

# Comparing the Human Capital and Friction Cost approaches to estimating productivity costs

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# Productivity losses

## Human Capital Approach

- Basis in neoclassic economic model
- Assumes perfect market competition, and that earnings reflect productivity
- Variables: Time span, foregone activity, paid labour, benefits and fixed payroll costs

## Friction Cost Approach

- No theoretical foundation
- Assumes unemployment in the labour market
- Variables: frequency and length of friction period, absence and productivity, value of lost production and macroeconomic consequences

Implications of selecting one method over the other for comparing sub-groups have not been examined

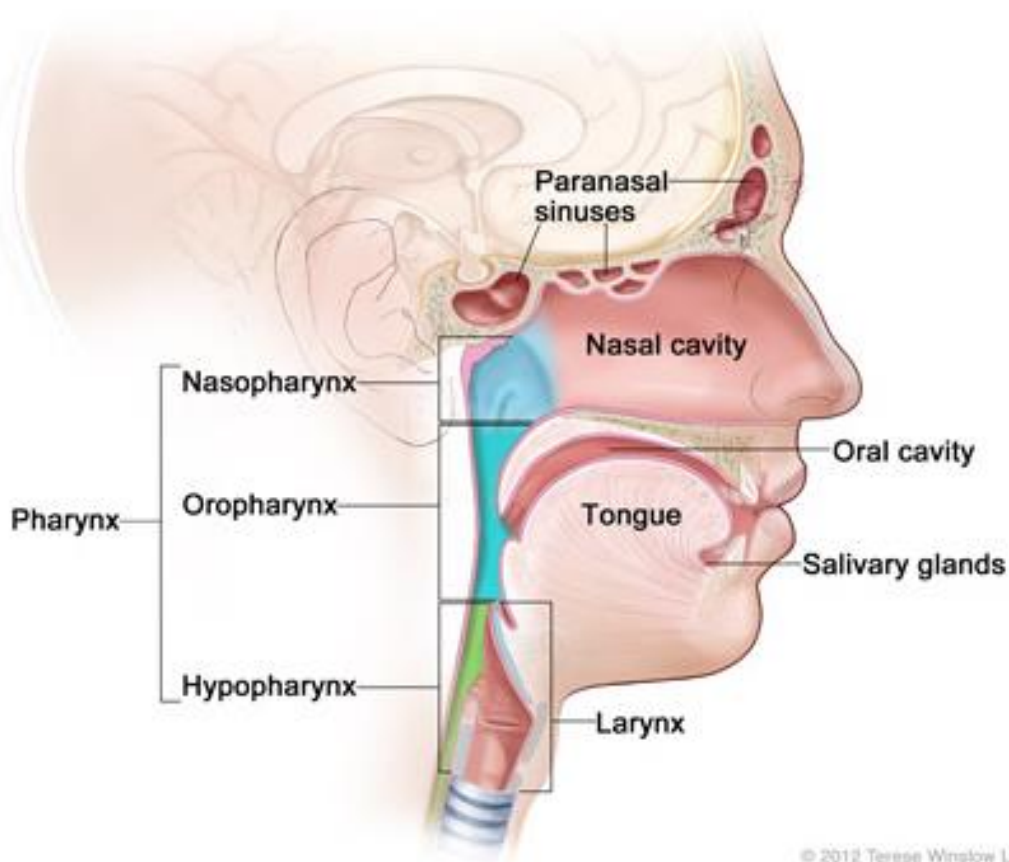
# Aim

- Calculate the lost productivity associated with head and neck cancer (HNC) using both the HCA and FCA, and examine the implications of using each approach for the comparison of socio-demographic and clinical groups

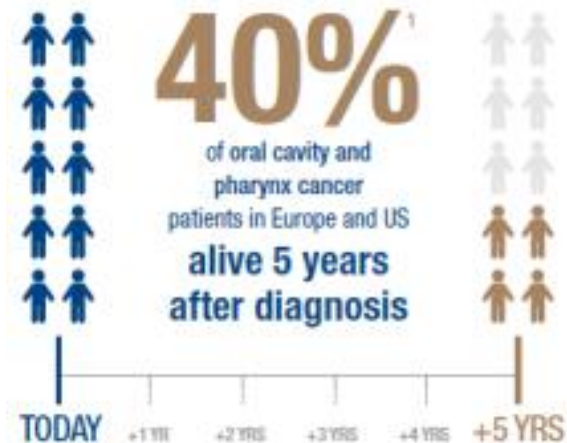
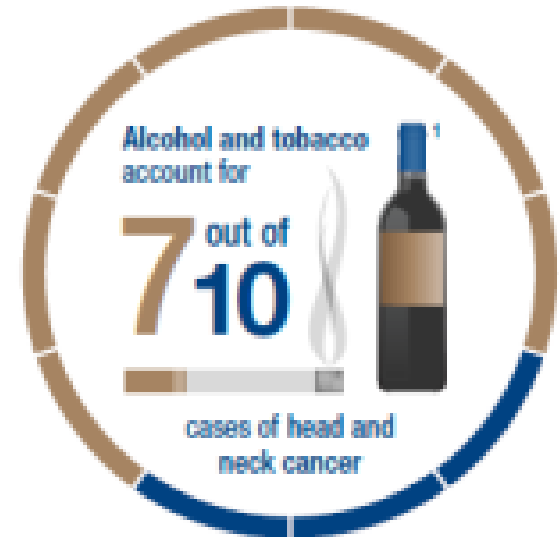


# Head and neck cancer

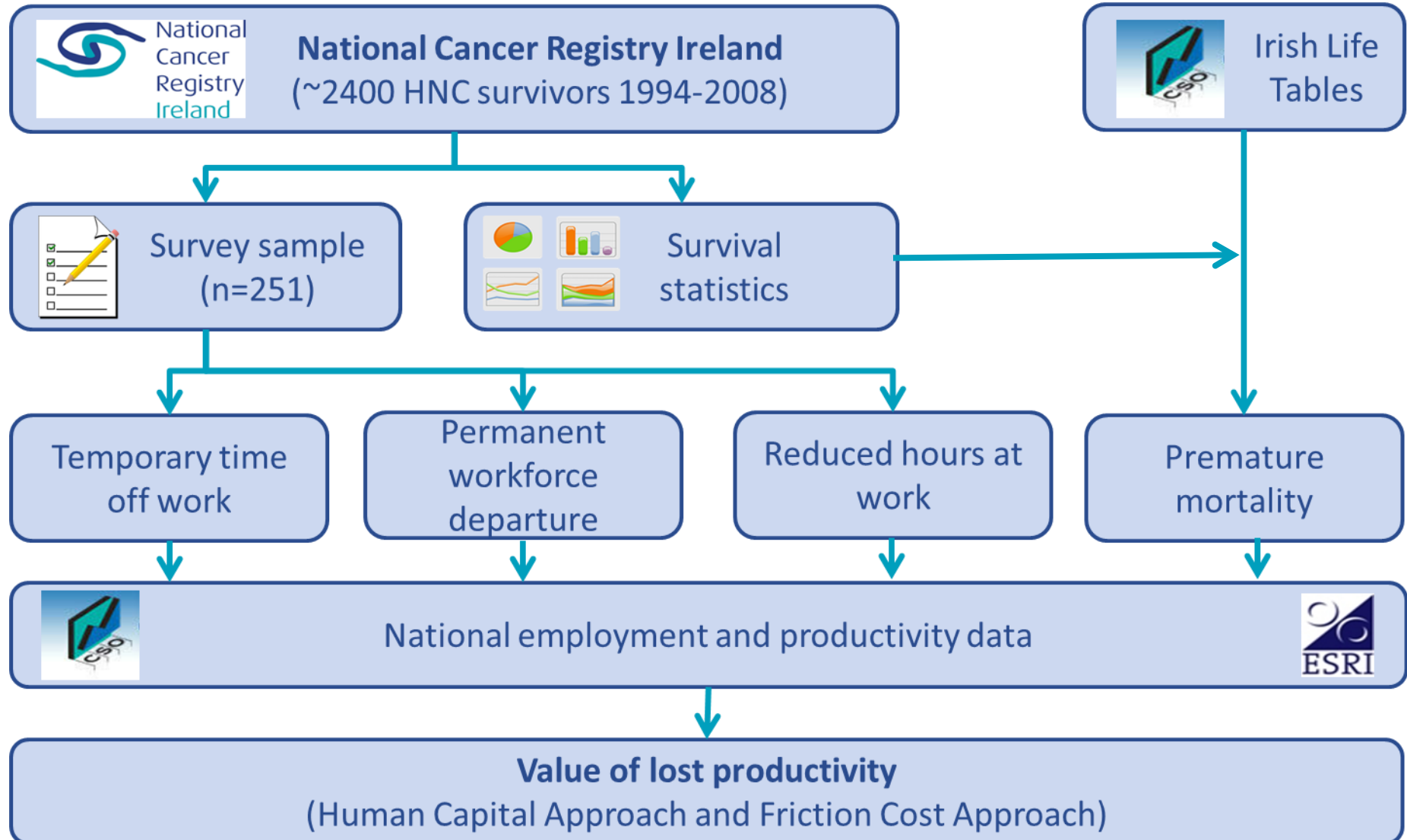
## Head and Neck Cancer Regions



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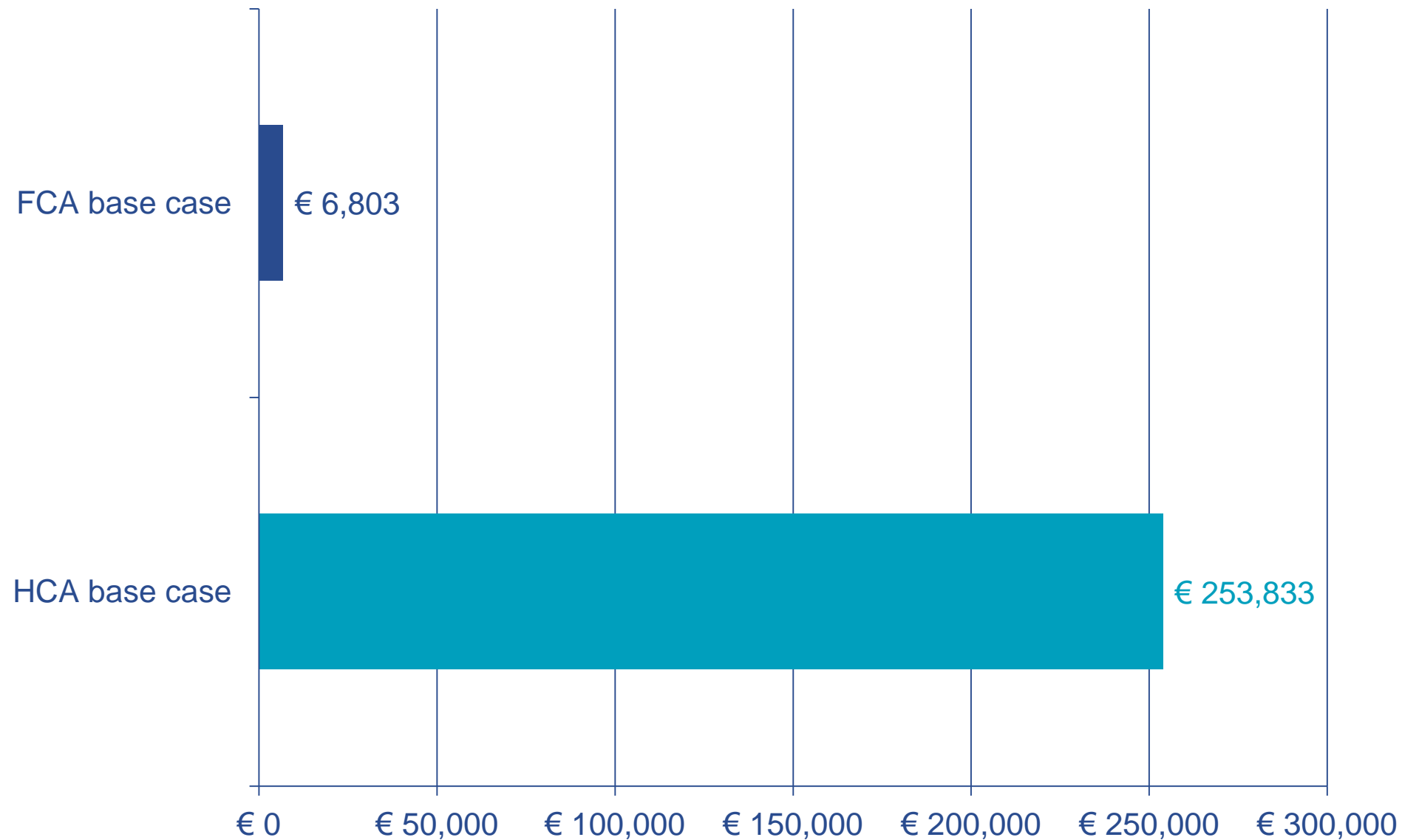
# Methods and data



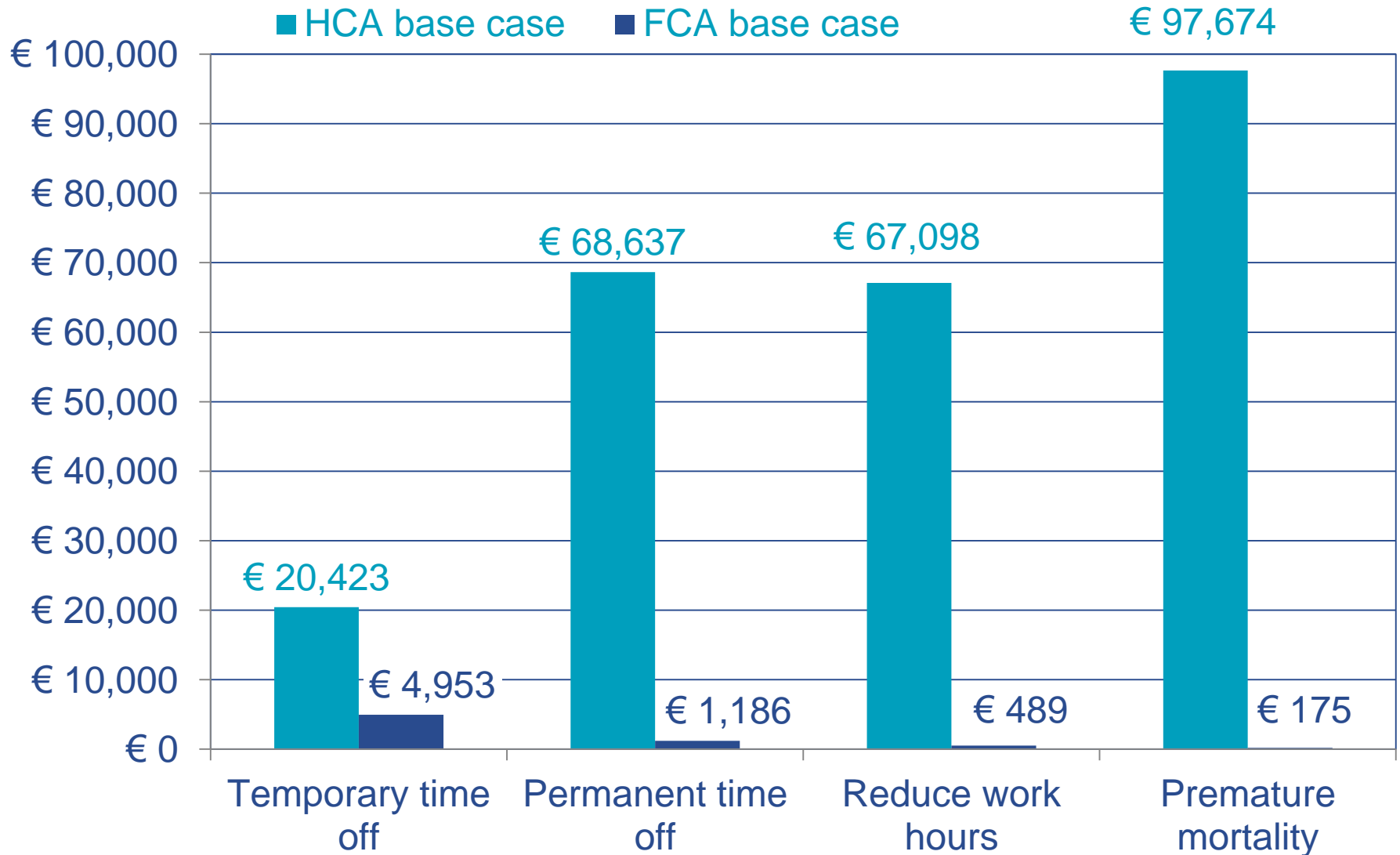
# Methods and assumptions

- Retirement age 65 years
- Friction periods 9.9 to 13.3 weeks
- Wage growth estimated 1.7% (ESRI 2012)
- Future costs discounted at 4% (HIQA 2010)
  
- Comparisons by socio-demographic and clinical variables, including:
  - gender
  - age
  - occupation
  - medical card status
  - cancer stage and treatment

# Results – total productivity loss



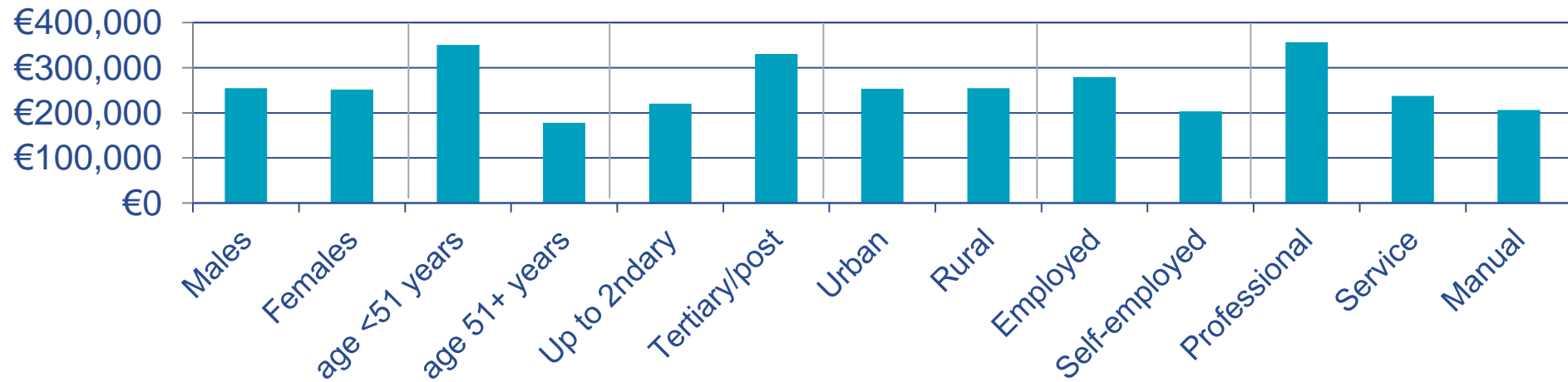
# Results – work absences



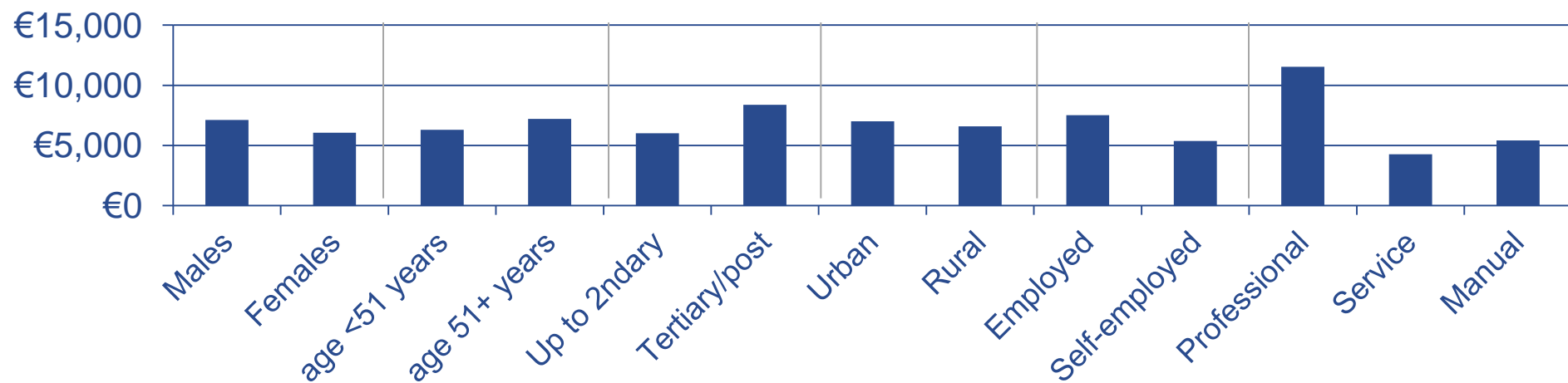


# Results - demographic subgroups

## HCA total

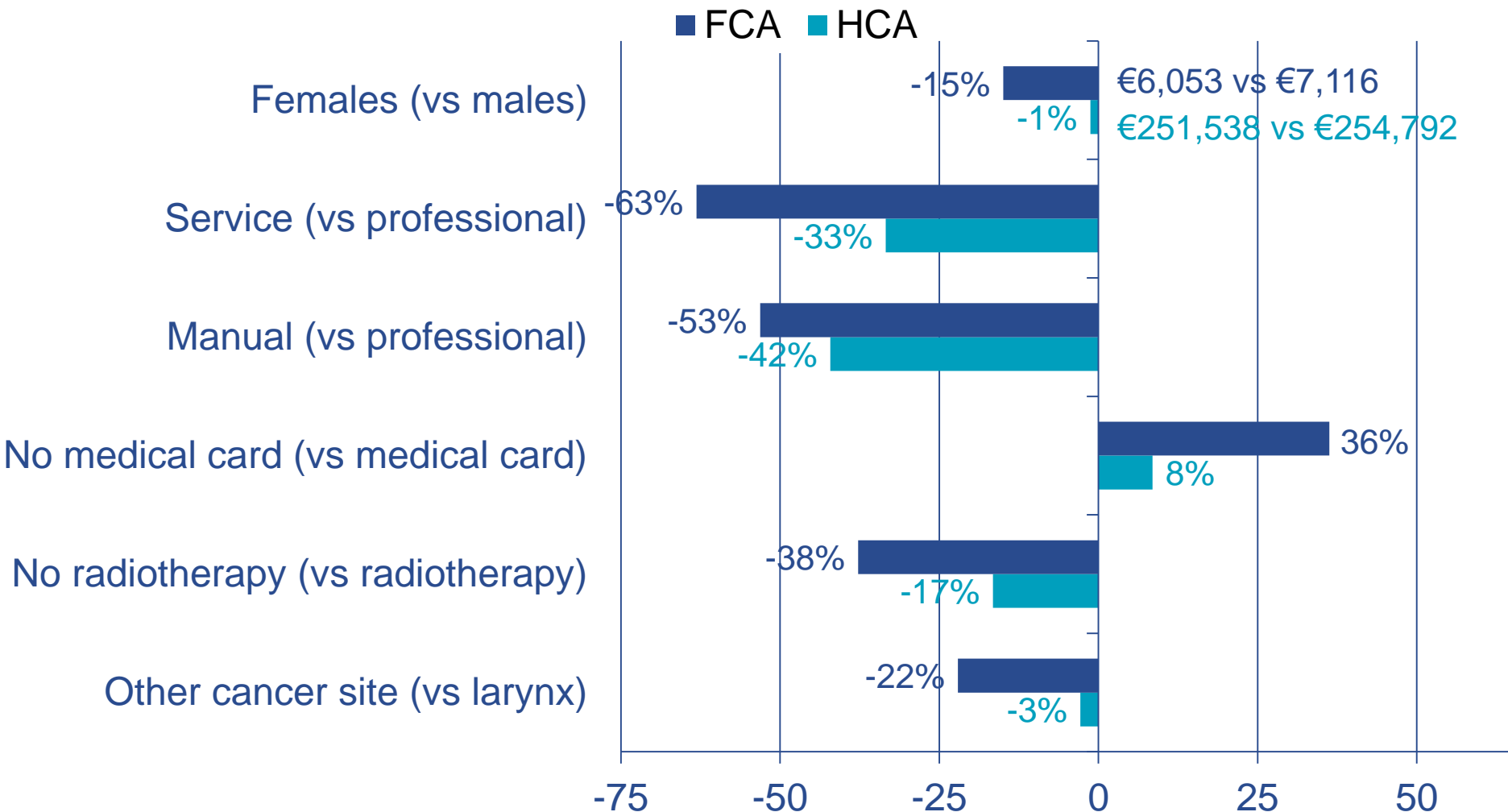


## FCA total



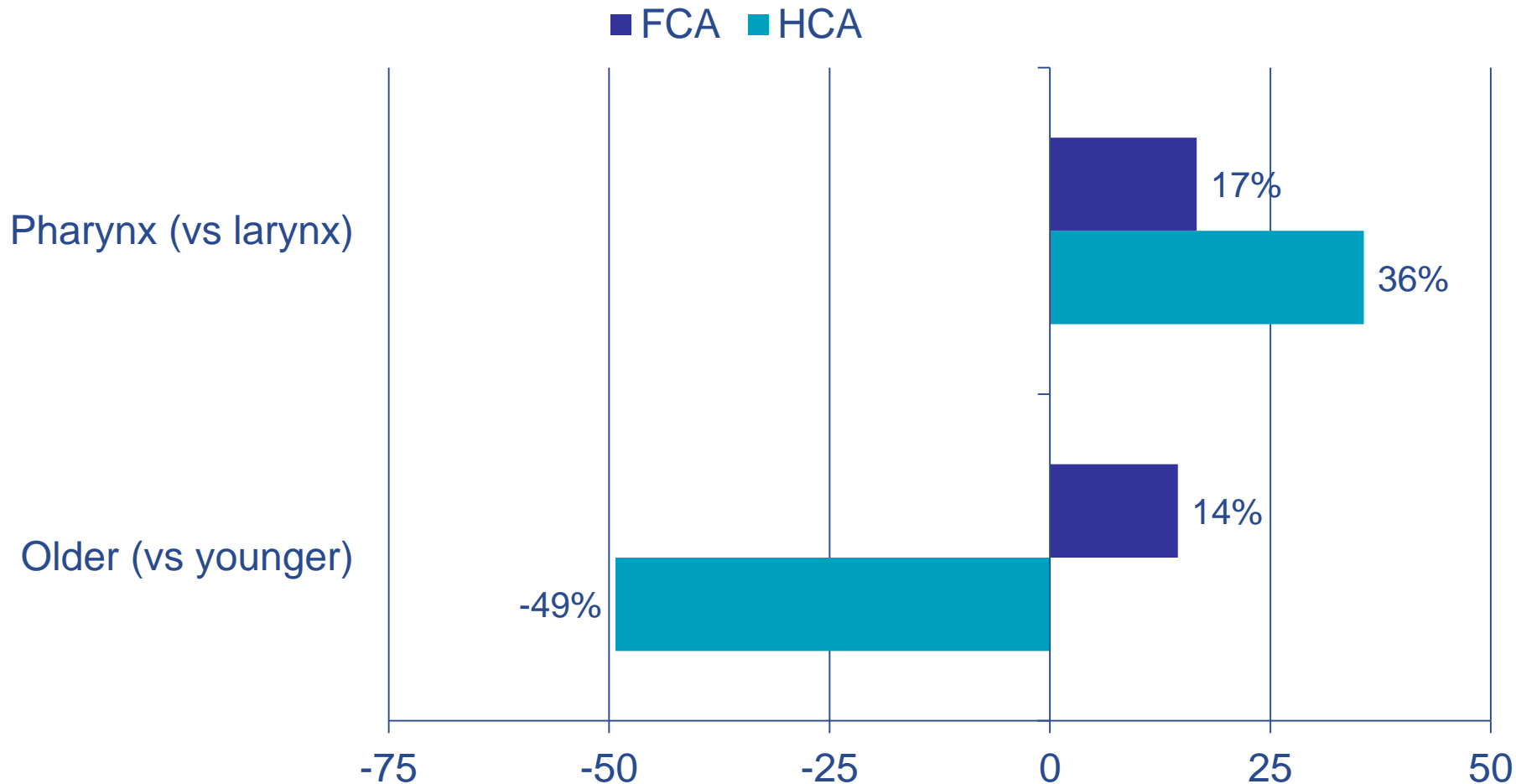
# Results – subgroups where FCA highlights differences

## Percentage difference between subgroups



# Results – subgroups where HCA highlights differences

## Percentage difference between subgroups



# Summary

- The impact of method selected on subgroup comparisons is inconsistent
- This study highlights some implications for costing of both methods



# Implications for jurisdictions

- Different jurisdictions use different methods
- Cost effectiveness different in different jurisdictions
  - Due to different patient & clinical characteristics
  - Due to overall method choice
  - Due to economic conditions
    - Wage rates
    - Unemployment rates
    - Friction period durations

# Implications - Equity

- Different cost effectiveness based on different methods has implications for:
  - Inequitable access to treatments
  - Inequitable outcomes / survival
  - Inequitable targeting of interventions
  - Treatment selection not based on efficacy or clinical need

# Conclusions

- Productivity losses following head and neck cancer can be significant
- Choice of methodology influences not only magnitude of results, but also how sub-groups are compared
- These differences have implications for cost effectiveness across time and place, reimbursement decisions and healthcare equity

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