

ATTRIBUTABLE RISK OF CARPAL TUNNEL SYNDROME ACCORDING TO INDUSTRY AND OCCUPATION IN A GENERAL POPULATION

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Introduction

- **Surveillance of carpal tunnel syndrome (CTS) in the general population**
 - Part of a program of the French Institute for Public Health Surveillance in the Pays de la Loire region in western France
- **Objectives of the present study**
 - To estimate the attributable fractions of risk of CTS according to industry sector and occupation categories in the general population of the Maine & Loire (M&L) area

Methods : case definition

- **Cases of CTS defined by both clinical and electrophysiological criteria :**
 - Symptoms classified as “*classic/probable*”
 - Electrodiagnostic (EDX) criteria (standardized protocol)
 - Absence of previous CTS of the same hand
 - Patients aged 20-59 years and living in the M&L area
- **Prospectively included by the 4 EDX centers over the three year period (2002-2004)**
- **Postal self-administered questionnaire**
 - Response rate: 97% (1,185 subjects, 815 ♀ and 320 ♂)
 - Medical & surgical history (obesity, thyroid disease, diabetes, MSDs)
 - Work history in the last five years

Methods : Analyses

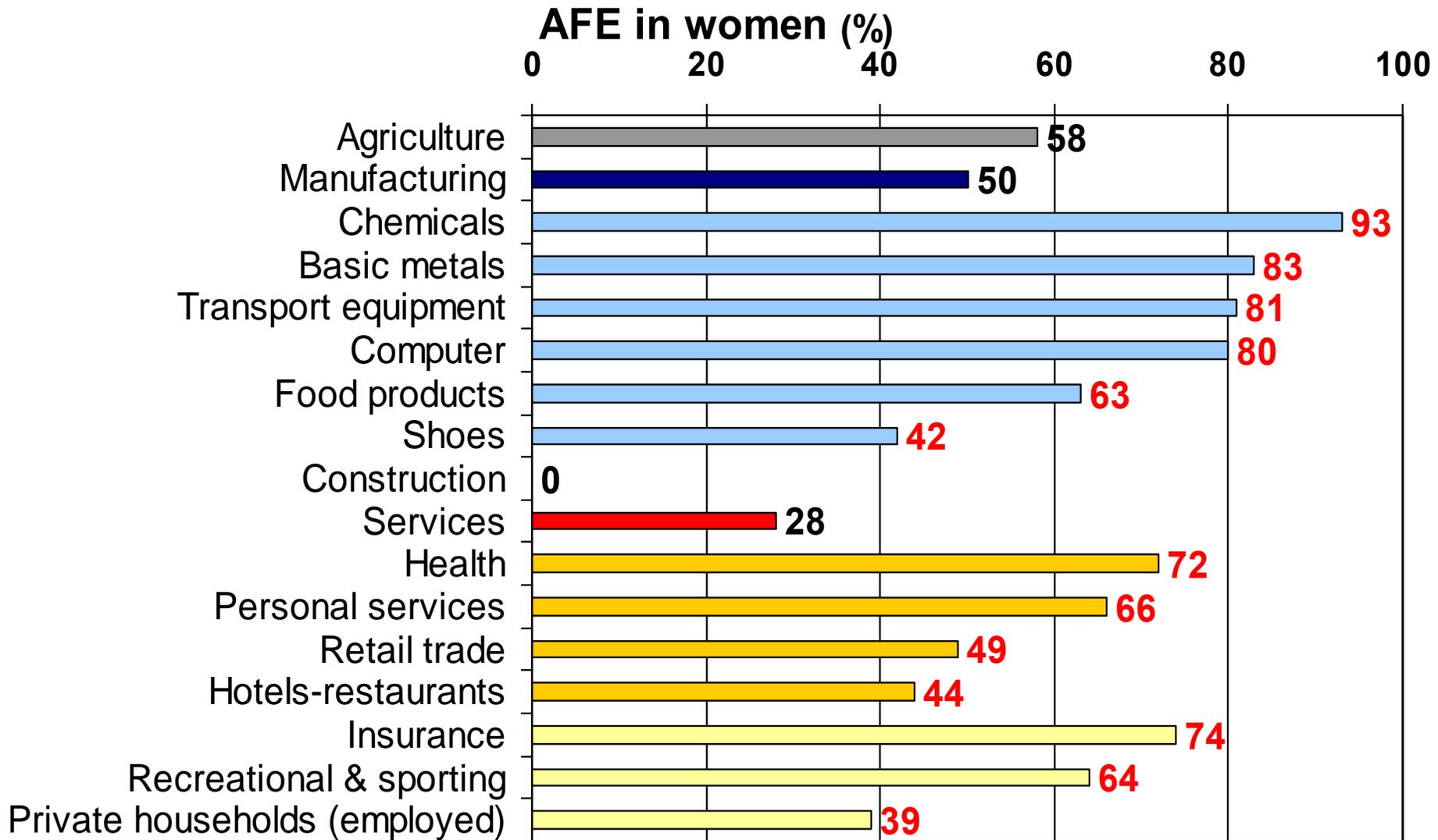
- **Distribution of CTS cases** according to the last industry sector and occupation during the 5 years preceding the EDX diagnosis
- **Age-adjusted relative risks (RR) of CTS according to industry and occupation categories**
 - computed using the Mantel-Haenszel method with the whole sample of subjects included in the study as a reference, whether they were employed at the time of diagnosis or not.
- **Attributable fractions of risk to work in the particular industry or occupation category in exposed individuals**
 - computed for industries and occupations at high risk when at least five cases of CTS occurred

$$AFE (\%) = (RR-1)/RR$$

Results (1)

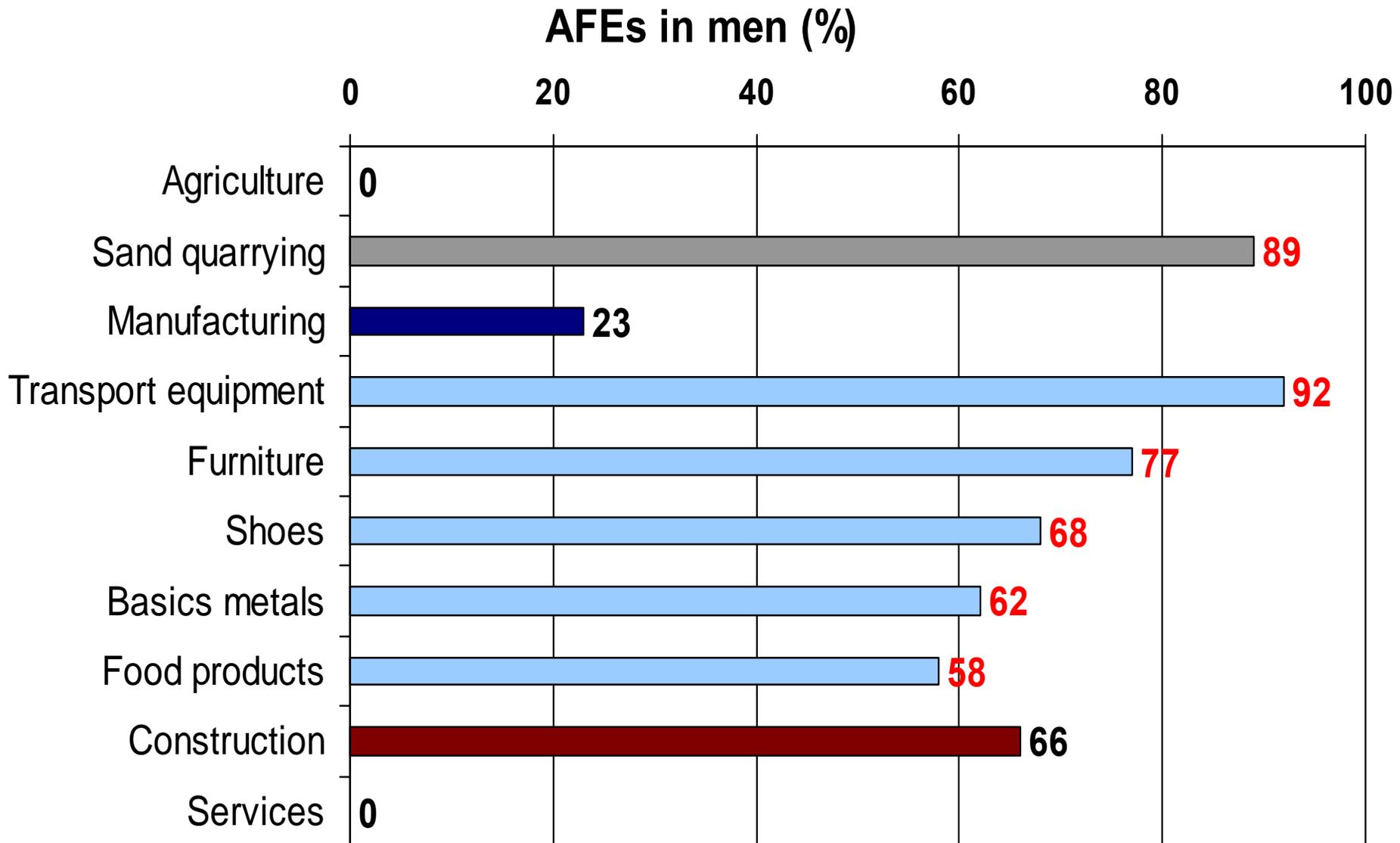
- **Work history**
 - 91% worked in the last 5 years and 80% at the time of the diagnosis
- **Industries at high risk of CTS**
 - 14 for women with RR ranging from 1.6 to 14.7
 - 7 for men with RR ranging from 2.4 to 13.2
- **Occupational categories**
 - 8 (26 subcategories) for women with RR from 1.6 to 10.8
 - 5 (12 subcategories) for men with RR from 2.5 to 13.3

Attributable risk fraction of CTS to industry



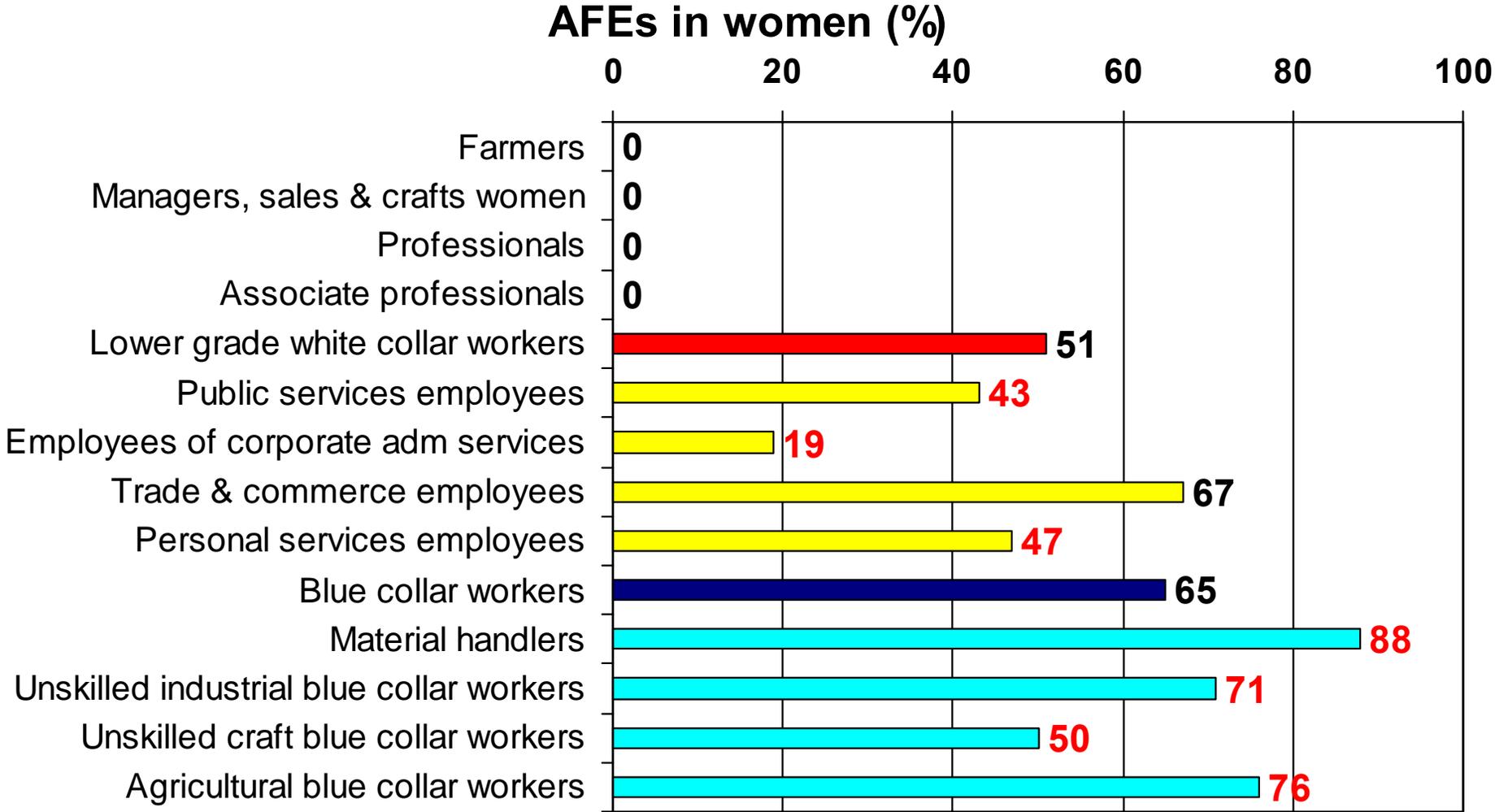
N > 5; RR > 1

Attributable risk fraction of CTS to industry



N > 5; RR > 1

Attributable risk fraction of CTS to occupation

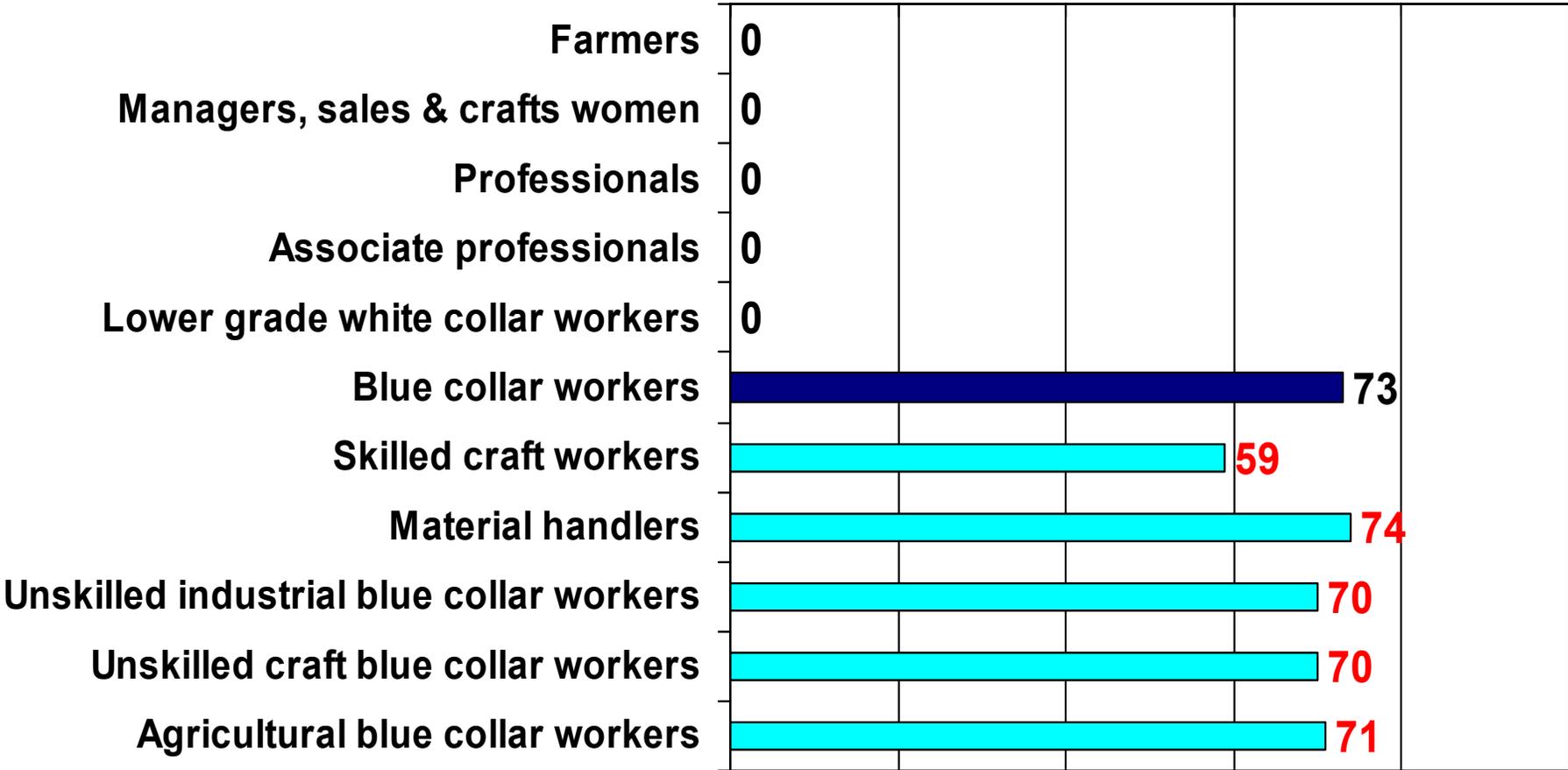


N > 5; RR > 1

Attributable risk fraction of CTS to occupation

AFEs of CTS in men (%)

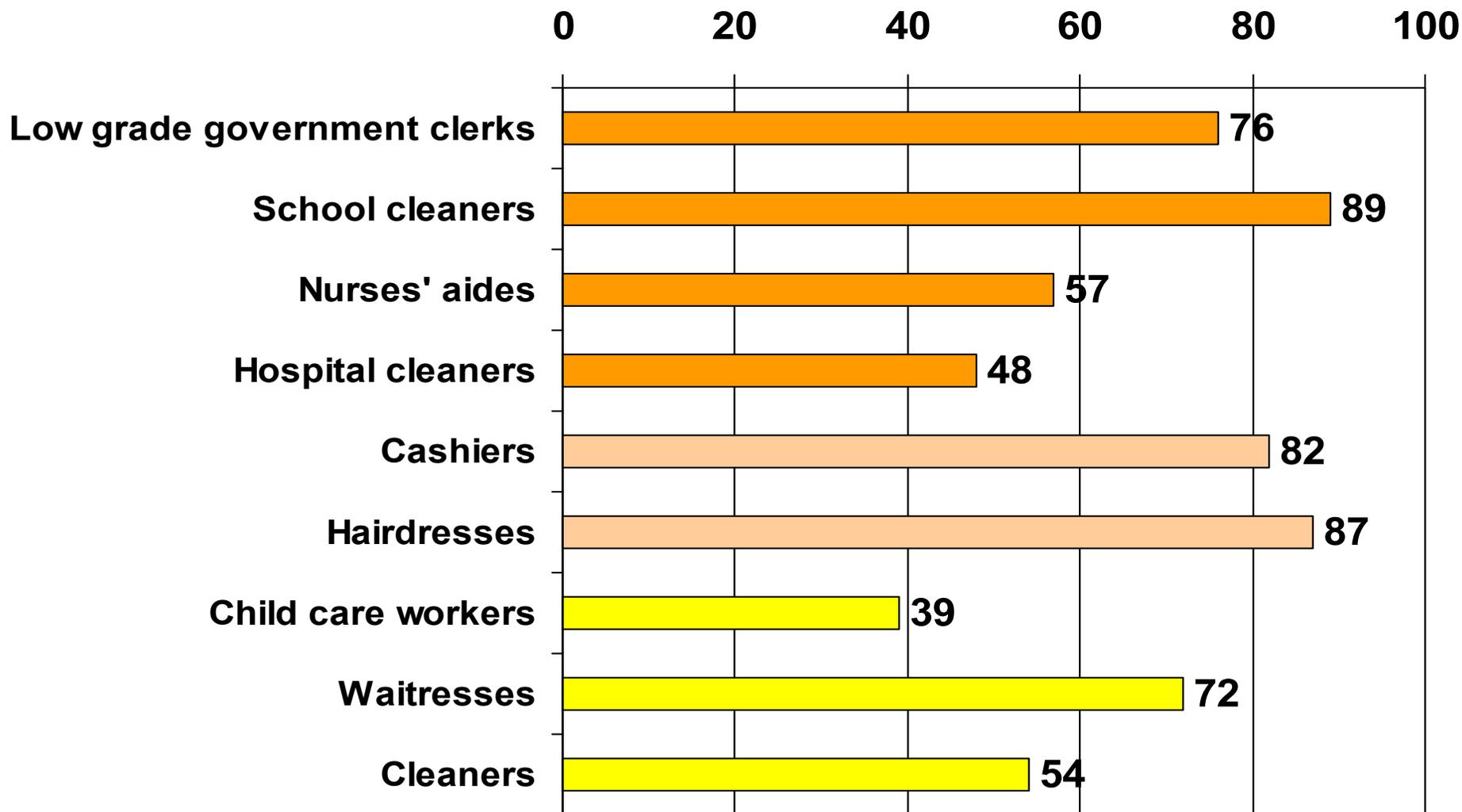
0 20 40 60 80 100



N > 5; RR > 1

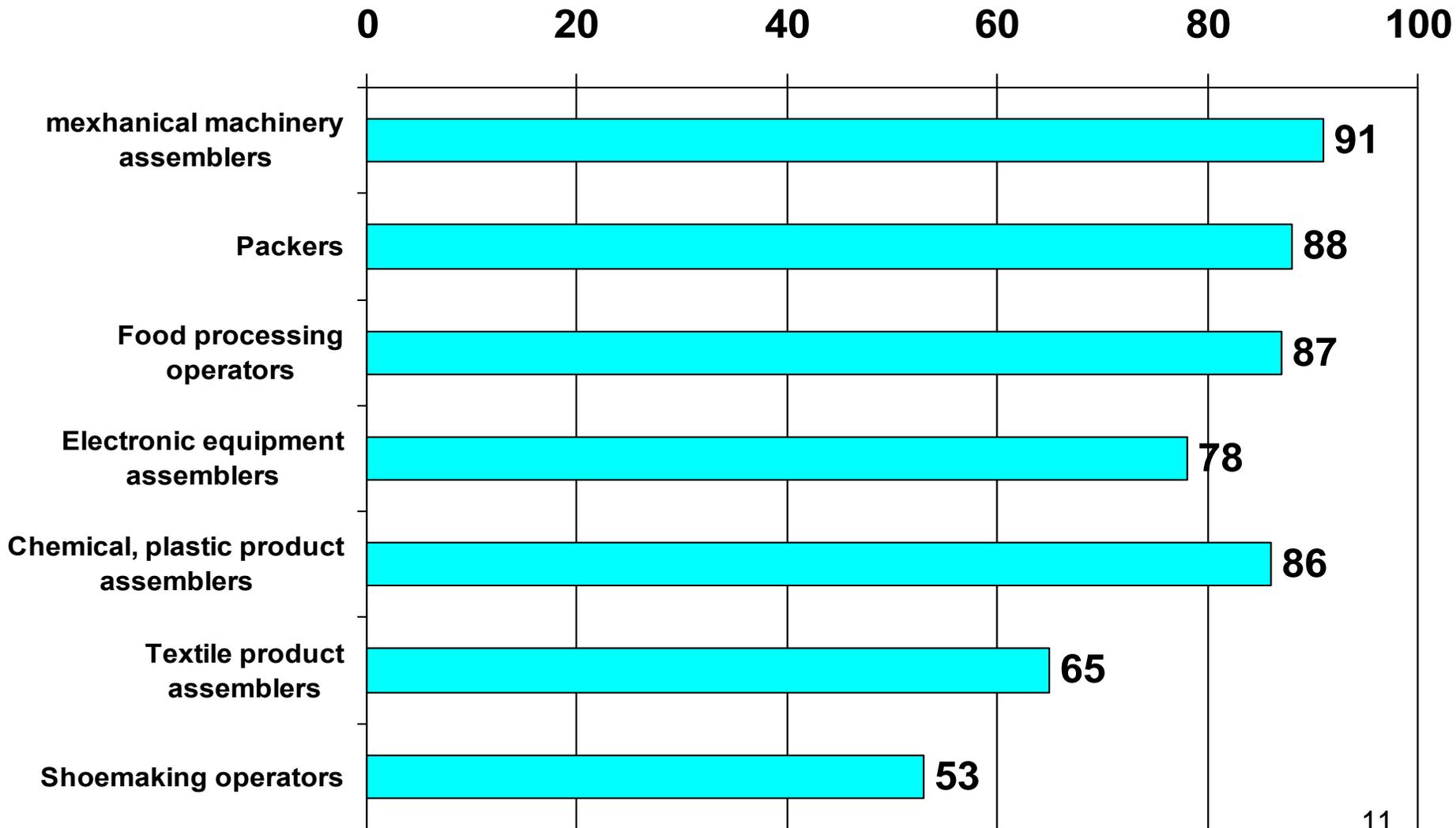
AFE of CTS in female employees of public services, trades and personal services

AFE of CTS (%)



AFE of CTS in female unskilled industrial workers

AFE of CTS (%)



AFEs in male skilled and unskilled craft workers

AFEs of CTS (%)



Discussion

- **Incidence rates of CTS were underestimated**
 - unequal participation of the physicians
 - no systematic bias according to economic sectors and occupations
- AFEs of CTS to work in high risk sectors and occupations **should not be used at the individual level.**

Conclusion

- A substantial proportion of cases of CTS occurring in blue collar workers and low grade white collar workers were attributable to work.
- Although these results should be confirmed in other regions, they provide important new insights to evaluate the potential impact of preventive interventions at the population level.



***Thank you for your
attention***