

The Swiss **CHEF** Trial

Comparison of  
Home-Based  
Exercise Programmes for  
Falls Prevention and Quality of Life in Older People

**Hes·SO** VALAIS  
WALLIS  
Haute Ecole de Santé  
Hochschule für Gesundheit 

# The Swiss **CHEF** Trial : Etat des lieux - Recrutement

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Cheffe de projet*

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# Bienvenue

Clinical Review & Education

JAMA | US Preventive Services Task Force | **RECOMMENDATION STATEMENT**

# Interventions to Prevent Falls in Community-Dwelling Older Adults

## US Preventive Services Task Force Recommendation Statement

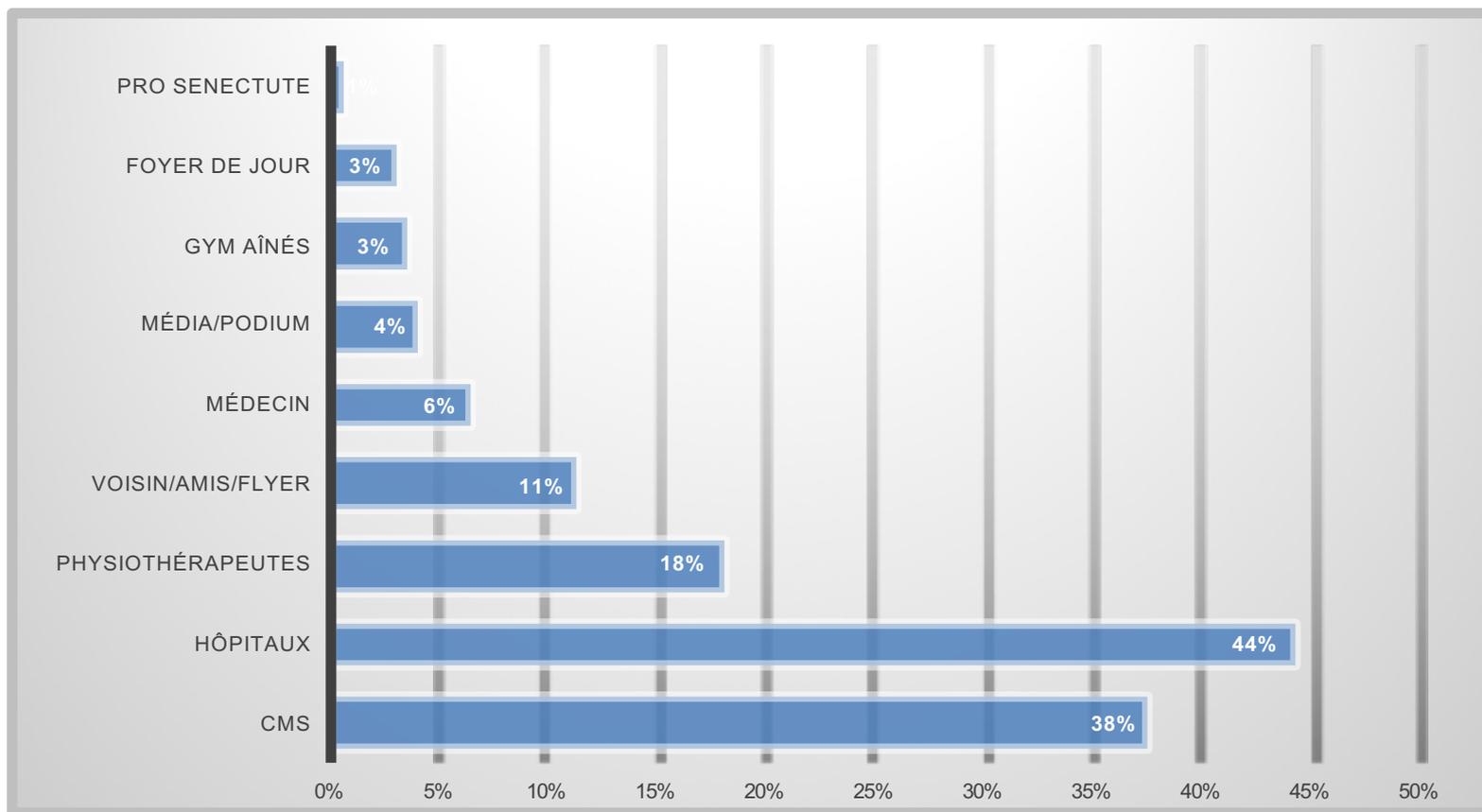
US Preventive Services Task Force

**IMPORTANCE** Falls are the leading cause of injury-related morbidity and mortality among older adults in the United States. In 2014, 28.7% of community-dwelling adults 65 years or older reported falling, resulting in 29 million falls (37.5% of which needed medical treatment or restricted activity for a day or longer) and an estimated 33 000 deaths in 2015.

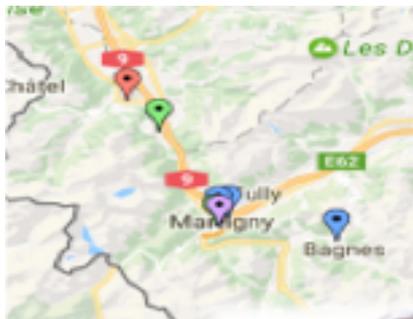
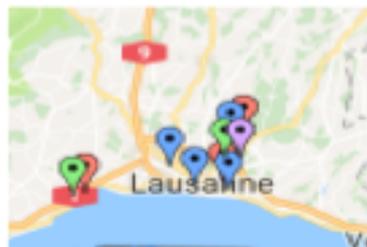
**CONCLUSIONS AND RECOMMENDATION** The USPSTF recommends exercise interventions to prevent falls in community-dwelling adults 65 years or older who are at increased risk for falls.

(B recommendation) The USPSTF recommends that clinicians selectively offer multifactorial interventions to prevent falls in community-dwelling adults 65 years or older who are at increased risk for falls. Existing evidence indicates that the overall net benefit of routinely offering multifactorial interventions to prevent falls is small. When determining whether this service is appropriate for an individual, patients and clinicians should consider the balance of benefits and harms based on the circumstances of prior falls, presence of comorbid medical conditions, and the patient's values and preferences. (C recommendation) The USPSTF recommends against vitamin D supplementation to prevent falls in community-dwelling adults 65 years or older. (D recommendation) These recommendations apply to community-dwelling adults who are not known to have osteoporosis or vitamin D deficiency.

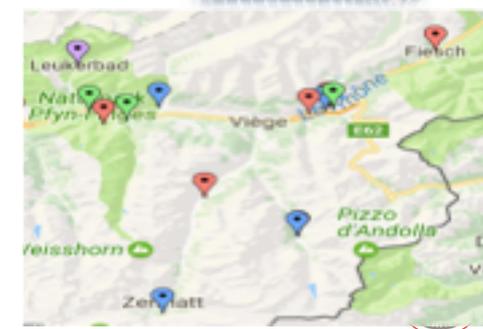
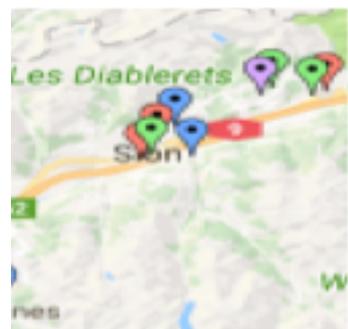
# Le recrutement ( $n=347$ )



# Les coordinateurs-trices



**214 sujets rencontrés**



# Les physiothérapeutes

<b>Nombre des physiothérapeutes partenaires</b>	<b>60</b>
Physiothérapeutes Evaluateurs	<b>18</b>
Physiothérapeutes T&E	<b>21</b>
Physiothérapeutes Otago	<b>21</b>

# Les évaluations

<b>Nombre d'évaluations réalisées</b>	<b>200</b>
Evaluations initiales	<b>138</b>
Evaluations intermédiaires	<b>51</b>
Evaluations finales	<b>11</b>

# La randomisation

<b>Nombre de sujets</b>	<b>138</b>
Groupe T&E	<b>55</b>
Groupe Otago	<b>54</b>
Groupe HELSANA	<b>29</b>

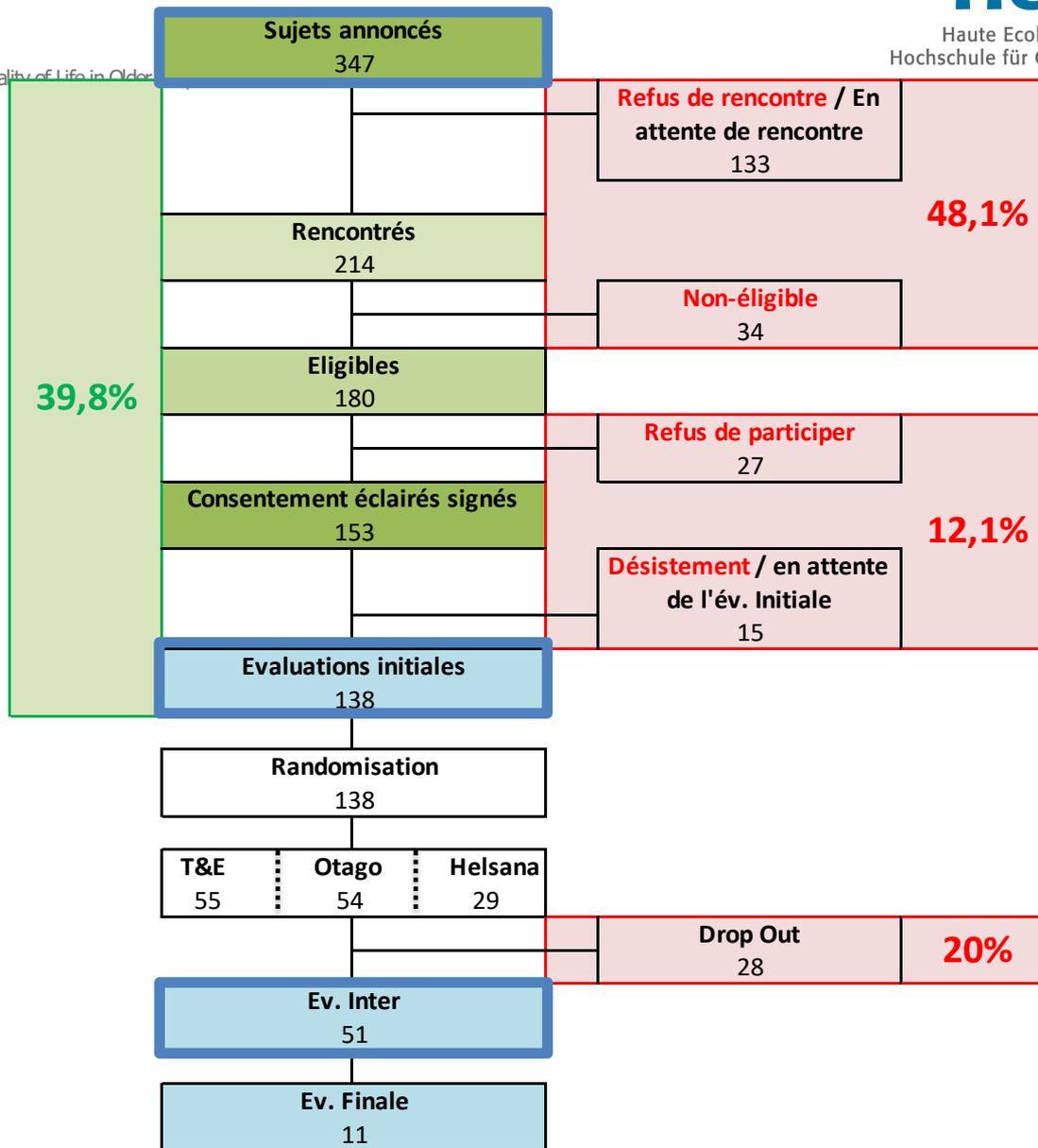
# Séances de physiothérapie à domicile

Nombre de séances à domicile	579
Groupe T&E	230
Groupe Otago	220
Groupe HELSANA	29

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30.05.18



# Refus de rencontre

*En fait, j'ai dit OUI à  
Xxx pour lui faire  
plaisir... mais non  
merci*

*Non, je ne me  
souviens pas que  
quelqu'un m'a parlé de  
cette étude...*

*Je dois d'abord  
demander à mes  
enfants, je vous  
rappellerai*

*Maintenant je vais  
bien, je n'ai besoin de  
rien*

*En fait je ne suis  
jamais tombé et je n'ai  
pas peur de chute!*

# En attente de rencontre

Est encore en physiothérapie active, 1 à 2x par semaine

Rappellera dès que plus de disponibilité

Est en train de déménager

# Non-éligibilité (N=34)

Ne peut pas se déplacer sans moyen auxiliaire à l'intérieur de son domicile

N'est pas tombé et présente un score  $< 20$  au FES-I (pas de peur de chuter)

Capacités visuelles insuffisantes pour lire ou écrire

Déficiences cognitives trop importantes, score  $< 24$  au MMSE

# Retrait après le consentement éclairé

- Survient au moment de l'appel du physiothérapeute-évaluateur pour fixer la date de l'évaluation

*J'ai trop à faire en ce moment, finalement je renonce*

*J'ai des examens médicaux à faire, je vous rappellerai*

*Non, finalement je ne sais pas ce que ça va m'apporter*

# Drop out ( $N=28$ )

Décès ( $N=4$ )

Péjoration de l'état de santé ( $N=8$ )

Contraintes administratives (remplir les calendriers) ( $N=3$ )

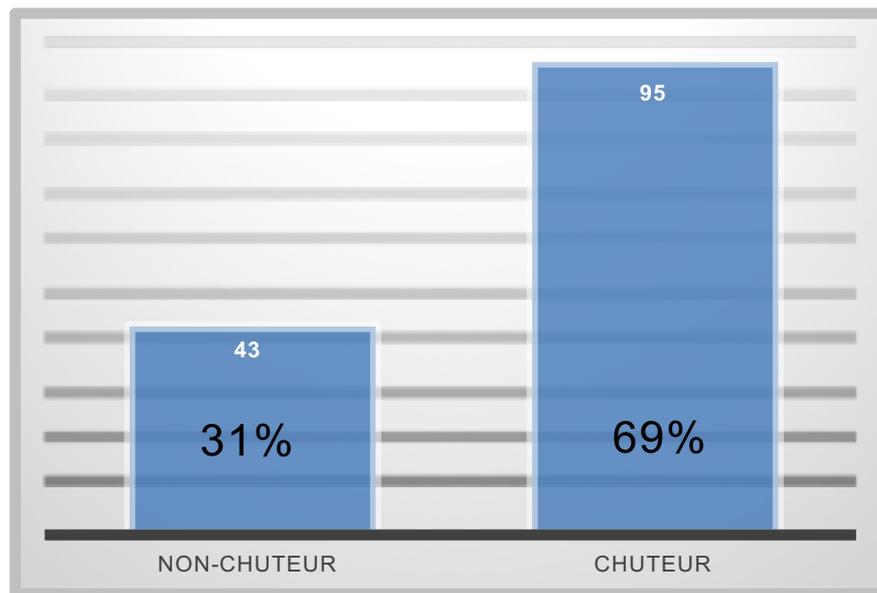
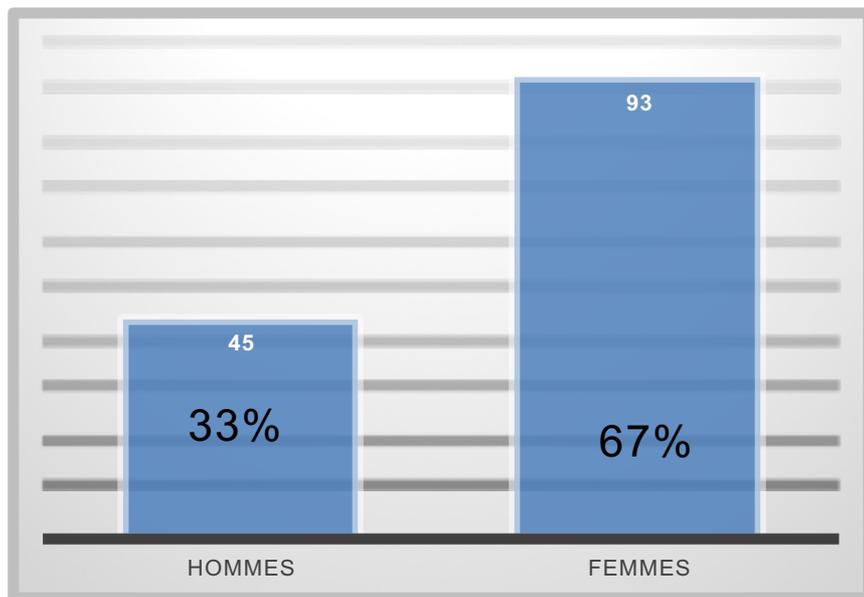
Perte de motivation ( $N=10$ )

Trop de travail avec un mari malade ( $N=1$ )

Préfèrerai des massages ( $N=1$ )

Est entrée dans un home pour personne âgée ( $N=1$ )

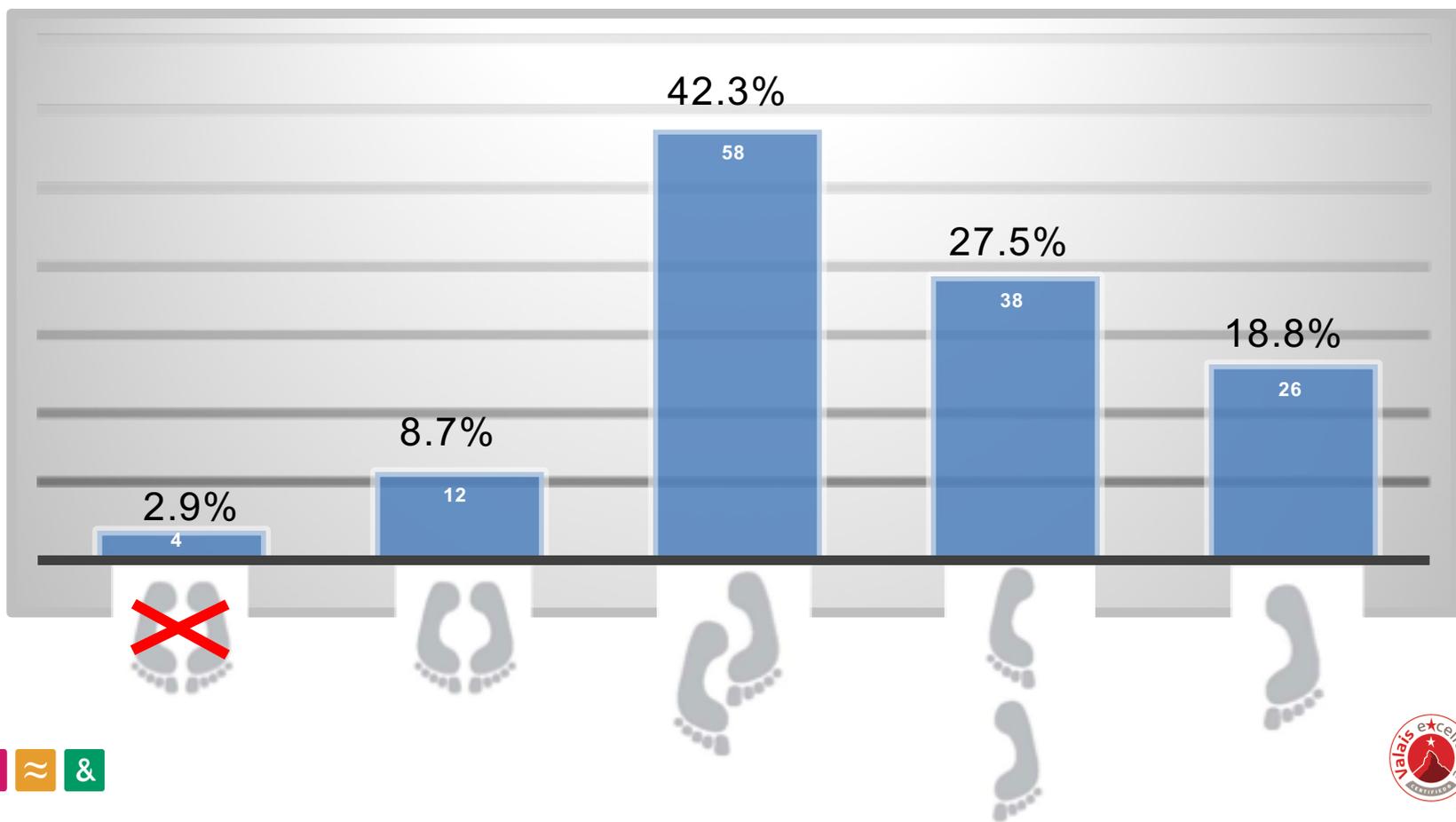
# Echantillon (N=138)



# Echantillon ( $N=138$ )

	Moyenne	Ecart-Type	Minimum	Maximum
Âge	79.12	7.61	65	100
BMI	25.99	5.09	15.42	45.91
FES-I	29.96	9.82	16	59
TUG (sec)	13.47	5.05	5.54	29.38
<b><math>N=118</math></b> FTSTS (sec)	<b>17.82</b>	<b>6.19</b>	<b>7</b>	<b>33.37</b>
Vitesse de marche (m/s)	1.00	0.32	0.25	1.83
FRT (cm)	27.23	11.48	5	80.53
OPQOL-35	137.28	15.55	86	173

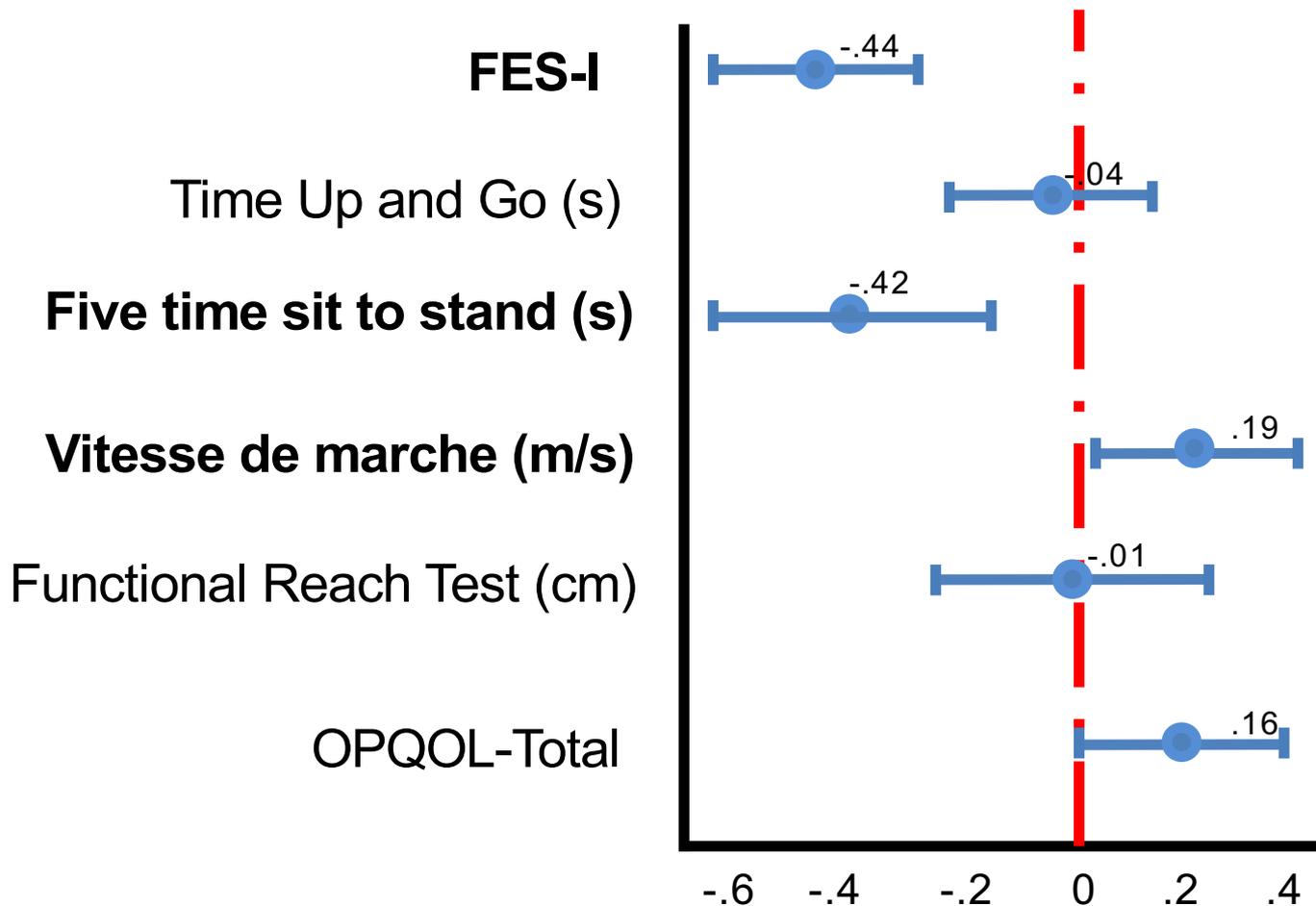
# Echantillon (N=138)



# Résultats intermédiaires (N=54)

	Mean (SD) Pre	Mean (SD) Post	Mean change (Post-Pre) (95% CI)	Effect Size (95% CI)
<b>FES-I</b>	<b>31.00 (10.76)</b>	<b>26.28 (8.91)</b>	<b>-4.72 (95%CI -2.92 to -6.52)</b>	<b>-0.44 (95%CI -0.28 to -0.59)</b>
TUG (s)	13.51 (4.66)	13.32 (5.47)	-0.19 (95%CI 0.76 to -1.15)	-0.04 (95%CI 0.14 to -0.23)
<b>FTSTS (s) N=45</b>	<b>18.04 (6.41)</b>	<b>15.37 (5.08)</b>	<b>-2.66 (95%CI -1.24 to -4.09)</b>	<b>-0.42 (95%CI -0.19 to -0.63)</b>
<b>Walking speed (m/s)</b>	<b>1.00 (0.30)</b>	<b>1.06 (0.39)</b>	<b>0.06 (95%CI 0.12 to -0.00)</b>	<b>0.19 (95%CI 0.35 to 0.03)</b>
FRT (cm)	27.23 (9.18)	27.15 (9.21)	-0.08 (95%CI 2.14 to -2.30)	-0.01 (95%CI 0.23 to -0.25)
OPQOL	136.02 (16.81)	138.70 (17.33)	2.69 (95%CI 5.53 to -0.16)	0.16 (95%CI 0.33 to -0.01)

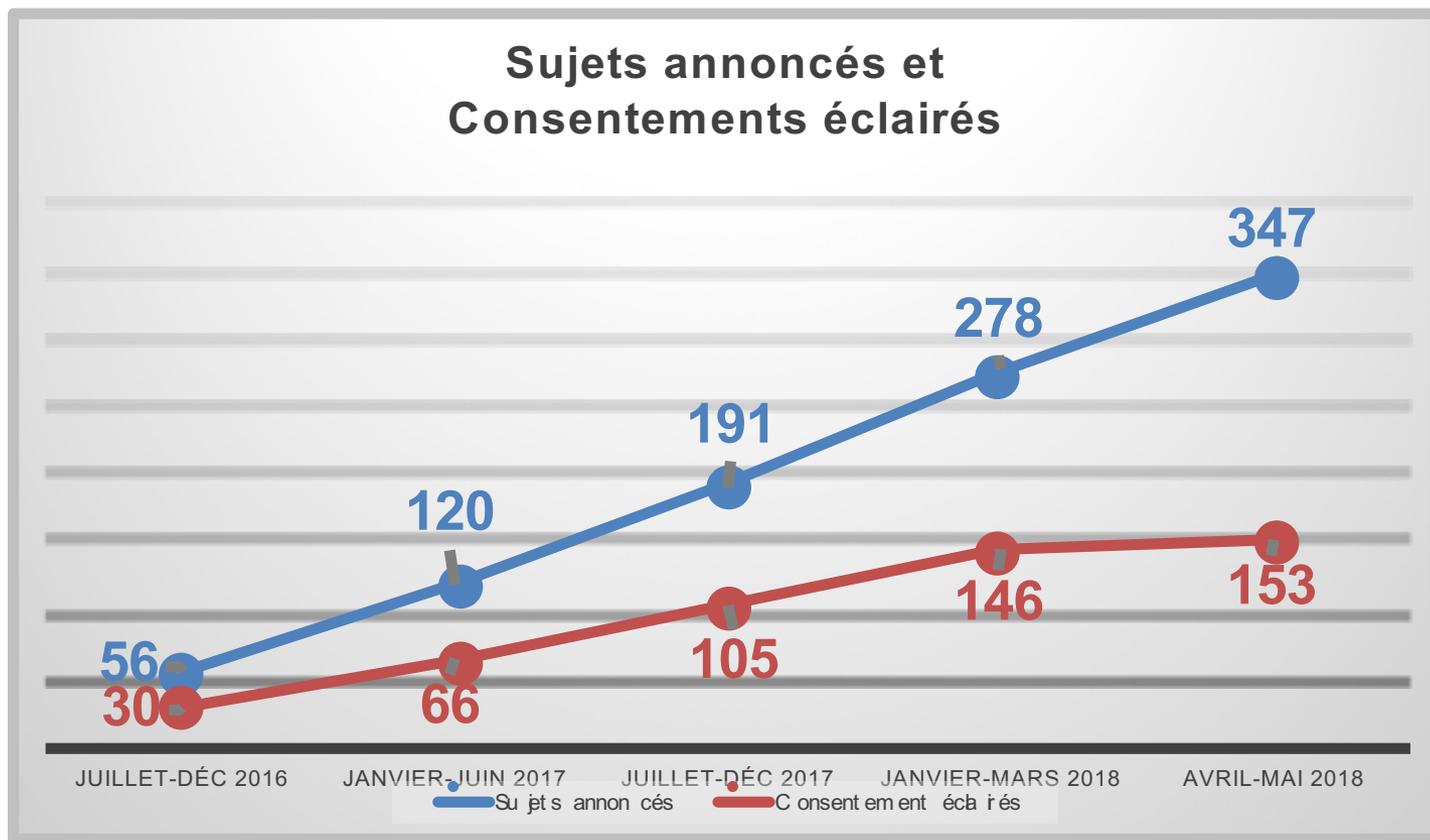
# Résultats intermédiaires (N=54)



Effect Sizes

- 0.2 = small effect
- 0.5 = moderate effect
- 0.8 = large effect

# Evolution du recrutement



# Identification des personnes à risque

- Age is strongly related to risk for falls
- A pragmatic approach to identifying older persons at high risk of falls would be to assess for a history of falls or physical function/mobility limitation problems
- Clinicians could also use assessments of gait and mobility, such as the Timed Up and Go test

# Solutions ?

## Recommendations for engaging older people in falls prevention

**Table 3** Recommendations for promoting uptake and adherence to falls-related interventions

Recommendation (clarification)	Rating*	General theory/evidence
3. Utilise a variety of forms of social encouragement to engage older people in interventions. (Uptake may be encouraged by the use of personal invitations to participate (preferably from a health professional) and positive media images and peer role models to illustrate the social acceptability, safety and multiple benefits of taking part. Uptake and adherence may be encouraged by ongoing support from family, peers, and professionals.)	1 (1-3) 2 (1-3) 1 (1-2) 1 (1-3)	Known social influences on health-related behaviour are encouragement, approval and social support from health professionals and other sources <sup>1</sup> and role models who provide an example of successful accomplishment of health-related goals. <sup>21</sup>

Yardley, L., Beyer, N., Hauer, K., McKee, K., Ballinger, C., & Todd, C. (2007).

Recommendations for promoting the engagement of older people in activities to prevent falls. *Quality & Safety in Health Care*, 16(3), 230–234. <https://doi.org/10.1136/qshc.2006.019802>

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JAMA. 2018;319(16):1696-1704. doi:10.1001/jama.2018.3097  
Published online April 17, 2018.

## Research Needs and Gaps

Studies are needed on the clinical validation of primary care tools to identify older adults at increased risk for falls.

### Falls Risk Assessment Tool (FRAT)



**Developed by:** Peninsula Health  
**Format:** Assessment tool and Instructions for use  
**Availability:** Download FRAT <PDF version> <Word version>  
Download Instructions for use <PDF version> <Word version>

The Falls Risk Assessment Tool (FRAT) was developed by the Peninsula Health Falls Prevention Service for a DH funded project in 1999, and is part of the **FRAT Pack**. A study evaluating the reliability and validity of the FRAT has been published (Stapleton C, Hough P, Bull K, Hill K, Greenwood K, Oldmeadow L (2009). A 4-item falls-risk screening tool for sub-acute and residential care: The first step in falls prevention. *Australasian Journal on Ageing* 28(3): 139-143). The FRAT has been distributed to approximately 400 agencies world wide.

#### Check Your Risk for Falling

Circle "Yes" or "No" for each statement below			Why it matters
Yes (2)	No (0)	I have fallen in the past year.	People who have fallen once are likely to fall again.
Yes (2)	No (0)	I use or have been advised to use a cane or walker to get around safely.	People who have been advised to use a cane or walker may already be more likely to fall.
Yes (1)	No (0)	Sometimes I feel unsteady when I am walking.	Unsteadiness or needing support while walking are signs of poor balance.
Yes (1)	No (0)	I steady myself by holding onto furniture when walking at home.	This is also a sign of poor balance.
Yes (1)	No (0)	I am worried about falling.	People who are worried about falling are more likely to fall.
Yes (1)	No (0)	I need to push with my hands to stand up from a chair.	This is a sign of weak leg muscles, a major reason for falling.
Yes (1)	No (0)	I have some trouble stepping up onto a curb.	This is also a sign of weak leg muscles.
Yes (1)	No (0)	I often have to rush to the toilet.	Rushing to the bathroom, especially at night, increases your chance of falling.
Yes (1)	No (0)	I have lost some feeling in my feet.	Numbness in your feet can cause stumbles and lead to falls.
Yes (1)	No (0)	I take medicine that sometimes makes me feel light-headed or more tired than usual.	Side effects from medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I take medicine to help me sleep or improve my mood.	These medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I often feel sad or depressed.	Symptoms of depression, such as not feeling well or feeling slowed down, are linked to falls.
<b>Total</b>		Add up the number of points for each "yes" answer. If you scored 4 points or more, you may be at risk for falling. Discuss this brochure with your doctor.	

This checklist was developed by the Greater Los Angeles VA Geriatric Research Education Clinical Center and affiliates and is a validated fall risk self-assessment tool (Rubenstein et al. J Safety Res. 2001; 42(2):483-492). Reprinted with permission of the authors.

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## Research Needs and Gaps

More efficacy trials are needed on how the following interventions may help prevent falls if offered alone and not as part of multifactorial interventions: environmental modification, medication management, and psychological interventions.

## Research Needs and Gaps

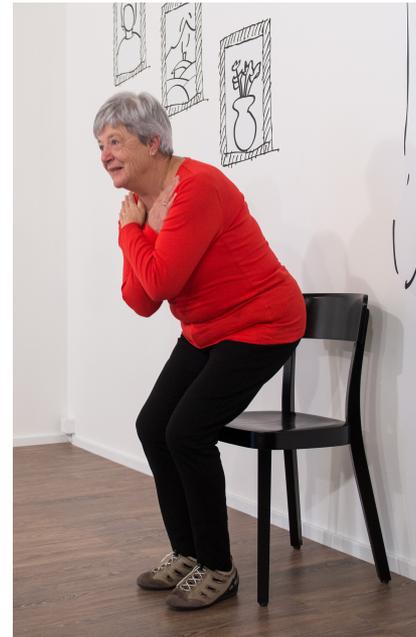


Additional research is needed on the effectiveness of interventions in different age groups, in particular adults older than 85 years.

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## Research Needs and Gaps



Additional research to identify effective components of exercise interventions would also be useful.

# Ce qu'en disent les sujets après 12 mois

*Cela demande des efforts et de la volonté au quotidien*

*Certains exercices m'ont beaucoup aidés*

*Au début c'était un peu difficile mais c'est allé de mieux en mieux*

*Si je n'avais pas fait ces exercices, je pense à ce jour ne plus pouvoir marcher.*

*Je fais toujours quelques exercices.*

*C'était difficile de remplir les calendriers tous les jours*

# Take Home Message

Après six mois d'exercices à domicile, les sujets à risque de chute ont amélioré de manière statistiquement significative :

- Leur peur de chuter
- La durée pour se lever 5x d'une chaise
- Leur vitesse de marche

Leur qualité de vie s'est également améliorée, mais pas de manière significative

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# Merçi pour votre attention

# Discussions Questions

