



How to improve employees' health through prevention programs in the workplace

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Facing the Challenge of Longevity

ILC-France has two key objectives

Promotion of Health

Promotion of Activity

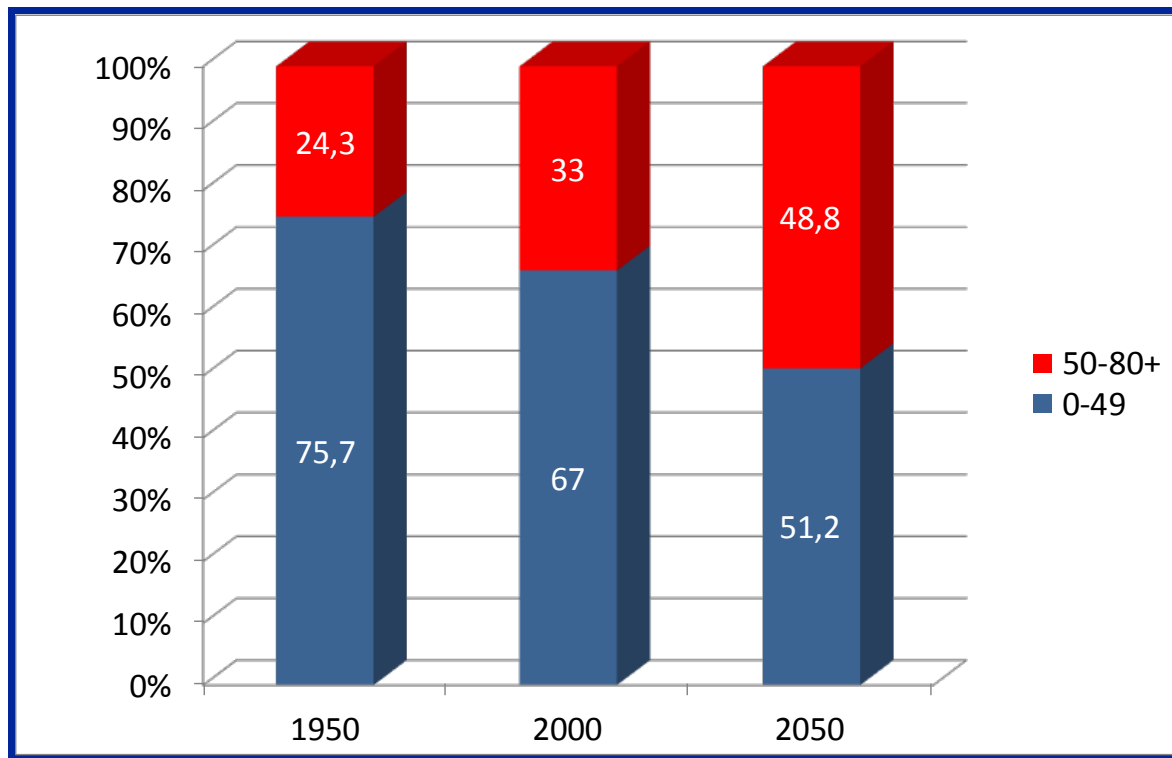
Prevention must be promoted as
the best strategy to live a long and
healthy life



In 2050, half the European population will be 50 yrs +

The working sector will have to integrate workers of all ages

Health prevention will be a major challenge for companies



Source : UN World Population Prospects (2002 Revision) Eurostat 2004. Demographic projection (baseline scenario)

Significant inequalities in term of life expectancy according to professional status

Life expectancy at age 35	White Collar	Blue Collar	Difference in life expectancy
MEN	46	39	7 years
WOMEN	50	47	3 years

Insee Première n°1025, juin 2005

PREVENTION MUST CORRECT INEQUALITIES IN ORDER TO INCREASE HEALTHY AND ACTIVE WORKING LIFE EXPECTANCIES

● Could the implementation of a Health Promotion program in the workplace correct these inequalities?

The EBS « Healthy Company » study¹ tackled this issue

Aim : assess the efficiency of a prevention program implemented by a company in the workplace.

Tested in three companies in France (Lilly, Prévoir, HSBC)

Primary criteria

- Increase in health literacy
- Change in behavior of the employees

Secondary criteria

- Change of image of the company
- Well-being of the collaborators



Ultimate objective:

Recognize **the companies who implement these programs by labelling them "Healthy Companies" who implement such programs**

1- Entreprises en Bonne Santé, ILC-France - Santé Publique Vol 26 / N° 4-Juillet-Août 2014



EBS: « Healthy Companies » Study Methods

- A « before-after » comparison
- Population
 - 2153 volunteers
 - from 3 companies based in France
- Three areas of prevention
 - nutrition
 - physical activity
 - prevention of back pain
- 3 successive steps of the EBS program
 - general communication
 - group workshops
 - individual coaching
- Data collection via anonymous questionnaires sent by e-mail

EBS: « Healthy Companies » Study Results

- Participation of mobilized employees ranges from 25% to 45,5% (vs 10% in the public campaigns) with a very high satisfaction rate (80%)
- After completion of the full program
 - **77,5% reported improved health literacy versus**
 - **50,3% for those who chose to receive only general communication**
- Nutrition and back pain groups had the largest proportion of participants who declared they modified their behavior
- **50%** of participants declared a change in physical activity after the general communication which persisted **after 6 months for 22% of them**
- **For 70% employees**, their employers' participation in EBS signaled a real commitment to employee health.

This French study concurs with international results¹

- **These studies confirm**
 - **the benefit** of a prevention program
 - implemented in the workplace
 - during the working time
 - **the acceptance** of such programs
 - rate of participation higher than those of programs organized outside by public agencies
- **Impact of prevention programs** in reduction of sick is more difficult to prove but Adana² showed:
 - a 3 day reduction of sick leaves in-participants to health prevention program as compared to non-participants
 - a return on investment of 15 dollars per dollar invested in the program

1- Prior 2005, Wilson 1996, Harden 1999, Heaney 1997, Poole 2001, Pelletier 2001, Renaud 2008, Riedel 2001, Engbers 2005, Crump 2001

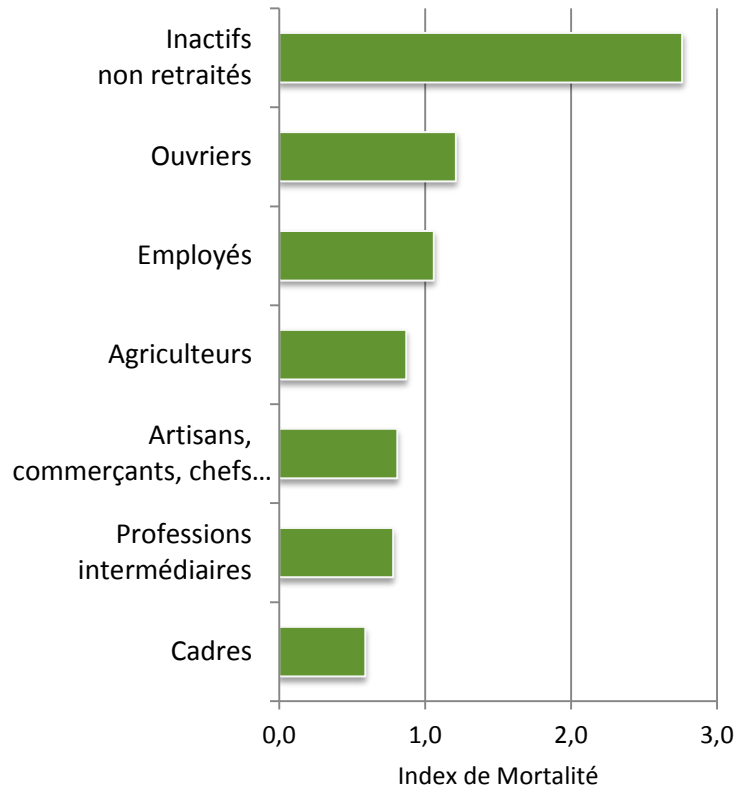
2- Adana, Preventive Med 2005

Programs that fight sedentary lifestyle are of the utmost importance since inactivity impacts health and longevity

Indice standardisé de mortalité des hommes entre
35 et 80 ans par catégorie sociale

Période 2000-2008

INSEE Octobre 2011



All types of activity

- Mental activity
- Leisure activity
- Physical activity
- Social interactions
- *Professional activity*

- reduce mortality
- increase life expectancy
- improve cognitive health

Workers in good health *may prolong their professional life*

- For economic reasons (reductions in pension)
- To stay better integrated in the society
- To participate in the economic life of their country

This prolongation has additional health benefits

● Is the activity linked to prolonged employment beneficial to cognitive health?

- **An IIC-France study** in collaboration with INSERM recently addressed this issue :
Eur. J. epidemiol 2014; 29:253-61

NEUROEPIDEMIOLOGY

Older age at retirement is associated with decreased risk of dementia

Carole Dufouil · Edwige Pereira · Geneviève Chêne · M. Maria Glymour ·
Annick Alperovitch · Elodie Saubusse · Mathilde Risse-Fleury · Brigitte Heuls ·
Jean-Claude Salord · Marie-Anne Brieu · Françoise Forette



- **Should we increase the age of retirement** to decrease the risk of cognitive impairment ?
- **How can we convey this new information to workers** so that they wish to work longer ?
- Improving working conditions, taking care of employees through health prevention programs or other quality of life measures should provide food for thought for the companies

Indeed this study supports the hypothesis that continued employment may benefit cognitive health

- **Aim**

- To test whether age at retirement is associated with dementia risk

- **Methods**

- Combining data of

- health and pension databases from the RSI (*Régime Social des Indépendants*)
- on 429 803 French self employed workers
- retired on December 31st 2010

- **Results**

- Prevalence of dementia : 2.5%

- Postponing retirement by 1 year is associated with 3.1% lower risk of dementia

For example :

- If age at retirement is postponed from 60 to 65 years
- a 15% decrease in risk of dementia is expected



These results concur with other studies

- A British study ¹, involving only men, observed a significant effect of delaying the age of retirement: each additional year in employment delayed the onset of dementia by 0.13 year
- The American longitudinal study HRS (Health and Retirement study 1998 - 2006) and the International (14 European countries) SHARE ², show a significant and quantitatively comparable negative effect of retirement on cognition
- An Israeli study³ shows that, independent of baseline status, working at age 70 correlates with health, self-sufficiency and longevity.

1- *Int J Geriatr Psychiatry* **2009**; 24: 1–7. Lupton and coll

2- *Does Retirement Affect Cognitive Functioning?* Eric Bonsang, Stéphane Adam, Sergio Perelman S. *J Health Econ* 2012;31:490-501

3- *Hammerman-Rosenberg R et al. Aging Clin Exp Res* 2005; 17:508-13

Key Messages

- An educational program on health prevention offered by the company in the workplace
 - Mobilizes employees and employers
 - Contributes to improvement in health literacy and leads to behavioral changes
 - Improves the image of the company
 - Reduces sick leaves and offers good return on investment (Adana)

- Healthy employees working longer may expect reduction in age-related cognitive disorders



**These two approaches should be part of
Corporate Social Responsibility (CSR)**

Thank you for your attention!

Contacts



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Spare slides

COGNITIVE STIMULATION

(Petrosini et al. 2009 for a review)

- A number of studies ¹ have shown the importance of early cognitive enrichment to maintain cognitive performances later in life
- Formal education is a positive predictor of age-associated cognitive decline ²
- Education does not prevent the onset of AD but provides protection against the expression of clinical symptoms. With the same lesions highly educated subjects become demented later ³
- Post mortem analyses report marked neuropathological features of AD in individuals who have never shown signs of cognitive impairment ⁴
- These data provide the foundation for the reserve theory ⁵

¹ : Borenstein 2006, McDowell 2007, Roe 2007.

² : Bennet 2003, Bruander 2008, Katzman 1993, ...

³ : Letenneur 1999, Snowdown 1996, Stern 1994

⁴ : Del Ser 1999, katzman 1993, Neuropathology group 2001...

⁵ : Fratiglioni 2007, Stern, 2002, 2003, 2006

NEUROPLASTICITY, COGNITIVE RESERVE AND COGNITIVE TRAINING

- The Concept of Cognitive reserve ¹ was proposed to explain epidemiological data indicating that individuals engaged in higher level of mental and physical activity were at lower risk of developing cognitive impairment, AD and other dementia.
- Neuroplasticity refers to the physiological ability of the brain to strengthen and form dendritic connections, produce beneficial morphologic changes and increase cognitive reserve ².

1 : Nithianantharajah, Prog Neurobiol 2009

2 : Vance, J Psychosoc Nurs Ment Health Serv 2010

LEISURE ACTIVITIES SEEM PROMISING

The three city study in community-dwelling elders of 65+ free of dementia shows that:

Stimulating leisure activities **at least twice a week** decreases by

- **50%** the incidence of dementia
- **40%** AD

compared with the incidence in people engaged in such activities **less than once a week**

Examples

Crosswords

Playing cards

Attending exhibitions

Going to a show

Doing artcraft

Akbaraly TN and coll. Neurology 2009;73(11):854-61

SOCIAL ACTIVITIES, ENVIRONMENT AND AD

- Several longitudinal studies¹ have shown that *an extensive social network may protect against dementia*
- Individuals living *alone with no friends or relatives seem more at risk of developing dementia*²
- In the Honolulu Study³ only *the decreased social engagement from mid life to late life was associated with an increased risk of dementia*

1 : Bassuk SS and coll. *Ann Intern Med* 1999;131(3):165-73. - Zunzunegui MV and coll. *J Gerontol B Psychol Sci Soc Sci*

2003;58(2):S93-S100.

2 : Fratiglioni L and coll. *Lancet* 2000;355(9212):1315-9.

3 : Saczynski JS and coll. *the Honolulu-Asia Aging Study. Am J Epidemiol* 2006;163(5):433-40.

INFLUENCE OF THE PROFESSIONAL ACTIVITIES

- A recent study ¹, only in men, observed a significant effect of delaying the age of retirement: each additional year in employment delayed by 0.13 year the onset of AD.
- Moreover, mentally demanding occupations have a direct and relatively early effect on the neuropathology of Alzheimer's disease ².

¹ : Lupton MK and coll. *Int J Geriatr Psychiatry* 2010;25(1):30-6.

² : Smyth KA and coll. *Neurology* 2004;63(3):498-503.

INTELLECTUALLY DEMANDING WORK AND COGNITIVE RESERVE

- In another study, intellectually demanding work was associated with greater benefit to cognitive performance in later life independently of related factors like education and intelligence.

Suggesting that:

Individuals with lower education and intellectual aptitudes, behavior may enhance intellectual reserve, even years after the peak of intellectual activity.

(Potter GG and coll. Neurology 2008;70:1803-8)