

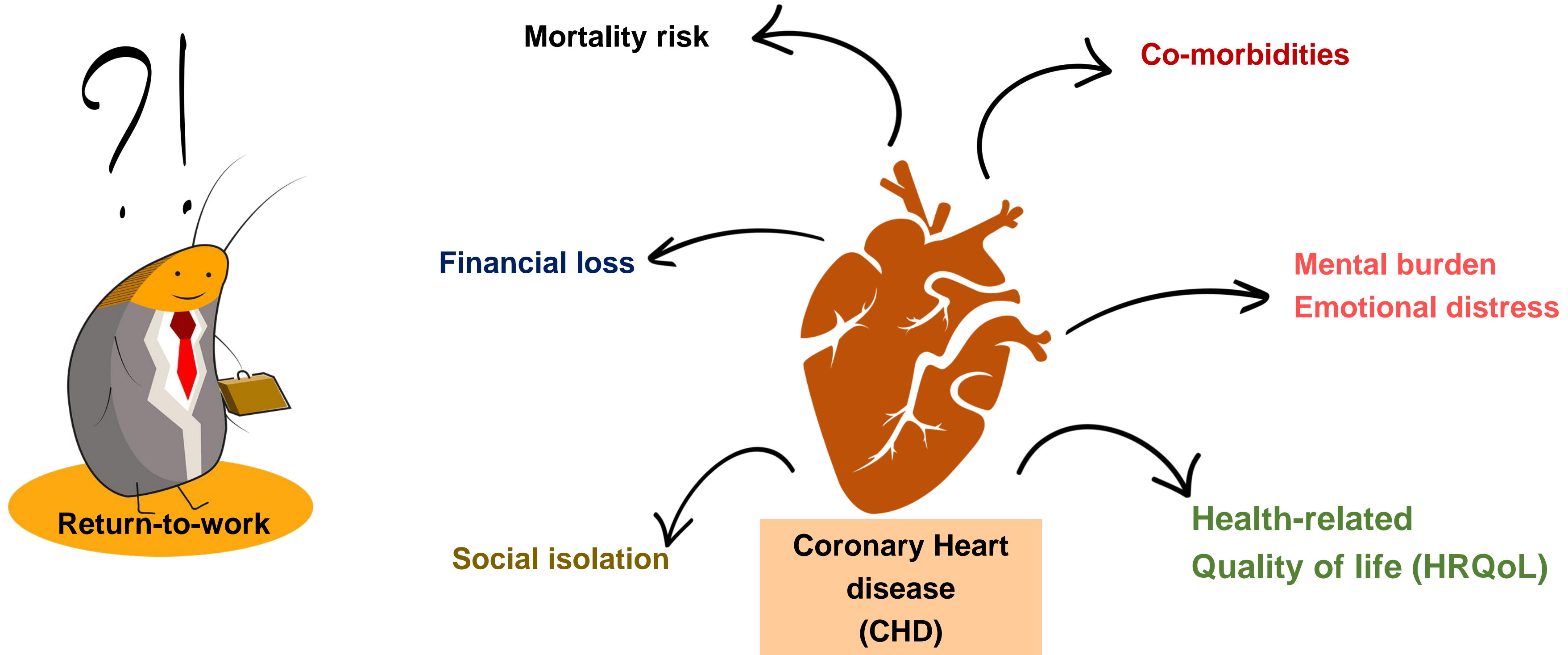
# EUROASPIRE IV :

## *RETURN-TO-WORK AND ASSOCIATIONS WITH PSYCHOSOCIAL WELL-BEING AND HRQOL*

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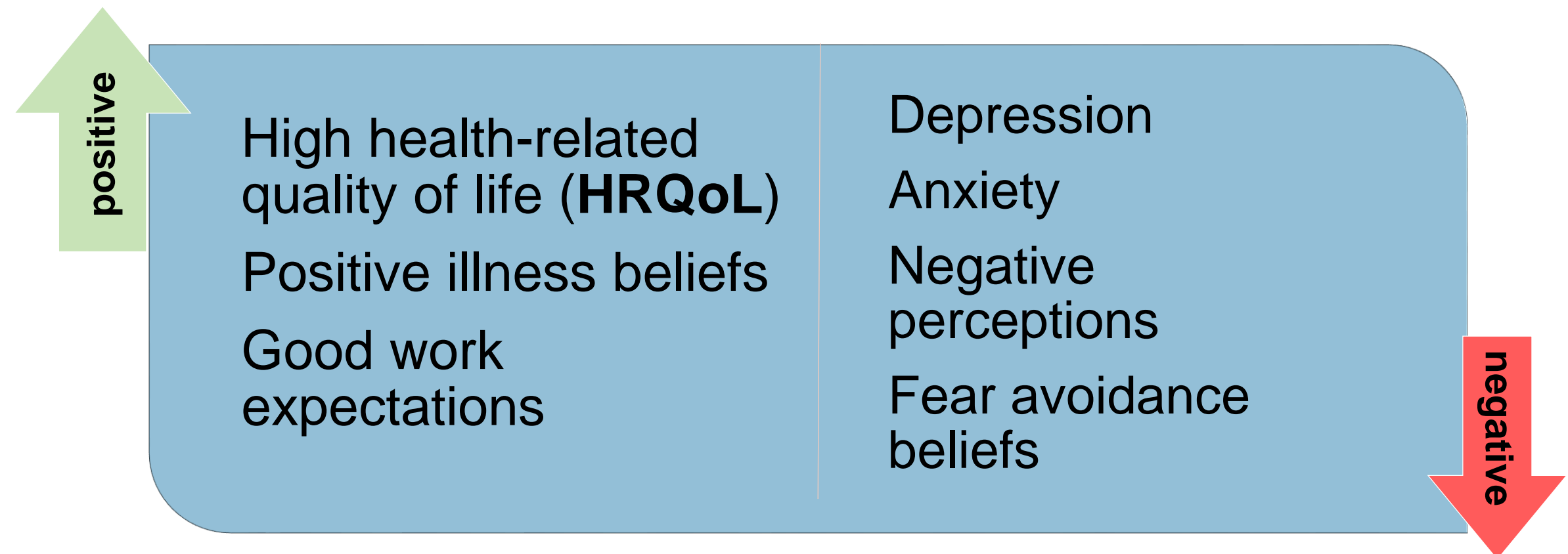
# BACKGROUND

# LIVING WITH CORONARY HEART DISEASE



# WHAT IS KNOWN ?

- RTW rate variation (overall) : 60-90%  
(study populations, work definitions, follow-up duration)
- Indicator of functional rehabilitation
- The mind and RTW :



# AIMS & METHODS

# WHAT WE WANT TO KNOW ?



- European Action on Secondary Prevention through Intervention to Reduce Events (**EUROASPIRE IV**):  
4th wave in 2012-2013 in 24 countries (78 centers)



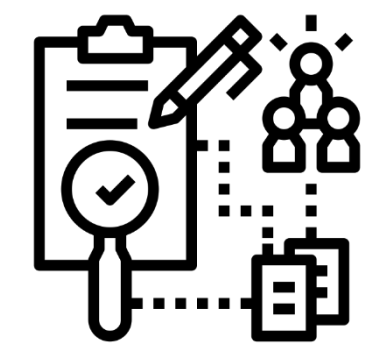
**Who returns to work?**

**What factors play a role in the RTW process?**



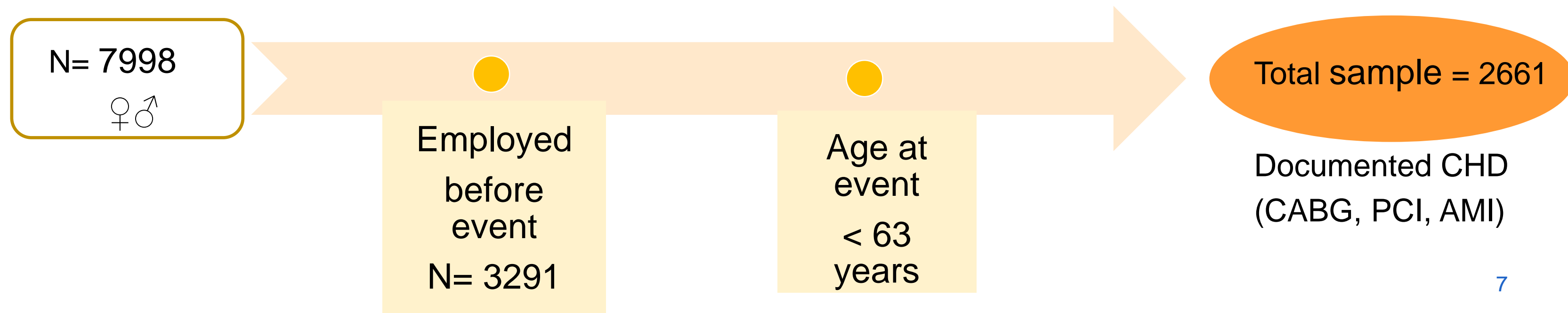
**Is RTW associated with the appearance of emotional distress and health-related quality of life (HRQoL)?**

# DATA COLLECTION



- Data collection in standardized way by trained research staff
- Baseline information + risk factors at discharge from medical records (retrospective)
- Interview / clinical examination 6 months to 3 year after event

→ Personal and demographic information  
Medical history, height, weight, blood CO  
Reported lifestyle changes and disease management  
Employment status (RTW vs. No RTW)  
Hospital Anxiety and Depression Scale (HADS) ← outcomes  
HRQoL : HeartQoL ← outcomes



# HOSPITAL ANXIETY AND DEPRESSION SCALE

HADS :

- $< 8$  = normal
- $8 - 10$  = mild symptoms
- $\geq 11-21$  = moderate to severe symptoms
- Validated

<p><b>I feel tense or 'wound up':</b></p> <p><input type="checkbox"/>3 Most of the time</p> <p><input type="checkbox"/>2 A lot of the time</p> <p><input type="checkbox"/>1 Time to time, occasionally</p> <p><input type="checkbox"/>0 Not at all</p>	<p><b>I feel as if I am slowed down:</b></p> <p><input type="checkbox"/>3 Nearly all of the time</p> <p><input type="checkbox"/>2 Very often</p> <p><input type="checkbox"/>1 Sometimes</p> <p><input type="checkbox"/>0 Not at all</p>
<p><b>I still enjoy the things I used to enjoy:</b></p> <p><input type="checkbox"/>0 Definitely as much</p> <p><input type="checkbox"/>1 Not quite so much</p> <p><input type="checkbox"/>2 Only a little</p> <p><input type="checkbox"/>3 Not at all</p>	<p><b>I get a sort of frightened feeling like 'butterflies in the stomach':</b></p> <p><input type="checkbox"/>0 Not at all</p> <p><input type="checkbox"/>1 Occasionally</p> <p><input type="checkbox"/>2 Quite often</p> <p><input type="checkbox"/>3 Very often</p>
<p><b>I get a sort of frightened feeling like something awful is about to happen:</b></p> <p><input type="checkbox"/>3 Very definitely and quite badly</p> <p><input type="checkbox"/>2 Yes, but not too badly</p> <p><input type="checkbox"/>1 A little, but it doesn't worry me</p> <p><input type="checkbox"/>0 Not at all</p>	<p><b>I have lost interest in my appearance:</b></p> <p><input type="checkbox"/>3 Definitely</p> <p><input type="checkbox"/>2 I don't take as much care as I should</p> <p><input type="checkbox"/>1 I may not take quite as much care</p> <p><input type="checkbox"/>0 I take just as much care as ever</p>
<p><b>I can laugh and see the funny side of things:</b></p> <p><input type="checkbox"/>0 As much as I always could</p> <p><input type="checkbox"/>1 Not quite so much now</p> <p><input type="checkbox"/>2 Definitely not so much now</p> <p><input type="checkbox"/>3 Not at all</p>	<p><b>I feel restless as if I have to be on the move:</b></p> <p><input type="checkbox"/>3 Very much indeed</p> <p><input type="checkbox"/>2 Quite a lot</p> <p><input type="checkbox"/>1 Not very much</p> <p><input type="checkbox"/>0 Not at all</p>
<p><b>Worrying thoughts go through my mind:</b></p> <p><input type="checkbox"/>3 A great deal of the time</p> <p><input type="checkbox"/>2 A lot of the time</p> <p><input type="checkbox"/>1 From time to time but not too often</p> <p><input type="checkbox"/>0 Only occasionally</p>	<p><b>I look forward to things with enjoyment:</b></p> <p><input type="checkbox"/>0 As much as I ever did</p> <p><input type="checkbox"/>1 Rather less than I used to</p> <p><input type="checkbox"/>2 Definitely less than I used to</p> <p><input type="checkbox"/>3 Hardly at all</p>
<p><b>I feel cheerful:</b></p> <p><input type="checkbox"/>3 Not at all</p> <p><input type="checkbox"/>2 Not often</p> <p><input type="checkbox"/>1 Sometimes</p> <p><input type="checkbox"/>0 Most of the time</p>	<p><b>I get sudden feelings of panic:</b></p> <p><input type="checkbox"/>3 Very often indeed</p> <p><input type="checkbox"/>2 Quite often</p> <p><input type="checkbox"/>1 Not very often</p> <p><input type="checkbox"/>0 Not at all</p>
<p><b>I can sit at ease and feel relaxed:</b></p> <p><input type="checkbox"/>0 Definitely</p> <p><input type="checkbox"/>1 Usually</p> <p><input type="checkbox"/>2 Not often</p> <p><input type="checkbox"/>3 Not at all</p>	<p><b>I can enjoy a good book or radio or TV programme:</b></p> <p><input type="checkbox"/>0 Often</p> <p><input type="checkbox"/>1 Sometimes</p> <p><input type="checkbox"/>2 Not often</p> <p><input type="checkbox"/>3 Very seldom</p>



# HEARTQoL : A DISEASE SPECIFIC TOOL VOOR HRQoL

*Thank you for addressing these questions that will give us an understanding of how your heart problem has affected you.*

HeartQoL < 3 domains : global, physical, emotional

- consists of 14 items

→ 10 items focus on physical well-being

→ 4 items on emotional well-being

- ranging : 0 (worst HRQoL) 3 (best HRQoL)

- Validated

We would like to know how your heart problem has bothered you and how you have been feeling **DURING THE LAST 4 WEEKS.**

Please circle one number

First, in the last 4 weeks, have you been bothered by having to:	No	A little	Some	A lot
1. Walk indoors on level ground?	3	2	1	0
2. Garden, vacuum, or carry groceries?	3	2	1	0
3. Climb a hill or a flight of stairs without stopping?	3	2	1	0
4. Walk more than 100 yards at a brisk pace?	3	2	1	0
5. Lift or move heavy objects?	3	2	1	0

Now, in the last 4 weeks, have you been bothered by:	No	A little	Some	A lot
6. Feeling short of breath?	3	2	1	0
7. Being physically restricted?	3	2	1	0
8. Feeling tired, fatigued, low on energy?	3	2	1	0
9. Not feeling relaxed and free of tension?	3	2	1	0
10. Feeling depressed?	3	2	1	0
11. Being frustrated?	3	2	1	0
12. Being worried?	3	2	1	0
13. Being limited in doing sports or exercise?	3	2	1	0
14. Working around the house or yard?	3	2	1	0

# RESULTS

# RETURN-TO-WORK ?

Mean age 53,0 yrs (SD 6,64)

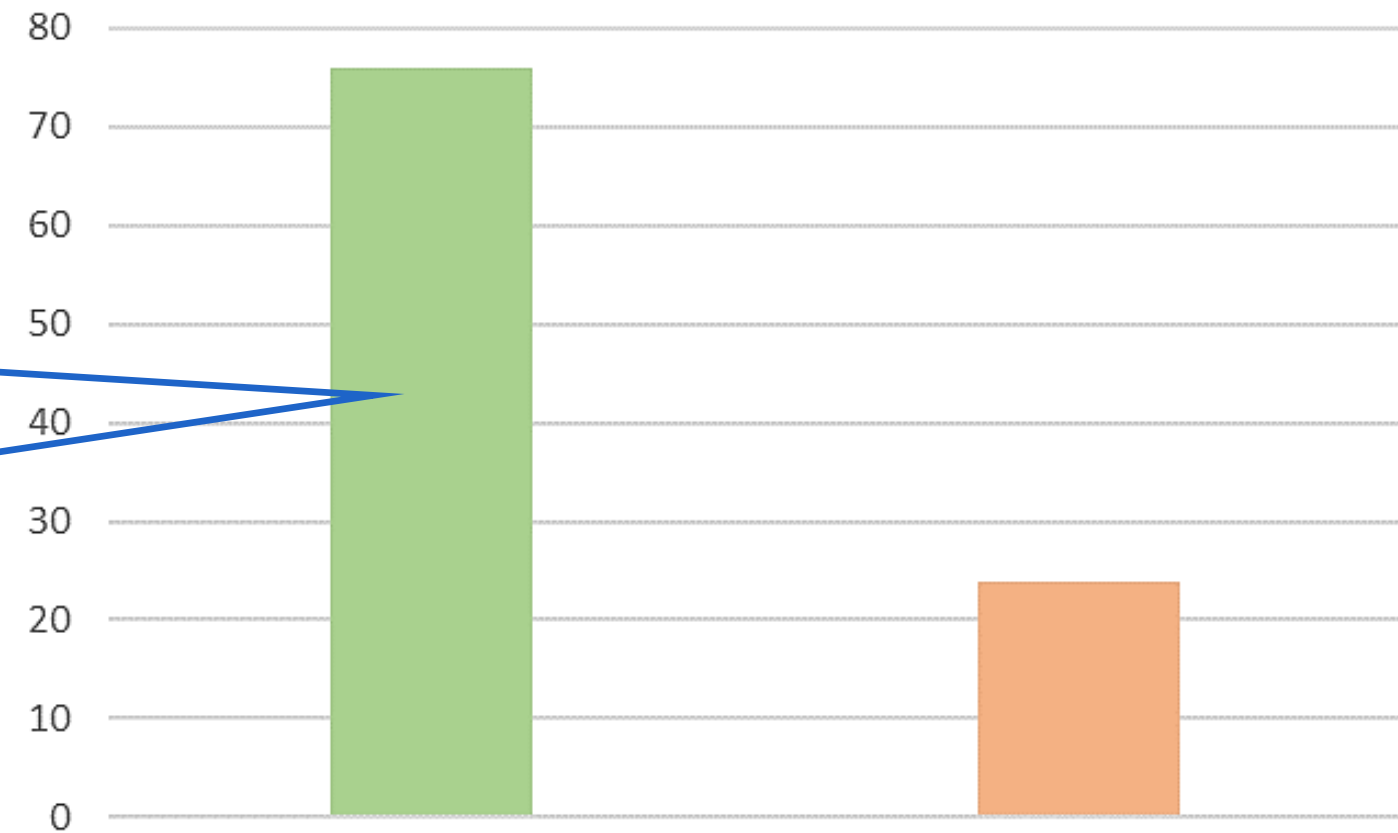


14,4 % (n =291)



85,6 % (n=1723)

p = 0,12



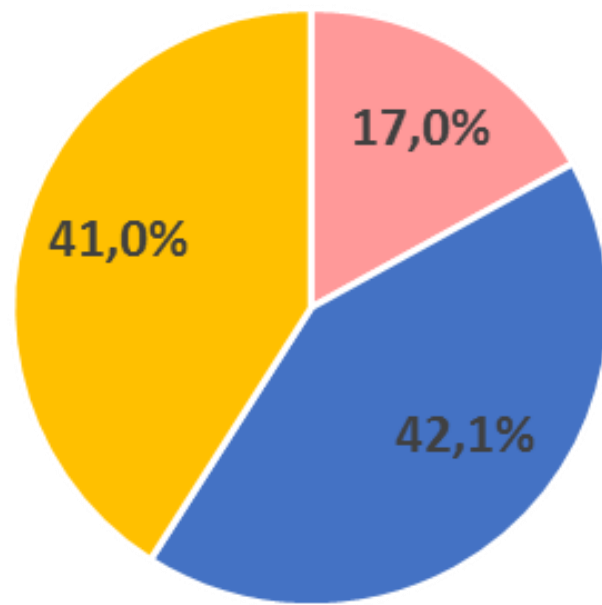
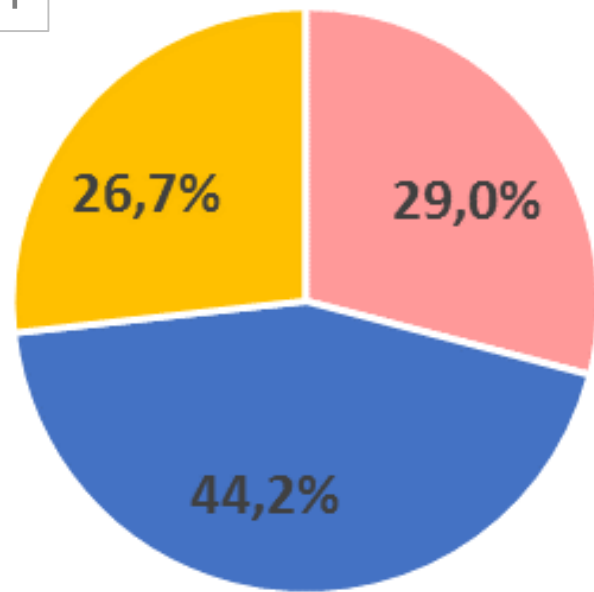
RTW  
(n=2014)

No RTW  
(n=637)

p <0,001

RTW

No RTW



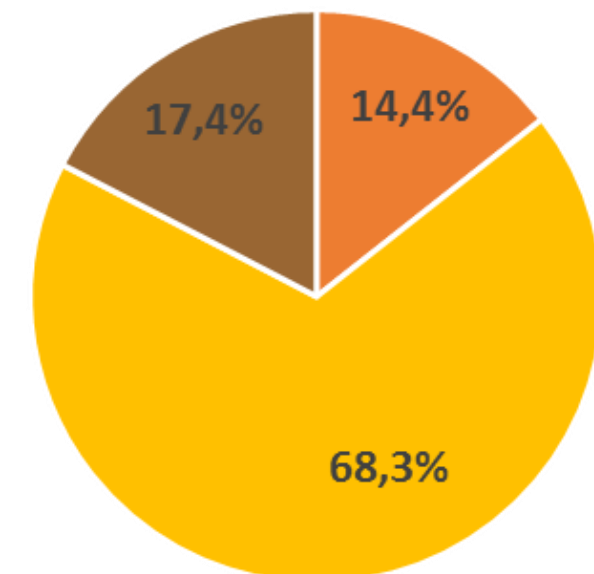
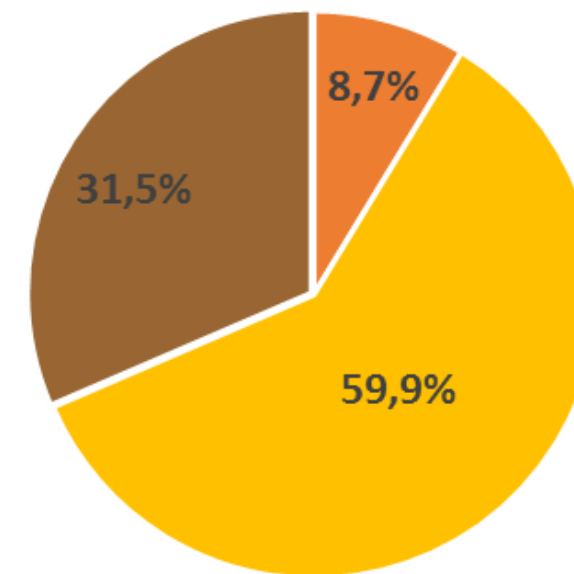
< 50 yrs

≥ 50 - <58 yrs

≥58 - <63 yrs

RTW

No RTW



low education

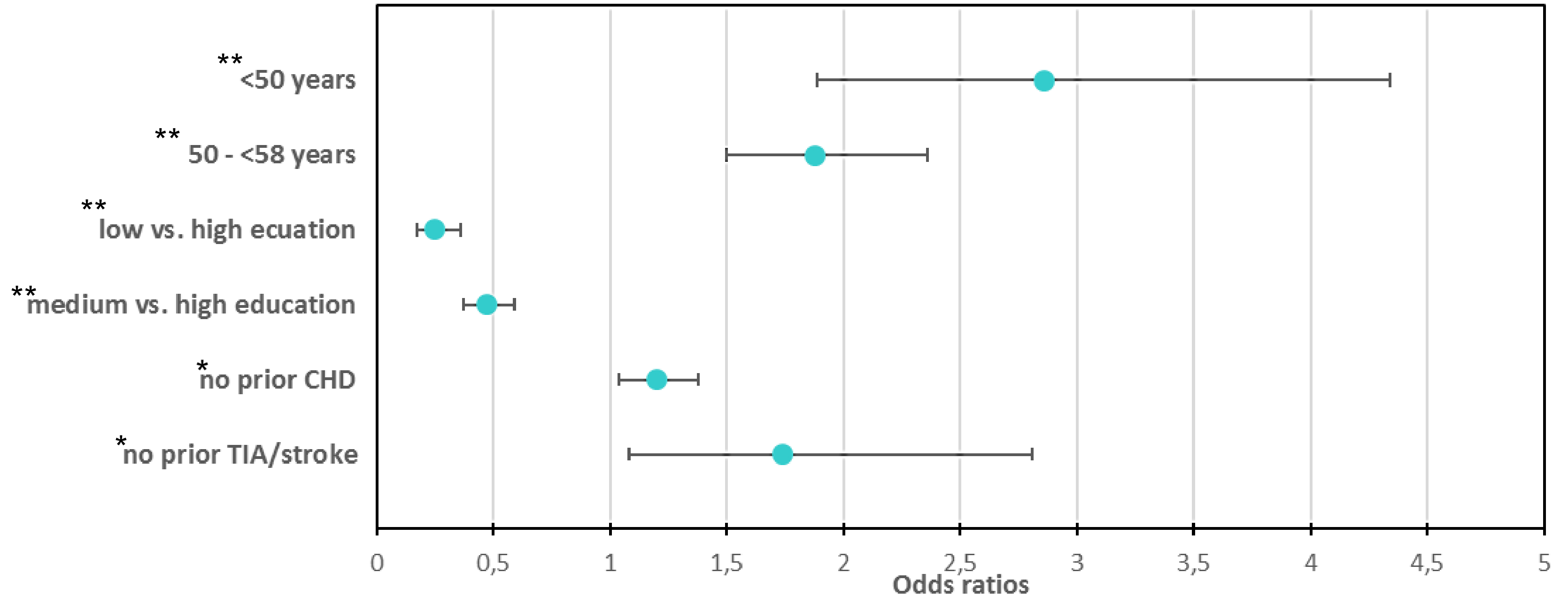
medium education

high education

p <0,001

# RTW ONLY FOR THE YOUNG, EDUCATED, NO PRIOR CVD ?!

## Full adjusted model for RTW



adjusted for

- sociodemographics
- recruiting event
- recurrent CAD

- self-reported BP/cholesterol/DM
- cardiac rehabilitation
- lifestyle  
(BMI, smoking, physical activity)

\* : p < 0,05

\*\* : p < 0,001

# Difficult hypertension management in older patients?!



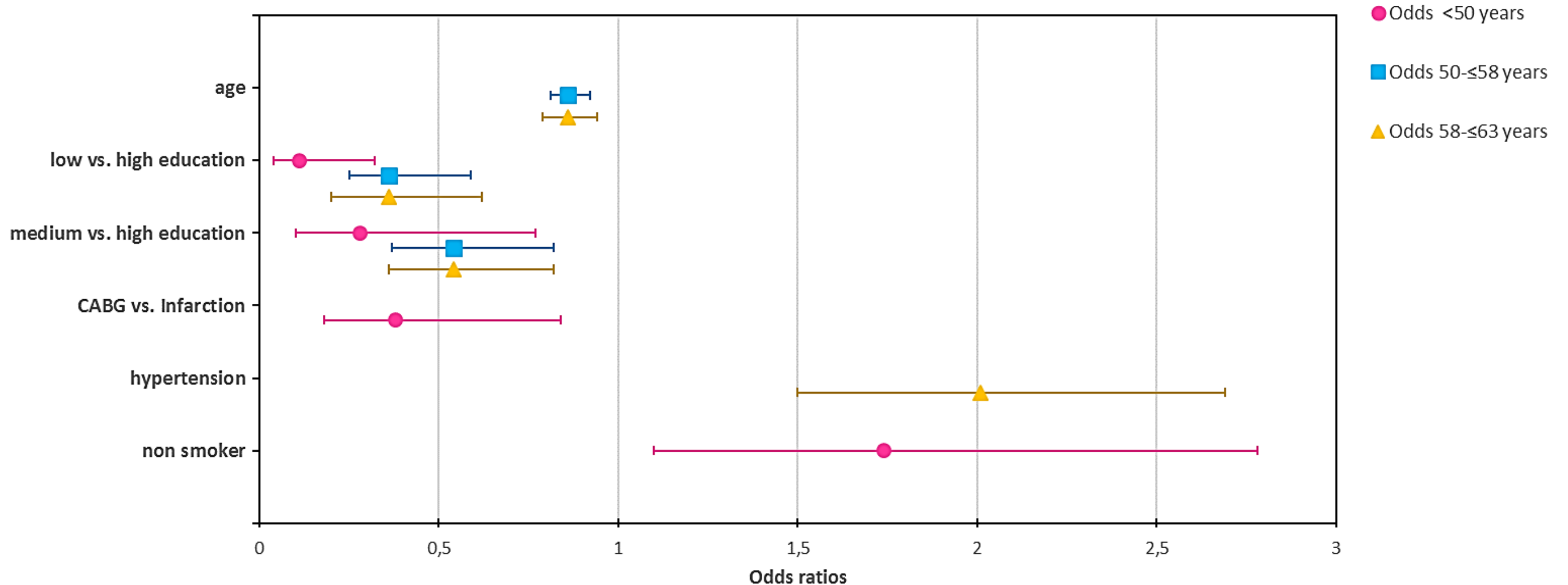
# Younger ≠ most invasive treatment



# Another reason to stop smoking !



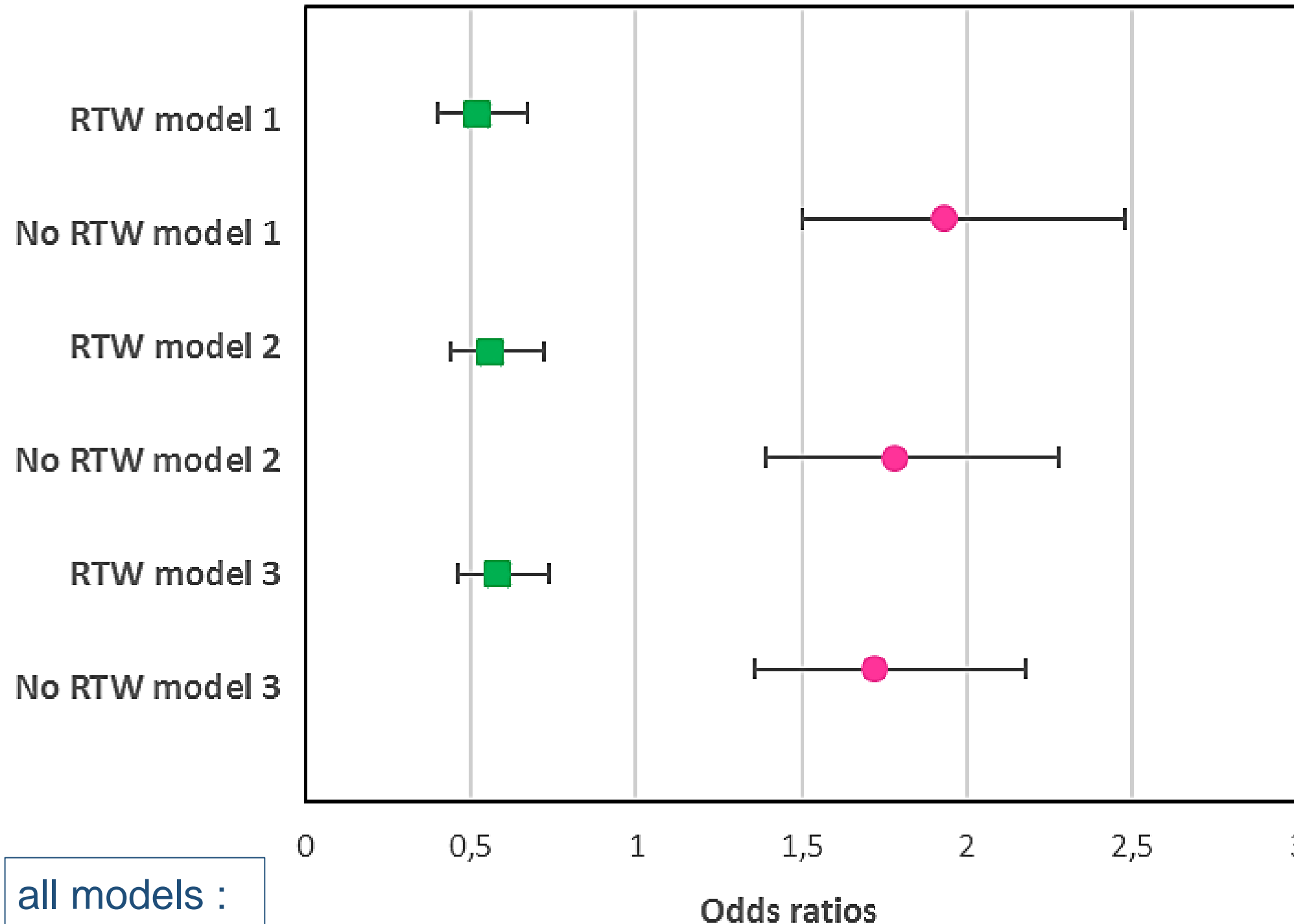
Age-stratified adjusted odds ratios (95%CI) for RTW



# RTW TO PREVENT FEELING BLUE?!



Crude and Adjusted odds ratios (95%CI) for HADS-D $\geq$ 8



Model 1: crude

Model 2 : adjusted for

- age
- sex
- educational level
- recruiting event (CABG,PCI,AMI)

Model 3: adjusted for

- sociodemographics
- recruiting event
- recurrent CAD
- self-reported BP/cholesterol/DM
- cardiac rehabilitation
- lifestyle (BMI, smoking,physical activity)

all models :  
 $p < 0,001$

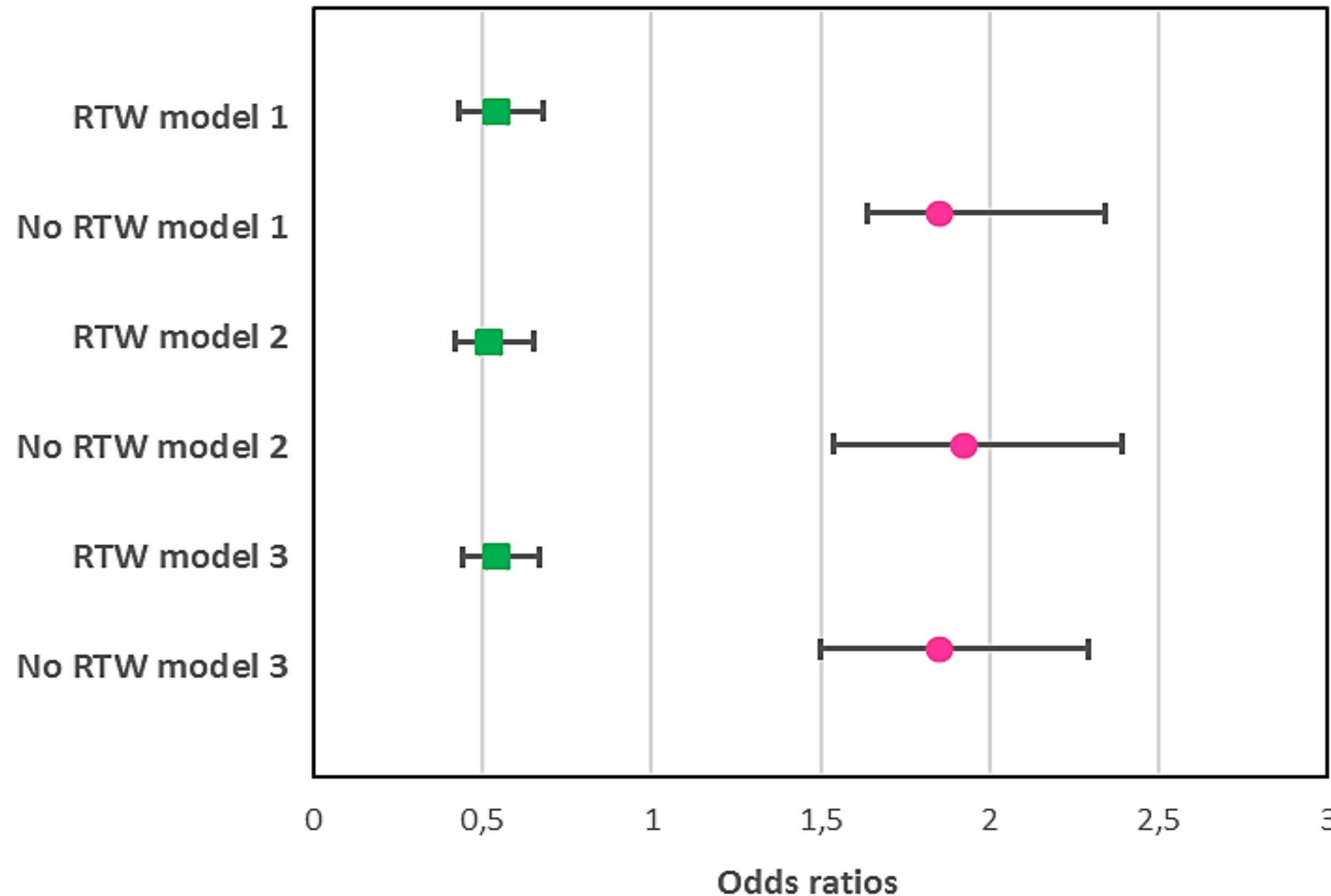
■ RTW

● No RTW

# RTW = AN ALLY AGAINST ANXIETY?!



Crude and Adjusted odds ratios (95%CI) for HADS-A $\geq$ 8



Model 1: crude

Model 2 : adjusted for

- age
- sex
- educational level
- recruiting event (CABG,PCI,AMI)

Model 3: adjusted for

- sociodemographics
- recruiting event
- recurrent CAD
- self-reported BP/cholesterol/DM
- cardiac rehabilitation
- lifestyle (BMI, smoking,physical activity)

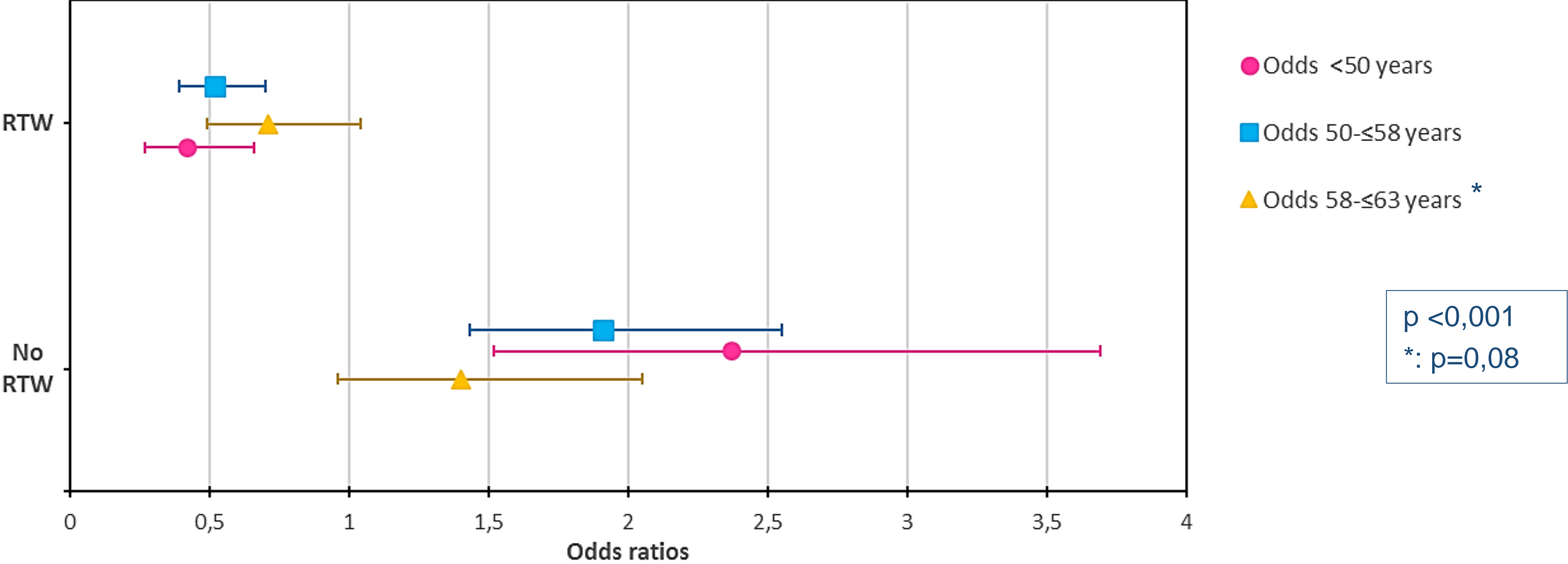
all models :  
 $p < 0,001$

■ RTW

● No RTW

# RTW ABOVE ALL IMPORTANT IN YOUNGER PATIENTS TO COUNTER ANXIETY !

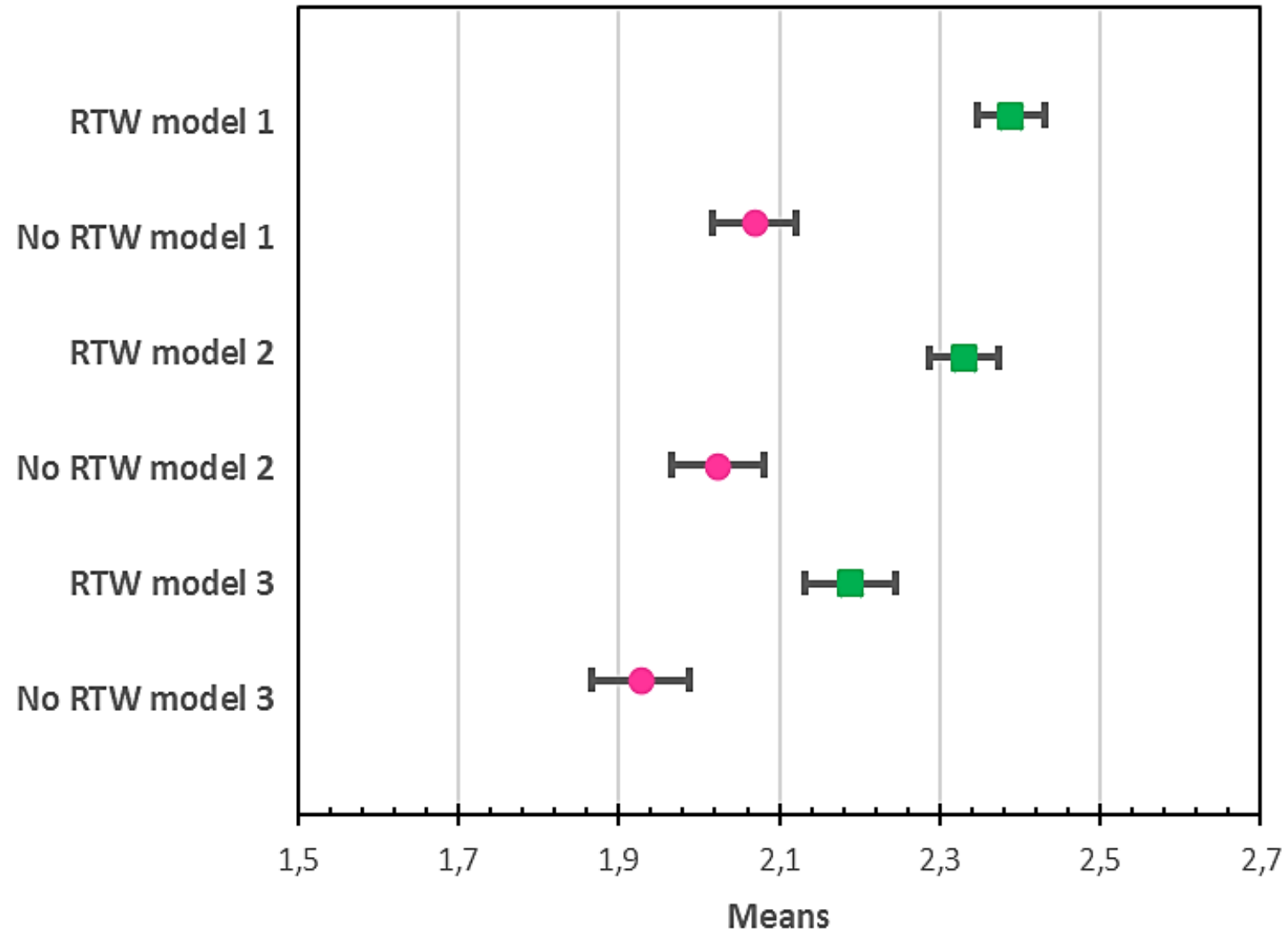
Age-stratified adjusted odds ratios (95%CI) for HADS-A $\geq$ 8



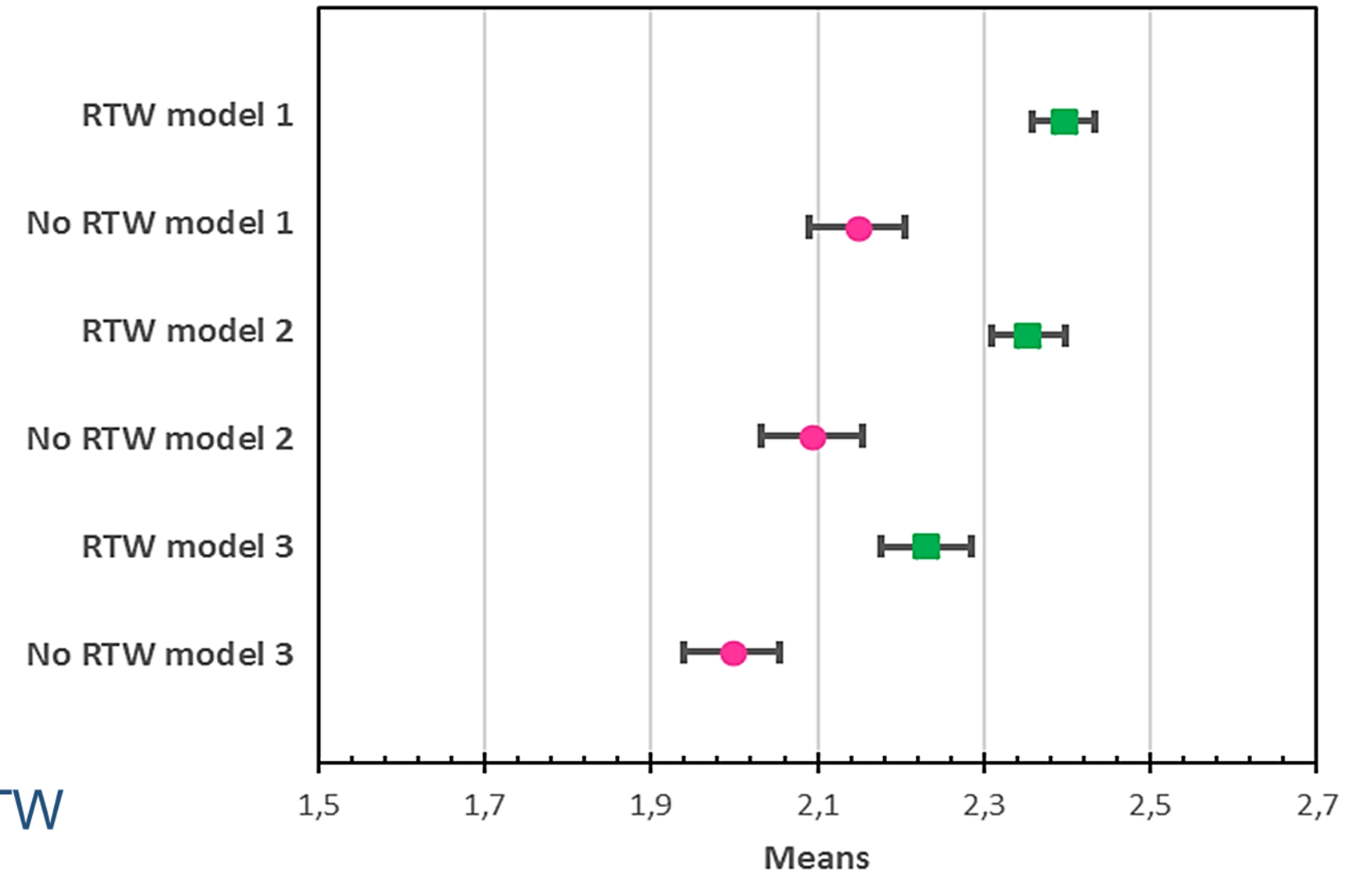


# THE RETIRED LIFE IS NOT ALWAYS THE BETTER LIFE !

Crude and Adjusted means (SE) for HeartQoL<sub>physical</sub>



Crude and Adjusted means (SE) for HeartQoL<sub>emotional</sub>



■ RTW  
● No RTW

Model 1: crude

Model 2 : adjusted for

- age
- sex
- educational level
- recruiting event (CABG,PCI,AMI)

Model 3: also adjusted for

- recurrent CAD
- self-reported BP/cholesterol/DM
- cardiac rehabilitation
- lifestyle (BMI, smoking,physical activity)

all models :  
p <0,001

# DISCUSSION & CONCLUSION

# FINDINGS RTW

- Majority of CHD patients (76%) resume work  $\approx$  most studies<sup>[16-23]</sup> of last 15 years (RTW: 70-80%)  
 $\neq$  some studies<sup>[1,2,3,4,5,6]</sup> higher rate (! heterogeneity)

- RTW related to younger age  
high education  
no prior CVD  $\approx$  previous research<sup>[3,4,7-11]</sup>

*Could 'Health Literacy' be a mediator between vulnerable groups and RTW ?!*

- RTW<sub>adjusted</sub> not related to :
  - gender (!)  $\approx$  Virgo study<sup>[4]</sup> but  $\neq$  general review<sup>[14]</sup> of RTW with  $\downarrow$  rates in ♀
  - CR  $\neq$  literature<sup>[1,4,15]</sup>
  - self-employment  $\approx$  conflicting studies<sup>[3,5]</sup>

*but underrepresentation of ♀ and self-employed*

- Differences in age groups : RTW  $\downarrow$

- < 50 years : CABG, smoking
- $\geq$  63 years : hypertension !

*Management of multi-morbidities and combination with work place is often challenging*

# FINDINGS PSYCHOSOCIAL WELL-BEING AND HRQoL

- Work resumption leads to better odds for depression or anxiety  
≈ previous research<sup>[24-27]</sup>
- General HRQoL improves with RTW ≈ Warraich et al., 2018
- Especially emotional QoL (in younger patients) benefits from RTW
  - 📌 common mental disorders are a prominent reason of absenteeism<sup>[28]</sup>  
in Belgian population < 40 years old
  - 📌 mental health barriers for the unemployed & the labour market<sup>[29]</sup>

# BUT...

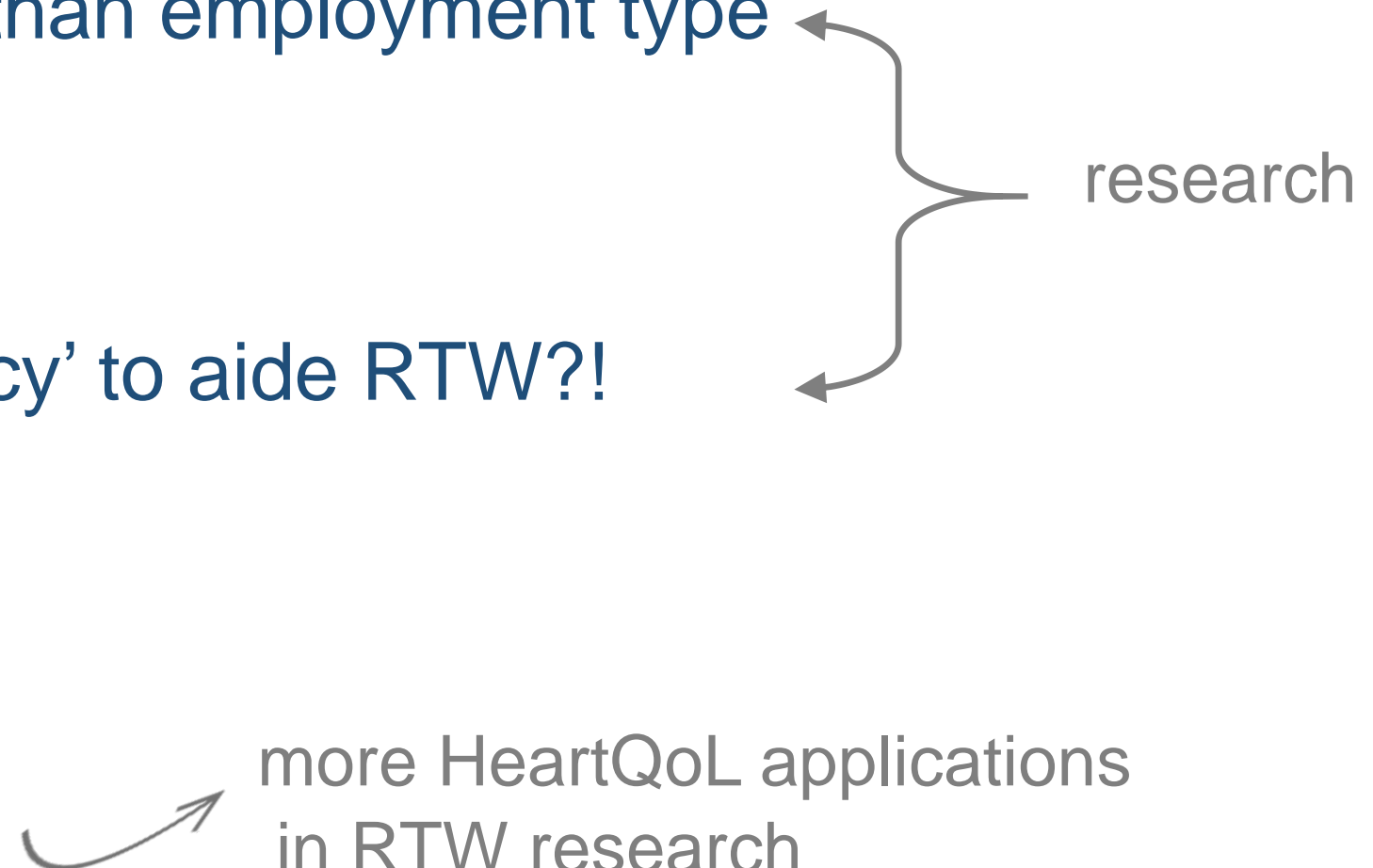
## STRENGTHS

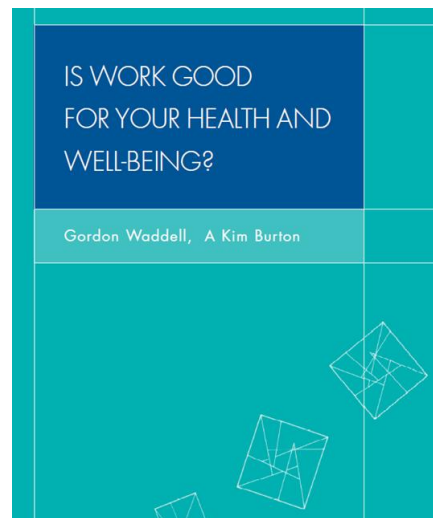
- Major source of data
- Multicenter & international
- Realistic age restriction
- Selection of employed CHD patient pre-event
- Wide index event
- Different tools for mental well-being
- First study to use HeartQoL for RTW

## LIMITATIONS

- Cross-sectional design
- Not a RTW study
  - no occupational characteristics
- RTW attempts or time to RTW unknown
- Single measurement of HADS/HeartQoL
- First study to use HeartQoL for RTW

# WHAT'S NEXT?!

- Tailored (age) disease management of CHD to optimize RTW
  - Lifestyle should be the target for health professionals & society ( ! workplace !)
  - Personal/occupational traits more important than employment type
  - Occupational focus in cardiac rehabilitation
  - Patient empowerment through 'Health Literacy' to aide RTW?!
  - RTW protective against emotional distress
  - Reciprocal relationship between RTW – QoL
- more HeartQoL applications  
in RTW research
- research
- 



***(Return-to-)Work is good for your health  
and well-being !***

**Thank you !  
Questions?**

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