



PRESCRIBING PHYSICAL EXERCISE FOR OPTIMAL HEALTH

09/12/2023

National congress of Physical and Rehabilitation Medicine

Clara SELVES, MD

The perfect “drug”!

PubMed

315,076 res

1970



The last 3 months	5
The last 6 months	15
The last 9 months	27
The last year	31
The last 2 years	55

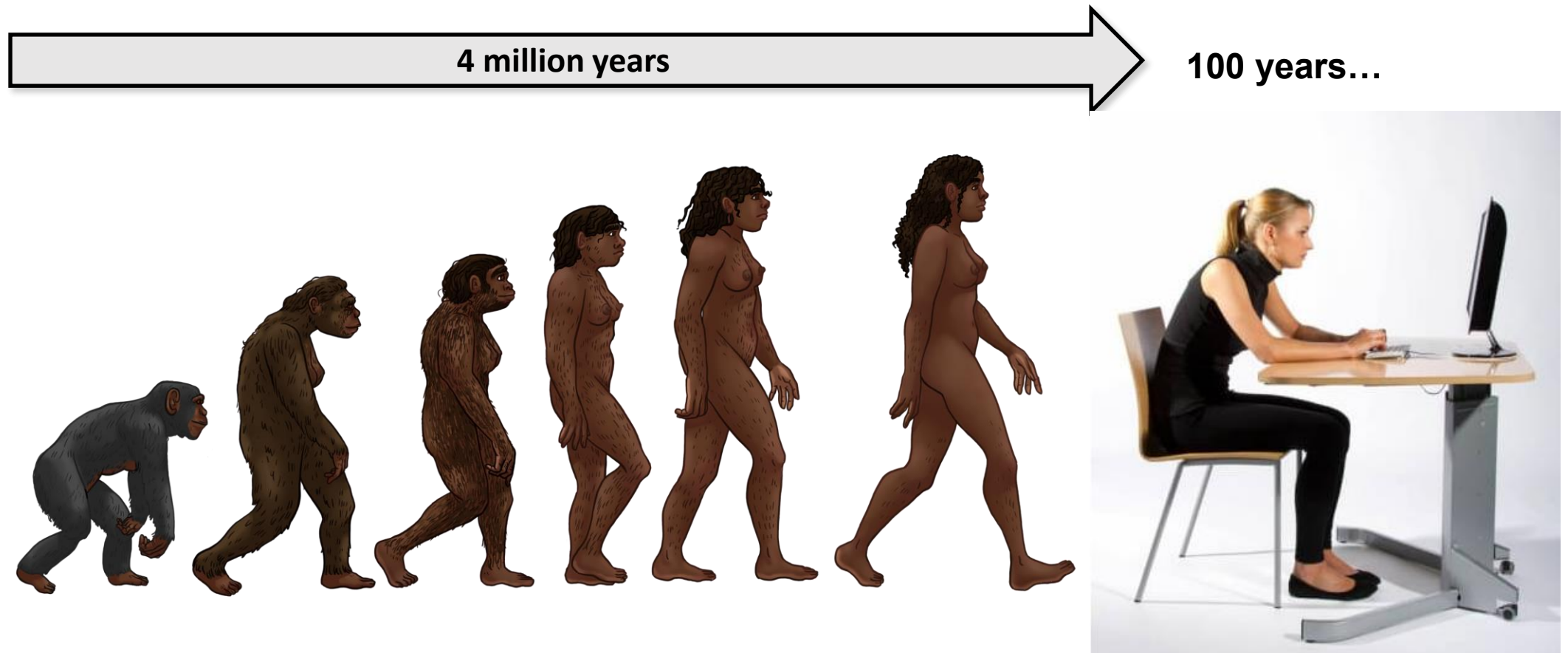
☐ Select all (359) Export selected citation(s) [Show all previews](#)

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Results per page 25 ▼

- 1 ☐
- Physical activity** for women with breast cancer after adjuvant therapy
Ian M Lahart, George S Metsios, Alan M Nevill, Amtul R Carmichael
Intervention Review 29 January 2018
[Show PICO's ▼](#) [Show preview ▼](#)

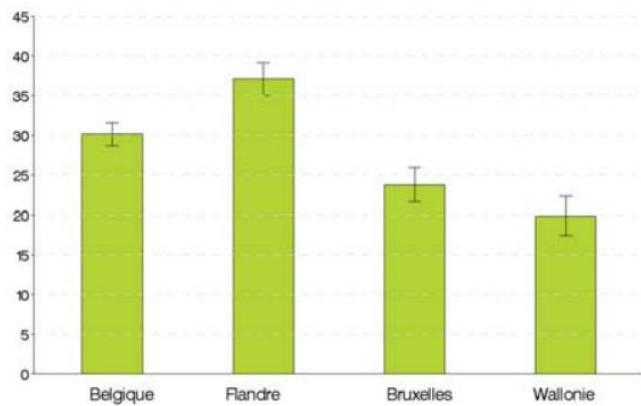
The facts



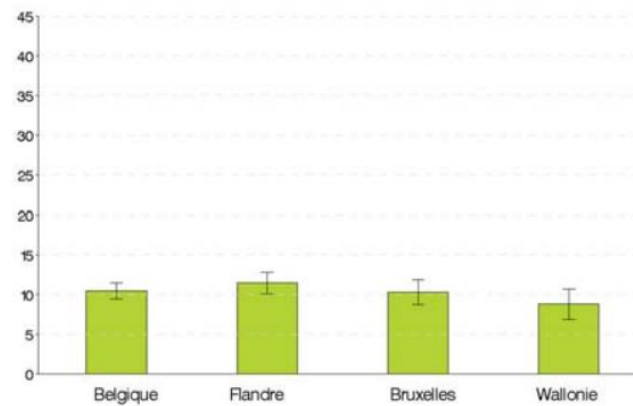
Sedentary behaviour Belgium : the know-do gap

% of people ≥ 18 y engaging in :

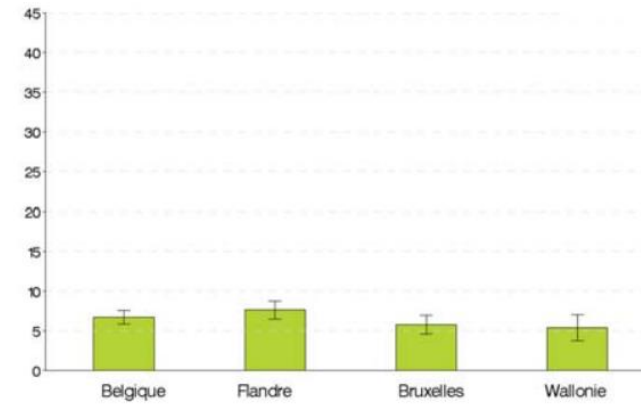
≥ 150 min of (at least) moderate PA/week



at least 2 sessions of strength training/week



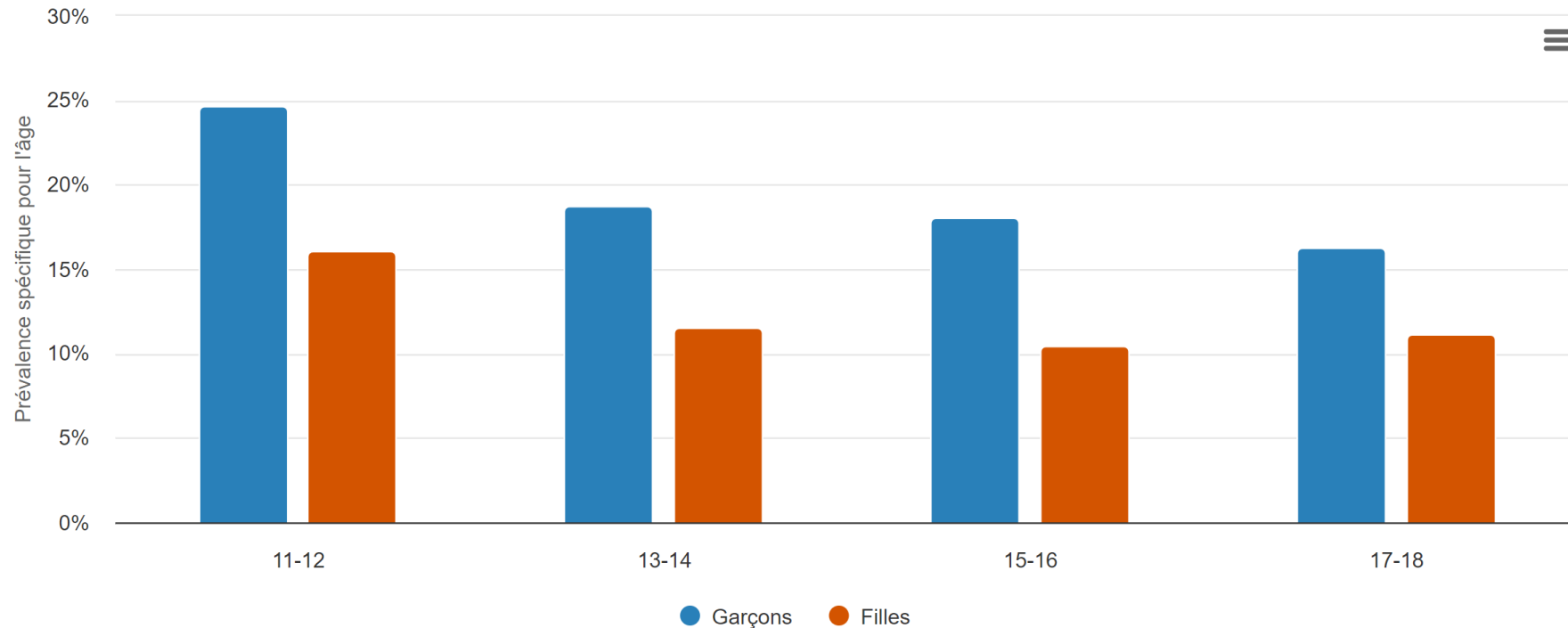
≥ 150 min of (at least) moderate PA AND at least 2 sessions of strength training /week



Sedentary behaviour Belgium

Proportion des adolescents de 11 à 18 ans qui consacre quotidiennement au moins 60 minutes à une activité physique d'intensité modérée à vigoureuse, par âge et sexe, Belgique, 2018

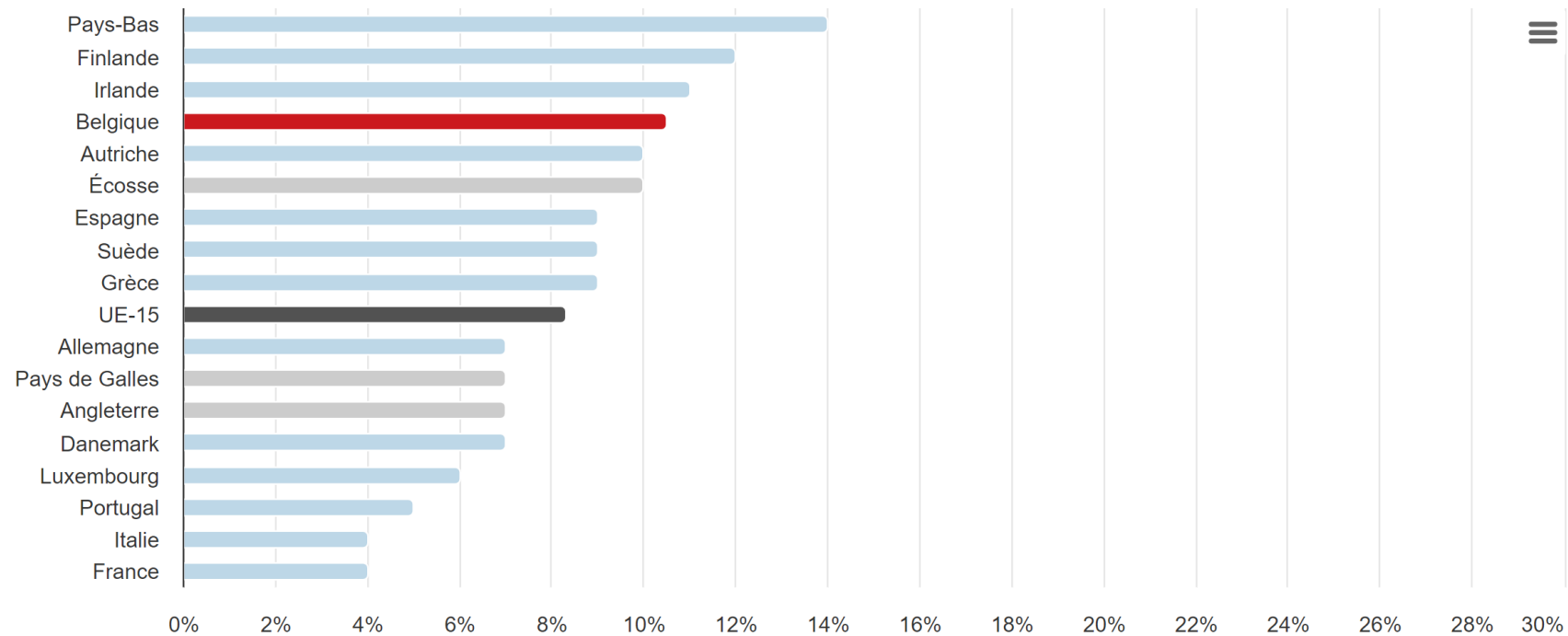
Source : Calculs des auteurs, moyenne belge non pondérée basée sur les enquêtes [HBSC fédération Wallonie-Bruxelles \[3\]](#) et [HBSC communauté flamande \[4\]](#)



Sedentary behaviour Belgium % Europe

Proportion des filles âgées de 15 ans qui consacre quotidiennement au moins 60 minutes à une activité physique d'intensité modérée à vigoureuse, par pays de résidence (UE-15), 2018

Source : [Rapport international HBSC \[5\]](#)



Sedentary behaviour : the silent killer

1st cause of non-transmittable diseases

4th cause of death world-wide

53 billion \$/year (direct health care costs) *2013*

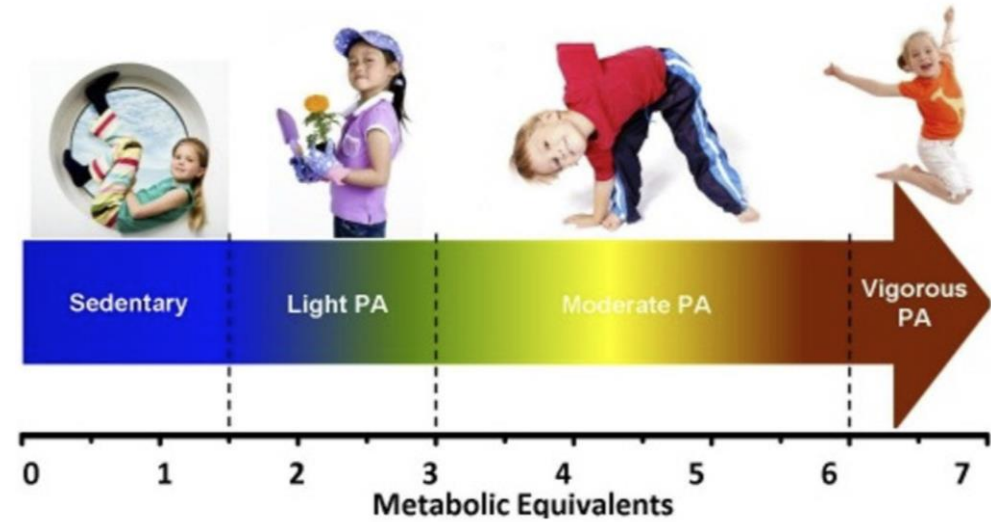
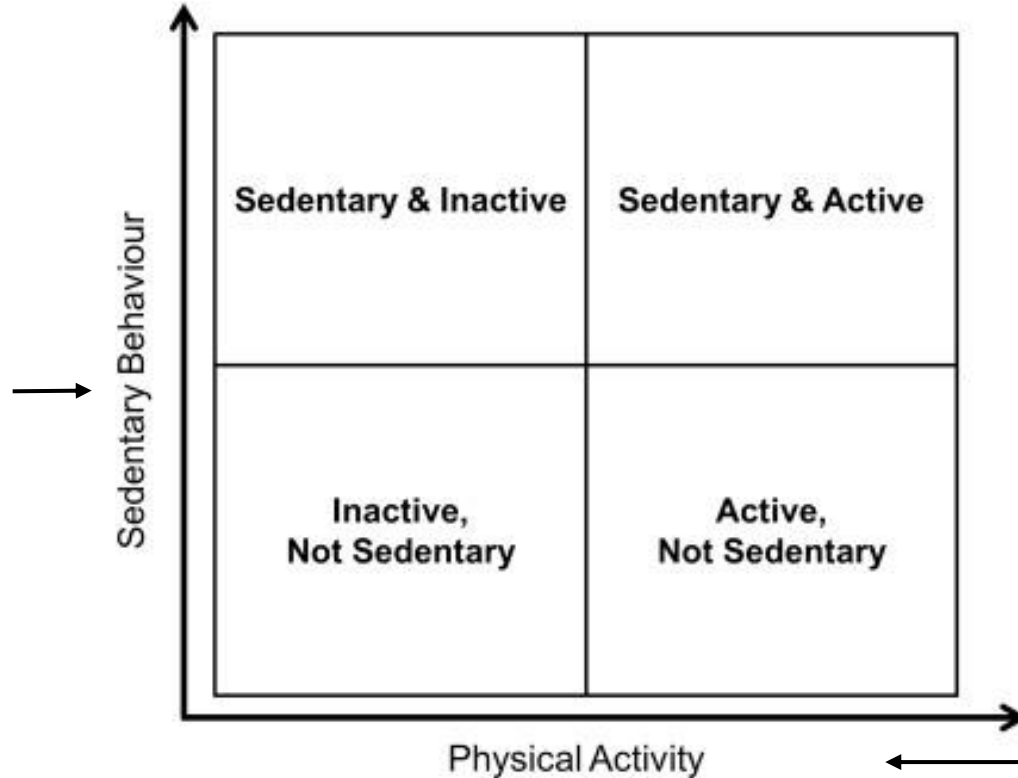
-14 billion \$/year loss of productivity

No improvements in PA levels since 2001

↑ 5 % insufficient PA levels (31,6 % → 36,8 %) in high income countries
between 2001 and 2016

Two distinct concepts...

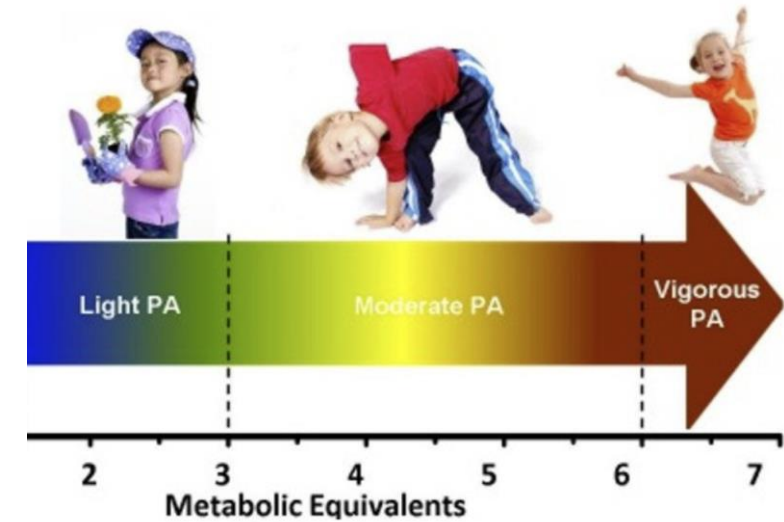
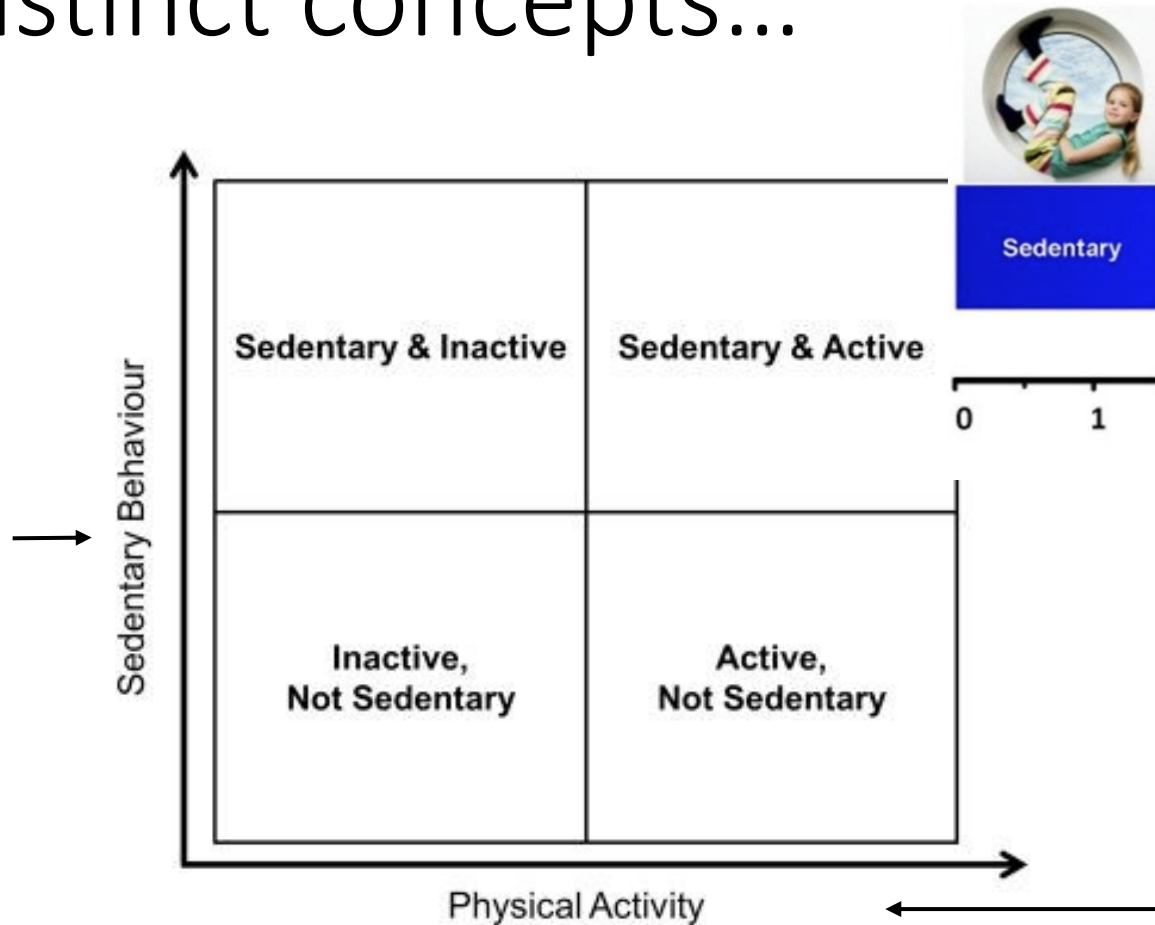
≤ 1.5 METs
(sitting, reclining
or lying posture)



≥ 3 METs
“any bodily movement
produced by skeletal muscles
that requires energy
expenditure”

Two distinct concepts...

≤ 1.5 METs
(sitting, reclining
or lying posture)

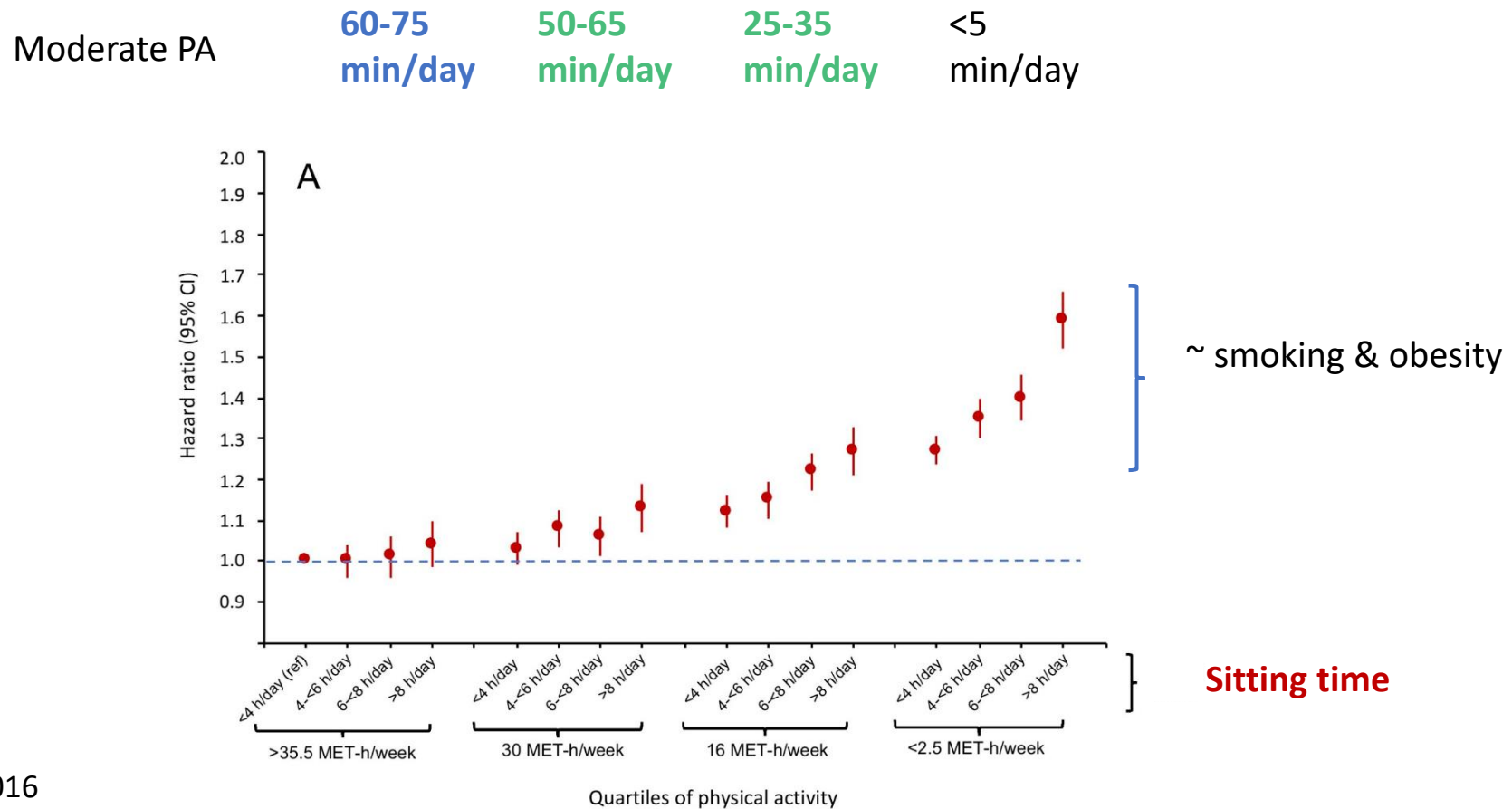


≥ 3 METs

“any bodily movement
produced by skeletal muscles
that requires energy
expenditure”

Can PA counteract sedentary behaviour?

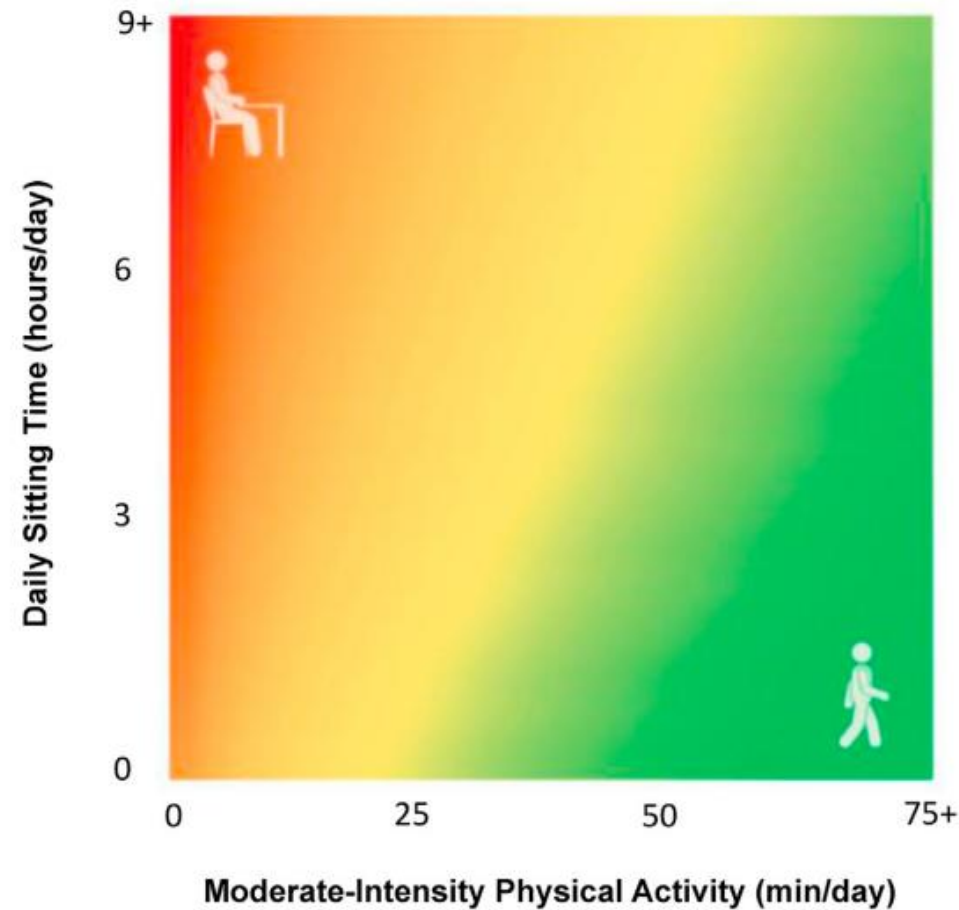
All-cause mortality



Can PA counteract sedentary behaviour?

Joint association of sitting time and moderate physical activity levels for all-cause mortality

Higher risk
Lower risk



Updated guidelines for PA in the general population >18 y-o

150-300
min/week
Moderate PA

75-150
min/week
Vigorous PA

Strength
training

Or a combination of both

- 40-59% VO_{2max}
- 60-75% MHR

- walking
- cycling
- Swimming
- Household chores
- ...

- 60-84% VO_{2max}
- >75% MHR

- running
- fitness
- sports
- heavy household activities
- ...

- Big muscle groups
- Compound movements
- High resistance/heavy loads



Days/week
30 min

Older adults (>65 y-o) :
3 or more days/week
balance & strength
training

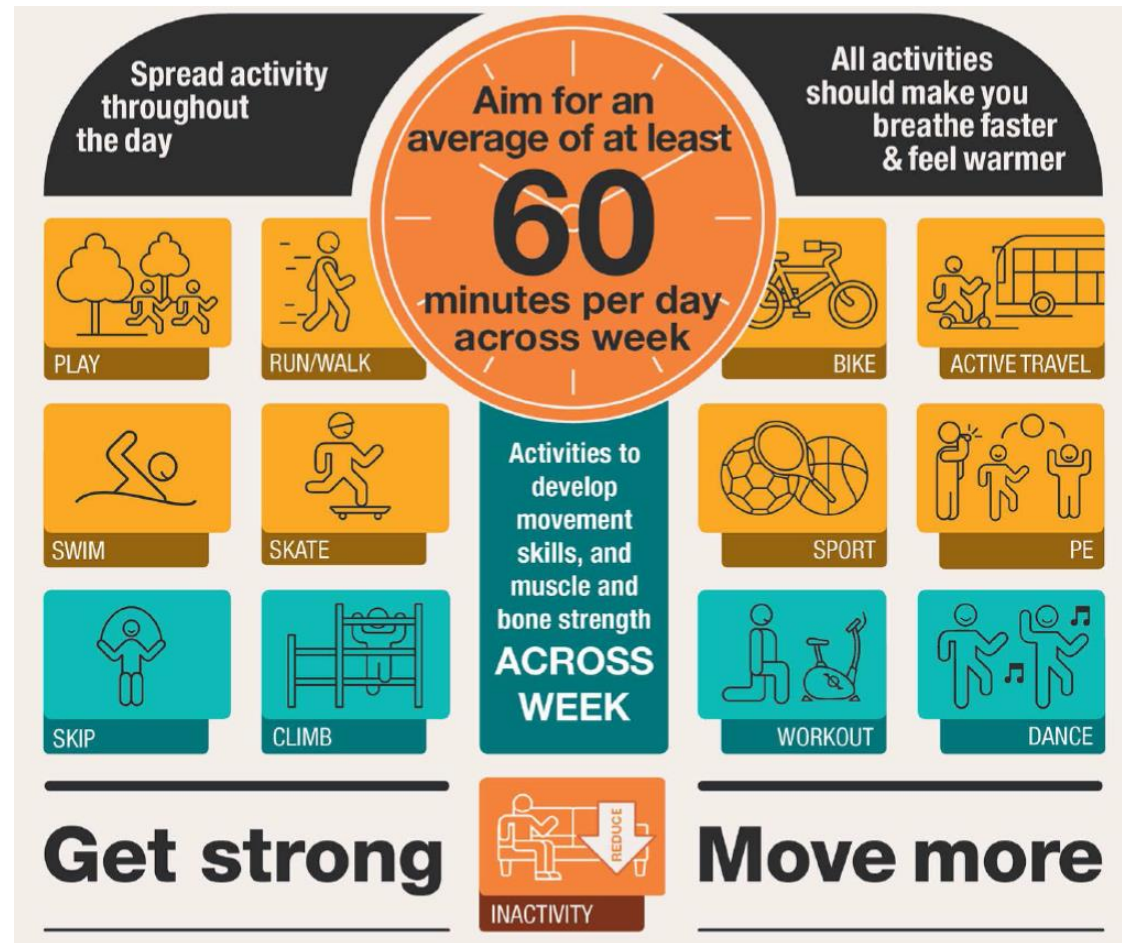


Additional PA may
be associated with
more health benefits

Any time bout
counts! **(10-min)**

Break-up
periods of
inactivity

Updated guidelines for PA in children



How to move in a better direction?

GLOBAL ACTION PLAN ON PHYSICAL ACTIVITY 2018-2030

MORE ACTIVE PEOPLE FOR A HEALTHIER WORLD



OBJECTIVE 1:

**CREATE
ACTIVE SOCIETIES**

OBJECTIVE 3:

**CREATE
ACTIVE PEOPLE**

OBJECTIVE 2:

**CREATE ACTIVE
ENVIRONMENTS**

OBJECTIVE 4:

**CREATE ACTIVE
SYSTEMS**

And the PMR Doctor?

OBJECTIVE 3:

**CREATE
ACTIVE PEOPLE**

3.2

Incorporate
physical activity
into health and
social services

- ↑ assessment and counselling on ↑PA and ↓ sedentary behaviour
- Trained health care providers
- Primary and secondary health care as part of universal health care (reimbursement social security system)

And the PMR Doctor?

Coach?

- 1) **Evaluation**
- 2) **Goal setting**
- 3) Program design/**prescription**
- 4) Communication with other members of the team
- 5) Evaluation
- 6) Adaptation

... and start again... as many times as necessary



Evaluation :

EHIS-PAQ

European Health Interview Survey – Physical Activity Questionnaire

Intro Next I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.

Q1 Firstly think about the TIME you spend **DOING WORK**. Think of work as the things that you have to do such as paid and unpaid work, work around your home, taking care of family, studying or training.

When you are **WORKING**, which of the following best describes what you do?
Would you say –
Please refer your answer to the 'main work' you do. If you do multiple tasks, include all tasks. Select only one answer.

1 ☐ Mostly sitting or standing
2 ☐ Mostly walking or tasks of moderate physical effort
3 ☐ Mostly heavy labour or physically demanding work
4 ☐ Not performing any working tasks

Q2 The next questions EXCLUDE the WORK-RELATED PHYSICAL ACTIVITIES that you have already mentioned. Now I would like to ask you about the way you usually GET TO AND FROM PLACES. For example to work, to school, for shopping, or to markets.

In a typical week, on how many days do you **WALK** for at least 10 minutes continuously in order to get to and from places?

1-7 Number of days: []
0 ☐ Less than one day per week or never → continue with Q4

Q3 How much time do you spend walking in order to get to and from places on a typical day?

20 ☐ 10 - 29 minutes per day
45 ☐ 30 - 59 minutes per day
90 ☐ 1 hour to less than 2 hours per day
150 ☐ 2 hours to less than 3 hours per day
180 ☐ 3 hours or more per day

Q4 In a typical week, on how many days do you **BICYCLE** for at least 10 minutes continuously to get to and from places?

1-7 Number of days: []
0 ☐ Less than one day per week or never → continue with Q5

Q5 How much time do you spend bicycling in order to get to and from places on a typical day?

20 ☐ 10 - 29 minutes per day
45 ☐ 30 - 59 minutes per day
90 ☐ 1 hour to less than 2 hours per day
150 ☐ 2 hours to less than 3 hours per day
180 ☐ 3 hours or more per day

Q6 The next questions EXCLUDE the WORK and TRANSPORT ACTIVITIES that you have already mentioned. Now I would like to ask you about SPORTS, FITNESS and RECREATIONAL (LEISURE) PHYSICAL ACTIVITIES that cause AT LEAST a small increase in breathing or heart rate. For example brisk walking, ball games, jogging, cycling or swimming.

In a typical week, on how many days do you carry out sports, fitness or recreational (leisure) activities for at least 10 minutes continuously?

1-7 Number of days: []
0 ☐ Less than one day per week or never → continue with Q8

Q7 How much time in total do you spend on sports, fitness or recreational (leisure) physical activities in a typical week?

min [] : [] per week
hours minutes

Q8 In a typical week, on how many days do you carry out activities specifically designed to STRENGTHEN your muscles such as doing resistance training or strength exercises? Include all such activities even if you have mentioned them before.

1-7 Number of days: []
0 ☐ Less than one day per week or never

Fig. 3 European Health Interview Survey-Physical Activity Questionnaire, EHIS-PAQ (Including code book)

GPAQ

Global Physical Activity Questionnaire



Physical Activity

Next I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.

Think first about the time you spend doing work. Think of work as the things that you have to do such as paid or unpaid work, studying/training, household chores, homework, footpaths, riding or herding for food, seeking employment. (Insert other examples if needed). In answering the following questions vigorous-intensity activities are activities that require hard physical effort and cause large increases in breathing or heart rate, moderate-intensity activities are activities that require moderate physical effort and cause small increases in breathing or heart rate.

Questions	Response	Code
Activity at work		
1 Do your work involve vigorous-intensity activity that causes large increases in breathing or heart rate (e.g. running or lifting heavy loads, digging or construction work) for at least 10 minutes continuously? (Insert examples if needed)	Yes 1 No 2 If No, go to P 4	P1
2 In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	Number of days []	P2
3 How much time do you spend doing vigorous-intensity activities at work on a typical day?	Hours minutes [] [] Yes minutes	P3 (a-b)
Activity at home		
4 Does your work involve moderate-intensity activity that causes small increases in breathing or heart rate such as brisk walking (e.g. carrying light loads) for at least 10 minutes continuously? (Insert examples if needed)	Yes 1 No 2 If No, go to P 7	P4
5 In a typical week, on how many days do you do moderate-intensity activities as part of your work?	Number of days []	P5
6 How much time do you spend doing moderate-intensity activities at work on a typical day?	Hours minutes [] [] Yes minutes	P6 (a-b)
Travel to and from places		
The next questions exclude the physical activities at work that you have already mentioned. Now I would like to ask you about the usual way you travel to and from places. For example to work, for shopping, to market, to place of worship. (Insert other examples if needed)		
7 Do you walk or use a bicycle (pedal cycle) for at least 10 minutes continuously to get to and from places?	Yes 1 No 2 If No, go to P 10	P7
8 In a typical week, on how many days do you walk or bicycle for at least 10 minutes continuously to get to and from places?	Number of days []	P8
9 How much time do you spend walking or bicycling for travel on a typical day?	Hours minutes [] [] Yes minutes	P9 (a-b)
Recreational activities		
The next questions exclude the work and transport activities that you have already mentioned. Now I would like to ask you about sports, fitness and recreational activities (leisure). (Insert relevant items)		
10 Do you do any vigorous-intensity sports, fitness or recreational (leisure) activities that cause large increases in breathing or heart rate (e.g. running or football) for at least 10 minutes continuously? (Insert examples if needed)	Yes 1 No 2 If No, go to P 13	P10
11 In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational (leisure) activities?	Number of days []	P11
12 How much time do you spend doing vigorous-intensity sports, fitness or recreational activities on a typical day?	Hours minutes [] [] Yes minutes	P12 (a-b)
Physical Activity (recreational activities) cont'd		
Questions Response Code		
13 Do you do any moderate-intensity sports, fitness or recreational (leisure) activities that cause a small increase in breathing or heart rate such as brisk walking (e.g. carrying shopping or other loads) for at least 10 minutes continuously? (Insert examples if needed)	Yes 1 No 2 If No, go to P 16	P13
14 In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational (leisure) activities?	Number of days []	P14
15 How much time do you spend doing moderate-intensity sports, fitness or recreational (leisure) activities on a typical day?	Hours minutes [] [] Yes minutes	P15 (a-b)
Sedentary behaviour		
The following question is about sitting or reclining at work, at home, getting to and from places, or with friends including time spent sitting at a desk, sitting with friends, travelling in car, bus, train, reading, playing cards or watching television, but do not include time spent sleeping. (Insert examples if needed)		
16 How much time do you usually spend sitting or reclining on a typical day?	Hours minutes [] [] Yes minutes	P16 (a-b)

Evaluation :



Objective data

An EB approach to behaviour change?



Motivational Interviewing

Underly what is already
being done



And the Rehabilitation professionals?

- 1) One same message
- 2) Assess, assess, assess!
- 3) Program design
- 4) Implementation
- 5) Program monitoring



Notes: Next you are going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.

Q1: Firstly, think about the TIME you spend DOING WORK, think of work as the things that you have to do such as paid and unpaid work, work around your home, caring for a family, studying or training.

When you are WORKING, which of the following best describes what you do?

Mostly sitting or standing
Mostly walking or taking of moderate physical effort
Mostly heavy labour or physically demanding work
Not performing any working tasks

Q2: The next questions EXCLUDE the WORK-RELATED PHYSICAL ACTIVITIES that you have already mentioned. Now I would like to ask you about the way you could GET TO AND FROM PLACES, for example to work, to school, for shopping or to market.

In a typical week, on how many days do you WALK for at least 10 minutes continuously in order to get to and from places?

Number of days: []
Less than one day per week or never → continue with Q3
1-7
8
9
10-29 minutes per day
30-59 minutes per day
1 hour to less than 2 hours per day
2 hours to less than 3 hours per day
3 hours or more per day

Q3: How much time do you spend walking in order to get to and from places on a typical day?

Number of days: []
Less than one day per week or never → continue with Q4
1-7
8
9
10-29 minutes per day
30-59 minutes per day
1 hour to less than 2 hours per day
2 hours to less than 3 hours per day
3 hours or more per day

Q4: In a typical week, on how many days do you BICYCLE for at least 10 minutes continuously in order to get to and from places?

Number of days: []
Less than one day per week or never → continue with Q5
1-7
8
9
10-29 minutes per day
30-59 minutes per day
1 hour to less than 2 hours per day
2 hours to less than 3 hours per day
3 hours or more per day

Q5: How much time do you spend bicycling in order to get to and from places on a typical day?

Number of days: []
Less than one day per week or never → continue with Q6
1-7
8
9
10-29 minutes per day
30-59 minutes per day
1 hour to less than 2 hours per day
2 hours to less than 3 hours per day
3 hours or more per day

Q6: The next questions EXCLUDE the WORK and TRANSPORT ACTIVITIES that you have already mentioned. Now I would like to ask you about SPORTS, FITNESS and RECREATIONAL (LEISURE) PHYSICAL ACTIVITIES that involve AT LEAST 10 minutes continuously.

In a typical week, on how many days do you carry out sports, fitness or recreational (leisure) physical activities for at least 10 minutes continuously?

Number of days: []
Less than one day per week or never → continue with Q7
1-7
8
9
10-29 minutes per day
30-59 minutes per day
1 hour to less than 2 hours per day
2 hours to less than 3 hours per day
3 hours or more per day

Q7: How much time in total do you spend on sports, fitness or recreational (leisure) physical activities for at least 10 minutes continuously?

Number of days: []
Less than one day per week or never → continue with Q8
1-7
8
9
10-29 minutes per day
30-59 minutes per day
1 hour to less than 2 hours per day
2 hours to less than 3 hours per day
3 hours or more per day

Q8: In a typical week, on how many days do you carry out activities specifically designed to STRENGTHEN your muscles such as doing resistance training or strength exercises (exclude all such activities even if you have mentioned them before).

Number of days: []
Less than one day per week or never → continue with Q9
1-7
8
9
10-29 minutes per day
30-59 minutes per day
1 hour to less than 2 hours per day
2 hours to less than 3 hours per day
3 hours or more per day

Fig. 3 European Health Interview Survey-Physical Activity Questionnaire (EHIS-PAQ) (including code book)

Need for a paradigm shift

- *“(...) in both supporting and valuing all people being regularly active, according to ability and across the life course.”*



THM



- It takes a village...
- 2 entities : **sedentary behaviour** & **physical activity**
- Revised WHO guidelines on PA from birth onwards
 - 150-300 min moderate PA or 75-150 min intense PA/week (or combination of both)
 - 2 strength training sessions/week
- It's a lot!
- The rehabilitation specialists:
 - Evaluation!
 - Common discourse
 - Encouragement about what is already being done
 - Motivational Interview
 - PMR doctor : coordination with physiotherapists/strength and conditioning coaches

A photograph of an older woman and man jogging in a park. The woman is in the foreground, smiling, wearing a white tank top and a white wristband. The man is slightly behind her, wearing a blue and grey t-shirt. The background is a blurred park with trees and a path.

So, let's get moving !
Any questions?