

Discover how to promote healthy ageing through an efficient and cost-impactful program led in the Netherlands



Key points

- With the size of the older population set to increase dramatically over the next few decades, effective strategies to promote healthy aging and independent living have become the focus of upcoming national and local health policies.
- Our study showed that Thuis Onbezorgd Mobiel (TOM)* – a holistic community-based approach focusing on improving strength, balance and mobility, encouraging healthy eating and promoting social interactions – provided an efficient, cost-impactful, and sustainable strategy for fall prevention (2).
- The real-world evidence gained through our study has led TOM to be included as an approved intervention by the RIVM (The National Institute for Public Health and the Environment of the Netherlands Ministry of Health, Welfare and Sport), with training practices being adopted by national health professional organizations and strategies for the national rollout of the scheme being implemented.

Falls among older adults are a major public health concern. Around one-third of people

Around one-third of people aged over 65 years fall at least once a year. Falls are a leading cause of accidental death, among the older population (1)

aged over 65 years suffer at least one fall each year, making falls a leading cause of accidental death, emergency department visits and hospital admissions among the older population (1). A range of factors have been linked to an increased risk of falls, including poor

balance and gait, frailty, visual impairment, poor diet, and chronic illnesses, as well as social isolation or environmental factors such as home hazards (slippery or uneven floors, poor lighting etc.)(1)... Beyond the initial injuries, falls can have longer term consequences such as a loss of mobility and problems performing daily tasks and living independently, which affects quality of life and wellbeing.

Moreover, many older people who have suffered a fall lose confidence in their physical abilities and develop a fear of falling. This can cause them to limit their activities, further reducing their levels of mobility and fitness and increasing the likelihood of future falls.

Introduction

* The Thuis Onbezorgd Mobiel (TOM) program, also known as Best Frailty Care (BFC), was implemented with the help of a coalition of profit and non-profit partners, research institutions, healthcare professionals and local welfare organizations:

In the Netherlands, around 20% of the population is aged 65 or over. The direct medical costs from falls reached more than 1 billion Euros in 2019 (3) and these costs are expected to double within the next 10 years, following the rise of the over-65s in the population. In light of the growing burden on health and social care services and budgets, governments have an interest in keeping older people healthy and self-sufficient so that they can live independently for longer. That is why, in the Netherlands, where around 95% of older adults currently live independently - either alone or with a spouse (4) - there is now cross-political party agreement that it should be a key focus of local and national health policies.

What can be done to promote healthy aging in the older population?

Putting in place an effective fall prevention program is a key strategy for promoting healthy aging (1). Various risk prevention schemes have been evaluated in clinical settings, with the most effective programs involving exercise, and education about falls prevention, supported by dietary intervention strategies. As most falls occur at home, often among people who are not aware that they are at risk of falling, these fall prevention schemes need to target community-dwelling older adults.

At present, the national approach in the Netherlands is not geared toward making the fundamental switch from after-fall care to fall prevention (5).

New health policies to promote healthy aging need to be developed and implemented using an evidence-based approach to provide indications of effectiveness against the global issues associated with falls.

The TOM program: a holistic approach to healthy aging and fall prevention

To respond to this need, the TOM program was launched in the Netherlands in 2017 and was improved through a series of "living labs" in six pilot regions.

The latest one involved 80 elderlyies and took place in 2019 in a neighborhood in Rotterdam; a district that already has a relatively large population of older adults, with 23% of the residents being aged 65 years or over, compared to the city-wide average of just 15%. This latest version of the program used group settings to promote social interactions and focused on raising awareness about the risk of falls and how to prevent them, improving balance through exercise classes, and enabling to make eating and drinking habits healthier and protein richer regarding this population's specific needs and life constraints (**Box 1**)**.

The whole program was run using an integrated community-driven approach, made possible by the involvement of national organizations, including private and non-profit research and safety organizations and associations for health care professionals, and through local partnerships with the municipality of Rotterdam, community health care practices (dieticians and physiotherapists, etc.) and welfare organizations.

What was the impact of the program on the health of the study population? What was the cost impact of the program? What lessons were learned for the wider rollout and sustainability of the scheme on a national scale? The impact study done on the latest living lab provide us answers.

Methodology of the impact study

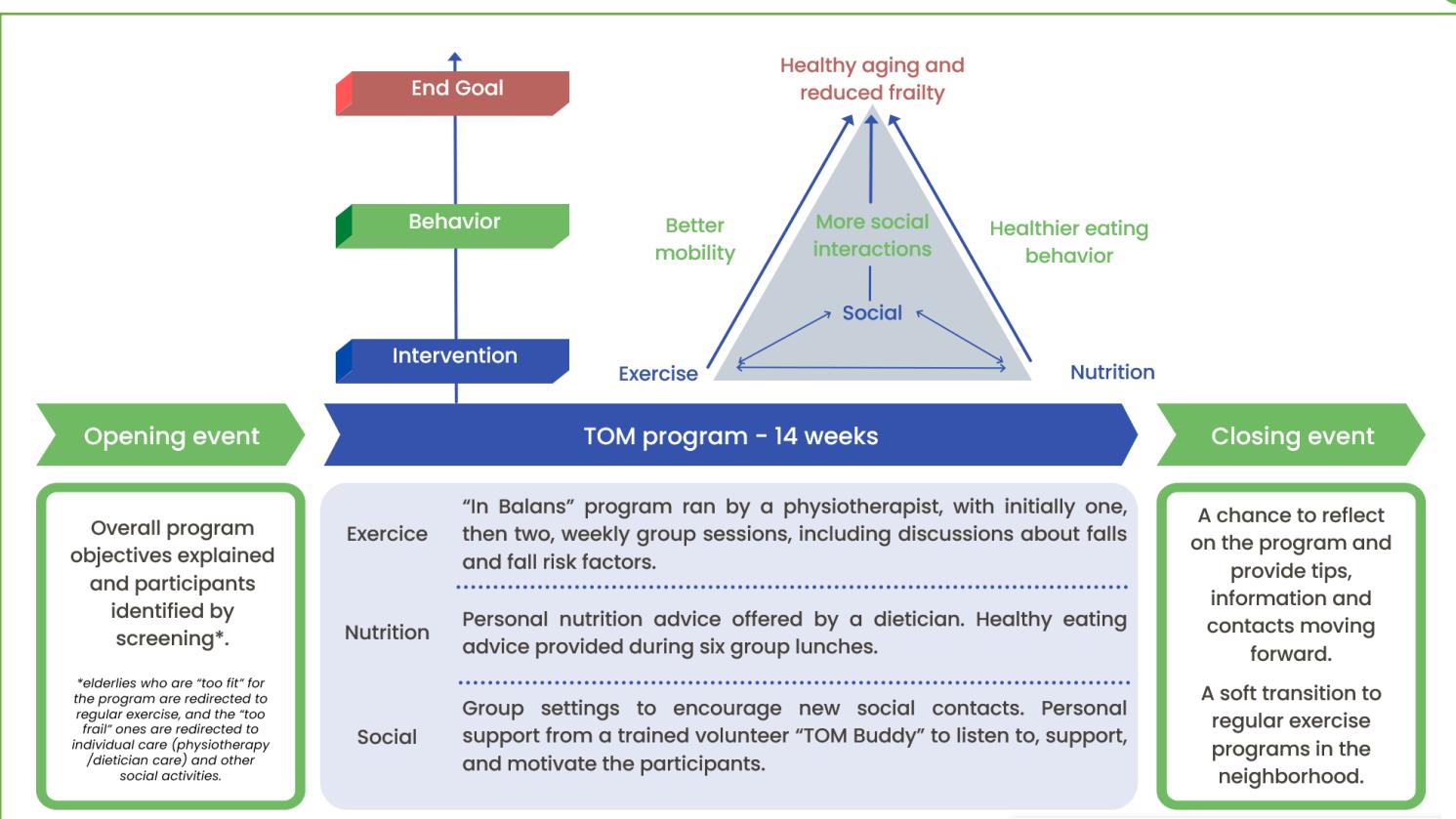
Older adults (>65years) living in the district were made aware of the program through advertisements in the local paper and shops, and through local professional practices (pharmacies, general practitioners, physiotherapists, social workers etc.).

At the opening event, 164 older adults were screened, and 80 of them, with an average of 78 years, were selected according to their risk of falling.

During the study, the impact of the program on key targets for healthy aging (mobility and strength, perceived wellbeing and quality of life, eating behavior, and nutritional status and intakes) was assessed before, right after, and 6 months after the intervention. Participants were assessed through fall risk assessments and nutritional screening.

** This last component of the program, on diet, was designed after a pre-study of food habits among the Dutch aging population in the community indicated that the program needed to target several factors to modify habits, including knowledge about healthy nutrition, cooking skills and social habits to promote healthy eating with others (6).

Box 1: Core components of the TOM program



The financial impact of the program was based on a cost-impact ratio, calculated by dividing the costs of the program – minus the savings in healthcare costs – by the health gain achieved. The health gain achieved is the gain in life years due to preventing falls and preventing injuries (related to falls), and expressed as Disability-Adjusted Life Years (DALYs).

The result of this formula is the net cost of TOM for keeping a participant in optimum health for one year of life. Finally, an overall evaluation of the program, looking at its implementation, relevance, effectiveness and sustainability from the point of view of the participants and the professionals was performed through focus groups and semi-structured interviews (7).

Results

Health Impact by the end of TOM



Cost Impact by the end of TOM



Figure 1: Real-world impacts of the TOM program

What was the impact of TOM on mobility, the number of falls and perceived health?

Physical function assessments indicated that the program helped the participants to gain muscle strength and improved their balance and flexibility. This was accompanied by a reduction in the number of reported falls and by fewer participants having a fear of falling. The program also significantly improved the quality of life of the participants, their perceived health and their levels of self-sufficiency. The participants largely maintained this improved sense of wellbeing over the 6 months following the program (2).

Did the program encourage a healthier diet?

The program had a positive impact on the eating behavior of the participants in the short-term, and to some extent in the long run. Improving their knowledge of healthy eating and drinking habits, encouraged the participants to eat more protein and improve the distribution of intake over different meals, which is essential to maintain the muscle mass and strength.

The participants also began to consume more milk and milk products, leading to a slight improvement in vitamin D and calcium intakes, which is known to bring a higher bone density and thereby, a decreased risk of fractures. Overall, diet quality improved during and in the months after the program, with intakes adhering more closely to Dutch guidelines for a healthy diet (8).

What were the benefits in terms of the cost of care?

The total health care cost savings from preventing falls and injuries through the TOM program were €8,217. The total health gain achieved was 3.96 DALYs, and the costs per DALY are €16,854. These are therefore the net costs of TOM for keeping a participant in optimum health for one year of life, which is substantially lower than the standard cost of €50 000.

Lessons learned from the study

When asked to share their thoughts on the program, older adults were pleased by the visible results they obtained, and welcomed the social contacts brought by the group lunches and exercise classes,

which they found to be key motivators for sticking with the program. However, some participants found the group too large (12 participants), particularly at the group lunches were some participants found it difficult to hear the information being presented. The clear explanation of the program and the practical information supplied, helped to increase the participants' awareness of their own health and of how to improve it. The participants also appreciated the voluntary nature of the program as it made them feel like it was their choice to take part. The set duration also made them more willing to commit their time to the program. Once the program had ended, most participants would have liked to continue the social interactions and activities with their program group, but found that a lack of specific follow-up made this difficult. Concerns about the cost of exercise classes were also identified as a potential barrier to participation in the future. The professionals involved in the program felt that their close contact with the older adults gave them a greater understanding of the needs of the local older population. However, both the dieticians and physiotherapists would have appreciated opportunities for closer collaboration.

Conclusions

The living lab study provided strong evidence that the integrated, community-based approach used in the TOM program is an efficient

The integrated, community-based approach used in the TOM program is an efficient and cost-impactful method for promoting healthy aging

and cost-impactful method for promoting healthy aging by reducing the number of falls and by improving mobility, wellbeing, and eating and drinking habits among the older population. The impact of

the program could be increased further by strengthening the collaboration between professionals, providing more tailored advice, and developing a long-term strategy to maintain effectiveness in the long term.

Implications and recommendations

The living lab studies provided valuable insights for the implementation of strategies to further the impact, ensure the sustainability, and facilitate the rollout of the TOM program on a national scale.

How can the long-term impact of the program be improved?

One of the main challenges for TOM is to encourage the participants to continue with their shift to a healthier lifestyle in the long term. Feedback from the impact study suggested that information on follow-up activities should be provided early in the program, rather than at the closing event. This would allow participants more time to make plans for future activities with their program group, or encourage them to begin their own independent program to maintain mobility while the experts were on hand.

A formal follow-up plan could also be added to the program (information material for participants, continuity programs with physiotherapists, etc.), backed up by a repeat program every year.

Could the program provide a more personalized approach to nutrition and exercise?

Although the nutritional intervention was strengthened through the series of living lab studies by dedicated training for dieticians and the adaptation of lunch sessions with more holistic insights on food, offering information about healthy eating in general, rather than concentrating on the importance of protein, will likely increase the impact and levels of individual satisfaction with the program. Similarly, some people found that differences in physical ability between the participants were problematic. One option to tackle this issue could be to organize groups by levels of physical function ahead of the program.

Joint training to improve collaboration between professionals

The integrated approach providing specialist care from dieticians and physiotherapists was likely one of the key driving factors in the success of TOM. However, both sets of professionals would have liked to collaborate more closely during the program. To help foster these closer collaborations and further enhance the integrated approach, the organization providing professional training for TOM, VeiligheidNL, has initiated a joint program for local project managers and all locally involved professionals, dieticians included.

This training provides mixed course content, highlighting the complementarity of the two disciplines and how to provide connected care through the program.

Ensuring the effective rollout of the program to other municipalities

Ensuring that other municipalities follow the evidence-based approach developed by the TOM program will be essential to maintaining the impact of the program on a national scale. In addition to distributing an "Implementation Handbook" for municipalities, health insurance companies and professionals to encourage take up of the TOM approach, the wider rollout will be supported by providing a blueprint for each municipality. This strategy involves 1) evaluating existing fall prevention programs in local areas to identify strengths and weaknesses; 2) providing on-the-ground support and training to local health care professionals and organizations that are already providing care to community-dwelling older adults in the area; and 3) assisting with the recruitment of local older adults and with the organization of the events and group activities that make up the TOM program.

How can long-term sustainability be achieved?

The living lab studies have shown that the sustainability of the TOM program can be achieved through collaborations between municipal financial structures and budgets, health insurance companies, associations and sponsors, and care and welfare organizations. In Rotterdam, the local health care policy has started to incorporate TOM, with four TOM groups starting up each year in neighborhoods with many older people. However, long-term funding from the national government and health insurance companies will be needed to facilitate the implementation of this program throughout the city of Rotterdam and to reach even more elderly people.



Where are we now?

On the national scale, TOM is now listed as an approved intervention by RIVM, and as a best practice intervention in the National Elderly Pact. TOM training has also now been integrated into the National Dieticians Association curriculum. Further endorsements of the holistic approach used in the program come from nutritional screening being included as part of the national fall prevention guidelines and evaluations of nutritional status being integrated into national frailty screening. To date, seven municipalities across the Netherlands are in the process of adopting the program as part of their health care policy for fall prevention and healthy aging, more than 800 physiotherapists and dieticians have been trained through the program nationwide and more than 8000 older adults are benefiting from their participation in the living lab studies or engaging with local trained professionals to maintain their healthier lifestyle and continue living active and independent lives.



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