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# NoHoW

Evidence based tools for weight loss maintenance

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Approximately  
250 mio. Adult  
Europeans are  
overweight  
and  
90-100 mio. obese

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## **Prevalence of personal weight control attempts in adults: a systematic review and meta-analysis.**

Seventy-two studies:  $n = 1,184,942$ .

In the general population about 40% adults have tried to lose weight at some point in time and also in the last five years.

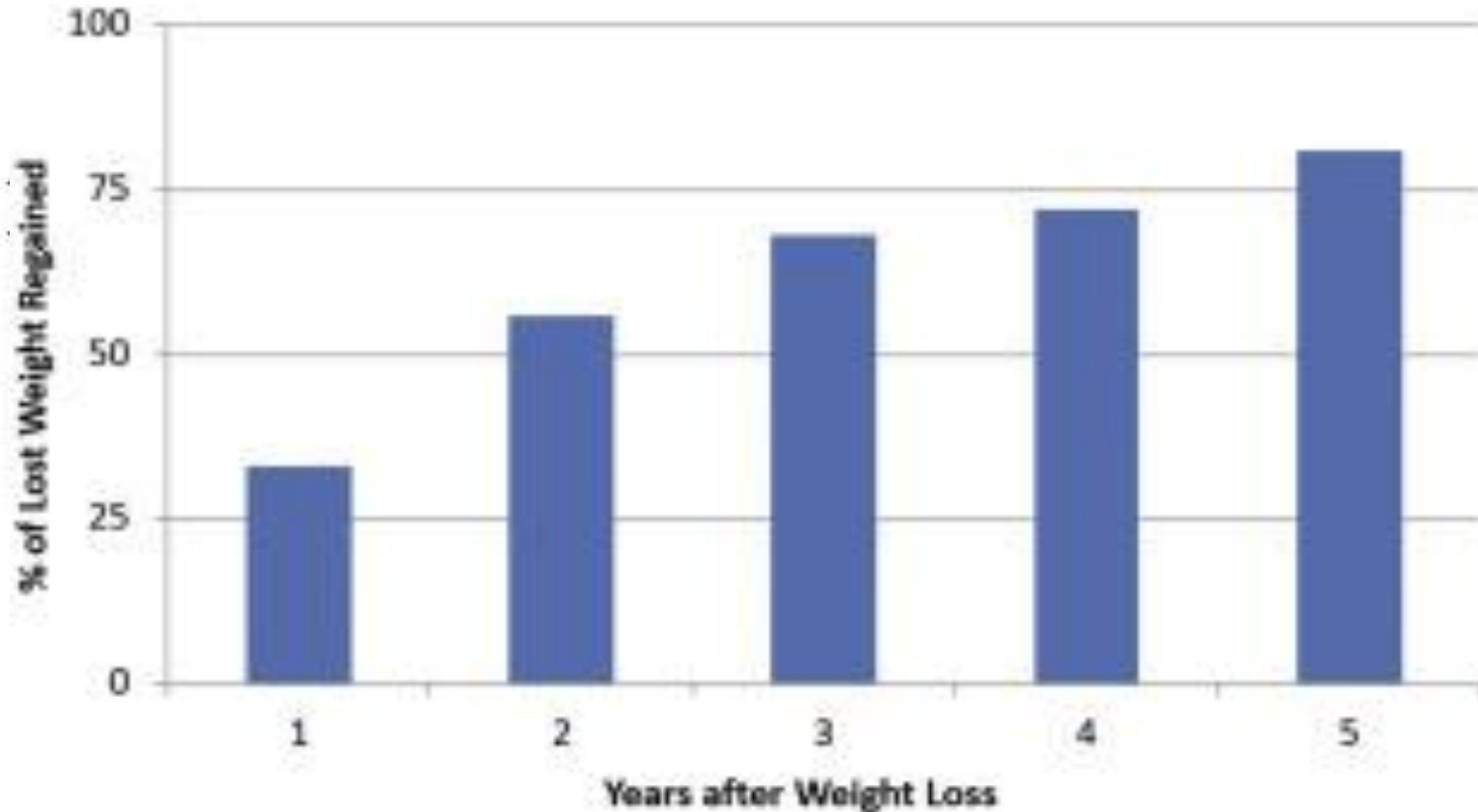
About 25% of adults from general populations reported trying to maintain weight annually.

[I. Santos, F. F. Sniehotta, M. M. Marques, E. V. Carraça, P. J. Teixeira:](#)  
[Obes Rev.](#) 2017; 18: 32–50.

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# Weight loss is easy, Weight loss maintenance is difficult...



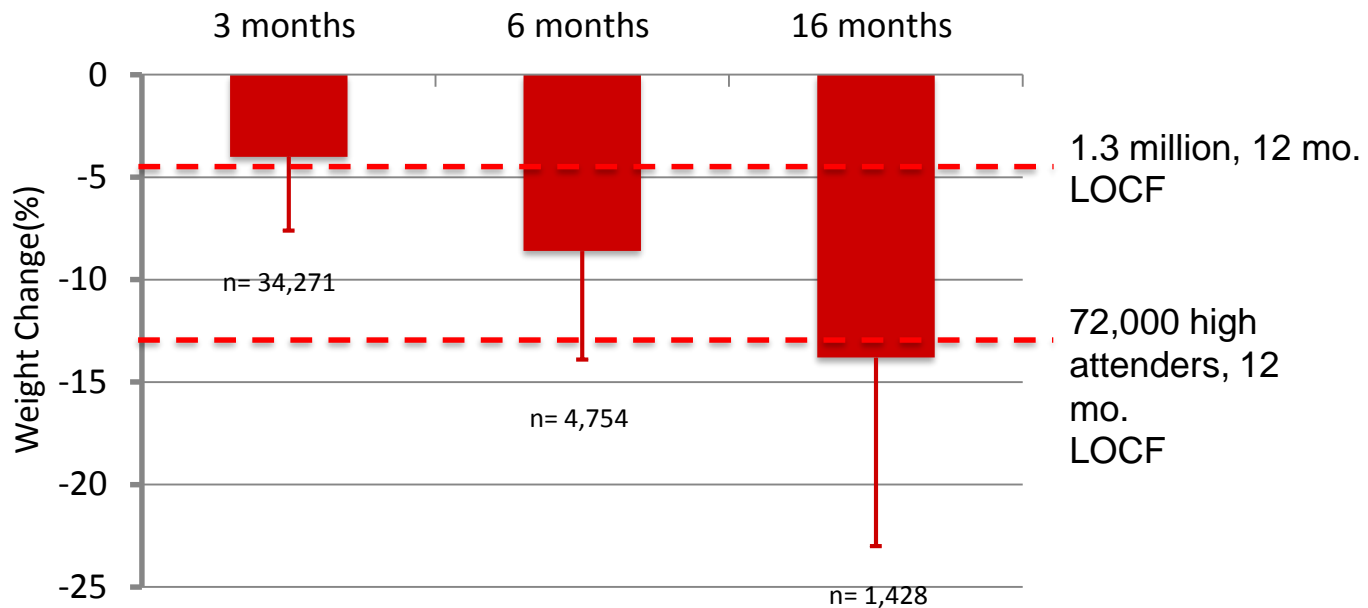
K Hall and K Scott: 2018;102:183-197

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# Weight loss is easy, Weight loss maintenance is difficult...

## Engagement with evidence-based programmes



But drop out and relapse are common...

Stubbs et al Obes Facts 2011, 4:113; Stubbs et al. Obesity Facts 2013; 6 (S 1): 120, 189; Pallister et al. Obesity Facts 2013; 6 (S 1): 189

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**90-95% can loose weight**  
**5-10% can maintain it in the long run**





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## Scalable solutions are needed!

Interventions that support sustained WLM are needed to optimise and achieve the long-term health effects of successful weight loss interventions

**Established community-based and commercial approaches are effective for initial weight loss.**

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**However, most people regain the lost weight within 12-24 months.**

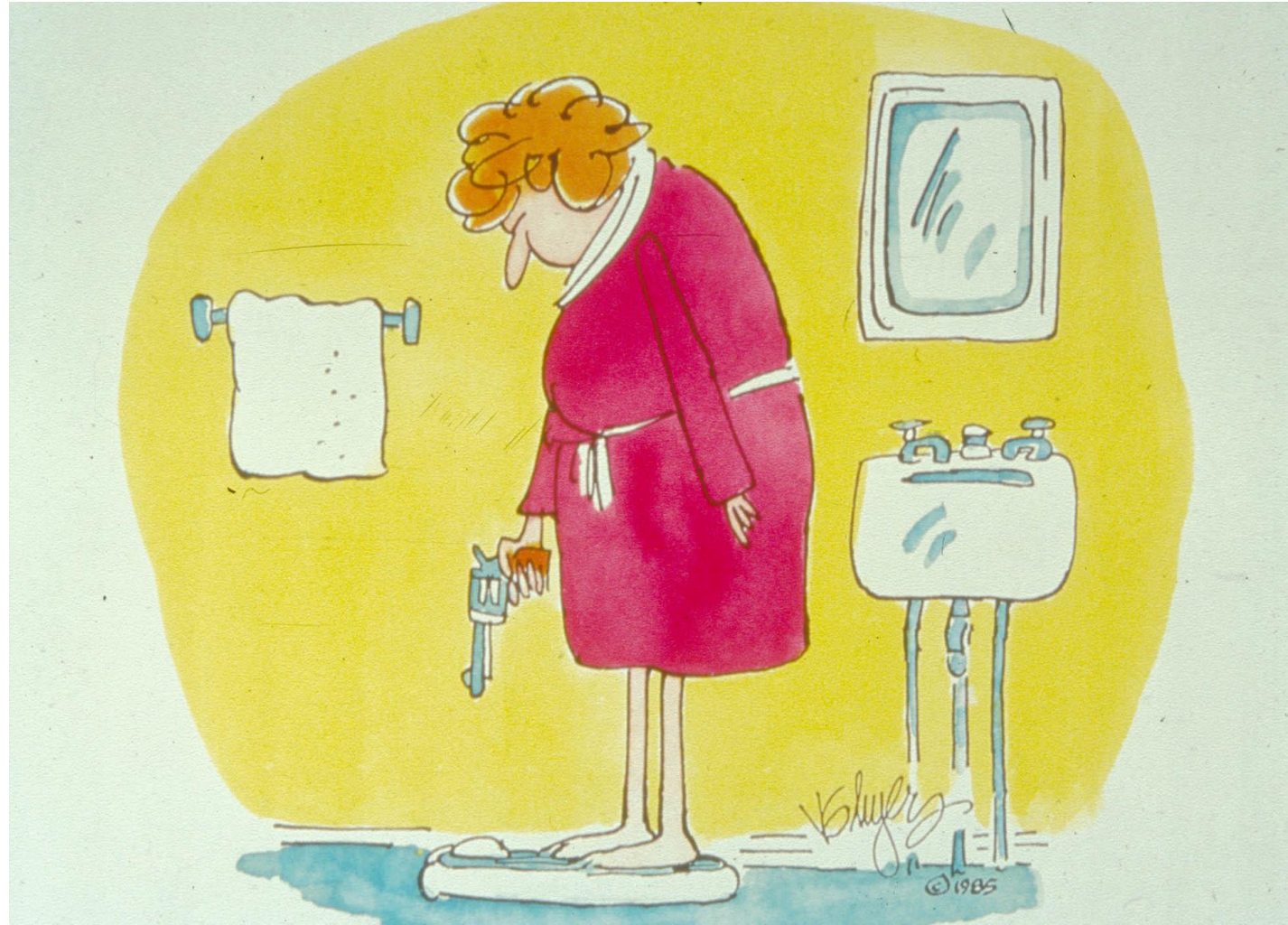
**Dombrowski et al. BMJ. 2014; 348: g2646:**

- **There is limited evidence that weight loss can be sustained beyond 24 months.**
- **Effective WLM interventions have been highly resource intensive and hence not scalable**
- **Attempts to use technology - to make interventions flexible, efficient and scalable - have not used contemporary digital technologies.**
- **WLM interventions using the internet for intervention delivery were not generally effective.**



The key challenge is *not* to find new ways to *achieve* weight loss – but ways to *maintain* it that are scalable.

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95-5%



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# NoHoW

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**5 year European Commission-funded Research and Innovation Action (€5 million).**

**Personalising Health and Care - self management of health and disease: citizen engagement and mHealth.**

**Evidence-based digital technologies and tools for weight loss maintenance.**

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# What is the NoHoW?

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**Personalisable portfolio of ICT-enabled tools, that equips users with evidence based behaviour change techniques and methods for weight loss maintenance.**

**We test, in a randomised controlled trial (RCT) in the UK, Denmark and Portugal, how these tools can most effectively be used to support long-term weight loss maintenance (WLM).**

**Results will directly feed into the development of new products and services, to provide a much needed WLM services, that can be up-scaled and disseminated through a commercial partner (weight management company, food/pharma industry, Health insurance company, it-device company, public health etc..)**

# What questions will be answered in NoHoW?

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**Why don't lifestyle interventions work in the long run?**

**Why do people start regaining weight?**

**Who are those that succeed?**

**Can we make low cost it-based solutions that will help prevent regain?**



# IT technology

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**Builds on participant's previous positive experiences with weight loss**

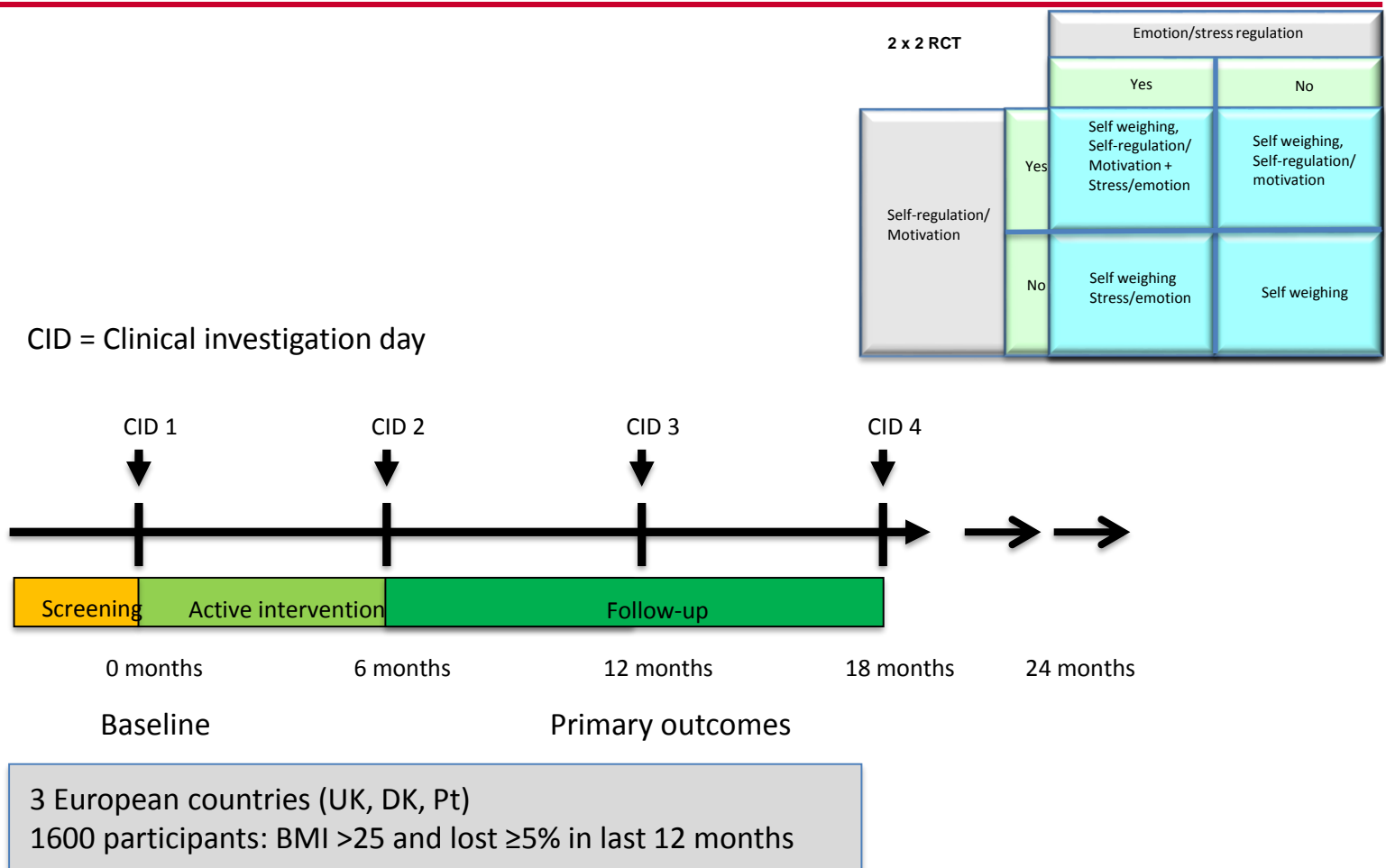
***Novel approach using motivation, autonomy, goal setting, emotion regulation and stress management***

***Personalized feedback to maintain weight***

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# What are the solutions in NoHoW?

# Trial design



# 1 - We test in NoHoW if behavior change techniques are helpful in weight loss maintenance

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**Self-monitoring (tracking), goal setting, and action control**  
(Self-regulatory skills to promote volitional aspects of WLM)

**Building autonomous engagement and self-determined motivation**  
(Maintain engagement with sustained behaviour change eg. for maintaining dietary and physical activity behaviours along with self-efficacy)

**(Stubbs et al., Nutrition Bulletin 2013).**



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## 2 – We test in NoHoW if stress management and emotion regulation can prevent weight relapses and improve WLM

- *may* undermine pathways of planned behaviour change and successful self-regulation.
- *may* alter the physiological response to energy intake or expenditure towards higher/more efficient storage



# NoHoW Toolkit (TK)

It delivered behavioural tools (motivation and emotion/stress regulation)

Motion trackers



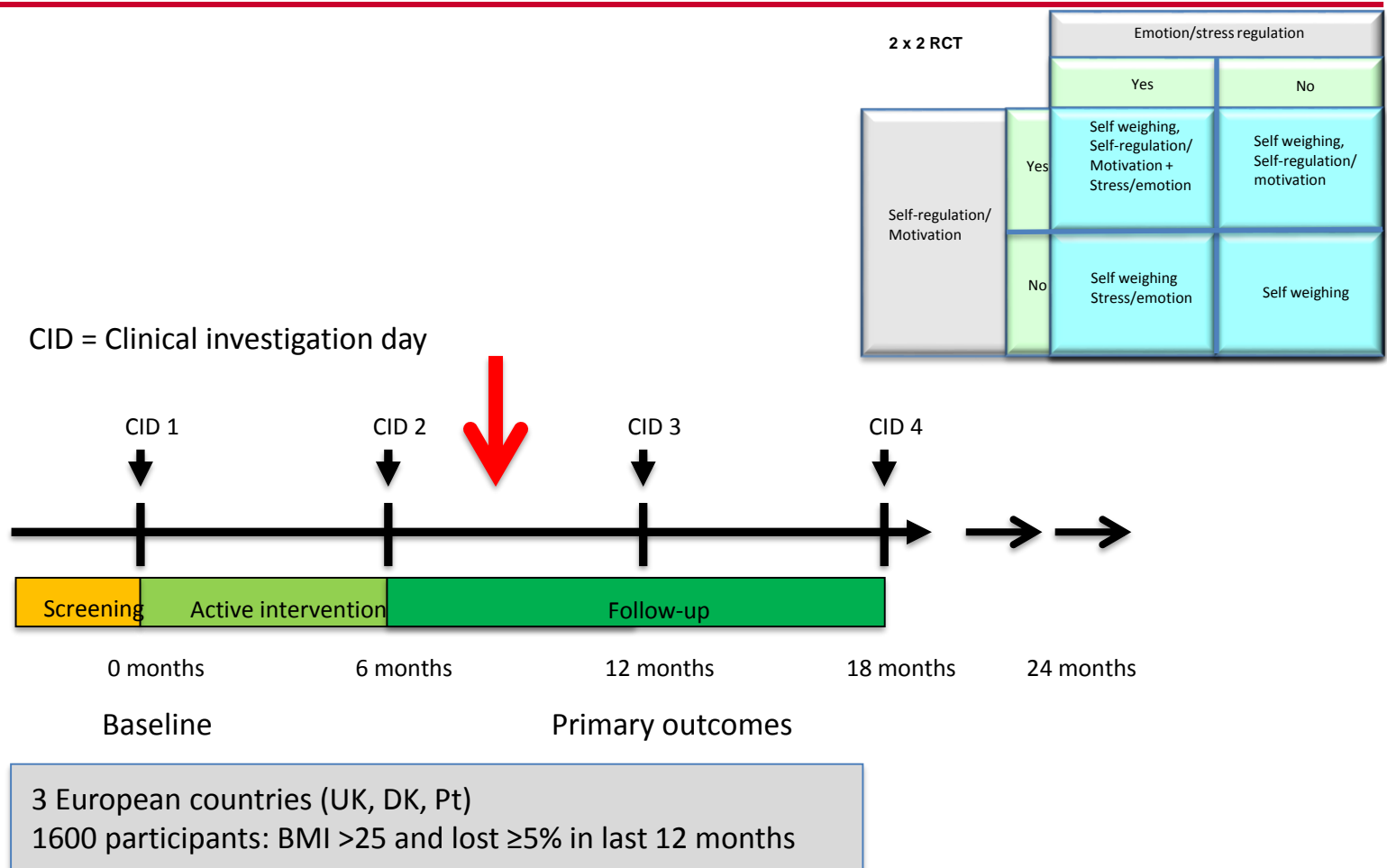
Inventories



Datahub

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# Trial design



# Engagement analysis

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- investigating how participants use the tool:  
e.g. frequency of visits, time spent on the intervention, use of specific intervention components, dose of intervention

# Acknowledgements

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