

# La réhabilitation respiratoire est-elle efficace à long terme ?

**Maintaining the Benefits of Pulmonary Rehabilitation**  
The Holy Grail     **AJRCCM 2017**

# Seven-year time course of lung function, symptoms, health-related quality of life, and exercise tolerance in COPD patients undergoing pulmonary rehabilitation programs

Foglio K. Respir Med 2007

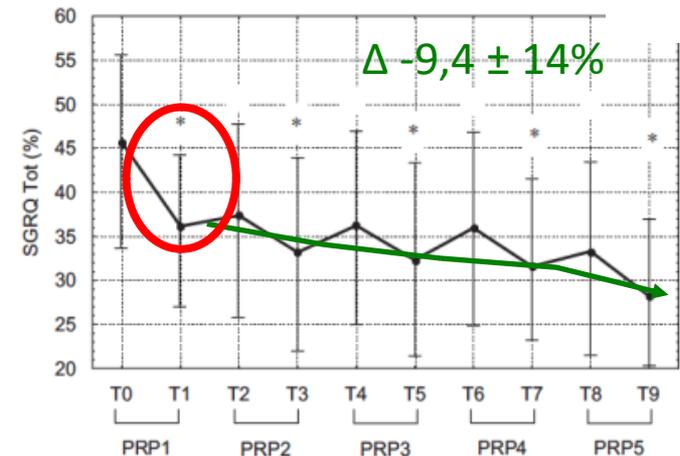
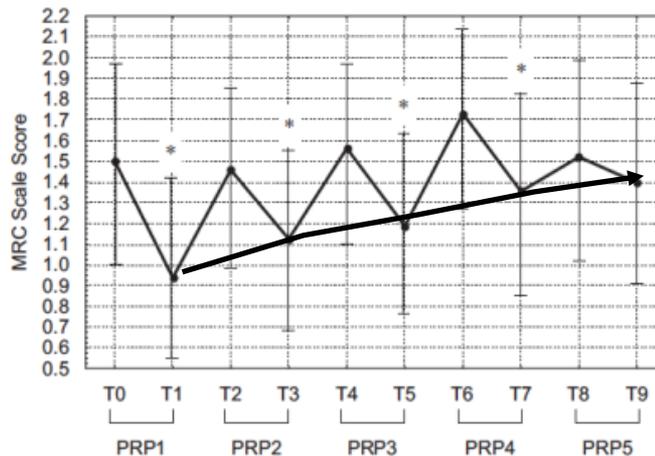
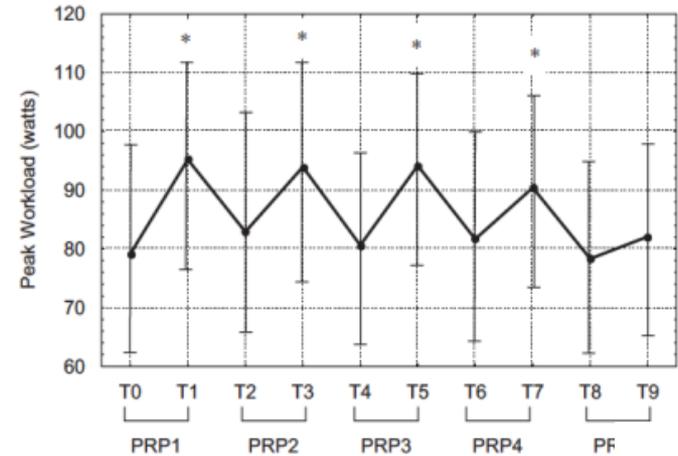
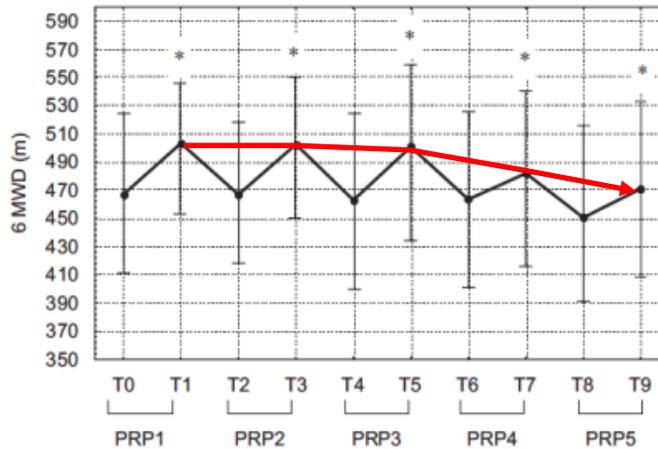
## PPR :

3 h/sem/8 sem  
 14 ± 0,5 mois  
 Rappel à 6 mois

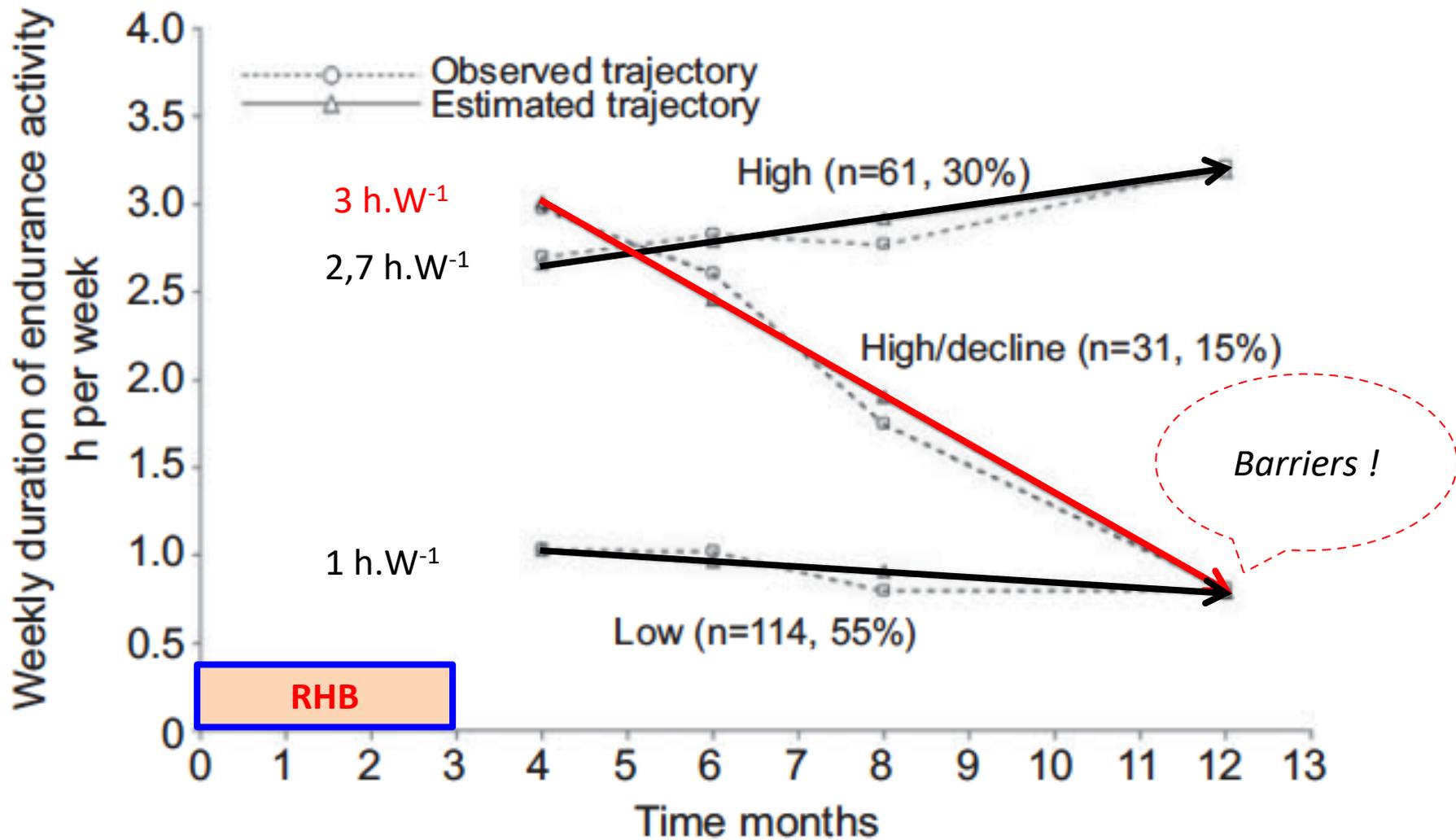
## GOLD

I : 12.5%  
 II : 56.3%  
 III 29.2%  
 IV 2.1%

Pas de Ctrl



# TRAJECTOIRES



# Benefits of Long-Term Pulmonary Rehabilitation Maintenance Program in Patients with Severe Chronic Obstructive Pulmonary Disease

Three-Year Follow-up **AJRCCM2017**

## **Scientific Knowledge on the**

**Subject:** An intense program of pulmonary rehabilitation (PR) in patients with chronic obstructive pulmonary disease results in improvements in functional capacity, dyspnea, health-related quality of life, and health care resource utilization.

# Benefits of Long-Term Pulmonary Rehabilitation Maintenance Program in Patients with Severe Chronic Obstructive Pulmonary Disease

Three-Year Follow-up **AJRCCM2017**

After completion of the program, the benefits of PR tend to wane gradually over time.

## PR Program

8 semaines : 3 séances de 2 heures / sem.

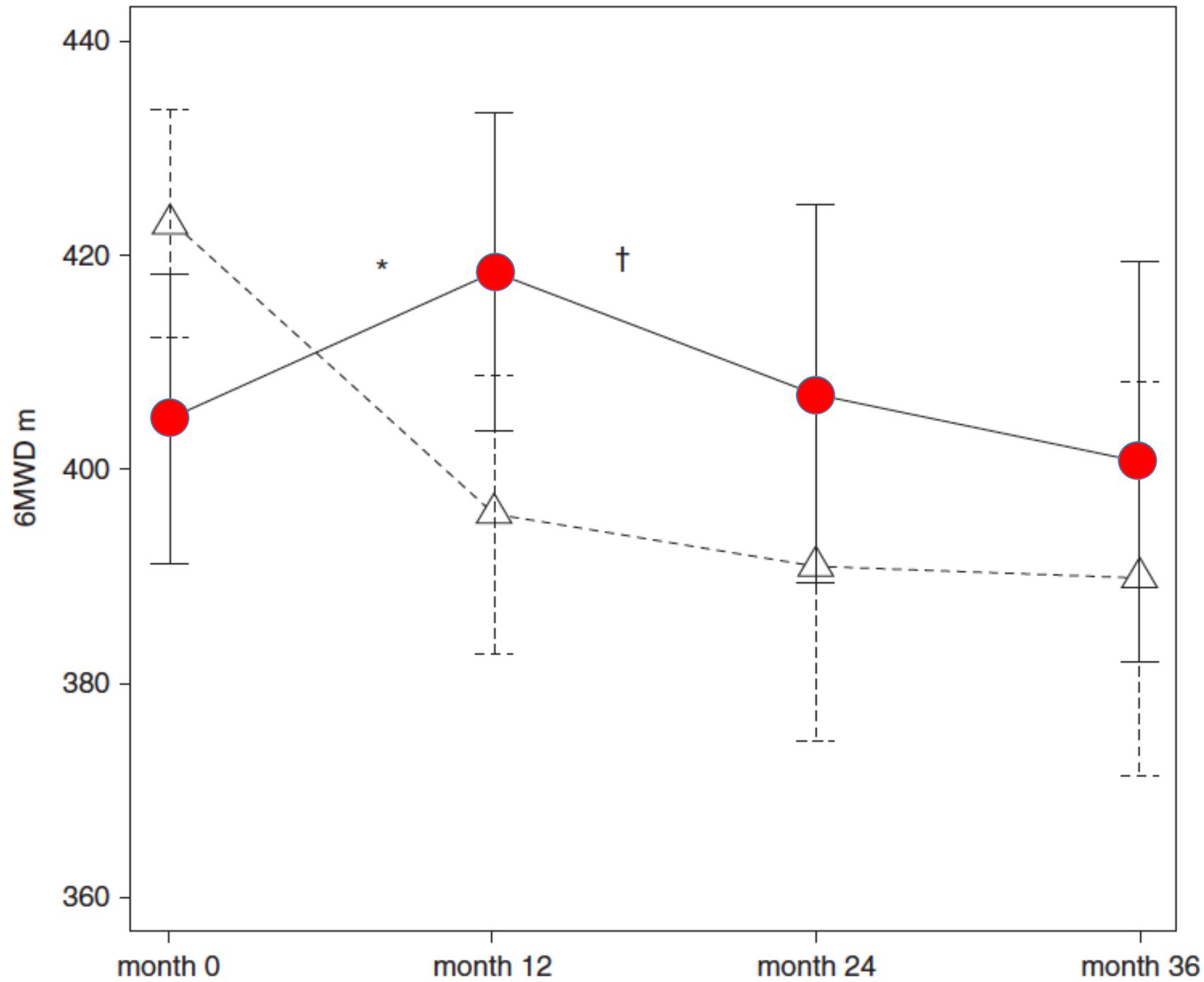
30 ' Musculation + 30 ' Endurance + Relaxation + Kiné  
+ 4 séances ET

## Post PR program

***Programme AP identique 3 fois / sem / 3 ans !!!***

En alternance :

Séance supervisée vs Appel téléphonique



# Benefits of Long-Term Pulmonary Rehabilitation Maintenance Program in Patients with Severe Chronic Obstructive Pulmonary Disease

Three-Year Follow-up

This improvement was maintained over 24 months, but after 2 years there no longer was a beneficial effect. Only a limited number of patients reached the 3-year mark.

ORIGINAL ARTICLE    **Thorax 2014**

# Determinants and outcomes of physical activity in patients with COPD: a systematic review

Elena Gimeno-Santos,<sup>1,2,3,4</sup> Anja Frei,<sup>5,6</sup> Claudia Steurer-Stey,<sup>6</sup> Jordi de Batlle,<sup>1,2,7</sup> Roberto A Rabinovich,<sup>8</sup> Yogini Raste,<sup>9</sup> Nicholas S Hopkinson,<sup>9</sup> Michael I Polkey,<sup>9</sup> Hans van Remoortel,<sup>10</sup> Thierry Troosters,<sup>10</sup> Karoly Kulich,<sup>11</sup> Niklas Karlsson,<sup>12</sup> Milo A Puhan,<sup>5,13</sup> Judith Garcia-Aymerich,<sup>1,2,3</sup> on behalf of PROactive consortium

## Key messages

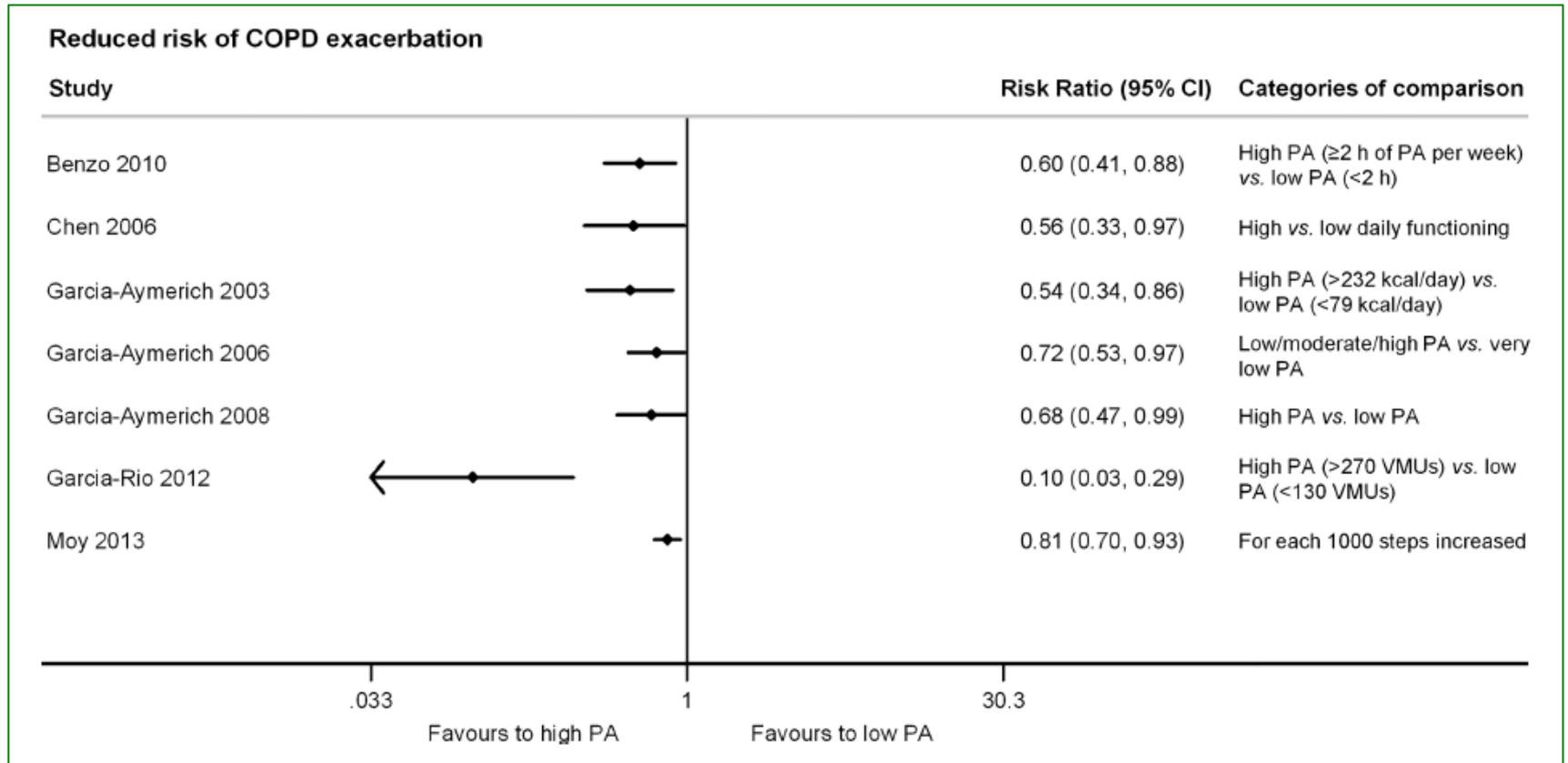
### **What is the key question?**

- ▶ Despite the increasing research on physical activity and COPD, it is unclear which are the determinants and outcomes of physical activity in patients with COPD.

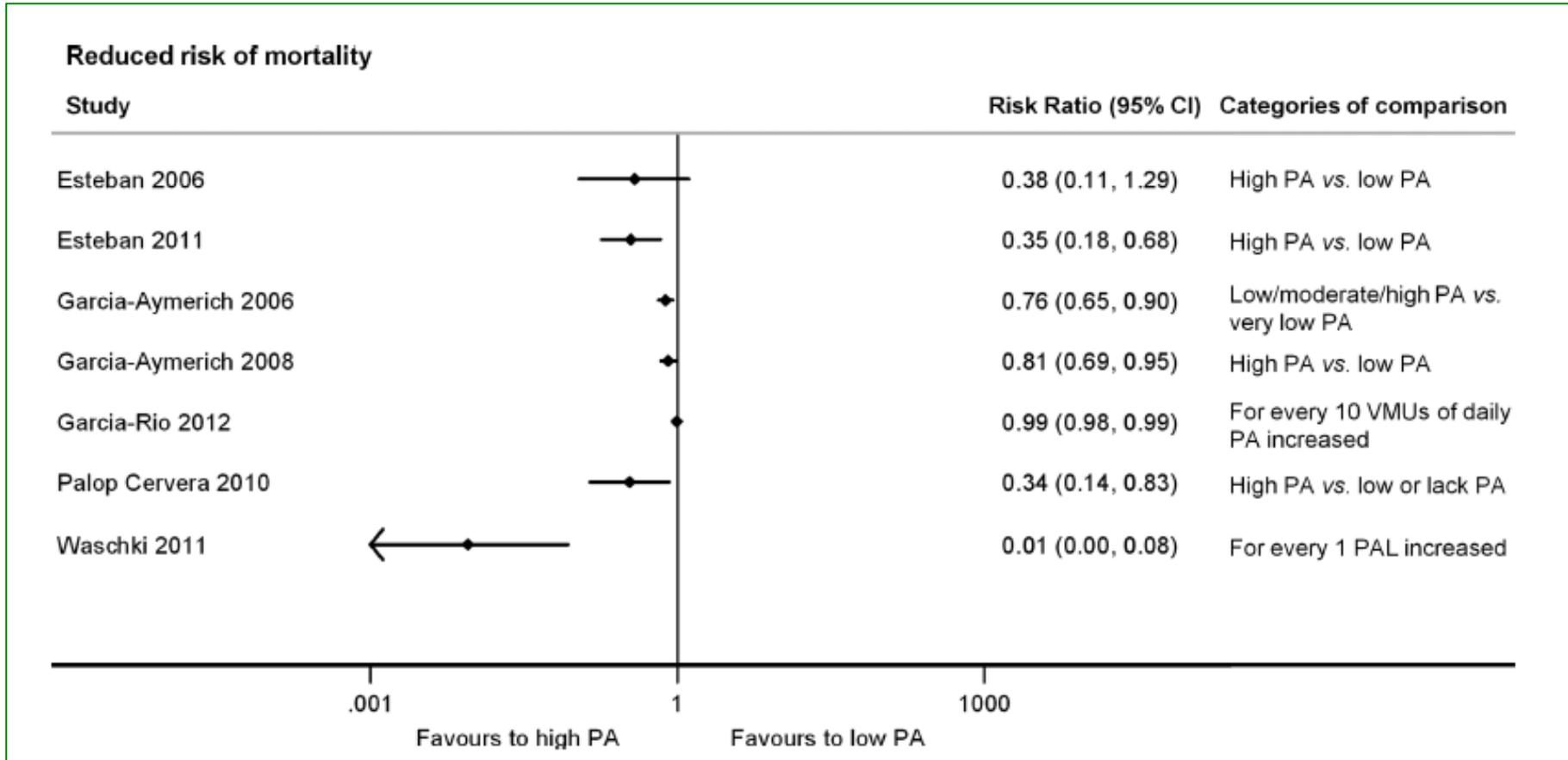
### **What is the bottom line?**

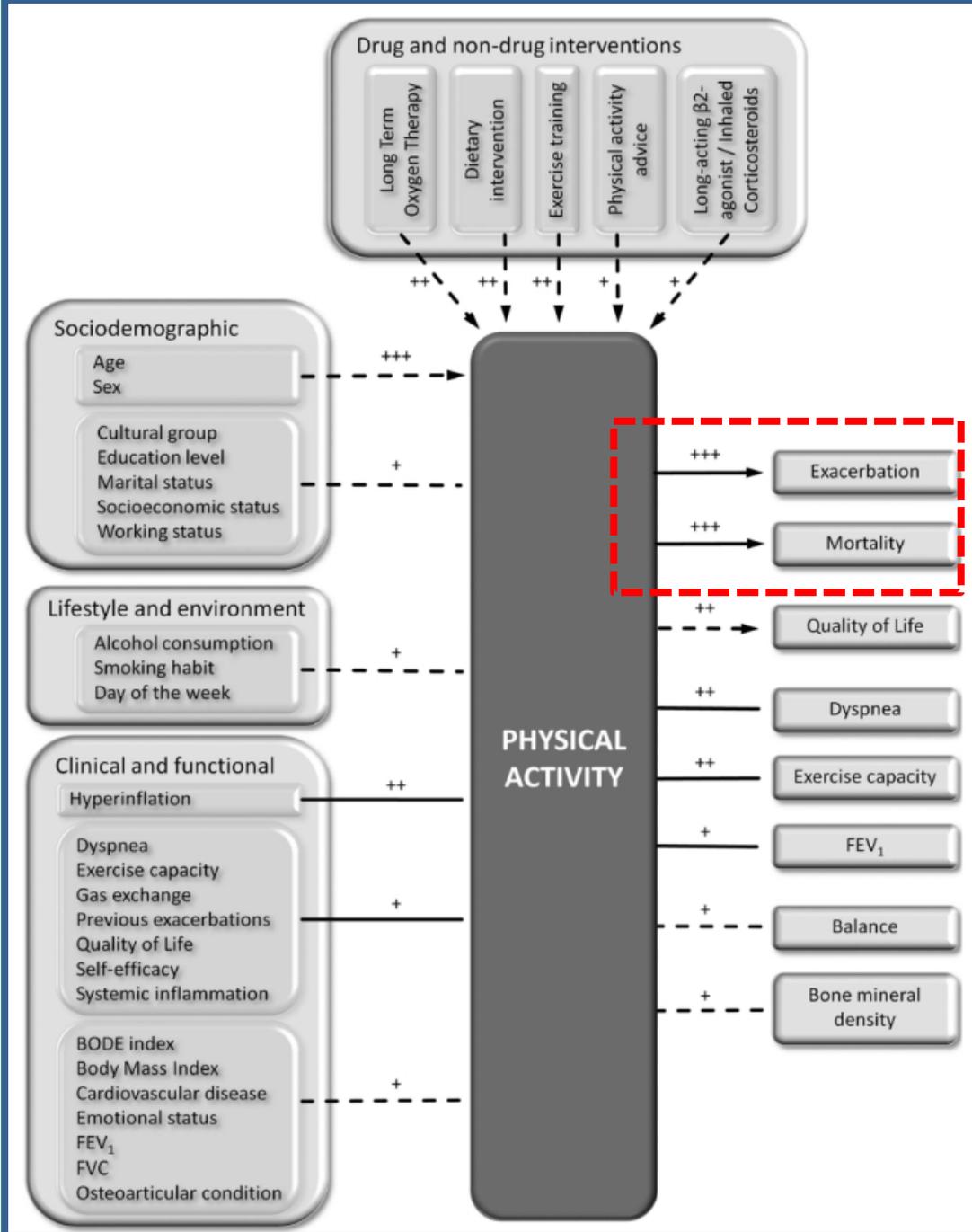
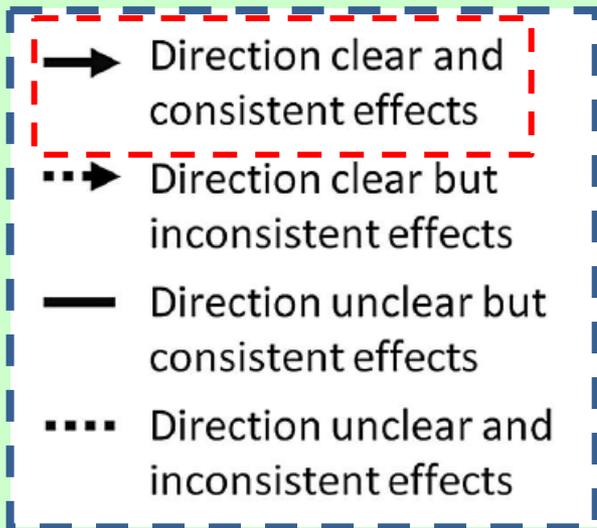
- ▶ Physical activity level in COPD is consistently associated with mortality and exacerbations, but this is in contrast to the poor evidence about determinants of physical activity, including current COPD treatments.

# PA et risque Exacerbation



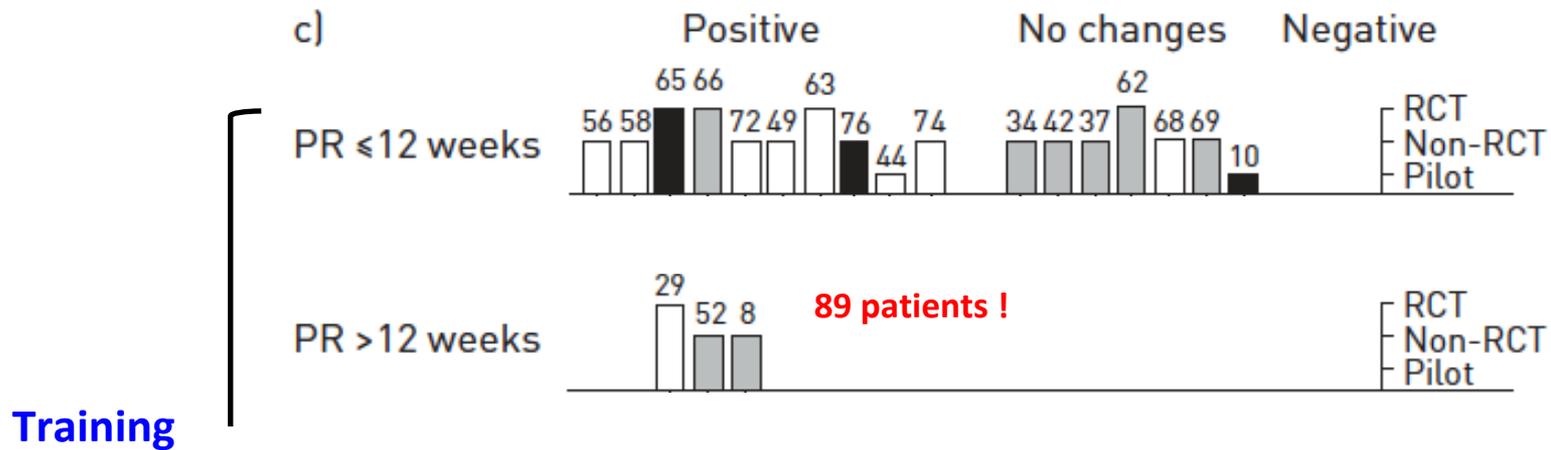
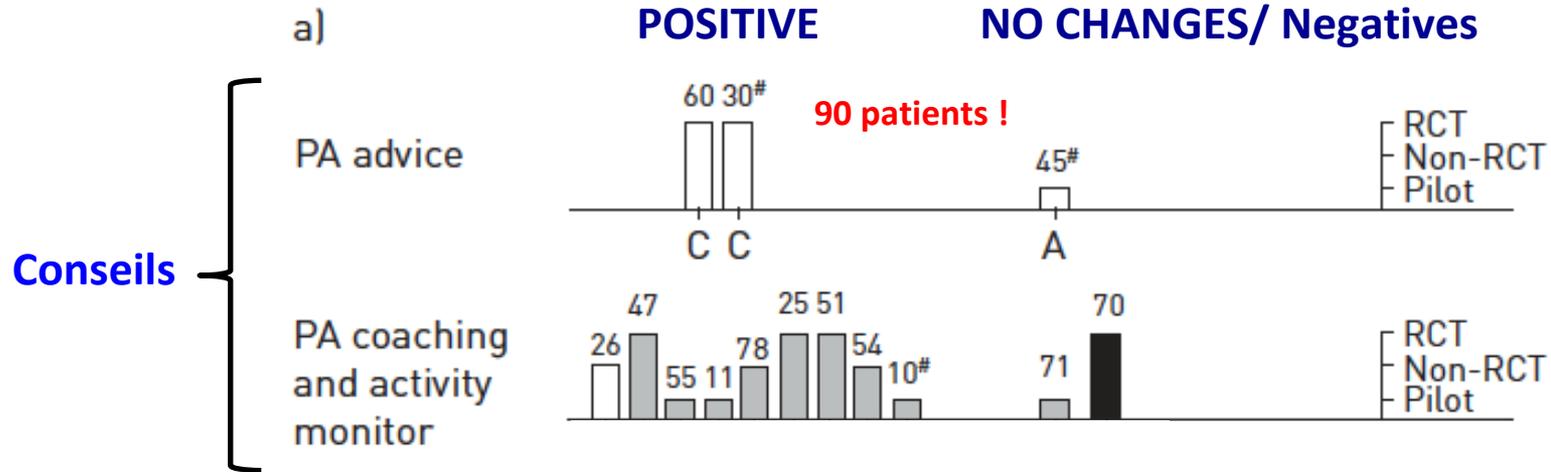
# PA et risque Mortalité

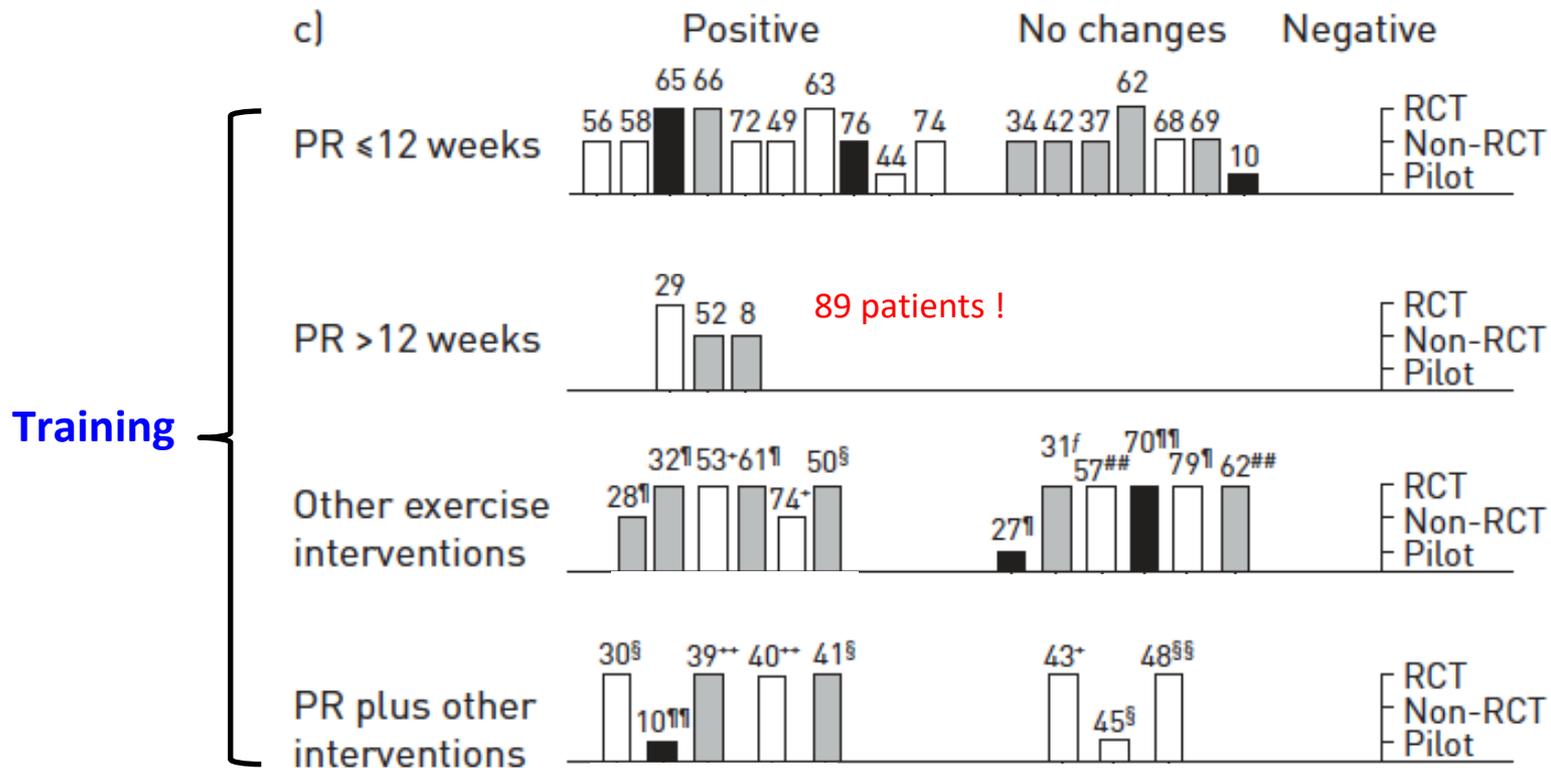
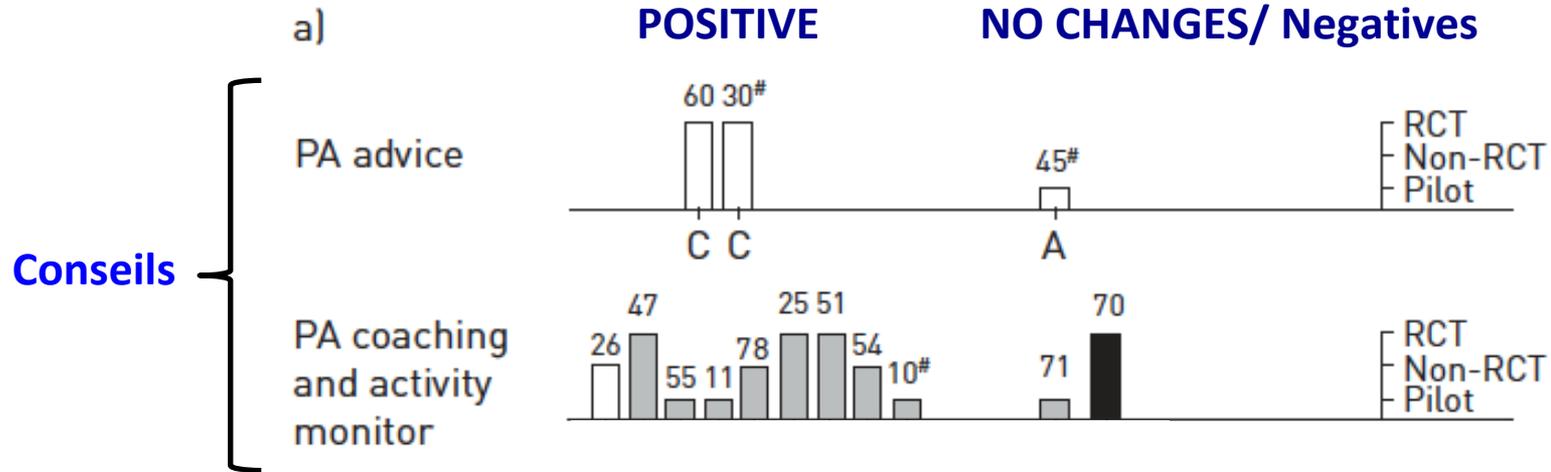




# Interventions to modify physical activity in patients with COPD: a systematic review

Leandro Cruz Mantoani<sup>1</sup>, Noah Rubio<sup>1</sup>, Brian McKinstry<sup>2,3</sup>, William MacNee<sup>1</sup>  
and Roberto A. Rabinovich<sup>1</sup> [Eur Resp J 2016](#)





# Maintaining the Benefits of Pulmonary Rehabilitation

The Holy Grail **AJRCCM2017**

Given the complexity of factors involved, it is likely that

*« one size does not fit all »*

in regard to maintenance PR.

# Maintaining the Benefits of Pulmonary Rehabilitation

The Holy Grail **AJRCCM2017**

At this time, there is no convincing evidence that supports the use of one maintenance strategy over others.

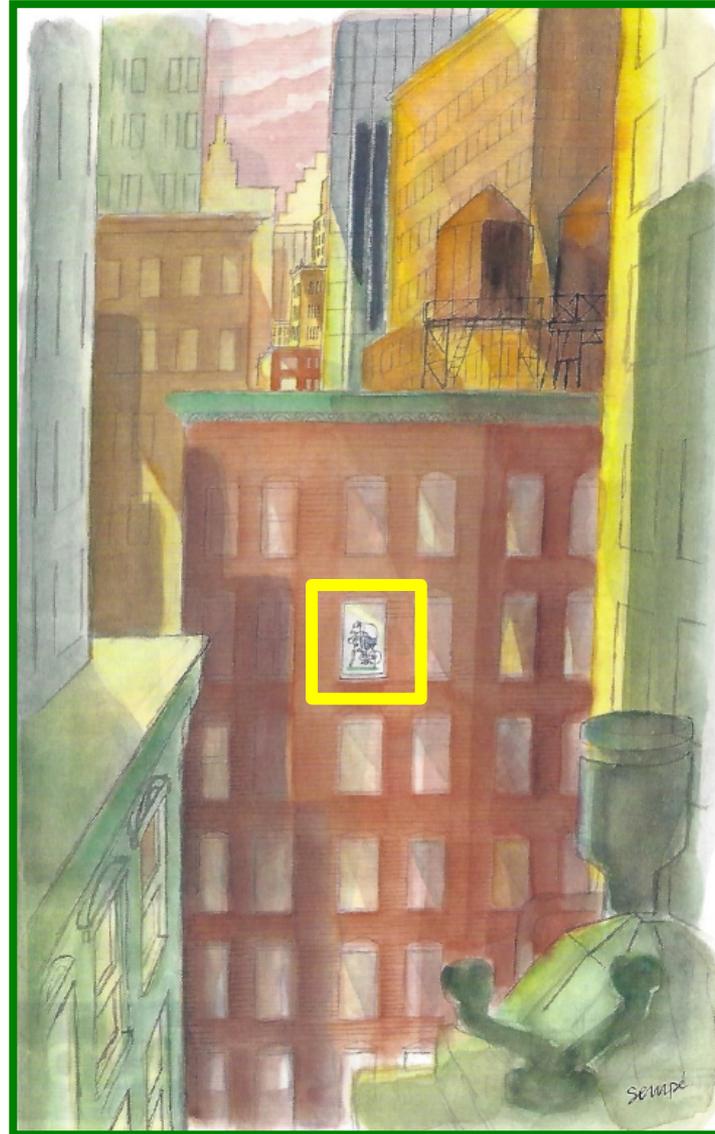
« trouver la voie...! »



# a health system paradigm shift

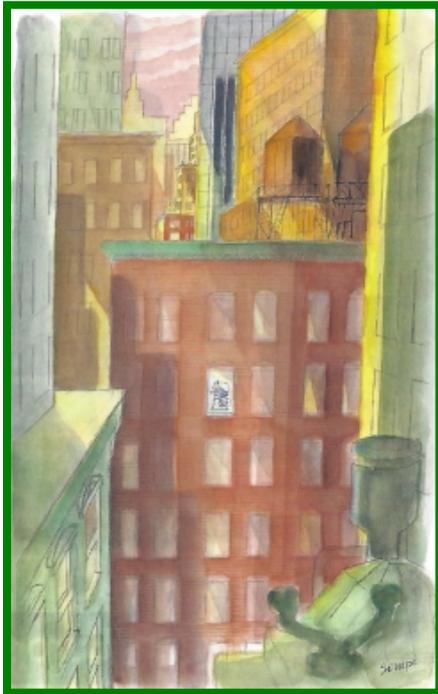
It would require **close longitudinal follow-up of individual patients across the trajectory** of illness by healthcare professionals **who could note and intervene in specific issues as they arise.**

# *Embedded Health* : Santé insérée



# Réhabilitation Pulmonaire

# 4 P



Personnalisée

Participative

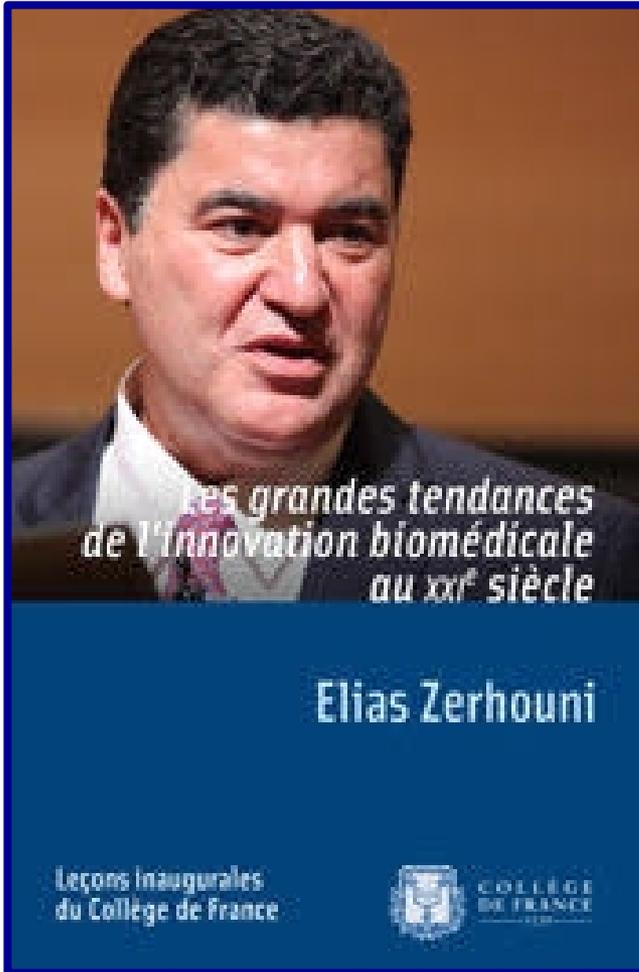
La personne

L'environnement

Prédictive

Préventive (préemptive)

# *Embedded Health* : Santé insérée



On ne devient pas actif de façon pérenne uniquement parce que cela est recommandé.

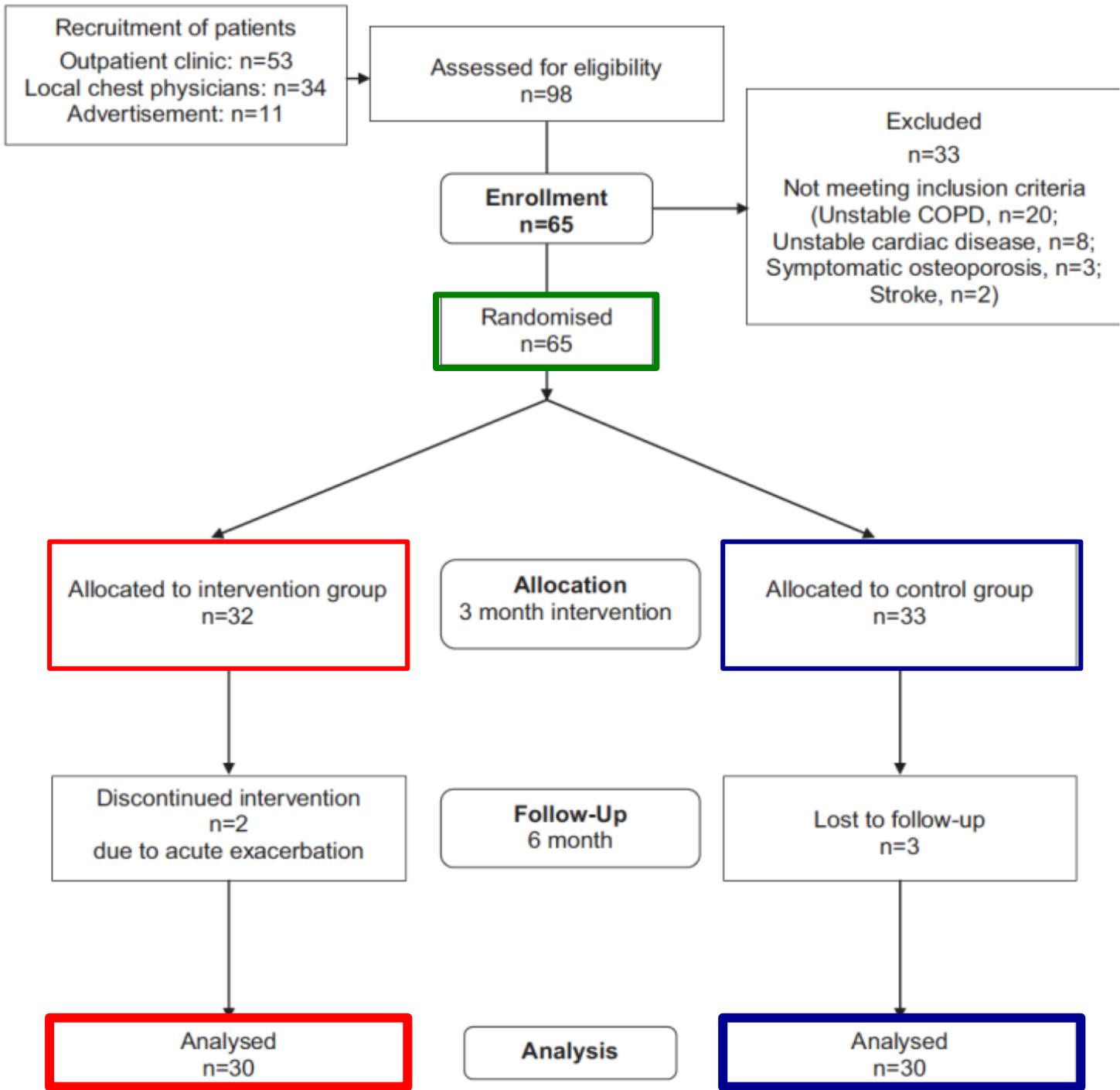
Il faut créer les conditions d'un désir ` au sein duquel il y a la nécessité de bouger.

# *Embedded Health* : Santé insérée

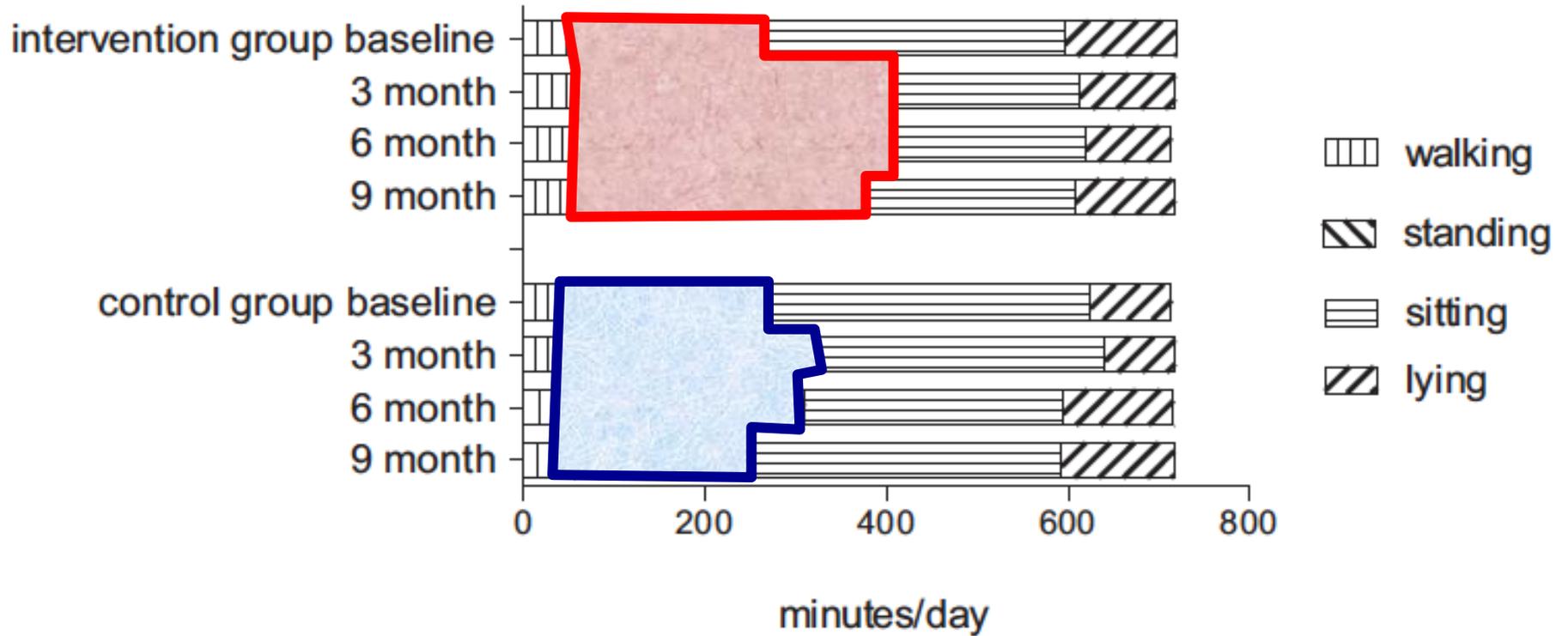
## Nordic Walking improves daily physical activities in COPD: a randomised controlled trial

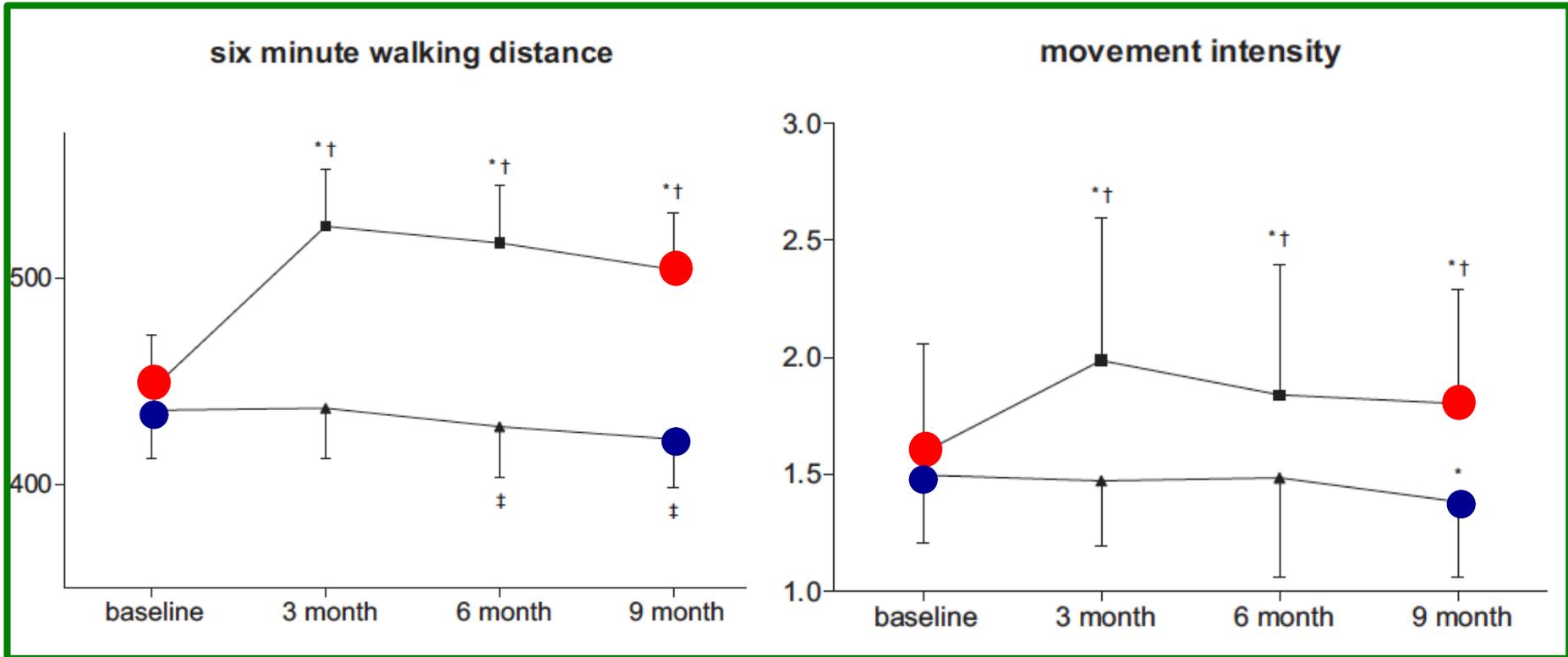
Marie-Kathrin Breyer<sup>1\*</sup>, Robab Breyer-Kohansal<sup>1</sup>, Georg-Christian Funk<sup>1</sup>, Nicole Dornhofer<sup>1</sup>, Martijn A Spruit<sup>2</sup>, Emiel FM Wouters<sup>2,3</sup>, Otto C Burghuber<sup>1</sup>, Sylvia Hartl<sup>1</sup> **Respir Research 2010**





### daily physical activities

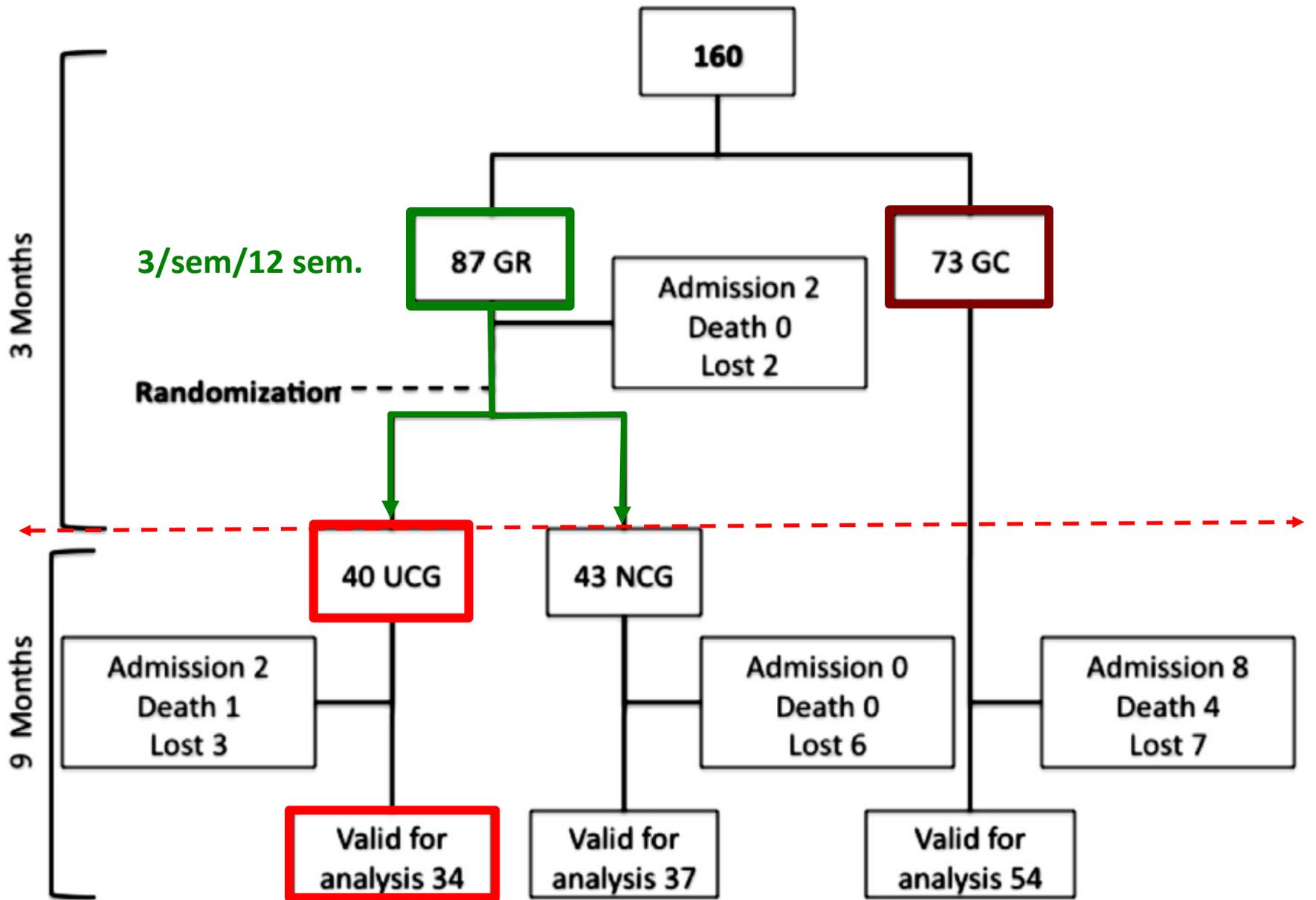


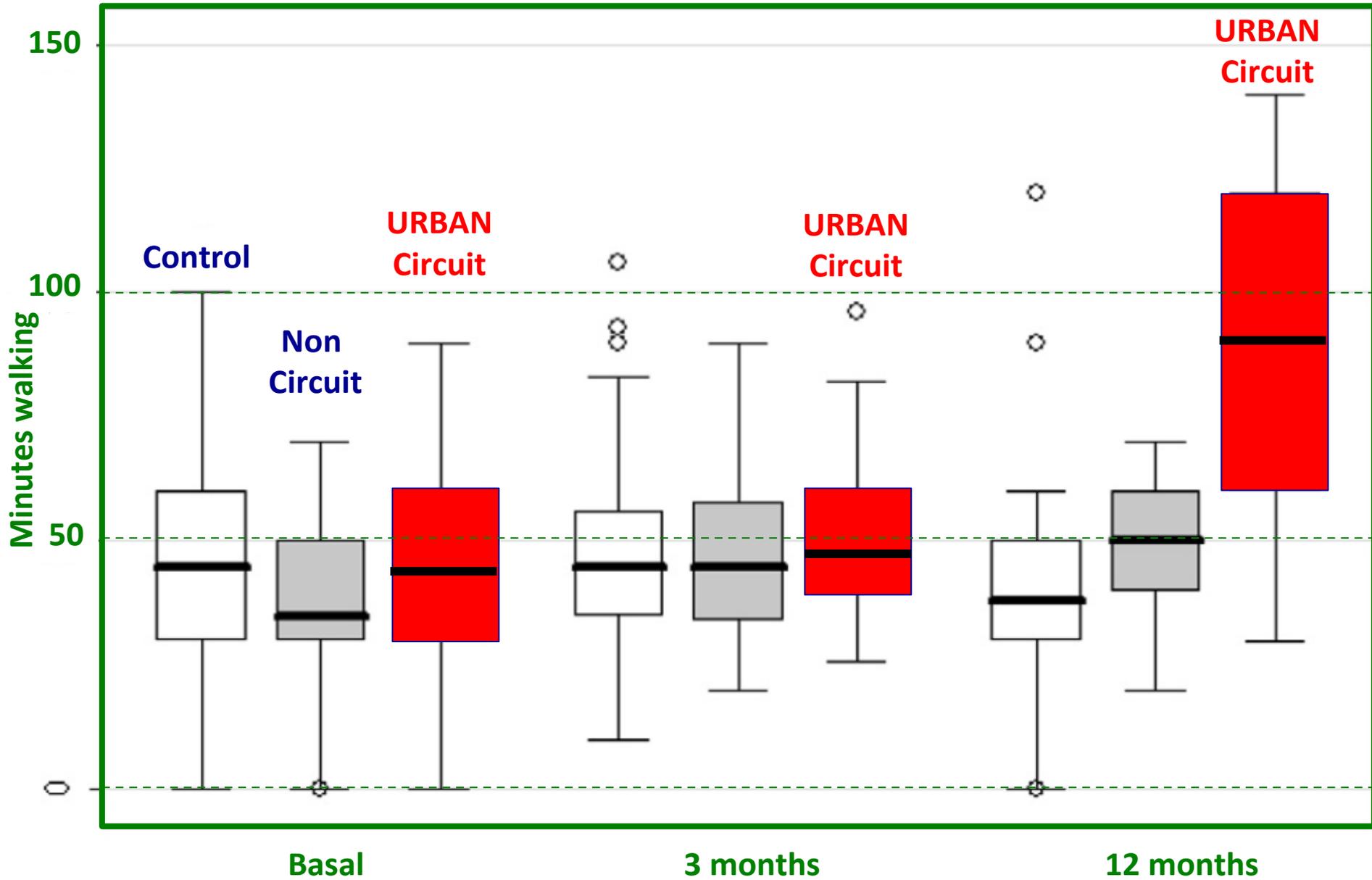


# Improving physical activity in patients with COPD with urban walking circuits

Eulogio Pleguezuelos<sup>a,b,c,\*</sup>, María Engracia Pérez<sup>a</sup>,  
Lluís Guirao<sup>a</sup>, Beatriz Samitier<sup>a</sup>, Pilar Ortega<sup>d</sup>, Xavier Vila<sup>d</sup>,  
Margarita Solans<sup>d</sup>, Ariadna Riera<sup>a</sup>, Eva Moreno<sup>e</sup>, Alex Merí<sup>c</sup>,  
Marc Miravittles<sup>f</sup> **Respiratory Medicine 2013**







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# EXCURSIONS PER MATARÓ

- 1 EL PASSEIG MARÍTIM
- 2 LES ANTIGUES PARRÒQUIES DE MATA
- 3 EL CAMÍ ROMÀ DE LORITA
- 4 EL CAMÍ DE LES CINC SÈNIES
- 5 EL CASTELL DE MATARÓ
- 6 CAN CANYAMERES I LA FONT DE CAN GASARAPA
- 7 EL TURÓ D'EN DORI
- 8 CAN BOADA I EL TURÓ DEL MOLÍ DE VENT
- 9 EL TURÓ DE Cerdanyola
- 10 EL PONT DE LA VILA
- 11 LA FONT DEL PERICÓ I SANTA RITA DE VALLDEIX
- 12 EL TURÓ D'EN TUNYÍ

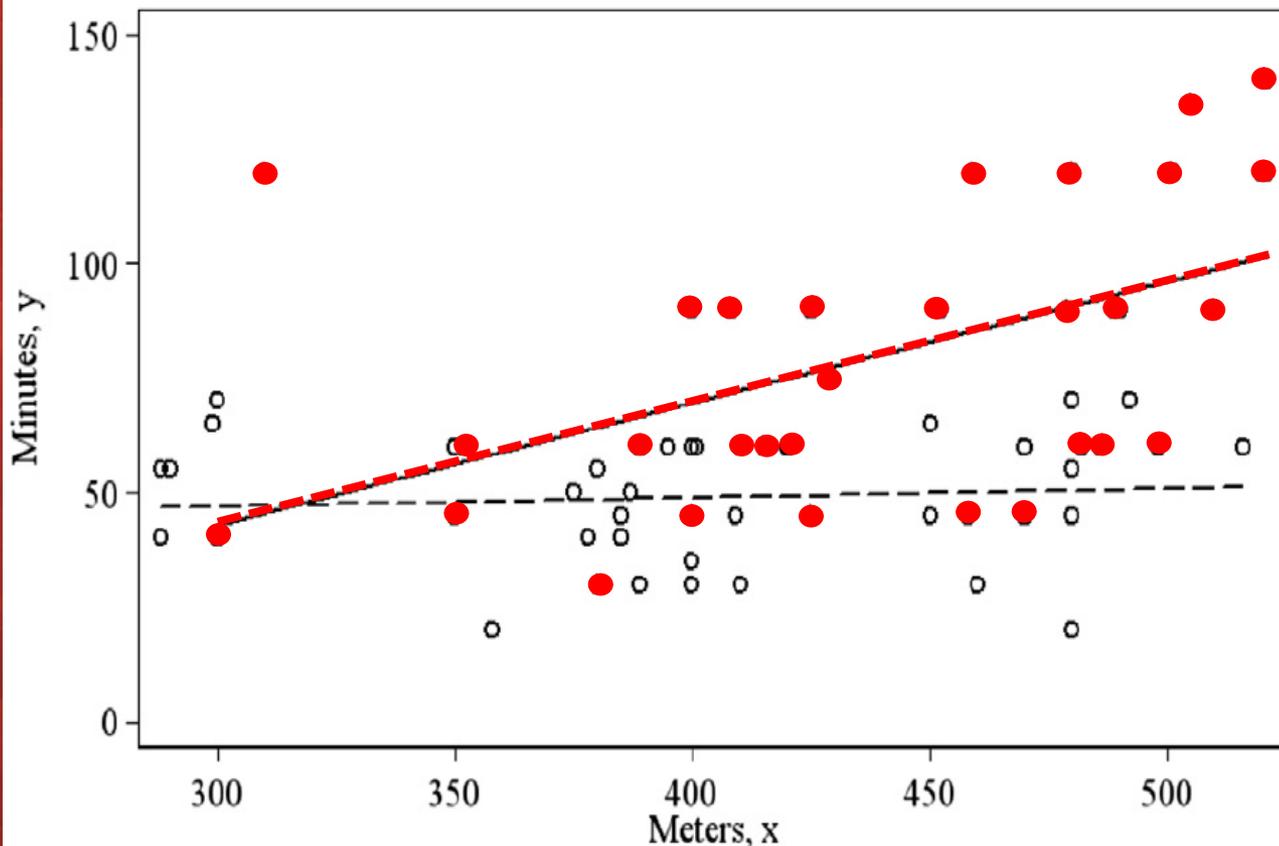
amb la col·laboració de



Ajuntament de Mataró



ARGÜES DE MATARÓ, S.A.



● UCG, R-squared = 27.06 %

○ NCG, R-squared = 0.89 %

—  $\hat{y} = 76.23 + 0.27 * x$

- - -  $\hat{y} = 49.41 + 0.02 x$

# La réhabilitation respiratoire est-elle efficace à long terme ?



As such, pulmonary rehabilitation provides an opportunity to coordinate care throughout the clinical course of an individual's disease.

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