV diagnosis, by education (ANRS-VESPA Study; N=478)



* Cox model adjusted for characteristics at HIV diagnosis (age, gender, geographic origin, occup. grade and employment status) and HIV disease severity

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Further questions

- Pathways underlying employment consequences of chronic conditions and their socially differentiated nature?
 - Respective role of
 - **Individual characteristics**
 - Occupational factors
 - Health status
 - Health behaviors and lifestyle
 - Psychosocial factors
 - **Chronic condition specificities**
 - Prognosis
 - Treatment and care
 - Associated stigma and discrimination
 - **Macrosocial context**
 - Access to healthcare
 - Labor market policies
 - Social protection system
 - Economic recession

Chronic Disease and Employment

Public health implications

- At the healthcare level
 - New models of healthcare delivery to achieve more integrated and comprehensive services (integrated care models)
 - Implication of both health and social workers
 - Inclusion of work rehabilitation programs
- Beyond healthcare
 - Social and economic policies to reduce the structural causes of social inequalities
 - Employment policy
 - Active labour market policy
 - Employment protection
 - Health promotion
 - Efforts to tackle stigma and discrimination

Conclusions

- Critical field of research for the comprehension and the reduction of social health inequalities
- Major contribution of epidemiology
 - Diversity and complementarity of methods
 - Detailed information both on health status and social aspects
- In France, implementation of several large cohorts ("Grand Emprunt" funding) constitutes a major opportunity to investigate this field