UNIVERSITY OF TWENTE.

Faculty of Behavioural, Management and Social Sciences

TAILORED ADVICE AFTER FILLING IN AN ONLINE HEALTH QUESTIONNAIRE

An evaluation study of the tailored advice intervention at the Dutch Public Health Service Twente

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Abstract

Introduction
The health monitor of the Dutch Public Health Services is an important pillar in health status of the citizens of the Netherlands. To stimulate patient-empowerment and increase the participation in the regular health monitor, the Dutch Public Health Service Twente implement an intervention. This intervention means that the respondents of the health monitor 2016 could receive tailored advice, based on their results of the health monitor. This study focuses on evaluating the tailored advice intervention of the Dutch Public Health Service Twente by exploring the target audience and getting insights in the appreciations of the respondents, regarding the intervention.

Methods
The study had an explorative character. The research question was:*To what extend is the tailored advice intervention of the GGD Twente used and does it meets* the expectations, needs and interests of the respondents?To answer the research question, sub-questions were formulated and a mix method design was used. This means qualitative and quantitative research were combined. The quantitative study regarded data analysis with help of IBM SPSS. We analysed how often the option tailored advice was used by the respondents of the health monitor 2016 and which sociodemographic characteristics were associated with this use. Besides this, we explored which of the offered topics of tailored advice are most often used and in what extend the interest of these topics can be predicted by sociodemographic characteristics or health behaviour. The qualitative study consisted of semi-structured interviews with twelve respondents of the online health monitor 2016. During the interviews respondents were asked about their expectations and appreciations of the tailored advice intervention. Respondents were also asked about their effect expectations of getting new insights in health status, motivation to change health-related behaviour and motivation to participate in a health monitor. The interviews were structured with help of a coding scheme and for analysis of the transcripts, Atlas.ti was used.

Results
The tailored advice intervention was used by 63% of the participants of the health monitor 2016. The tailored advice intervention reached a heterogeneous group of people consisting of mostly males, aged between 50 and 74 years old with a middle level of education. The feedback topics that were most often used are: weight (68,0%), physical activity (63,7%), feelings of well-being (45,9%) and vegetables and fruit (44,3%). Clicking on these feedback topics were associated with lower age and higher level of education. For all feedback topics, people with particular health problems were more clicking on the feedback topic concerning their particular health problems compared to people without health problems. The qualitative study showed that a lot of respondents had misunderstandings about the goal of the intervention. Some respondents expected the tailored advice intervention to be a diagnosing tool, while others expected it was a way for referring people to a health professional. When showing respondents the advice, at first sight, they were positive about the advice and thought it would be very useful. Respondents mentioned that it is always nice to receive advice and that they liked the idea of giving respondents something back for their participation in the health monitor. Respondents also liked to see

their score after filling in questions about their health-related behaviour. Yet, after taking a second look to the advices, there were also some comments and remarks. Respondents mentioned the advice was to general and would be more useful if it was more tailored. About the effect of the intervention, respondents were undecided. The intervention gave no new insights, but could maybe trigger people to do something about their health-related behaviour. According to the respondents, the intervention could make people aware of their health status, but will not contribute directly in changing health-related behaviour. Respondents also mentioned that the intervention is not a reason to participate in further health monitors, because they could also find this information by themselves all the time by searching on the internetand there is no option to see your progression in the long run.

Discussion

In general, the tailored advice application seems to be a valuable intervention for the target audience. The tailored advice intervention is used by a large amount of participants. The respondents had high expectations, but these were not all fulfilled. Because respondents already know how they score and already are motivated, the intervention appeals better to the expectations, needs and interests of the target audience if the Public Health Service Twente focus more on the '*wanting and being able to'* phase of the 'Persuasive by Design' model. The Public Health Service Twente should focus more on the different phases of change where participants are in and the needs belonging to this phases. For this, more questions should be asked when participants select a feedback topic. Future research should focus on the re-implementation of the improved tailored advice intervention at the Public Health Service Twente, and on performing this research on a larger scale in the Netherlands. Future research should first examine the technological feasibility of this re-implementation.

Samenvatting

Inleiding
De gezondheidsmonitor van de Gemeentelijke Gezondheidsdienst (GGD) is een belangrijke pijler voor de gezondheid van de Nederlandse bevolking. Om zelfredzaamheid te stimuleren en de participatie in de gezondheidsmonitor te verhogen, heeft de GGD Twente een interventie ontwikkeld. Deze interventie houdt in dat respondenten van de gezondheidsmonitor 2016 naar aanleiding van de monitor advies op maat konden krijgen. Dit onderzoek richt zich op het evalueren van de advies op maat interventie waarbij de bereikte doelgroep wordt onderzocht en er inzicht wordt verkregen in de waardering van de bereikte doelgroep met betrekking tot de interventie.

Methode
Dit onderzoek had een exploratief karakter. De onderzoeksvraag was: *In hoeverre is de advies op maat interventie van de GGD Twente gebruikt en sluit het aan op de verwachtingen, behoeftes en interesses van de respondenten?* Voor het beantwoorden van de onderzoeksvraag zijn subvragen opgesteld en is er een gemixte methode gebruikt. Dit houdt in dat er een combinatie van kwantitatief en kwalitatief onderzoek is uitgevoerd. Voor de kwantitatieve studie zijn er met behulp van IBM SPSS data analyses uitgevoerd. Hierbij is er gekeken door hoeveel respondenten de advies op maat interventie is gebruikt en welke sociaal demografische kenmerken hiermee samenhangen. Hiernaast is er gekeken naar welke feedback onderwerpen het meeste zijn gekozen door de respondenten en in hoeverre de interesse van respondenten in feedback onderwerpen kan worden voorspeld door sociaal demografische kenmerken of gezondheidsstatus. Voor de kwalitatieve studie zijn semigestructureerde interviews gehouden met twaalf deelnemers van de gezondheidsmonitor 2016. Hierbij is er gevraagd naar de verwachtingen van de respondenten met betrekking tot de interventie en hun mening over verschillende aspecten van de interventie. Hiernaast is er gevraagd naar hun verwachte effect van de interventie wanneer we kijken naar inzicht in gezondheidsstatus, motivatie tot gedragsverandering en participatie in een gezondheidsmonitor. De interviews zijn gestructureerd aan de hand van een interviewschema en data analyse is gedaan met behulp van het computerprogramma Atlas.ti.

Resultaten
De advies op maat interventie is gebruikt door 63% van de deelnemers van de gezondheidsmonitor 2016. De interventie heeft een heterogene groep deelnemers bereikt, die bestond uit net iets meer mannen, veelal tussen de 50 en 74 jaar oud met een middel opleidingsniveau. De volgende feedback onderwerpen zijn het meest gekozen door de deelnemers: gewicht (68,0%), beweging (63,7%), gevoelens van geluk (45,9%) en groente en fruit (44,3%). Het klikken op deze feedback onderwerpen is geassocieerd met een lagere leeftijd en een hoger opleidingsniveau. Hiernaast blijkt dat voor alle feedback onderwerpen, respondenten met bepaalde gezondheidsproblemen vaker voor het desbetreffende feedback onderwerp kiezen dan mensen zonder deze gezondheidsproblemen. Uit de kwalitatieve studie blijkt dat sommige respondenten verkeerde verwachtingen hadden wat betreft het doel van de interventie. Sommige respondenten dachten bijvoorbeeld dat de interventie bedoeld was om ziektes te diagnosticeren terwijl andere respondenten dachten dat het een manier was om mensen door te verwijzen naar een zorgprofessional. Wanneer respondenten het advies hadden gezien, vonden

zij het er op eerste gezicht nuttig uitzien. De respondenten gaven aan dat zij het altijd leuk vinden om gezondheidsadvies te ontvangen en dat zij het een goed idee vonden om dit terug te doen voor respondenten die de gezondheidsmonitor invullen. Respondenten vonden het ook leuk om hun score te zien nadat zij vragen hadden ingevuld over hun gezondheid gerelateerde gedrag. Wanneer respondenten het advies beter bekeken, hadden zij echter toch nog een aantal op- en aanmerkingen. Zo vonden zij het advies te algemeen er moet er meer worden gekeken naar waar het probleem van de persoon ligt. Over het effect van de interventie waren respondenten onbeslist. Respondenten gaven aan dat de interventie geen nieuwe inzichten biedt, maar mensen misschien wel zou kunnen aanmoedigen om meer met hun gezondheid bezig te gaan. Respondenten verwachten dat de interventie bij kan dragen aan het bewustzijn en de intentie van mensen, maar geen directe gedragsverandering kan veroorzaken. Hiernaast zal volgens de respondenten de interventie niet een reden zijn om mee te doen aan een volgende gezondheidsmonitor, omdat de beschikbare informatie ook zelf op het internet opgezocht kan worden en er geen progressie over de tijd bekeken kan worden.

Discussie

Over het algemeen lijkt het advies op maat van de GGD Twente een waardevolle interventie voor de gebruikers. De advies op maat interventie is veel gebruikt door deelnemers van de gezondheidsmonitor. De respondenten hadden hoge verwachtingen van de interventie, maar deze werden niet allemaal waar gemaakt. De interventie kan beter aansluiten bij de doelgroep als de GGD Twente zich meer richt op de '*willen en kunnen'* fase van het gebruikte 'Persuasiveby Design' model. De GGD Twente zou zich meer moeten focussen op de verschillende fases van gedragsverandering waar de deelnemers inzitten en de behoeftes die hierbij horen. Hiervoor moeten er meer vragen gesteld worden wanneer deelnemers voor een feedback onderwerp kiezen. Toekomstig onderzoek zal zich moeten focussen op re-implementatie van een verbeterd advies op maat en op de uitvoeringhiervan op grotere schaal in Nederland. Toekomstig onderzoek zal zich hiervoor eerst moeten richten op de technische haalbaarheid van deze re-implementatie.

Preface

This thesis is written to finish the master Health Sciences, with a specialization in Human centered e-Health and Healthcare services design, at the University of Twente. This study was performed at the GGD Twente, where I learned a lot during the period of working on this assignment. It was very useful and interesting to be part of this important public health organization.

First, I would like to thank all participants in this study for their time and effort. You all were very patient during the interview and you gave me relevant input for my study.

Second, I would like to thank my supervisors from the University of Twente, Stans Drossaert and Christina Ullrich. Despite your busy schedules we always managed to see each other and discuss my study when necessary. Your advices and support were very helpful to me.

Finally, I would like speak out gratitude to my supervisors from the GGD Twente, Cristel Boom and Femke Koedijk. It was very supporting that your never ending ability in answering all of my questions. I also would like to thank you for your trust that I experienced during this study.

Angela van Akker,

Enschede, September 2017

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1. Introduction

1.1 Background Dutch Public Health Services

The Dutch Public Health Service (Gemeentelijke Gezondheidsdienst, GGD)is a connection between the government and health services in the Netherlands. The aim of this organization is to monitor, protect and promote the health of all residents of the Netherlands, with special attention to risk groups in the population. In order to fulfil these tasks, the GGD must collect information about the health status of the residents. It is necessary to collect this information, because this data provides insight in the health situation of people in different neighbourhoods, districts, municipalities, regions and also on national level. This data is being used for the health policy of the Netherlands (GGD-Twente, 2016).

1.2 Health monitor

Every four years all GGD's in the Netherlands participate in a health monitor to collect information about the adults and elderly in the country. In cooperation with the National Institute for Health and the Environment (RIVM) and the Central Bureau for Statistics (CBS) the GGD collects information about the health status of the residents aged nineteen years and older. This is measured through a questionnaire about different topics concerning lifestyle and psychosocial health. For this health monitor, a percentage of people per region receive an invitation to participate in an online monitor. In this monitor, people fill in their demographical data and receive multiple questions about their lifestyle and psychosocial health. Part of the questionnaire consist of standard questions that every GGD asks, but it is also possible to add specific questions regarding a different GGD region in the Netherlands (GGD-GHOR, 2016). In order to motivate people to fill in the health monitor, and to improve health, the GGD Twente decided to combine the health monitor with tailored advice, and to integrate the concept of positive health. The current study will evaluate the implementation of this tailored advice intervention. Paragraph 1.4 will clarify what is meant by the concept of positive health.

1.3 Tailored advice

Tailored advice is an effective method for stimulating self-management and changing health related behavior (Crutzen & de Vries, 2015).Feedback is given based on the beliefs people have on certain behavior. According to Barbara Rimer, (2006) the definition of tailored advice is: ''Reaching a specific person through a combination of behavioral change strategies and unique information about that specific person''. This information is most of the time derived from an individual assessment or questionnaire. In this way the tailored information resulting from the assessments matches the interest and needs of the person. (Rimer & Kreuter, 2006)

1.4 Positive health

Positive health is a new concept that is in line with the changing health care of the Netherlands. Populations are rapidly aging and this causes a higher demand for healthcare (Beard & Bloom, 2015). Besides this, the composition of healthcare is changing because people with chronic diseases are the major users of healthcare at the moment (Oostrom, 2011). Empowering the positive health of patients is in line with the more patient-centred care and focus on self-management in the Netherlands (Huber

et al., 2011).The definition of positive health is: “Health is the ability to adapt and to self-manage, in the face of social, physical and emotional challenges.” This theory focuses on patient empowerment and implies that (mental) health is not only the absence of diseases, but also the presence of positive aspects like strengths and positive emotions. According to an earlier definition of the World Health Organization, health can be defined as: "A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity"(Bircher, 2005). According to Machteld Huber, (2011) this WHO definition of health is no longer accurate, because in the past few years chronic disease became the mayor cause of illness in the Netherlands, instead of infection disease, which was the former mayor cause of illness. Besides this, the old definition emphasized the negative definition of health and had a medicalising effect on people (Huber et al., 2011). For this reason, the new theory of positive health is now playing a more important role. For the theory of positive health, six dimensions are identified. These dimensions are: bodily functions, mental function and perception, spiritual dimension, quality of life, social and societal participation and daily functioning. The main difference with the WHO definition is the more holistic view with these six dimensions instead of the bio-medical perspective only (Bruyninckx & Mortelmans, 1999).

1.5 Patient empowerment

The term patient empowerment is widely known as a process in order to gain more control over people’s own health status and better self-management of their health condition (Aujoulat, Young, & Salmon, 2012). The focus on patient empowerment is playing a more important role since the changing health care of the Netherlands and has resulted in many new health interventions varying from patient self-management programs to programs for promoting patient involvement in changing health related behaviour such as tailored advice interventions (Samoocha, Bruinvels, Elbers, Anema, & van der Beek, 2010). Most of these programs take place in group sessions and face to face, because these methods have to be found effective in increasing patient empowerment (Samoocha et al., 2010). Although face-to-face and group sessions have found to be effective, it is believed that with the rise of internet and e-Health interventions the real opportunities for patient empowerment lie online. This is because of the increasing number of internet users and the internet is more frequently a location to store information about health. Several recent studies (Atkinson, Saperstein, & Pleis, 2009) have shown that 58% of all internet users, consult the internet for health purposes. This increased use of the internet for health purposes is a huge potential for online delivery of self-management- and health education programs. Evidence already exists on the effectiveness of online based interventions for improving different health outcomes (Samoocha et al., 2010).

1.6 The study

In order to stimulate patient empowerment and increase the participation in the regular health monitor, the GGD Twente has implemented an online tailored advice intervention. At the end of the adults and elderly health monitor 2016, the GGD Twente implemented the possibility to receive tailored advice. This means the respondents could see their own results after filling in this online health monitor and receive tailored advice based on their results, upon their request. The overall goal of the tailored advice

intervention was to give the respondents insight in their health status and motivate them to change their health-related behavior. The GGD Twente did this by showing their results and providing tips for changing their health-related behaviour. Because of this, respondents were stimulated to find their own power to change their health-related behaviour. (Wijenberg, Boom, L'Hoir, & Moerman, 2016). This method should improve the quality of individual health related decisions and hopefully supports the public health(Eng et al., 1998). Respondents of the health monitor who requested tailored advice, could choose from various lifestyle topics and psychosocial health topics. Additionally, some topics could only be chosen when they were applicable to the individual.

During the implementation of the tailored advice intervention, the theory of positive health was used by adding new questions to the health monitor about the purpose of life and feelings of well-being of the respondents. By adding these new questions to the health monitor, respondents also could receive feedback on the topic 'feelings of wellbeing' – one of the six dimensions of positive health. The feedback of the intervention was also given in terms of positive health by providing feedback in a positive and motivating way. For this, the tone of the feedback messages was supportive instead of patronizing. This is in line with the positive approach that emphasizes patient empowerment and the tone of feedback in terms of positivity, resilience, functioning and participation. For this reason, the feedback messages should be attractive to read and inspiring for people to think about their health related behaviour and possible changes in this behaviour. For the GGD Twente it is important to know how the participants appreciate the advice in terms of positive health.

1.7 Web-based computer-tailored advice interventions

Web-based computer-tailored interventions have several benefits. The accessibility of these interventions is very easy, barriers like distance and time are less relevant and these interventions are very cost-effective. (Cremers, Mercken, Oenema, & de Vries, 2012). Web-based computer-tailored advice interventions also have several risks. Unfortunately not all people can be reached through this method. Reason for this can be that the intervention is not strategically designed for a clearly segmented, homogeneous group of people. For this, it is important that the intervention appeals to the expectations, needs and interests of the target audience to get their attention and influence behaviors. It is also possible that low health literacy is causing a problem for people to use the intervention. The social and cognitive skills and ability of people to understand, gain access to and use the information, which promotes and maintains good health, determine the effectiveness of the intervention. For this reason, interventions should be designed to communicate in an effective way with users, taking their level of health literacy in regard. For example the use of interesting and appropriate language, video, graphics and audio clips can enhance the impact and understandability of the information in the intervention (Kreps & Neuhauser, 2010).Besides these disadvantages, there is often a high drop-out in web-based computer-tailored advice interventions. This discontinuation of participants is observed in the use of these interventions (Cremers et al., 2012) The use of reminders to support adherence to tailored health interventions appears to be effective in increasing participation rates. (Cremers et al., 2012).

1.8 Expectations

Expectations of respondents play an important role in the use of a tailored advice intervention. The reason for this, is that expectations can influence the appreciation of the respondents about the intervention. It is possible that the outcome of an intervention does not match the expectations of the respondents due to wrong or too high expectations. This mismatch can result in disappointment of the respondents with the intervention, which can result in drop-out. To prevent this, it is important that the respondents are well informed about the goal and the value that they can gain of the intervention (Castelfranchi & Lorini, 2003). For this it is important to understand the needs and expectations of the respondents regarding personalized health information.

1.9 Persuasive by Design model

Because the tailored advice intervention is focusing on changing health-related behaviour of respondents, the 'Persuasive by Design' (PbD) model of Sander Hermsen, (2015) was used during development. This model helped designing tailored advice that leads to the desired behavior of the respondents in a structured way. The model can help designers by providing insights in possible strategies for changing behavior (Hermsen, Mulder, Renes, & Van der Lugt, 2015).

Since the PbD-model is ''very complex and not easy to use'' (Hermsen et al., 2015), only the three main phases of the model are used during development of the tailored advice intervention of the GGD Twente. These three main phases for changing behavior, according to the model, are: '*seeing and realizing'*, '*wanting and being able to'* and '*doing and repeating'*. The first two phases imply that the respondents first have to be aware of their health status and after this feel like they can change their health-related behavior. In the last phase of the model, the respondents will change their health-related behavior and maintain this behavior (Hermsen, Renes, & van Essen, 2016). The GGD Twente focused on the first two phases of the model: '*seeing and realizing'* and '*wanting and being able to'*. To let people see and realize it is important to make them compare their current behavior with the desired behavior. To help people wanting and being able to it is important to give people feedback and motivate them to change their current behavior into the desired behavior, for example by showing people how to do this. The GGD Twente strives to support the respondents by making health- related decisions to finally arrive at the '*doing and repeating'* phase (Hermsen et al., 2015). Figure 1 shows the part of the PbD-model that the GGD Twente used for implementation of the tailored advice intervention.

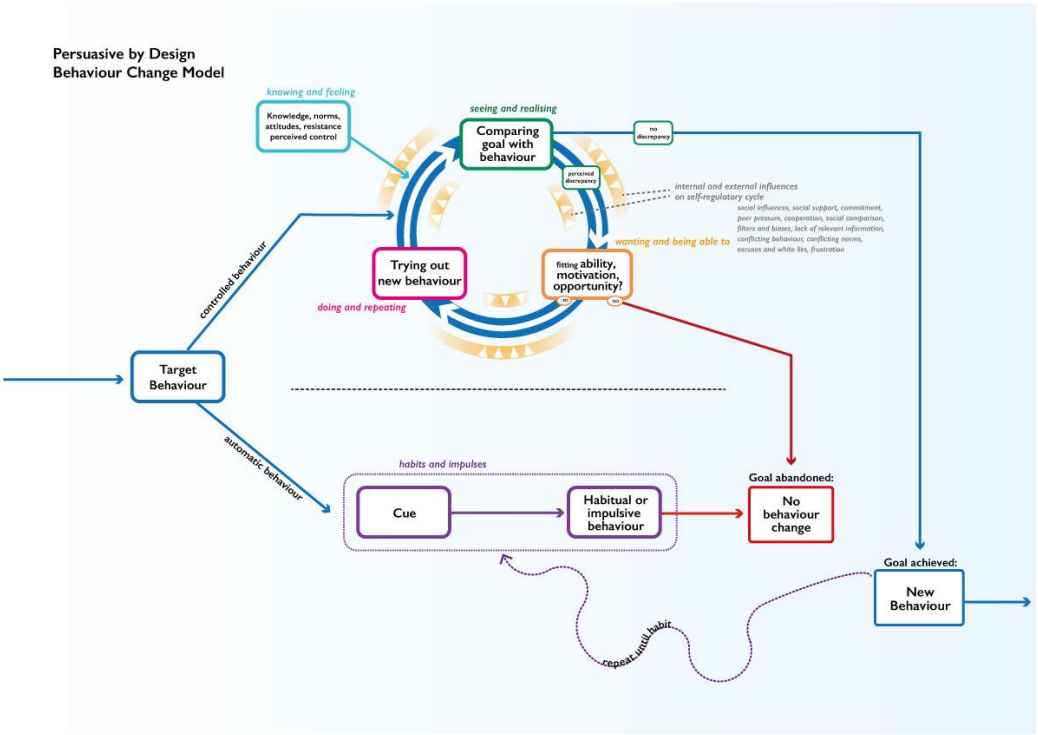


*Figure 1:*Part of the 'Persuasive by Design' model that the GGD Twente used for implementation (Hermsen, Renes, & Frost, 2014).

1.10 Research goal and questions

The GGD Twente has implemented tailored advice to give respondents insight in their health status and motivate them to change their health-related behavior. Giving all respondents the feedback they need, is a challenge (Kreps & Neuhauser, 2010).It is important that the intervention meets the expectations, needs and interests of the individual respondents to get their attention and influence behaviors. The GGD Twente wants to evaluate how the tailored advice is used and if it meets the expectations, needs and interests of the respondents. These results will be used in future development to further match the intervention with the users' needs and expectations. Scientific research predominantly reports on experiences with tailored advice on specific topics such as smoke cessation, but not on a broad range of health related topics following. This study strives to fill this knowledge gap by studying the respondent characteristics, expectations, topic choice, appreciation and effect expectations. This evaluation study will conclude with recommendations for improvements of the tailored advice intervention. The study consists of two parts, being a quantitative and qualitative study, with the following main and sub questions:

To what extend is the tailored advice intervention of the GGD Twente used and does it meets the expectations, needs and interests of the respondents?

Quantitative study:

- How often is the option of tailored advice used by the respondents of the health monitor 2016 and which sociodemographic characteristics are associated with this use?

- Which of the offered lifestyle topics and psychosocial health topics of tailored advice are most often used? And in what extend can the interest in a particular topic be predicted by sociodemographic characteristics or health status?

Qualitative study:

- What are the expectations of the respondents about the tailored advice intervention?
- How are the respondents appreciating the feedback topics, available information, design, tone, personal approach and complexity of the tailored advice intervention?
- To what extend do respondents think that the tailored advice does make people aware of their health status, motivate them to change their health related behaviour and motivate them to participate in a health monitor?

2. Methods

The study was executed from February 2017 to September 2017 and took place at the Dutch Public Health Services Twente. The study had an explorative character and a mix method design was used, which means qualitative and quantitative research were combined. This approach is preferred, because these separate methods can at the end complement each other (Johnson, Onwuegbuzie, & Turner, 2007). To give a good overview, both studies will be described and discussed separately. First the setting of the tailored advice intervention will be described.

2.1 Setting

Respondents could receive tailored advice after filling in the health monitor 2016. For this health monitor, a percentage of people in the region Twente received an invitation to participate in an online health questionnaire. These people logged in on a website of the GGD Twente, filled in the questionnaire and at the end of the questionnaire they were given the option to receive tailored advice. Respondents of the health monitor who requested tailored advice, could choose to have advice on one or more of various lifestyle topics and psychosocial health topics. Additionally, some topics could be chosen only when appropriate for the individual. The lifestyle topics consisted of: weight, physical activity, vegetables and fruit, smoking and alcohol. The psychosocial health topics concern: physical restrictions, feelings of well-being, loneliness, and domestic violence. Besides these topics, there were also two exceptional topics: informal caregiving and falling. The feedback topic 'informal caregiving' could only be chosen by people, who filled during the online monitor in that they are informal caregivers at the moment. The feedback topic 'falling' could only be chosen by participants who were aged 65 years or older. The respondents had to choose the topics they were interested in, before they could read them.

After choosing the feedback topics, each feedback topic was presented. Every topic started with a short explanation of the topic. After this, the score of the respondent was presented in a figure and this figure also showed the average score of the respondents. After showing the score, the respondent was asked if he wanted to change something about this behaviour. If the respondent did not wanted to change something about his score, there was a short text fragment which was followed by the next feedback topic. The short text fragment concluded that maybe it was not a good moment for the respondent to change his behaviour, because he for example was dealing with some other problems at the moment. If the respondent did wanted to change something about his score, a motivational text was followed by practical tips, useful websites and applications. The motivational text was telling the respondent that he did a good job by wanting to change his behaviour.

To show what the intervention of the GGD Twente looked like, the topic choice menu and two examples of tailored advices are presented below. Figure 2 shows the topic choice menu for feedback of the tailored advice intervention. Figure 3 shows the tailored advice of the feedback topic 'health' for a overweighed respondent who wanted to change his behaviour. Figure 4 shows the tailored advice of the feedback topic 'feelings of well-being' for an unhappy respondent who wanted to feel happier.

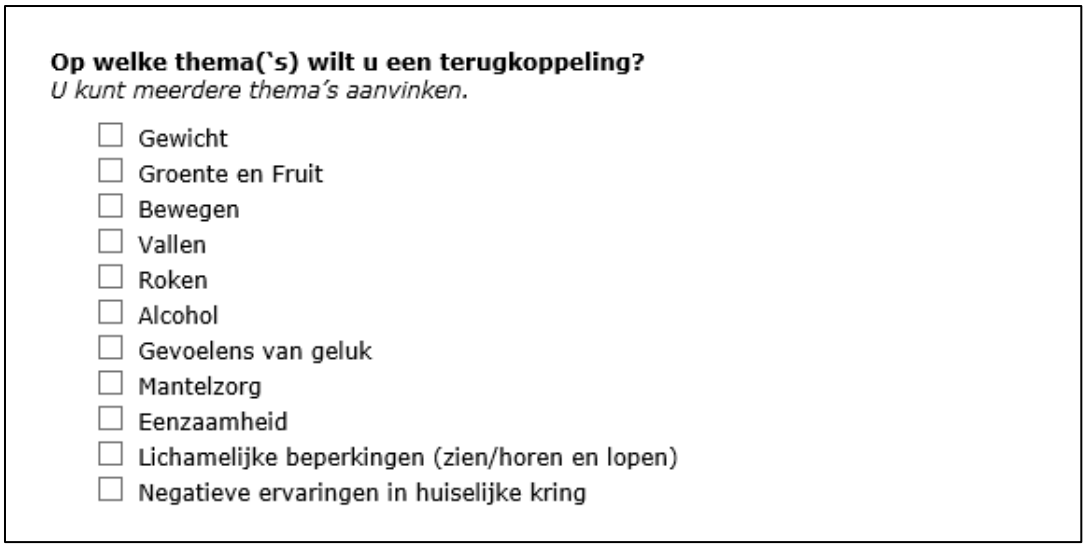


Figure 2: Topic choice menu for feedback

Om vast te stellen of u een gezond gewicht heeft, is gekeken naar de verhouding tussen uw lengte en gewicht, de zogenaamde Body Mass Index (BMI). Bij een BMI tussen de 18,5 en 25 heeft u een gezond gewicht. Wanneer uw BMI lager is dan 18,5 of hoger is dan 25 heeft u een minder gezond gewicht. In het onderstaande figuur ziet u wat uw BMI is en hoe u het doet ten opzichte van de gemiddelde Nederlander.

Wilt u iets veranderen aan uw situatie?

(•) Ja
( ) Nee

U geeft aan dat u iets wil veranderen aan uw gewicht. Verandering is het meest kansrijk als u kleine positieve veranderingen in alledaagse gewoonten aanbrengt. Bij gedragsveranderingen heb je steun uit je omgeving nodig. Hopelijk hebt u die. Mooi dat u kansen ziet om aan de slag te gaan met uw gezondheid. Succes!

Bewegen

Praktische tips

- Doe leuke dingen waar je bij beweegt
- Pak vaker de fiets
- Stap een bushalte eerder uit
- Parkeer de auto verder weg
- Pak de trap i.p.v. de lift
- Koop een stappensteller of activity tracker
- Ga lunchwandelen

Handige websites

- Kenniscentrum Sport: www.kenniscentrumsport.nl
- Beweegmaatje: www.beweegmaatje.nl

Apps

- 7 minute workout challenge
- Endomondo

Voeding

Praktische tips

- Regelmatig eten: drie hoofdmaaltijden, een paar eetmomenten tussendoor
- Eet bij de lunch en het avondeten groente
- Heb altijd een flesje water bij je
- Zet bij je in de buurt (bijv. op tafel of bureau) een waterkan, eventueel met citroen of komkommer
- Kies eens voor soep en/of een salade bij de lunch

Handige websites

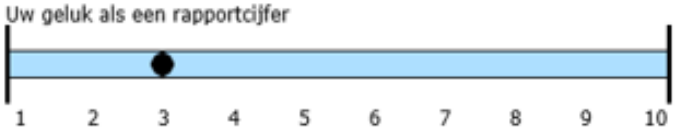
- Voedingscentrum: www.voedingscentrum.nl
- Allerhande Gezond: www.ah.nl/gezonde_recepten

Apps

- Mijn Eetmeter
- Foodzy
- MyFitnessPal

Figure 3: Tailored advice of the feedback topic ‘weight’

Gezond zijn gaat over je gelukkig voelen. Daarom is er een vraag gesteld over hoe gelukkig u zich voelt. Als u zich gelukkig voelt, heeft u meer plezier in uw leven en kunt u stress ook beter aan. Ook het contact met andere mensen kan dan soms gemakkelijker gaan. Hieronder ziet u hoe u heeft gescoord.



Wilt u iets veranderen aan uw situatie en zich gelukkiger voelen?

- (•) Ja
- ( ) Nee

U voelt zich op dit moment niet gelukkig. U geeft aan hiermee aan de slag te willen. U wilt zich beter voelen en iets veranderen aan uw situatie.

Praktische tips

- Zoek afleiding! Dit is vaak de beste manier om geluk te ervaren!
- Neem iemand in vertrouwen en praat erover
- Zoek een coach!
- Overweeg een huisdier te nemen
- Praat erover met de huisarts
- Verdiep je eens in mindfullness
- Bij het Sociale Wijkteam in uw gemeente kunt u ook met uw vragen terecht.

Handige websites

- So Chicken: www.sochicken.nl
- Stichting Korrelatie: www.korrelatie.nl
- Online tips en adviezen: www.mentaalvitaal.nl

Apps

- Mentaal Vitaal
- Voluit leven
- VGZ Mindfulness Coach
- Coach me
- Mr.Mood
- So Chicken!

Figure 4: tailored advice of the feedback topic ‘feelings of well-being’

2.2 Quantitative study

The quantitative study was predominantly used to answer the first two sub questions of this study:

- How often is the option tailored advice used by the respondents of the health monitor 2016 and which sociodemographic characteristics are associated with this use?
- Which of the offered lifestyle topics and psychosocial health topics of tailored advice are most often used? And in what extend the interest in a particular topic can be predicted by sociodemographic characteristics or health status?

In the following paragraphs the research design, population and procedures, measuring instruments and statistical analysis of this study are further explained.

2.2.1 Design

To gain information on the target audience of the intervention, the quantitative study was focused on the characteristics of the respondents who used tailored advice after filling in the online health monitor. This was performed by means of the data of the online health monitor 2016. This online health monitor was conducted in September 2016 – December 2016 by the GGD Twente. Data is collected about how often the option tailored advice is used by the respondents of the health monitor. Additional, analyses were performed to find out which sociodemographic characteristics are associated with this use. The respondents who wanted to receive tailored advice, could choose various lifestyle topics and psychosocial health topics for feedback. For this reason, there is also information collected about the choice of feedback topics of the respondents. Examined is how many topics were chosen by the respondents and also which of the offered topics of tailored advice are most often used. Additional, analyses were performed to find out in what extend the interest in a particular topic can be predicted by sociodemographic characteristics or health behaviour.

2.2.2 Participants and procedures

The online health monitor of the GGD Twente was sent to citizens of the region Twente. These people were randomly selected and were aged nineteen years and older. Only people who were living independently received the invitation to participate. A total of 44.421 invitations have been sent in September 2016. Of this total amount, 19.482 citizens filled in the health monitor. From these people, 9.764 citizens filled in the health monitor paper pencilled and 9.718 citizens on the internet. Because the tailored advice intervention was only possible in response to the online health monitor, this study focused on the 9.718 citizens who filled in the health monitor digitally.

2.2.3 Instruments

Quantitative data were directly extracted from the online platform of the intervention. Sociodemographic characteristics and health behaviour of the respondents were retrieved from the health monitor that was completed directly before the tailored intervention. We have studied the following characteristics of participants that used and not used the tailored advice: gender, age, level of education, ethnicity and marital status. The lifestyle topics consisted of: weight, physical activity, vegetables and fruit, smoking and alcohol. The psychosocial health topics concern: physical restrictions, feelings of well-being,

loneliness, and domestic violence. Besides these topics, there were also two exceptional topics: informal caregiving and falling.

2.2.4 Statistical analysis

Sociodemographic characteristics of participants who used tailored advice were compared with those who did not. To examine associations between characteristics of the participants who did and did not used the tailored advice and to examine associations between characteristics of the participants who did and did not used the different feedback topics, differences were tested with chi^2 and with Mann-Whitney U tests. Due to large sample size, the significance level was set at 0.01. Analyses were carried out using the IBM SPSS software version 22.

2.3 Qualitative study

The qualitative study was predominantly used to answer last three sub questions of this study:

- What are the expectations of the respondents about the tailored advice intervention?
- How are the respondents appreciating the feedback topics, available information, design, tone, personal approach and complexity of the tailored advice intervention?
- To what extend do respondents think that the tailored advice does make people aware of their health status, motivate them to change their health related behaviour and motivate them to participate in a health monitor?

The study consisted of semi-structured interviews with respondents of the online health monitor 2016 from the GGD Twente. In the following paragraphs the research design, population and procedures, measuring instruments and data analysis of this study are further explained.

2.3.1 Design

To gain information regarding the opinions of the respondents about the tailored advice intervention of the GGD Twente, semi-structured individual interviews were conducted. Interviews are widely used in qualitative research, because by conducting interview, more in depth answers could be provided (Gill, Stewart, Treasure, & Chadwick, 2008). This method was chosen for this study, because the questions were open and the interviewer could talked about certain topics. This is a good way to explore data relating to the tailored advice intervention and there is little risk to deviate from this topic during the interviews. In this way any, potential reporting bias is reduces. In order to prevent memory bias, different examples of tailored advices were shown during interview.

2.3.2 Participants and procedures

The study population of the interviews consisted of members of the Public Health Service Twente panel. These people participated in the online health questionnaire of September 2016 and signed up for the panel to participate in different kind of researches. Participants of the panel are randomly selected and invited for the interviews, and were not selected on whether they received the tailored advice or not. At first, 200 members of the Public Health Service Twente panel were informed by electronic mail. This

mail consisted of information about the study and the request to sign in for participation in the interviews. This invitation letter can be found in Appendix A. After this, twelve participants were randomly selected and invited by a phone call. During this conversation, participants were verbally informed about the study again. After this, participants made the decision whether to participate and if they did, an appointment for the interview was made. Before performing these semi-structured interviews, permission from the Ethical Committee of the faculty of Behaviour, Management and Social Sciences (BMS) of the University of Twente was obtained. The informed consent participants had signed, can be found in Appendix 3. These signed informed consents were stored at the GGD Twente securely. After collecting these informed consents, voice-recording began and the researcher started to ask questions according to the interview protocol. All interviews were moderated by researcher Angela van Akker.
Participants were coded under a random numeric code each in a separate file. The participants in this study are not anonymous, but identification of the participants is only possible by converting these identification codes. Data is only accessible through the researcher and is stored securely in an external hard drive at the GGD Twente. The interviews were recorded in order to the transcription for the analysis. Before the interviews started, participants had to fill in five questions about their social demographical data. This data is used for the analysis of the interviews. After these background questions, the interviewer gave a short introduction about the tailored advice intervention of the GGD Twente. After this introduction, the interview was started.

2.3.3 Instrument

For the semi-structured interviews, an interview protocol was used. This interview protocol can be found in Appendix E. The protocol consisted of closed and open questions. Closed questions were followed by open questions to explain the answer. For all interviews, the same topic list was used. The topic list consisted of four main topics: general, appreciation, understanding and effect.

First, more general questions were asked. Respondents were asked if they ever used the internet to find information concerning health behaviour and how they experienced this. After this, respondents were asked whether they liked the idea of receiving tailored advice after participating in an online health monitor. Besides this, we asked if they ever had online tailored advice and how they valued this tailored advice.

The second set of questions was about the appreciation of the participants. It contained questions about the opinion of the participants on the feedback topics, the advices in general, the available information, the design, the personal approach and the tone of the advices.

The third set of questions was about the understanding of the participants, regarding the available information and figures of the tailored advices. To find out if it was not too complex, the researcher let the participants explain in own words what the text was about and there was asked to explain what was meant by the figures.

The last set of questions was about the perceived effect of the tailored advice. Respondents were asked to what extend they thought the tailored advice will give people insight in their health status and motivate people to change their health-related behaviour. Respondents were also asked if the tailored advice would be a reason to participate more often in online health monitors.

2.3.4 Data analysis

After the recorded data was collected, transcribing of the interviews took place. For transcribing of the interviews the edited transcription formatting was used. This means that errors in speech and ‘’uhms’’ were removed. Voice recording was done with windows voice recorder on the laptop. Transcribing was done with Express Scribe Transcription and after this transferred to Microsoft Word. For analysis of the transcripts Atlas.ti was used. For analysis, a coding scheme was made and this coding scheme can be found in Appendix F. The coding scheme was made based on the topic list of the interviews. In discussion with the supervisors, there was decided by the researcher to change some topics for analysis. This means that the coding scheme was partly inductive and party deductive. The coding scheme resulted in three categories: expectations, appreciations and effect. These three main categories had a total of ten codes. For expectation the code was: goal of the intervention. For appreciations the codes were: choice of feedback topics, available information, design, tone, personal approach and complexity. For effect the codes were: insight in health status, motivation to change behaviour and participation in an online health monitor. These codes have been categorized for expectations into three main categories: positive remarks, negative remarks and misunderstandings. For appreciation and effect the codes have been categorized into the three main categories: positive remarks, negative remarks and recommendations. The researcher selected relevant text fragments and these fragments received codes, using the coding scheme.

Transcribing and analysing the transcripts can cause reporting bias, because the researcher always adds some form of subjectivity in the results.(Plochg, Juttmann, & Klazinga, 2012) For this reason, an independent researcher (AS) reviewed two of the encoded transcriptions. Difference in interpretations and misunderstanding were discussed until both researchers agreed.

3. Results

In this chapter the quantitative and qualitative results are presented. At first, the social demographic characteristics of the persons who did and did not used tailored advice are presented. After that, the number of chosen feedback topics and the social demographic characteristics of people clicking on particular topics are presented. The last part of the quantitative study contains a presentation of people with different health statuses who clicked on the topic concerning this health behaviour.
The qualitative results will start with a presentation of the social demographic characteristics of the participants. After that, the results from transcripts and encoding are described based on the three overarching topics: expectation, appreciation and effect.

3.1 Quantitative study

Table 1 shows that 9.718 people participated in the online health monitor 2016. The health monitor reached a heterogeneous group of people consisting of mostly males (52,4%), aged between 65 and 74 years old (28,2%) with a middle level of education (37,4%). The reached group of people for the online health monitor, consisted of mostly autochthonous people (89,0%) who were married or lived together (77,6%).After filling in the health monitor, the respondents had the option to see their results and receive tailored advice based on their results. Table 1 shows that 63,2% of the participants choose to use tailored advice and 36,8% did not.

3.1.1 Characteristics of the respondents who used tailored advice

The social demographic characteristics of persons who did and did not use tailored advice are presented in table 1.The table shows that 53,7% of the participants who used tailored advice were male and 46,3% were female. The table shows that people who chose to use tailored advice were more often male compared to people who did not chose to use tailored advice.

It appears that people who used tailored advice were slightly younger than people who did not use tailored advice. Table 1 shows that most of the people who wanted to receive tailored advice were in the age group of 65 till 74 years old (27,9%). Also a lot of people, aged between 50 and 64 years old, wanted to receive tailored advice (25,9%). Not a large amount of people was aged 85 years or older (1,4%).

Table 1 shows that most of the people who used tailored advice, had a middle level of education (38,4%). Also a lot of people with a high level of education received tailored advice after filling in the online health questionnaire (34,7%). People with a low level of education, participated least in the online health monitor (29,2%) and these people also were least interested in using tailored advice (26,9%).

The participants of the tailored advice intervention, consisted for 88,9% of autochthonous people. The other 11,1% consisted for 7,7% of respondents with a western background and 3,4% of respondents with a non-western background. Besides this, 76,4% of the people who used tailored advice were married or lived together, 11,9% were never married, 5,3% were divorced and 6,5% were widow.

Concluded, table 1 shows that people who chose to use tailored advice, were significantly more often male, higher educated and more often divorced or never married compared to the people who did not chose to use tailored advice.

Table 1
Characteristics of persons who did and did not used tailored advice (n=9718)

	Total (n=9.718)		Tailored advice (n=6.146)		No tailored advice (n=3.572)		P-value
	n	%	n	%	n	%	
Gender							0.001[1]
Male	5090	52.4	3299	53.7	1791	50.1	
Female	4628	47.6	2847	46.3	1781	49.9	
Age							0.128[2]
19 - 34	1405	14.5	991	16.1	414	11.6	
35 - 49	1825	18.8	1076	17.5	749	21.0	
50 - 64	2552	26.3	1589	25.9	963	27.0	
65 - 74	2729	28.1	1712	27.9	1017	28.5	
75 - 84	1053	10.8	695	11.3	358	10.0	
85 +	154	1.6	83	1.4	71	2.0	
Highest level of education							0.000[2]
Low	2823	29.2	1648	26.9	1175	33.2	
Middle	3615	37.4	2351	38.4	1264	35.7	
High	3229	33.4	2124	34.7	1105	31.2	
Ethnicity							0.945[1]
Autochthonous	8648	89.0	5465	88.9	3183	89.1	
Western foreigner	742	7.6	471	7.7	271	7.6	
Non-western foreigner	328	3.4	210	3.4	118	3.3	
Marital status							0.000[1]
Married/living together	7528	77.6	4682	76.4	2846	79.7	
Never married	1052	10.8	727	11.9	325	9.1	
Divorced	466	4.8	322	5.3	144	4.0	
Widow	654	6.7	400	6.5	254	7.1	

1= differences were tested with chi[2]
2= differences were tested with Mann-Whitney

3.1.2 Feedback topics

The people who choose to use tailored advice could choose one or more feedback topics. Table 2 shows the number of feedback topics chosen by the people who used tailored advice. The tailored advice intervention consisted of eleven feedback topics, but these eleven feedback topics could not all be chosen by every participating people. The feedback topic ‘informal caregiving’ could only be chosen by participants who were informal caregiver when they participated in the health monitor. The feedback topic ‘falling’ could only be chosen by participants who were aged 65 years and older. This means, for most of the participants, it was possible to choose a maximum of nine feedback topics.

Table 2 shows that most of the people, who used tailored advice, chose to receive feedback on only one feedback topic (25,4%). Relatively a large amount of people (11,3%) chose to receive feedback on all nine feedback topics. Not many people decided to choose more than four but less than nine topics for feedback. Also 1,4% of the participating people decided not to choose any feedback topic after seeing these topics and dropped out.

Table 2

Number of chosen feedback topics per participant (n=6146)

Number of chosen topics	n	%
0	85	1.4
1	1562	25.4
2	949	15.4
3	1049	17.1
4	653	10.6
5	423	6.9
6	231	3.8
7	155	2.5
8	96	1.6
9	695	11.3
10	218	3.5
11	30	0.5

3.1.3 Social demographic characteristics of people clicking on particular topics

Table 3,4,5 and 6 show the interest of people, with different social demographical characteristics, in the different lifestyle, psychosocial and two exceptional feedback topics. Because not all people had the choice to receive feedback on the two exceptional topics, ‘informal caregiving’ and ‘falling’, these feedback topics were taken separately.

Lifestyle topics

Table 3 shows the interest of people in clicking on the lifestyle feedback topics: weight, physical activity, vegetables and fruit, alcohol and smoking. This table shows that most of the participating people clicked on the feedback topic ‘weight’ (68,0%). The table also shows that the age group of 19 till 34 years old, was far more interested (83,0%) in the topic ‘physical activity’ compared to the age group of 85 years and older (31,7%). The table also shows that higher age groups have smaller interest in all lifestyle feedback topics. Another remarkable result is that males were far more interested in the feedback topic ‘alcohol’ (46,8%) compared to females (29,7%).

Some interesting findings can be read from the table when we examine the relation between clicking on a topic and sociodemographic characteristics. People who chose to receive feedback on ‘alcohol’ or ‘smoking’ were significantly more often male compared to people who did not chose to receive feedback on these topics. Table 3 also shows that for all lifestyle topics, people who chose to receive feedback were more often younger, higher educated and more often never married compared to the people who did not chose to receive feedback on these topics.

Table 3
Proportion of people clicking on lifestyle topics (n=6061)

	Weight		Physical activity		Vegetables and fruit		Alcohol		Smoking	
	n	%	n	%	n	%	n	%	n	%
Clicked to get feedback on										
Yes(n=6061)	4121	68.0	3862	63.7	2688	44.3	2355	38.9	1351	22.3
Gender[1]										
Female (n=2798)	18962	67.8	1775	63.4	1256	44,9	832	**29.7**	529	**18.9**
Male (n=3263)	225	68.2	2087	64.0	1432	43.9	1523	**46.7**	822	**25.2**
Age categories[2]										
19 – 34 (n=989)	835	**84.4**	5031	**83.0**	705	**71.3**	596	**60.3**	454	**45.9**
35 – 49 (n=1072)	817	**76.2**	4443	**73.3**	603	**56.3**	486	**45.3**	330	**30.8**
50 – 64 (n=1581)	1099	**69.5**	3813	**62.9**	662	**41.9**	639	**40.4**	347	**21.9**
65 – 74 (n=1670)	1027	**61.5**	3340	**55.1**	538	**32.2**	496	**29.7**	189	**11.3**
75 – 84 (n=667)	314	**47.1**	2861	**47.2**	160	**24.0**	120	**18.0**	27	**4.0**
85 + (n=82)	29	**35.4**	1922	**31.7**	20	**24.4**	18	**22.0**	4	**4.9**
Level of education[2]										
Low (n=1600)	950	**59.4**	775	**48.4**	512	**32.0**	361	**22.6**	225	**14.1**
Middle (n=2329)	1630	**70.0**	1533	**65.8**	1071	**46.0**	952	**40.9**	566	**24.3**
High (n=2111)	1531	**72.5**	1547	**73.3**	1097	**52.0**	1036	**49.1**	556	**26.3**
Ethnicity[1]										
Autochthonous (n=5383)	3689	68.5	3480	**64.6**	2393	**44.5**	2148	**39.9**	1199	22.3
Western foreigner (n=468)	288	61.5	253	**54.1**	184	**39.3**	141	**30.1**	91	19.4
Non-western foreigner (n=210)	144	68.6	129	**61.4**	111	**52.9**	66	**31.4**	61	29.0
Marital status[1]										
Married/living together (n=4610)	3196	**69.3**	2929	**63.5**	1979	**42.9**	1765	**38.3**	938	**20.3**
Never married (n=723)	551	**76.2**	557	**77.0**	457	**63.2**	388	**53.7**	289	**40.0**
Divorced (n=322)	178	**55.3**	183	**56.8**	119	**37.0**	113	**35.1**	80	**24.8**
Widow (n=391)	185	**47.3**	181	**46.3**	121	**30.9**	83	**21.2**	39	**10.0**

In bold: significant (p<0.01)
1= differences were tested with chi^2
2= differences were tested with Mann-Whitney

Psychosocial health topics

Table 4 shows the interest of people in clicking on the psychosocial health feedback topics: physical restrictions, feelings of well-being, loneliness and domestic violence. This table shows that nearly half (45,9%) of the respondents were interested in the feedback topic ‘feelings of well-being’ whereas about a third (31,5%) were interested in the feedback topic ‘loneliness’. Nearly a fourth (22,3%) was interested in the feedback topic ‘domestic violence’. The table also shows that far more people with a high level of education (39,9%) clicked on the feedback topic ‘loneliness’, compared to the people with a low level of education (17,9%). Another remarkable result is the high interest in psychosocial health feedback topics for non-western foreigners, compared to western foreigners and autochthonous people.

Some interesting findings can be read from the table when we examine the relation between clicking on a topic and sociodemographic characteristics. People who chose to receive feedback on ‘loneliness’ or ‘domestic violence’ had significantly more often a non-western background compared to people who did not choose to receive feedback on these topics. It also appears that for all psychosocial health topics people who chose to receive feedback were more often younger, higher educated and more often never married compared to the people who did not chose to receive feedback on these topics.

Table 4
Proportion of people clicking on psychosocial health topics (n=6061)

	Physical restrictions		Feelings of well-being		Loneliness		Domestic violence	
	n	%	n	%	n	%	n	%
Clicked to get feedback on								
Yes (n=6061)	2016	33.3	2780	45.9	1910	31.5	1383	22.8
Gender[1]								
Female (n=2798)	854	**30.5**	1356	**48.5**	909	32.5	618	22.1
Male (n=3263)	1162	**35.6**	1424	**43.6**	1001	30.7	765	23.4
Age categories[2]								
19 – 34 (n=989)	445	**45.0**	740	**74.8**	593	**60.0**	451	**45.6**
35 – 49 (n=1072)	364	**34.0**	655	**61.1**	440	**41.0**	340	**31.7**
50 – 64 (n=1581)	498	**31.5**	750	**47.4**	467	**29.5**	373	**23.6**
65 – 74 (n=1670)	468	**28.0**	477	**28.6**	295	**17.7**	181	**10.8**
75 – 84 (n=667)	197	**29.5**	140	**21.0**	95	**14.2**	32	**4.8**
85 + (n=82)	44	**53.7**	18	**22.0**	20	**24.4**	6	**7.3**
Level of education[2]								
Low (n=1600)	456	**28.5**	450	**28.1**	287	**17.9**	196	**12.3**
Middle (n=2329)	798	**34.3**	1114	**47.8**	777	**33.4**	588	**25.2**
High (n=2111)	756	**35.8**	1207	**57.2**	843	**39.9**	596	**28.2**
Ethnicity[1]								
Autochthonous (n=5383)	1769	**32.9**	2456	45.6	1671	**31.0**	1202	**22.3**
Western foreigner (n=468)	152	**32.5**	211	45.1	145	**31.0**	102	**21.8**
Non-western foreigner (n=210)	95	**45.2**	113	53.8	94	**44.8**	79	**37.6**
Marital status[1]								
Married/living together (n=4610)	1467	**31.8**	1966	**42.6**	1218	**26.4**	979	**21.2**
Never married (n=723)	305	**42.2**	493	**68.2**	408	**56.4**	278	**38.5**
Divorced (n=322)	107	**33.2**	182	**56.5**	141	**43.8**	91	**28.3**
Widow (n=391)	128	**32.7**	130	**33.2**	136	**34.8**	29	**7.4**

In bold: significant (p<0.01)
1= differences were tested with chi^2
2= differences were tested with Mann-Whitney

Exceptional topics

Table 5 and 6 show the interest of people in clicking on the two exceptional feedback topics 'informal caregiving' and 'falling'. These topics are only relevant for a limited group. The topic 'informal caregiving' was only relevant for the people who were informal caregivers when participating in the health monitor. The topic 'falling' was only relevant for people aged 65 years and older. The table shows that more people with anon-western background (59,1%) clicked on the topic 'informal caregiving', compared to the people with a western background (41,1%) or autochthonous people (44,3%). The table also shows that more people who were never married clicked on the feedback topic 'falling' (18,0%) compared to people who were married or lived together (12,3%). For both exceptional feedback topics, people who choose to receive feedback were significantly more often higher educated compared to people who did not chose to receive feedback.

Table 5

Proportion of people clicking on topic that is only relevant for a limited group.

	Informal caregiving	
	n	%
Clicked to get feedback on		
Yes (n=1208)	536	44.4
Gender[1]		
Female (n=599)	287	47.9
Male (n=609)	249	40.9
Age categories[2]		
19 – 34 (n=67)	42	**62.7**
35 – 49 (n=183)	92	**50.3**
50 – 64 (n=435)	225	**51.7**
65 – 74 (n=366)	109	**29.8**
75 – 84 (n=145)	62	**42.8**
85 + (n=12)	6	**50.0**
Level of education[2]		
Low (n=307)	119	**38.8**
Middle (n=495)	218	**44.0**
High (n=405)	199	**49.1**
Ethnicity[1]		
Autochthonous (n=1113)	493	44.3
Western foreigner (n=73)	30	41.1
Non-western foreigner (n=22)	13	59.1
Marital status[1]		
Married/living together (n=1010)	445	44.1
Never married (n=82)	45	54.9
Divorced (n=62)	30	48.4
Widow (n=52)	15	28.8

In bold: significant (p<0.01)

1= differences were tested with chi^2

2= differences were tested with Mann-Whitney

Table 6

Proportion of people clicking on topic that is only relevant for a limited group.

	Falling > 65 years	
	n	%
Clicked to get feedback on		
Yes (n=2419)	320	13.2
Gender[1]		
Female (n=948)	134	14.1
Male (n=1471)	186	12.6
Age categories[2]		
65 – 74 (n=1670)	216	12.9
75 – 84 (n=667)	91	13.6
85 + (n=82)	13	15.9
Level of education[2]		
Low (n=938)	109	**11.6**
Middle (n=708)	82	**11.6**
High (n=n=762)	127	**16.7**
Ethnicity[1]		
Autochthonous (n=2174)	284	13.1
Western foreigner (n=227)	34	15.0
Non-western foreigner (n=18)	2	11.1
Marital status[1]		
Married/living together (n=1889)	233	12.3
Never married (n=61)	11	18.0
Divorced (n=120)	18	15.0
Widow (n=346)	57	16.5

In bold: significant (p<0.01)

1= differences were tested with chi^2

2= differences were tested with Mann-Whitney

3.1.4 The relation between information seeking and health status

Table 7 shows the relation between information seeking and health status. The table shows that from the people who did smoke and choose to use tailored advice, 52,9% clicked on the feedback topic ‘smoking’. From the people who did not smoke and choose to use tailored advice only 16,7% clicked on the feedback topic ‘smoking’. For the feedback topics ‘weight’, ‘physical activity’ and ‘vegetables and fruit’ the relation between health status and information seeking seemed different than for all other feedback topics. For these three lifestyle topics, people with a good health status, were clicking almost as much, as the people with a bad health status. This indicates that that these more general lifestyle topics are interesting for people to receive feedback on, regardless of their health status. For the other topics, people with a particular health problem clicked far more on the topic concerning this health problem, compared to people with a good health status.

Table 7
People with particular health status who clicked on related topic

Health status	Clicked on related topic	
	n	%
Weight		
BMI under 18,5 (n=55)	39	70.9
BMI between 18,5 and 25 (n=2727)	1811	66.4
BMI between 25 and 30 (n=2361)	1660	70.3
BMI over 30 (n=846)	578	68.3
Physical activity		
People who do not meet the physical activity standard (n=1393)	905	64.9
People who do meet the physical activity standard (4375)	2779	63.5
Vegetables and fruit		
People who do not meet the vegetables standard (n= 3298)	1488	45.1
People who do meet the vegetables standard (n= 2760)	1201	43.5
People who do not meet the fruit standard (n=3491)	1617	46.3
People who do meet the fruit standard (n=2569)	1072	41.7
Alcohol		
No drinker (n=4625)	1513	32.7
Excessive drinker (n=1424)	2669	57.7
Very excessive drinker (n=659)	404	61.3
Smoking		
People who are smoking at the moment (n=932)	494	52.9
People who are not smoking at the moment (n=5129)	857	16.7
Physical restrictions		
Not restricted (n=3942)	1069	27.1
Restricted (n=2102)	942	44.8
Extremely restricted (n=237)	143	60.3
Feelings of happiness		
Happy (n=3941)	1675	42.5
Sufficient (n=1824)	914	50.1
Unhappy (n=295)	195	65.8
Loneliness		
Not lonely (n=3549)	934	26.3
Lonely (n=2013)	790	39.2
Very lonely(n=473)	282	59.6
Domestic violence		
Adults who ever experienced domestic violence (n=318)	179	56.0
Adults who never experienced domestic violence (n=3320)	987	29.7
Domestic violence		
Elderly who experienced domestic violence in past twelve months (n=135)	33	24.3
Elderly who did not experienced domestic violence in past twelve months (n=2290)	184	8.0
Informal caregiving		
Informal caregivers at the moment (n=1208)	537	44.4
Falling		
Elderly who felt in past three months (n=531)	136	25.6
Elderly who not felt in past three months (n=1889)	184	9.7

3.2 Qualitative study

In this section, the results of the interviews with participants of the adults- and elderly monitor 2016 will be described.

3.2.1 Characteristics of participants

The characteristics of the twelve participants in this study are presented in Table 8. All participants participated in the health monitor 2016, but not everybody used the tailored advice intervention before. Respondents were not specifically asked if they did use tailored advice after filling in the health monitor 2016, but they were asked if they receive tailored advice at the end of a monitor before. It appeared that

some participants could not remember if they used tailored advice before. For three participants it became clear during the interview that they used the tailored advice of the GGD Twente before.

The average age of the participants was 55 years old. All participants had filled in the online health monitor and were member of the GGD Twente panel. Participants were not selected on whether they received the tailored advice or not.

Table 8 shows the diversity within the group of participants. Age varied from 25 till 78 years old and both males and females participated. The participants had a middle or high level of education and were all born in the Netherlands.

Table 8

Characteristics of twelve participants

Respondent	Gender	Age	Level of education	Had used tailored advice in health monitor 2016
1	Female	25	Middle	No
2	Female	37	High	No
3	Female	59	High	Yes
4	Female	61	High	Yes
5	Female	69	Middle	No
6	Female	72	High	No
7	Female	28	Middle	No
8	Female	45	High	Yes
9	Male	71	Middle	No
10	Male	78	Middle	No
11	Male	35	High	No
12	Male	77	Middle	No

3.2.2. Expectations

The first question was about the expectations of the participants about the tailored advice intervention. The answers of the participants to the questions about the goal of the intervention could be categorized into three main categories: positive remarks, negative remarks and misunderstandings. These categories are shown in table 9.

Table 9

Positive remarks, negative remarks and misunderstandings of the participant's expectations regarding the goal of the tailored advice intervention

Subject	Positive remarks	Negative remarks	Misunderstandings
Goal of the intervention	- it is always useful to receive advice - other people could be helped - anonymous	- impersonal - incorrect advice - no face to face contact with an expert - the need of a computer and internet - not everybody need advice - the people who really need help will not be reached	- referring people to professionals as for example a general practitioner - the possibility to talk with other people about your problems - saving time and money with help of the intervention

Goal of the intervention

Many participants had misunderstandings about the intervention and thought it was a way to refer people to a professional. They thought the intervention was meant for diagnosing illnesses instead of giving lifestyle advice, as becomes clear from this citation: *''I think it is nice to fill in an online questionnaire and that they could advise me to see a nurse practitioner for example. ''*Another misunderstanding was that it could help people avoiding going to the general practitioner immediately. In this way the participants thought the intervention would save time and money. The participants had high expectations about this goal of the intervention.

Overall participants saw great value in receiving tailored advice provided by an online intervention. They reported it would always be nice to receive advice. When asked about receiving tailored advice after completing a health monitor, participants who didn't have experience with this, mentioned this is a good idea for helping people live healthier. One interviewee mentioned: *''It is nice you receive something after filling in a questionnaire. It gives a signal that the GGD Twente cares about us and wants us to be healthy.''* The majority of participants thought the intervention could help people by giving them advice, because not everyone knows how to live healthy. A positive aspect also was that the intervention is anonymous.

Yet, also a number of negative remarks were made. One negative remark was the risk of giving incorrect advice, because there is no face to face contact with a professional. Some participants added that they perceive online advice as impersonal and as a limitation for giving useful advice. Another negative aspect was that many participants mentioned that the advice could not help them, because they already use the internet to find health-related information and they already knew how to live healthy. One interviewee specified: *''I don't think it can help me, but it could be an addition for people who normally don't use the internet to find some information about living healthier.''*

3.2.3 Appreciation

The second question was about the appreciation of the participants about the tailored advice intervention. After showing the participants examples of the tailored advice intervention, the participants gave their opinion. The answers of the participants to the questions about their opinion on different parts of the tailored advice intervention, can be categorized into three main categories: positive remarks, negative remarks and recommendations. These categories are shown in Table 10.

Table 10

Positive remarks, negative remarks and recommendations of the participants regarding the tailored advice intervention

Subject	Positive remarks	Negative remarks	Recommendations
Choice of feedback topics	- number of topics - availability of mental health topics - essential topics	- very general - very abstract	- more medical topics - more specific topics - more topics concerning the meaning of life - more mental health topics
Available information	- in general, useful tips - short and clear - useful websites and applications	- very basic - no new information - very obvious	- information about getting in contact with professionals - information about getting in contact with fellow sufferers - more practical tips - more information about living healthy
Design	- clear overview - structured overview - the use of figures - the use of colours in the figures	- the score of the average person in the figures - not always numbers in the figures	- more figures - more statistics - more numbers in the figures
Tone	- very friendly - very positive - motivating - neutral - not patronizing	- less reality - no consequences of the behaviour were mentioned - no advantages of changing behaviour were mentioned	- a combination of the positive and patronizing way
Personal approach	- personal enough for online advice	- very general - online - computer generated	- ask more specific questions when people choose a topic - make the advice more tailored for different age groups
Complexity	- easy to understand	- the use of abbreviations as BMI - the use of abstract terms as mindfulness	- optional more information about certain terms

Choice of feedback topics.

After showing the participants examples of the tailored advice intervention the participants gave their opinion on the choice of feedback topics. Positive aspects were the number of feedback topics and the availability of the mental health topics. Concerning the importance of these mental health topics, a participant mentioned these topics are more interesting than the other topics: *''…For example, if you feel happy, it is easier to maintain a healthy weight. This is why topics as feelings of happiness, loneliness and negative experiences are essential.''* Negative aspects were that some participants thought the topics were very general and abstract. For this reason, a participant recommended to add more specific topics and more topics concerning medical aspects such as diseases and their symptoms.

Available information

At first sight, the participants were positive about the available information of the advices and thought the tips would be useful. Positive aspects were that the advices were short and clear and that useful websites and applications were given. After taking a second look to the content of the advices, there were some negative aspects mentioned by the participants. Negative aspects were that the information was very basic, obvious and it contained no new information. The participants recommended the use of more information about how to get contact with health professionals or peers. In this way people could talk to someone about their problems or get in contact when they have questions about the information

available. One interviewee mentioned: *''..but maybe it's also nice to get some websites or forums where you can talk to fellow sufferers.''*

Design

Participants particularly appreciated the design of the intervention. Positive aspects were the clear and structured overview of the advices. Also positive aspects were the use of figures and the use of colours in the figures. Negative aspects, for some participants, were the score of the average person in the figures and that not all figures displayed numbers. Especially the figure of the score of the average BMI in the Netherlands was low appreciated. One interviewee specified: *''If I see this figure, I would think I don't have to change my eating behaviour, because most people in the Netherlands are overweighed.''* Many participants recommended the use of more statistics and figures in the advices to create more awareness.

Tone

Almost all participants liked the tone of the feedback messages. Positive aspects were that it was a very friendly and a positive way of approaching people. Many participants thought it was a very positive way of motivating people. Negative aspects were the missing realistic part of the message and that no consequences of their behaviour were mentioned. Respondents also mentioned that they wanted to see the advantages of changing their behaviour. There was recommended by participants to make a combination of the positive and patronizing approach to motivate people in a better way. One of the interviewees specified: *''I would like to see a combination of both. First the message that you're doing a good job by working on it and after that, the current situation and the consequences of this behaviour. I think everybody knows the consequences, but it is always good to*emphasize them*.''*

Personal approach

Participants thought the advice was very general. They did not feel like the advice was based on their personal situation. One interviewee specified: *''I'm in a wheelchair, so all these practical tips are impossible for me.''* Participants recommended to ask more specific questions when a person is choosing for a certain feedback topic. In this way there is more detailed information available about a person's situation and it's possible for the GGD Twente to give a better tailored advice. Some participants were positive and thought this was a good personal approach for an online intervention. They did not think it could be more personal, because then you must see or talk to someone first.

Complexity

According to the complexity of the intervention, the majority of participants thought the information was very clear and easy to understand. Although they thought it was very understandable, participants did not think this applies to everyone. Participants mentioned that the abbreviation BMI is not known by everyone. Participants also mentioned that mindfulness can be a difficult term and some of the participants did not know what it meant. For this reason, participants recommended to give a better explanation of these terms. One interviewee specified: *''…but you can make those terms blue and if you*

need more information about that term, you can click on the word." In this way participants thought it would be nice to give optional more information about certain topics.

3.2.4. Effect

The last qualitative sub question regarded the effect of the tailored advice intervention. A summary of the identified codes and sub codes is shown in Table 11. The answers of the participants to the questions about their opinion on the effect of the tailored advice intervention, could be categorizes into three main categories: positive remarks, negative remarks and recommendations.

Table 11

Positive remarks, negative remarks and recommendations of the participants regarding the effect of the tailored advice intervention

Subject	Positive remarks	Negative remarks	Recommendations
Insight into health status	- creates awareness - creates confirmation - it helps realizing	- no new insights - people who click already know how they score	- the possibility to check your health status whenever you want
Motivation to change health-related behaviour	- it triggers people to do something about their health - it gives a little push in the right direction - it motivates to search for further information	- not applicable - people who click are already motivated - people with problems need more help	- the possibility to see the consequences of your behaviour
Participation in online health questionnaires	- it is interesting to see your score - it is interesting to get personal advice	- The same information is only available - the advice is unsolicited - the target group will not be reached	- the possibility to see your progression - send a gadget as reward

Insight into health status

The participants had different opinions about the effect of the tailored advice intervention. About getting more insight into their health status, participants mentioned they already knew how they scored and did not need this advice for that. Other participants thought the tailored advice intervention creates realisation and awareness of their health status. One interviewee specified: *''It's always good to read it again, because I always fall back in my old pattern. In that way it is nice to receive a reminder and be aware again."* Many participants saw the intervention as a confirmation of their healthy lifestyle. Participants recommended to make the intervention always available online, so people could check their health status whenever they want.

Motivation to change behaviour

In order to the effect of motivating people to change their health-related behaviour, participants thought the intervention does not apply to them. They did not think they needed this advice and for that reason did not feel motivated by it. The majority of participants mentioned the intervention could trigger other people to change their health-related behaviour. One interviewee specified: *''It could be a first step to motivate people to work on their behaviour, but on long term it is very hard to change someone's behaviour."* Participants thought it would be more motivating for changing health-related behaviour when you see the consequences of this behaviour.

Participation in future monitoring questionnaire

Participants thought it was nice to participate in a health monitor when you can see your score at the end. For this reason, in the future they should use the tailored advice again at the end of an online health monitor if that is possible. For many participants receiving tailored advice is not a reason to fill in a questionnaire, because they could also find this information by themselves all the time by searching on the internet. Participants recommended the option to make an account after filling in the health monitor. In this way they will be motivated to participate in a monitor again, as they can see their progression in the long run. One interviewee mentioned: *''I for example use an application for my weight and it shows my progression, so this motivates me to use it again.''*

4. Discussion

The focus of this study was on evaluating the tailored advice intervention of the GGD Twente in response to the adults and elderly health monitor 2016. In this chapter, the formulated research question and sub questions will be answered. Furthermore, the results from both studies will be integrated, discussed, and recommendations will be given. After this, strengths and limitations of this study will be described. Finally, recommendations for further research will be provided and the conclusion of this study will be presented.

4.1 Answering the research question

For this study, the research *question was: To what extend is the tailored advice intervention of the GGD Twente used and does it meets the expectations, needs and interests of the respondents?* To answer this question, the five sub questions will be answered first.

4.1.1 Use of tailored advice and predictors of use

The log data analysis in the quantitative study revealed that the large amount of 63% used the tailored advice intervention. This indicates that apparently there is a large interest for this kind of information. What needs to be considered is that these people clicked on the option to receive tailored advice, but it is not known whether these people actually read the tailored advice. Further research is needed to verify this.

The tailored advice intervention reached a heterogeneous group of people consisting of mostly males, aged between 50 and 74 years old with a middle level of education. Analysis of the participants characteristics revealed that males were more inclined to use the tailored advice intervention, which is not consistent with other studies (Brouwer et al., 2009). According to the literature, woman are generally more interested in health issues and they are also more likely to look up health information online(Rice, 2006). The tailored advice intervention was offered at the end of an online health monitor and participants did not know they could receive this, which might this explain the difference with other studies. This could mean that males can be more likely to use such a health intervention as result from a monitor instead of seeking this health information by themselves.

Analysis of the participants characteristics also revealed that people aged between 50 and 75 years old were more likely to use the tailored advice intervention compared to the other age groups, which is not consistent with other studies (Rice, 2006). According to the literature, people aged between 25 and 45 years old are more likely to use the internet for searching information about health(Rice, 2006). This suggests that people aged between 50 and 75 years old are more likely to use such a health intervention as a result from a monitor and people aged younger will seek this health information by themselves.

The fact that lower educated persons were reached less often is in line with the literature (Tu & Cohen, 2008). The lower access of younger and lower educated people may be because the promotion strategies for the intervention were not specifically focused on a specific group of people. If the GGD

Twente wants to focus more on younger and lower educated people, it is advisable to explore how these people will be attracted to use the intervention. An effective strategy could be to tailor the intervention more on personal characterises, for example by using a different tone or different layout style (McClure et al., 2006).

4.1.2 Which feedback topics are most often used

The log data analysis in the quantitative study revealed that most of the people who used the tailored advice intervention, chose to receive feedback on only one topic. Yet, there were also a lot of people who asked for tailored advice on two, three or all possible topics. This suggests that apparently there is an large interest for these kind of feedback topics. It should be noted that there was no extended log data available, so clicking on all topics does not have to mean that people have read all these advices. Extended log data can provide continuous and objective insights into the actual usage of the technology (Van Gemert-Pijnen, Kelders, & Bohlmeijer, 2014). To get broader insights in the future, the GGD Twente could identify the time spent by participants before clicking on the next advice for example. This could give an idea whether the advices were read or not. Besides this, the GGD Twente could measure the time spent by participants using the intervention. This can indicate whether the intervention was really used by the participants or not, but it provides no assurance. For this reason, log data could help interpret some results of this study, but it will not explain all results.

The feedback topic ‘weight’ was most often used by participants of the tailored advice intervention. 68% asked for tailored advice on this feedback topic. Literature shows that the third most seeking health-related topic on the internet regards how to lose weight or how to control weight (27%) (Fox & Duggan, 2013). According to this research of the Pew Research Centre, (2013) most of the people who seek for online health information, seek information about a specific disease or medical problem (55%) or for a certain medical treatment or procedure (43%). Because the tailored advice intervention of the GGD Twente did not offer any medical topics, it is consistent with the literature that most of the people asked tailored advice on the feedback topic ‘weight’.

Other feedback topics that were most often used were: physical activity (63,7%), feelings of well-being (45,9%) and vegetables and fruit (44,3%). It appears that respondents were most interested in the lifestyle topics ‘weight’, ‘physical activity’, ‘vegetables and fruit’ and additional the psychosocial health topic ‘feelings of well-being’. The GGD Twente embraces positive health by adding mental well-being in the health monitor. This effort was useful,because nearly half (45,9%) of the respondents were interested in the feedback topic ‘feelings of well-being. Literature shows that the internet is playing an important role in mental health information-seeking (Powell & Clarke, 2006). Over 10% of the general population and over 20% of those with a history of mental health problems use the internet as a source of mental health information (Powell & Clarke, 2006). This could explain why a lot of people were interested in receiving feedback on the topic ‘feelings of well-being’.

A remarkable finding in this study was that the feedback topic ‘loneliness’ was more often used by younger people compared to older people. This was not expected, because loneliness has been widely

perceived as a problem of old age (Yang & Victor, 2011). According to Pearl Dykstra, (2009) there is partial support on the assumption that loneliness is a problem specifically for older people (Dykstra, 2009). Loneliness is common only among those aged 80 and older and levels of loneliness show little variation across midlife and early old age, whereas young adulthood is characterized by a relatively high prevalence of loneliness (Dykstra, 2009). This could explain why younger participants of the tailored advice intervention were more interested in receiving feedback on the topic 'loneliness' compared to the older participants and this percentage is increasing for people aged 85 years and older compared to the two previous age-groups.

Another unexpected finding of this study, is the relatively high interest of respondents in the feedback topic 'domestic violence'. Almost one fourth (22,8%) of the respondents asked for tailored advice on this feedback topic. Literature shows that there are barriers within health care settings that may prevent people from seeking help for domestic violence (O'Doherty, Taft, McNair, & Hegarty, 2016). Many people are uncomfortable with revealing that they are experiencing domestic violence or may feel that the abuse is not serious enough to mention. Another barrier is that people worry about their abusive partner discovering that they are looking for help(Tarzia et al., 2016). Literature shows that an online intervention may be able to overcome some of the barriers encountered by face-to-face domestic violence interventions given that the online intervention is designed to be used without the need for the presence of a health professional (Tarzia et al., 2016). It is possible that the tailored advice intervention might make it easier for people to relate to an intervention where people do not have to see a health professional face to face to receive advice. This could explain why a relatively large amount of people asked for tailored advice on the feedback topic 'domestic violence'. Recommended for the GGD Twente is to add links to websites where people can talk to a health professional or get in contact with peers to discuss their situation.

For all feedback topics, participants with particular health problems more often selected topics concerning those problems compared to people with a good health status. Participants could not see their score before choosing these feedback topics, so it is likely to assume that participants already knew how they scored before using the intervention. For the three lifestyle topics 'weight', 'physical activity' and 'vegetables and fruit' these percentages matched very closely. This means that participants without particular health problems selected these related feedback topics almost as often as participants with particular health problems. These topics were also the feedback topics that were most often used by the participants. This could mean that these more general lifestyle topics are interesting for people to receive feedback on, regardless of their health status. It is also possible respondents wanted confirmation on their healthy behaviour or they wanted to receive feedback on a feedback topic concerning someone close to them instead of for themselves. Literature shows that people are very active in seeking information for others. In 2007, 27% of adults searched for health information for others using the internet (Tu & Cohen, 2008).

4.1.3 Expectations

From the interviews in the qualitative study, it appears that there were a lot of misunderstandings about the tailored advice intervention. Respondents expected the tailored advice intervention to be a diagnosing tool or a tool for referring people to health professionals. They had very high expectations about this goal of the intervention. Literature shows that if the outcome of an intervention does not match the expectations of the respondents, this mismatch can result in disappointment of the respondents with the intervention (Castelfranchi & Lorini, 2003). Recommended is that the GGD Twente will clarify where the tailored advice is meant for, before the respondents have to choose if they want to use it. Giving a detailed description of the goal of the intervention should be relatively easy to add to this intervention, which will lower the chance that the expectations of the respondents differ from reality and that it will be disappointing for them.

4.1.4 Appreciations

Respondents were in general very positive about the content of the tailored advice. Same as in the quantitative study, most of the respondents were interested in receiving tailored advice on the feedback topic ‘weight’. They were also very enthusiastic about the option to receive feedback on the topic ‘feelings of well-being’, which is also in line with the quantitative study. A recommendation made by the respondents was to add more medical topics that give some information about common diseases and their symptoms. This is in line whit the literature, because when people look for health information using the internet, most of the time they search for information concerning a specific disease or medical problem (Fox & Duggan, 2013). About choosing feedback topics, respondents mentioned they choose topics based on their expected score. This is in line with the quantitative study, which showed that, without seeing their score first, participants with a bad health status selected the related topic more often compared to people with a good health status.

According to the respondents, there was enough information available on the tailored advices. Yet, they strongly recommended to add contact information to websites of health professionals whom respondents can turn to when there are questions about the given information. The GGD Twente could for example add an e-mail address or phone number of one of the project managers of the tailored advice intervention, who can answer questions of the participants. This could make the intervention more user-friendly. Besides this, respondents recommend website information for people who want to get in contact with peers, so they can talk to people with similar problems and support each other. To achieve this, the GGD Twente could add links to websites where people could talk to peers. Literature shows that peer-to-peer healthcare enables a better patient empowerment and self-management of care (Kontos, Blake, Chou, & Prestin, 2014).

Participants particularly appreciated the design of the tailored advice intervention. Positive aspects were the clear and structured overview of the advices. The figure of the average BMI score in the Netherlands was low appreciated. Many respondents did not think comparing their score with others would motivate people to change their health-related behaviour. This is in line with the literature, that shows that viewing profiles of successful people within a social network can lead to feelings of inadequacy and greater

feelings of negative body image (Turner-McGrievy & Tate, 2013). There were also respondents who did not had any problems with or even liked the figure of the average BMI score. These could be the respondents who have lower BMI than average. In general, social comparison of people who do better than average, serves to enhance their mood and feelings of self-worth (Bessenoff, 2006). Literature also shows that people with high self-esteem are likely to have less negative emotions after social comparisons (Haferkamp & Krämer, 2011). This could explain why some respondents did not have any problems with the figure of the average BMI score. Recommended for the GGD Twente is to only make use of the figure of the average BMI score when the participants BMI is lower than average. It is also possible to ask the participants about their future goal and let them compare their current score with their desired score. Future research should explore which figures motivate people with a higher BMI to change their health-related behaviour.

Almost all participants liked the tone of the feedback messages. Positive aspects were that it was a very friendly and a positive way of approaching people. Respondents mentioned that they want to see the advantages of changing their health-related behaviour. Literature shows that disease-prevention behavior with a certain outcome is better promoted by emphasizing the benefits of quitting (Steward, Schneider, Pizarro, & Salovey, 2003). This means, people are usually more motivated to perform prevention behaviors when they are exposed to messages that emphasize the benefits of engaging in the behavior, than when they are exposed to messages that emphasize the costs of not engaging in the behavior (Steward et al., 2003). For this reason, recommended for the GGD Twente is to mention in the feedback messages the benefits of engaging in the behavior. It is also possible to show participants a figure of how they could look like in a certain time frame if they change their health-related behavior. For example, a figure that shows quitting smoking will result in whiter teeth and a healthier looking skin.

With regard to the personal approach of the tailored advice intervention, participants found the advice to be very general. They did not feel like the advice was based on their personal situation. To make the advices more tailored, they recommended to ask more specific questions when people select a specific topic and adjust the advice for specific age groups. In this way the respondents will receive appropriate advice and mistakes can be prevented, for example, someone in a wheelchair would not receive the advice to walk more. Earlier research has shown that people in different stages of change need different information in advices (Brug, Glanz, Van Assema, Kok, & Van Breukelen, 1998). According to the stages of change transtheoretical model, people in the precontemplation stage should first be made aware of their current health-related behavior. After this, they should subsequently be provided with information about the pros and cons of the behavioral change to create positive attitudes. Finally they should be provided with practical information to help respondents to implement the required changes. According to the stages of change transtheoretical model, people in contemplation and preparation stages should be provided with information about self-efficacy information to increase confidence in overcoming barriers (Brug, Glanz, & Kok, 1997). Finding out in which stage of behavioral change people are, is important in order to give them appropriate feedback (Norcross, Krebs, & Prochaska, 2011).

Recommended for the GGD Twente is to make the advices more tailored by asking more questions about the stage of behavioral change people are in when respondents select a feedback topic.

Regarding the complexity of the intervention, participants thought the information very clear and easy to understand. Although they thought it was understandable, participants did not think this applies to everyone. Abbreviations and certain terms used by the GGD Twente could be unfamiliar to some people and the communication with these people could be more difficult. This is in line with the literature, which shows that low health literacy can be an important barrier in e-Health (Kreps & Neuhauser, 2010). Recommended for the GGD Twente is to offer more information about certain terms so people with different levels of education and health literacy can all understand the information.

4.1.5 Effect

Literature shows that tailored advice is effective for self-management and changing health related behavior (Crutzen & de Vries, 2015). During this research no effect measurement was conducted, but the respondents were asked about their opinion on the effect of the tailored advice intervention. According to the respondents, the intervention could make people (once more) aware of their health status or give them confirmation about their current behaviour, but it can't give them new insights. The quantitative and qualitative study both indicate that most of the participants already knew how they would score before seeing the advices. For this reason the intervention could only help creating realisation and awareness of peoples health status. According to the stages of changes transtheoretical model, awareness is important for the people who are in the precontemplation stage of changing behavior (Brug et al., 1997). If the GGD Twente wants to focus more on the people who do not know their score before seeing the advices, they could implement an option for respondents to log in at preferable moments so people can do a 'health check' whenever they have doubts about their score. Recommended for the GGD Twente is to focus on people who are already motivated to change their health-related behavior instead of focusing on giving new insights. For this, it would be more effective to focus on the '*wanting and being able to'* phase of the 'Persuasive by Design' model of Sander Hermsen that was used during development of the tailored advice intervention. The GGD Twente could do this for example by asking more about the core of the problem when people select a certain feedback topic. Further research must explain how to motivate people who already are aware of their health status.

Respondents were undecided whether the advice could motivate participants to change their health-related behaviour. On the one hand they think the tailored advice intervention could be a trigger for people to do something about their health, but on the other hand they are not sure if this will really happen. According to the respondents, the people motivated through this intervention would probably be the same people who already were motivated, because they decided to receive feedback. Respondents also think that people with problems need more help and will not succeed by themselves with only the help of this intervention. This is in line with the literature that shows people in different stages of change have different needs (Brug et al., 1997). For the GGD Twente, it was a decision they made to make use of such a broad intervention. For that reason, it might not be possible to help all

people with this intervention. The people that were already motivated might, as a result from this intervention, seek some more related health information somewhere else and in this way be triggered to do something about their health-related behaviour. For the people who are not motivated or really need help to change their behaviour, the intervention is probably not enough for them to succeed. They might benefit more from other health programs from the GGD Twente, some of them that for example are not online.
A possible explanation why the advices are not that motivating for changing health-related behaviour is that the tailoring is maybe not personal enough. To make the advices more tailored, the GGD Twente could ask more questions about the underlying determinants, but this will mean that a lot more questions have to be asked. The GGD Twente could offer the participants the possibility for a more tailored advice if they want to fill in another questionnaire which concern only their topic of interest. This option should also be available at a later time, because they might not want to use the option right away. The GGD Twente could ask if the participant wants to receive an email with further information for this. For the GGD Twente this is a complicated addition, because they offer so many topics. Further research should examine the technological feasibility of this implementation.

An interesting finding was that respondents who had used the tailored advices after filling in the health monitor last September, mentioned they did not remember a lot and nothing had changed in the months after. Literature shows that for supporting adherence it is effective to send reminders to the participants (Cremers et al., 2012). This is useful, because participants will be reminded of the tailored advise after participating in the intervention. The GGD Twente could do this for example by sending e-mails or text messages at certain times after participants used the tailored advice intervention.

For many of the participants, receiving tailored advice was not a reason to fill in the questionnaire. They would have been able to find the information online any time they wanted. It is recommended for further participation in health monitors to make a possibility to see the progression in the long run. For this, there should be an option to save previous results, so people can compare these results with their new results. Literature shows that if a computer-tailored intervention provides information about the progression of the users, it might encourage people to revisit the intervention (Brouwer et al., 2009).

4.2 Strengths and limitations

The results of this study must be interpreted with caution. An important limitation of the quantitative research is that there was no extended log data available, only about the clicking behavior of the participants. Because of this, there can't be said a lot about the actual usage of the tailored advice intervention.

No interviews were conducted with low educated participants, so a limitations of the qualitative study is that there is no qualitative data collected about their opinion on the tailored advice intervention.
Another limitation of qualitative research was that due to lack of time it was not possible to check all the encoded transcripts by an independent researcher. However, we did developed a coding system in

close cooperation with the supervisors and two of the encoded transcripts were checked by an independent researcher.

For the qualitative research, twelve respondents were participating in the qualitative research. Having more interviews can be more representative to reality. Although we had only twelve respondents for the interviews, we had the feeling that no new information was gathered in the last interviews, indicating that data saturation had been reached.

A strength of the qualitative study is that the participants were selected at random and there was a great variety in the age of the participants. This results in a representative sample and makes the generalisability of the outcomes to the population more plausible.

Using the mixed method design was very useful to answer the research question, because answering this question needed quantitative and qualitative research. Due to lack of similar scientific research this was an suitable design for this research, because both studies complemented each other.

4.3 Recommendations

In the former paragraphs a number of recommendations were already mentioned. The practical recommendations are outlined in the following table 12.

Table 12

Practical recommendations for the GGD Twente

Theme	Recommendation
Expectations of participants'	- A detailed description about the goal of the intervention
Choice of feedback topics	- Add a topic concerning common diseases and their symptoms
Available information of the intervention	- Contact information from one of the project managers - Information about getting in contact with health professionals - Information about getting in contact with peers
Design of the intervention	- Do not show the figure of the average BMI score when the participants BMI is higher than average
Tone of feedback	- Show participants the benefits of engaging in the behaviour
Personal approach	- Ask more specific questions when people select a feedback topic - Adjust the advices for specific age groups
Complexity	- More information about certain terms and abbreviations
Effect outcome	- Remind people of their participation by e-mail or SMS - Make it possible to see the progression in the long run - Make an option to receive feedback at preferable moments - Make an option to receive a better tailored advice by filling in some extra questions

Future research

Future research should focus on performing similar research on other Public Health Services of the Netherlands so more information will be collected. This could contribute in the process of making a good working method for all GGD's in the Netherlands. It would also be very useful to collect more specific log data of the intervention, because this can provide continuous and objective insights into the actual usage of the technology.

Future research should also focus on the re-implementation of the improved tailored advice intervention at the GGD Twente, and on performing this study on a larger scale in the Netherlands. This re-implementation should focus more on the different phases in which the participants are and the needs belonging to these phases. Future research should examine the technological feasibility of this implementation.

4.4 Conclusions

In general, the tailored advice application seems to be a valuable intervention for the target audience. A lot of people used the tailored advice intervention and they had very high expectations about using it. To make it more effective, the GGD Twente should focus more on the *'wanting and being able to'* phase of the 'Persuasive by Design' model of Sander Hermsen to finally achieve the *'doing and repeating'* phase. To make the tailoring more specific, the GGD Twente should focus more on the different phases of change in which the participants are and the needs belonging to these phases. In this way the intervention will match better to the expectations, needs and interests of the respondents.

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Appendices

Appendix A – Information letter

Betreft: Uinodiging deelname onderzoek

Geachte meneer/mevrouw,

De GGD Twente start binnenkort een nieuw onderzoek over online gezondheidsadvies. We zijn erg benieuwd naar uw mening hierover, zodat wij het advies kunnen verbeteren. Hiervoor willen wij u graag interviewen. Het interview zal 30 tot 45 minuten duren en als dank voor uw deelname ontvangt u een VVV-bon.

Wilt u meedoen aan dit onderzoek, beantwoord dan deze mail en vermeld uw naam en telefoonnummer. Wij zullen dan contact met u opnemen om het interview in te plannen.
Uw telefoonnummer zal alleen voor dit doeleinde gebruikt worden.

Alvast hartelijk dank voor uw reactie!

Met vriendelijke groet,
Team GGD Twente panel

Appendix B – Information letter

Betreft: Deelname onderzoek

Geachte meneer/mevrouw,

Via deze mail willen wij u laten weten dat wij erg veel reacties voor ons onderzoek hebben ontvangen, waardoor wij inmiddels voldoende mensen hebben voor de interviews. Deelname is helaas dus niet meer mogelijk.
Wij willen wij u hartelijk danken voor uw reactie en hopen wij dat u zich bij een volgend onderzoek opnieuw zal aanmelden.

Met vriendelijke groet,
Team panel GGD Twente

Appendix C – Informed consent

Titel onderzoek: Evaluatie onderzoek Advies Op Maat
Verantwoordelijk onderzoeker: Angela van Akker

In te vullen door de deelnemer
Ik verklaar op een voor mij duidelijke wijze te zijn ingelicht over de aard, methode, doel en belasting van het onderzoek. Ik weet dat de gegevens en resultaten van het onderzoek alleen anoniem en vertrouwelijk aan derden bekend gemaakt zullen worden. Mijn vragen zijn naar tevredenheid beantwoord.

Ik begrijp dat film- en videomateriaal of bewerking daarvan uitsluitend voor analyse en/of wetenschappelijke presentaties zal worden gebruikt.

Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud me daarbij het recht voor om op elk moment zonder opgaaf van redenen mijn deelname aan dit onderzoek te beëindigen.

Naam deelnemer: ……

Datum: …… Handtekening deelnemer: ……

In te vullen door de uitvoerende onderzoeker
Ik heb een mondelinge en schriftelijke toelichting gegeven op het onderzoek. Ik zal resterende vragen over het onderzoek naar vermogen beantwoorden. De deelnemer zal van een eventuele voortijdige beëindiging van deelname aan dit onderzoek geen nadelige gevolgen ondervinden.

Naam onderzoeker: ……

Datum: …… Handtekening onderzoeker: ……

Appendix D – Background questionnaire

1. Wat is uw geslacht?

☐ Man

☐ Vrouw

2. Wat is uw geboortejaar?

1	9	

3. Wat is uw hoogst afgeronde opleiding?

(een opleiding afgerond met diploma of voldoende getuigschrift)

☐ Geen opleiding

☐ Lager onderwijs (basisschool)

☐ Lager beroepsonderwijs (LBO)

☐ Voorbereidend middelbaar beroepsonderwijs (VMBO)

☐ Middelbaar algemeen voorgezet onderwijs (MAVO, VMBO-t)

☐ Hoger algemeen en voorbereidend wetenschappelijk onderwijs (HAVO, VWO)

☐ MBO

☐ HBO

☐ WO (universiteit)

☐ Anders, namelijk……

4. Wat is uw burgerlijke staat?

☐ Getrouwd / samenwonend

☐ Nooit getrouwd

☐ Gescheiden

☐ Weduwe

5. Wat is uw geboorteland?

……..

6. Wat is het geboorteland van uw ouders?

Vader:……..

Moeder:……..

Appendix E – Interview protocol

Introductie

Duur: 10 minuten

- Doelstelling

Voor mijn afstudeeronderzoek wil ik graag weten wat volwassen en ouderen uit de regio Twente ervan vinden om online gezondheidsadvies te krijgen. De GGD Twente heeft naar aanleiding van de gezondheidsvragenlijst Advies Op Maat ontwikkeld. Met dit advies op maat wil de GGD Twenteu in staat stellen om uw eigen keuze te maken voor voorlichting, zodat u de mogelijkheid krijgt om zelf met uw eigen gezondheid aan de slag te gaan. Daarnaast vraagt de GGD Twente zich af wat u vindt van de manier waarop het advies gegeven wordt. Tijdens dit interview zullen we het dus onder andere over deze onderwerpen hebben. Uw antwoorden zullen er uiteindelijk aan mee helpen dat ik de GGD Twente aanbevelingen kan geven om het online gezondheidsadvies op maat te verbeteren.

- Opnames

Dit interview wordt opgenomen met een laptop en mobiel. De data die hiermee wordt verzameld, wordt alleen voor dit onderzoek gebruikt. Nadat de opname is uitgewerkt, wordt deze vernietigd.

- Vertrouwelijkheid

De verzamelde data wordt alleen voor dit onderzoek gebruikt. Met de antwoorden die ugeeft, wordt anoniem omgegaan, zodat niemand weet wie welke antwoorden gegeven heeft.

- Moderator

Dit interview wordt geleid door Angela.

- Informed consent

Wij vragen u om een informed consent te tekenen. Hiermee verklaartu dat u voldoende bent ingelicht over de doelen van dit onderzoek, dat u akkoord gaat met het feit dat dit interview vocaal wordt opgenomen en dat u vrijwillig mee wil doen aan dit onderzoek.

Algemeen

Duur: 10 minuten

1. Maakt u wel eens gebruik van het internet om informatie op te zoeken of advies te krijgen over uw gezondheid? Hiermee wordt bijvoorbeeld bedoeld het zelf op zoek gaan naar websites met medische informatie, het gebruik maken van een e-consult van de huisarts of een online forum.

Doorvragen: Zo ja; kunt u hier een voorbeeld van geven? Over welke onderwerpen zoekt u advies? Heeft u dit positief ervaren? Waarom wel/niet?
Zo nee; waarom niet?

2. Wat vind u van het idee om gezondheidsadvies te krijgen na het invullen van een vragenlijst over uw gezondheid?
   Doorvragen: Heeft u dit wel eens eerder gehad? Waarom is dit wel of geen goed idee? Heeft het meerwaarde voor u? Waarom wel/niet? Is dit een reden voor u om de vragenlijst in te vullen? Waarom wel/niet?

Waardering

Duur: 15 minuten

3. Wat vind u van de feedback onderwerpen waaruit u kunt kiezen?
   Doorvragen: Welke onderwerpen vind u interessant om feedback op te krijgen en waarom? Welke onderwerpen zouu zelf kiezen en waarom? Welke onderwerpen missen er volgens u? Zou u een onderwerp kiezen omdat u denkt dat u er slecht op scoort of juist goed en waarom? Zou u een onderwerp kiezen omdat u denkt dat dit onderwerp nieuwe informatie bevat?
4. Wat vind u van de adviezen die worden gegeven?
   Doorvragen: wat vind u goed en waarom? Wat vind u niet goed en waarom niet?
5. Kunt u per advies aangeven hoe denkt u over de inhoud van het advies dat wordt gegeven?
   Doorvragen: is er genoeg informatie beschikbaar? Is het advies duidelijk en waarom wel/niet? Staan er nieuwe dingen voor u in of is het vanzelfsprekend? Zijn er dingen die u mist in het advies?
6. Kunt u per advies aangeven wat vind u van de manier waarop het advies is vormgegeven?
   Doorvragen: wat vind u ervan dat er eerst een persoonlijke boodschap wordt gegeven en er vervolgens praktische tips en apps worden laten zien? Waarom wel of geen goede manier van vormgeven?
7. In hoeverre vind u de adviezen persoonlijk genoeg?
   Doorvragen: Wat zou de boodschappen persoonlijker maken? In hoeverre denkt u dat door middel van een vragenlijst genoeg informatie beschikbaar is om het advies voor u persoonlijk op te stellen? Waarom wel/niet?
8. a) Kunt u per advies aangeven wat u vind van de toon waarop het advies wordt gegeven?
   Doorvragen: waarom wel/niet prettig? Werkt het motiverend ja/nee?

Waarom wel/niet?

b) Wanneer u nu deze boodschap leest, welke toon van de boodschappen heeft dan u voorkeur en waarom?
Doorvragen: de positieve of betuttelende manier en waarom?welke boodschap zou u meer motiveren uw gedrag te veranderen en waarom? Hoe zou de boodschap u nog meer kunnen motiveren?

Begrip

Duur: 10 minuten

9. Kunt u het in eigen woorden toelichten wat u uit het volgende stukje tekst heeft opgemaakt? *Laat bijlagezien*
Doorvragen: worden er volgens u moeilijke woorden gebruikt? Zo ja welke? Is de informatie duidelijk geformuleerd? Op welke manier zou dit nog duidelijker kunnen?
10. Hoe zou u de volgende figuur aflezen?
Doorvragen: Wat is er niet duidelijk? Hoe zou dit volgens u duidelijker kunnen worden afgebeeld? Vind u dit een fijne manier om uw score af te lezen? Wat vind u ervan dat het gemiddelde van de Nederlandse bevolking en de medische norm zijn afgebeeld? Heeft één van beide uw voorkeur en waarom? Wat is de meerwaarde hiervan?

Effectiviteit

Duur: 10 minuten

11. Zou het online gezondheidsadvies op maat u kunnen helpen om meer stil te staan bij uw eigen gezondheid en gezondheid gerelateerd gedrag?
Doorvragen: Waarom wel/niet? Wanneer was dit wel zo geweest? Wat zou er verbeterd kunnen worden?
12. Zou het online gezondheidsadvies op maat u op een positieve wijze kunnen motiveren om uw gedrag te veranderen?
Doorvragen: Waarom wel/niet? Wanneer was dit wel zo geweest? Wat zou er verbeterd kunnen worden?
13. Zou u door hetonline gezondheidsadvies op maat vaker deelnemen aan eengezondheidsvragenlijst? Zo ja, waarom? Zo nee, waarom niet?
Doorvragen: Zou u in de toekomst naar aanleiding van een gezondheidsvragenlijst er opnieuw voor kiezen om Advies Op Maat te krijgen? Waarom wel/niet?

Appendix F – Coding scheme

Expectations of intervention		
Main code	**Description**	**Sub code**
Goal of the intervention	Respondent tells his expectation of the goal of the intervention	Positive
		Negative
		Misunderstanding

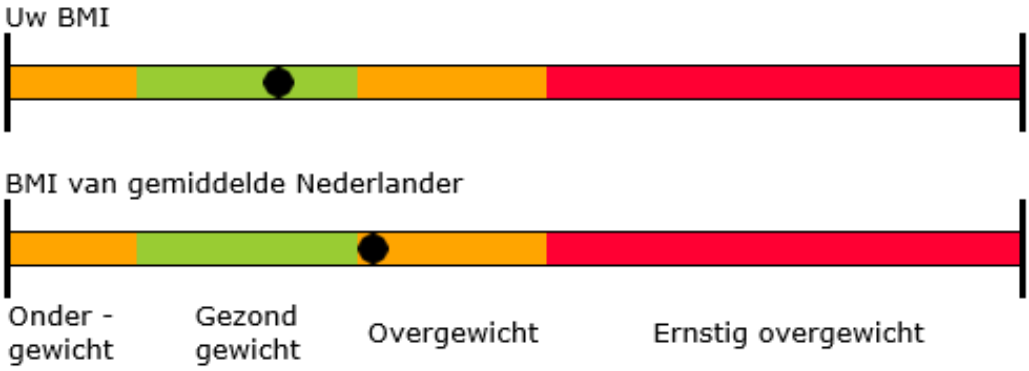
Appreciationof intervention		
Main code	**Description**	**Sub code**
Choice of feedback topics	Respondent gives his opinion on the choice of topics available in the intervention	Positive
		Negative
		Recommendation
Available information	Respondent gives his opinion on the available information in the intervention	Positive
		Negative
		Recommendation
Design	Respondent gives his opinion on design of the intervention	Positive
		Negative
		Recommendation
Tone	Respondent gives his opinion on the tone of the feedback in the intervention	Positive
		Negative
		Recommendation
Personal approach	Respondent gives his opinion on the personal approach of the feedback in the intervention	Positive
		Negative
		Recommendation
Complexity	Respondent gives his opinion on the complexity of the intervention	Positive
		Negative
		Recommendation

Effect of intervention		
Main code	**Description**	**Sub code**
Insight in health status	Respondent gives his opinion on the effect of the intervention on getting insight in the health status	Positive
		Negative
		Recommendation
Motivation to change behaviour	Respondent gives his opinion on the effect of the intervention on the motivation to change health-related behaviour	Positive
		Negative
		Recommendation
Participation in onlinehealth questionnaires	Respondent gives his opinion on the effect of the intervention on participating in online health questionnaires	Positive
		Negative
		Recommendation

Appendix G – Examples tailored advices per topic

Weight

Om vast te stellen of u een gezond gewicht heeft, is gekeken naar de verhouding tussen uw lengte en gewicht, de zogenaamde Body Mass Index (BMI). Bij een BMI tussen de 18,5 en 25 heeft u een gezond gewicht. Wanneer uw BMI lager is dan 18,5 of hoger is dan 25 heeft u een minder gezond gewicht. In het onderstaande figuur ziet u wat uw BMI is en hoe u het doet ten opzichte van de gemiddelde Nederlander.



Wilt u iets veranderen aan uw situatie en zich gelukkiger voelen?

- (●) Ja
- ( ) Nee

U geeft aan dat u iets wil veranderen aan uw gewicht. Verandering is het meest kansrijk als u kleine positieve veranderingen in alledaagse gewoonten aanbrengt. Bij gedragsveranderingen heb je steun uit je omgeving nodig. Hopelijk hebt u die. Mooi dat u kansen ziet om aan de slag te gaan met uw gezondheid. Succes!

Bewegen

Praktische tips

- Doe leuke dingen waar je bij beweegt
- Pak vaker de fiets
- Stap een bushalte eerder uit
- Parkeer de auto verder weg
- Pak de trap i.p.v. de lift
- Koop een stappensteller of activitytracker
- Ga lunchwandelen

Handige websites

- Kenniscentrum Sport: www.kenniscentrumsport.nl
- Beweegmaatje: www.beweegmaatje.nl

Apps

- 7 minute workout challenge
- Endomundo

Voeding

Praktische tips

- Regelmatig eten: drie hoofdmaaltijden, een paar eetmomenten tussendoor
- Eet bij de lunch en het avondeten groente
- Heb altijd een flesje water bij je
- Zet bij je in de buurt (bijv. op tafel of bureau) een waterkan, eventueel met citroen of komkommer
- Kies eens voor soep en/of een salade bij de lunch

Handige websites

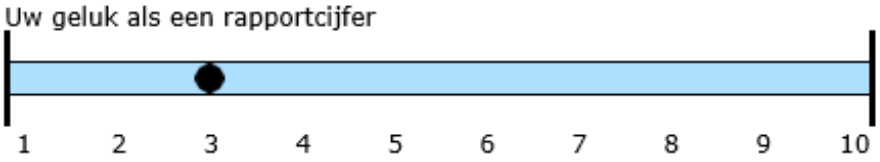
- Voedingscentrum: www.voedingscentrum.nl
- Allerhande Gezond: www.ah.nl/gezonde_recepten

Apps

- Mijn Eetmeter
- Foodzy
- MyFitnessPall

Feelings of well-being

Gezond zijn gaat over je gelukkig voelen. Daarom is er een vraag gesteld over hoe gelukkig u zich voelt. Als u zich gelukkig voelt, heeft u meer plezier in uw leven en kunt u stress ook beter aan. Ook het contact met andere mensen kan dan soms gemakkelijker gaan. Hieronder ziet u hoe u heeft gescoord.



Wilt u iets veranderen aan uw situatie en zich gelukkiger voelen?

- (●) Ja
- ( ) Nee

U voelt zich op dit moment niet gelukkig. U geeft aan hiermee aan de slag te willen. U wilt zich beter voelen en iets veranderen aan uw situatie.

Praktische tips
- Zoek afleiding! Dit is vaak de beste manier om geluk te ervaren!
- Neem iemand in vertrouwen en praat erover
- Zoek een coach!
- Overweeg een huisdier te nemen
- Praat erover met de huisarts
- Verdiep je eens in mindfullness
- Bij het Sociale Wijkteam in uw gemeente kunt u ook met uw vragen terecht.

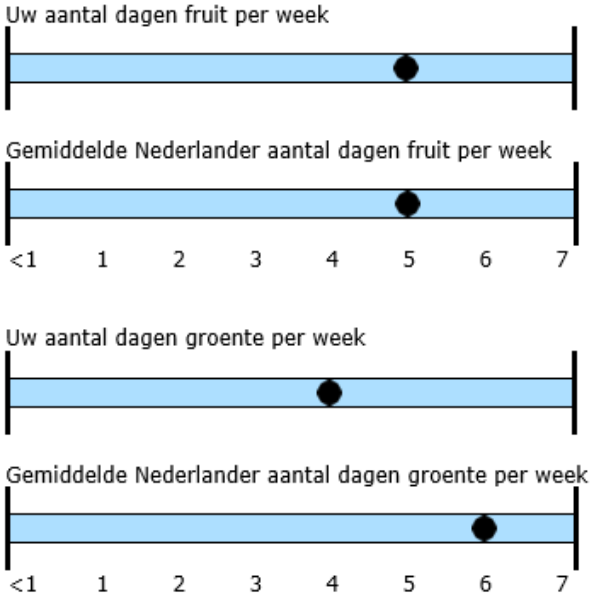
Handige websites
- So Chicken: www.sochicken.nl
- Stichting Korrelatie: www.korrelatie.nl
- Online tips en adviezen: www.mentaalvitaal.nl

Apps
- Mentaal Vitaal
- Voluit leven
- VGZ Mindfulness Coach
- Coach me
- Mr.Mood
- So Chicken!

Vegatables and fruit

GROENTE EN FRUIT

Wie gezond eet en drinkt, voelt zich beter. Gezonde voeding draagt bij aan een goede conditie en houdt u fit. Een gezond eetpatroon betekent gevarieerd eten, onder andere voldoende groente en fruit. Het advies is om elke dag minimaal 250 gram groente (5 opscheplepels) en twee stuks fruit te eten. In de onderstaande figuur ziet u op hoeveel dagen van de week u groente en fruit eet en hoe u het doet ten opzichte van de gemiddelde Nederlander.



Wilt u meer groente en of fruit eten?

- (•) Ja
- ( ) Nee

GROENTE EN FRUIT

Op dit moment wilt u aan de slag om meer groente en fruit te gaan eten. Dat is een goed voornemen maar hoe pakt u dat aan? Groente en fruit eten kan op elk moment van de dag. Maak er een gewoonte van om dagelijks groente en fruit te eten.

Praktische tips

- Eet ook eens groente en fruit bij het ontbijt, de lunch, het avondeten of als tussendoortje.
- Denk eens aan een tomaat of banaan op brood.
- Eet worteltjes als snack of neem een bakje tomaatjes.
- Zorg ervoor dat er groente en fruit in huis is.
- Zet bij je in de buurt (bijv. op tafel of bureau) een waterkan, eventueel met citroen of komkommer.
- Maak eens een groente soep, bijvoorbeeld van courgette of broccoli.

Handige websites

- Voedingscentrum: www.voedingscentrum.nl
- Allerhande Gezond: www.ah.nl/gezonde_recepten

Apps

- Mijn Eetmeter
- Foodzy
- MyFitnessPal

Physical activity

Om vast te stellen of u voldoende beweegt, is nagegaan of u 5 dagen per week iedere dag minimaal 30 minuten beweegt.

Uit uw antwoorden blijkt dat u minder dan 5 dagen 30 minuten matig intensief beweegt. Regelmatig bewegen is goed voor uw gezondheid, zoals uw conditie en uw spierkracht, maar ook voor uw humeur.

Mocht u meer willen gaan bewegen en nieuwsgierig zijn naar tips, websites en apps. klik dan <hier>

Praktische tips

- Doe leuke dingen waar je bij beweegt
- Pak vaker de fiets
- Stap een bushalte eerder uit
- Parkeer de auto verder weg
- Pak de trap i.p.v. de lift
- Koop een stappensteller of activitytracker
- Ga lunchwandelen
- Breng iets meteen naar boven in plaats van het op de trap te leggen
- Zoek een sport waar u plezier in heeft.
- Als u graag samen met iemand gaat sporten, vraag dan een vriend, collega of kennis om mee te gaan.

Handige websites

- Kenniscentrum Sport: www.kenniscentrumsport.nl
- Beweegmaatje: www.beweegmaatje.nl

Apps

- 7 minute workout challenge

Endomundo

Falling

VALLEN

Elke 6 minuten wordt een 65+er als gevolg van een val behandeld op een Spoedeisende Hulpafdeling van een ziekenhuis. Bij mensen onder de 65 komt dit minder vaak voor.
Door een val kunnen ouderen gemakkelijk een heup breken of hersenletsel oplopen. Er is veel mogelijk om de kans op een val te verkleinen, waardoor u langer zelfstandig en vitaal kunt blijven.

U hebt aangegeven in de afgelopen 3 maanden wel eens te zijn gevallen. Van de ouderen in Nederland geeft 17,5% aan in de afgelopen 3 maanden wel eens te zijn gevallen. Op de volgende websites en apps staan verschillende adviezen. Het opvolgen ervan verkleint de kans om (opnieuw) te vallen.

Praktische tips

- Doe mee met het televisieprogramma 'Nederland in Beweging' op omroep Max.
- Beweeg voldoende, zodat u spierkracht en balans houdt.
- Maak uw huis 'val-veilig' (voldoende licht, geen losse snoeren, goede leuningen enz.)
- Check uw geneesmiddelen regelmatig. Sommige geneesmiddelen, of combinaties van geneesmiddelen, kunnen duizeligheid veroorzaken.
- Laat uw ogen regelmatig controleren.
- Zorg voor goed, stevig schoeisel.
- Neem dagelijks een vitamine D supplement. Dit is nodig voor volwassenen die ouder zijn dan 50 jaar.
- Check uw valrisico bij de huisarts. Die kan u passend advies geven.
- Als u van houding verandert, kunt u weleens duizelig worden. Span bewust uw beenspieren aan als u vanuit uw bed tot zit komt en gaat lopen. Ga pas lopen als duizeligheid weg is.

Handige websites

- Veiligheid NL: www.veiligheid.nl/valpreventie
- Valpreventie kennisplein zorg voor beter: http://www.zorgvoorbeter.nl/ouderenzorg/valpreventie-ouderen.html

Smoking

ROKEN
U heeft aangegeven (wel eens) te roken. Wilt u stoppen met roken?

- (●) Ja
- ( ) Nee

ROKEN
Uit uw antwoord blijkt dat u rookt. Niet roken heeft verschillende voordelen voor uw gezondheid: je voelt je fitter. Je hoeft met slecht weer niet meer buiten te staan, het bespaart geld (veel!), je proeft en ruikt beter en het is beter voor je gezondheid. Mocht u willen stoppen met roken, nu of ooit, én bent u nieuwsgierig naar praktische tips, handige websites en apps kijkt u dan eens hieronder:

Praktische tips

- Kies een datum tussen nu en 3 weken, wanneer je stopt met roken en ga er dan voor!
- Praat eens met vrienden, familie, de huisarts of iemand anders over stoppen met roken. Hoe kunnen zij jou helpen met stoppen?
- Reken uit hoeveel geld je per maand bespaart als je stopt met roken
- Stel jezelf een beloning in het verschiet
- Als je van lezen houdt, lees dan eens het boek 'Nederland Stopt met Roken' van Pauline Dekker

Handige websites

- Nederland stopt met roken: www.nederlandstopt.nu/
- De Stop Site: www.destopsite.nl
- Informatie over roken van het Trimbos Instituut: www.rokeninfo.nl
- Stoptober: stoptober.nl

Apps

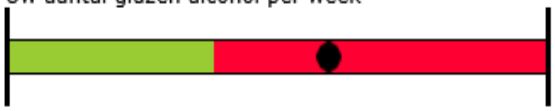
- Rookvrij Pro
- Quit smoking Buddy
- QuitNow!

Alcohol

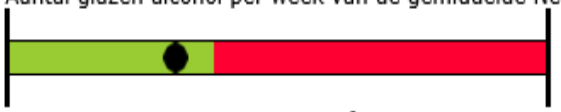
ALCOHOL

U hebt een aantal vragen over het drinken van alcohol ingevuld. Het is bekend dat het drinken van teveel alcohol schadelijk is voor uw gezondheid. Het wordt aanbevolen om voor vrouwen maximaal 1 glas alcohol per dag en voor mannen maximaal 1 glas alcohol per dag te drinken. In de onderstaande figuur ziet u hoeveel glazen alcohol u per week drinkt en hoe u het doet in vergelijking met de gemiddelde Nederlander.

Uw aantal glazen alcohol per week



Aantal glazen alcohol per week van de gemiddelde Nederlandse vrouw



0 tot en met 7 8 of meer

Wilt u minder alcohol drinken?

- (•) Ja
- ( ) Nee

ALCOHOL

U geeft aan dat u iets wilt veranderen aan uw alcohol inname. Dit is een kansrijke keuze. Als u wilt stoppen met alcohol of minder alcohol wilt drinken, overleg dan met anderen (partner, vrienden, familie en/of huisarts) over hoe u dit aan kunt pakken.

Praktische tips

- Stel uzelf een limiet: bepaal van tevoren hoeveel glazen en wat voor soort drank u gaat drinken.
- Drink na elk glas alcohol een glas water of fris.
- Bedenk van tevoren op welk tijdstip u stopt met drinken.
- Eet altijd iets voordat u alcohol drinkt.
- Voorkom dat alcohol drinken een gewoonte wordt; drink niet elke dag.
- Drink geen alcohol als u zwanger wilt worden, zwanger bent of borstvoeding geeft.
- Drink niet als u gaat deelnemen aan het verkeer. Dat geldt ook voor fietsers en scooterrijders.

Handige websites

- Informatie over alcohol: www.alcoholinfo.nl
- Organisatie STAP: www.stap.nl
- Alcohol de baas (Tactus): www.alcoholdebaas.nl

App

- Da's makkelijk zat

Informal caregiving

U geeft op dit moment mantelzorg en vindt dat best zwaar. U wilt er iets aan veranderen, zodat u meer in balans komt. Het is belangrijk dat u goed voor uzelf zorgt en voldoende tijd overhoudt voor ontspanning. Misschien zijn er mensen die u kunnen helpen? U kunt hierbij denken aan familie, vrienden of de huisarts. Ook heeft iedere gemeente een aanbod voor mantelzorgers. Dit kan bijvoorbeeld een gesprek met andere mantelzorgers zijn, hulp bij regeltaken of “respijtzorg” . Bij respijtzorg neemt iemand (betaald of vrijwillig) de zorg tijdelijk over om u vrij te geven of te ontlasten.

Praktische tips

- Neem u zelf voor vandaag 1 ding voor een ander te doen
- Kijk eens in uw wijk/gemeente naar Mantelzorg-bijeenkomsten
- Bij het Sociale Wijkteam in uw gemeente kunt u ook met uw vragen terecht
- Plan een wekelijkse of maandelijkse bijeenkomst met familie en vrienden die helpen bij de verzorging/begeleiding en deel de hoogtepunten en dieptepunten.
- Zoek een steungroep en ontmoet andere mantelzorgers in uw omgeving.

Handige websites

- Mantelzorg compliment: http://mantelzorgcompliment.nl/
- Centrum Mantelzorg: http://www.mantelzorg.info/nl/site/mantelzorg_algemeneinfo
- Mezzo: www.mezzo.nl en www.tijdvoorjezelf.mezzo.nl
- Begeleiding voor ingrijpende gebeurtenissen: www.EMDR.nl

Apps

- Doe mee!

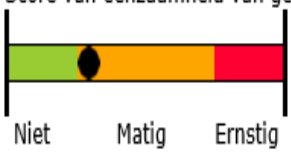
Loneliness

EENZAAMHEID

Mensen kunnen in meer of mindere mate behoefte hebben aan sociaal contact. Het aantal contacten is soms minder belangrijk dan hoe het contact met iemand verloopt. Voor de een kunnen een of twee goede vrienden voldoende zijn. Voor de ander is het belangrijk om met meerdere mensen aan allerlei sociale activiteiten mee te doen. Aan de hand van uw antwoorden op de vragen over sociale contacten is de mate van ervaren eenzaamheid bepaald. In de onderstaande figuur ziet u hoe uw score is en hoe deze is ten opzichte van de gemiddelde Nederlander.

Uw score van eenzaamheid

Score van eenzaamheid van gemiddelde Nederlander



Wilt u iets veranderen aan uw situatie?

- (•) Ja
- ( ) Nee

EENZAAMHEID

Uit uw antwoorden blijkt dat u zich wel eens eenzaam voelt. Daarbij wilt u er iets aan veranderen, zodat u meer sociale contacten krijgt.

Praktische tips

- Informeer eens bij het wijkcentrum of kijk in de lokale krant wat er allemaal aan activiteiten georganiseerd wordt en ga er naar toe.
- Bij het Sociale Wijkteam in uw gemeente kunt u ook met uw vragen terecht.
- Soms voelt u zich emotioneel eenzaam; u mist iemand die naar u luistert en u begrijpt. Overleg hierover met uw huisarts. Hij/zij kan u hierbij helpen.

Handige websites

- Sensoor: www.sensoor.nl
- Het luisterend oog: www.hetluisterendoog.nl

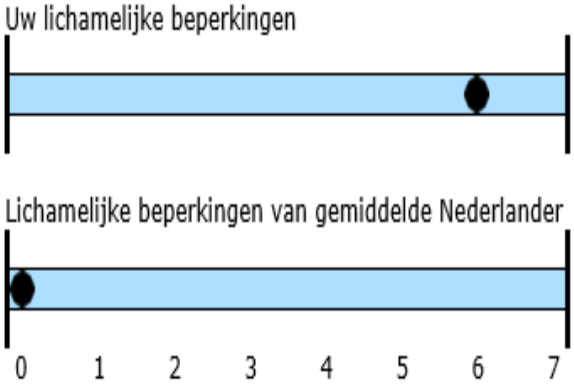
App

- LeeftSamen

Physical restrictions

LICHAMELIJKE BEPERKINGEN (ZIEN/HOREN EN LOPEN)

Sommige mensen hebben lichamelijke beperkingen of klachten. Niet goed kunnen horen, zien of belemmeringen bij het lopen, kunnen het dagelijkse leven bemoeilijken. In de onderstaande figuur ziet u het aantal belemmeringen in zien, horen en lopen en kunt u dit vergelijken met het aantal belemmeringen dat de gemiddelde Nederlander heeft.



Zijn er, naar uw mening, nog verbeteringen of veranderingen aan uw situatie mogelijk?

- (•) Ja
- ( ) Nee

LICHAMELIJKE BEPERKINGEN (ZIEN/HOREN EN LOPEN)

Beperkingen kunnen u belemmeren bij het meedoen in de samenleving. Gelukkig kunnen mensen met een beperking in Nederland advies inwinnen bij de gemeente over hun situatie. Als u een vraag heeft over de zorg of bijvoorbeeld uw woonsituatie of uw welbevinden, dan is het Sociale Wijkteam of het Wmo-loket in uw gemeente de plaats waar u deze kunt stellen. U kunt zowel telefonisch als aan het loket uw vragen stellen.

Praktische tips

- Wat wilt u doen? Maak een lijst van dingen die u graag zou willen doen, kies 1 ding hiervan en bedenk wat u hiervoor nodig heeft om dit te gaan doen.

Handige websites

- De website van uw eigen gemeente. U kunt zoeken op Sociaal Wijkteam of WMO-loket; de plek waar u met uw vragen terecht kunt.
- Regelhulp: www.regelhulp.nl/
- Oogvereniging: www.oogvereniging.nl/oogaandoeningen/oogaandoeningen-overzicht/doofblindheid/

Apps

- Leeftsamen
- Doe mee

Domestic violence

Soms gebeuren er negatieve dingen in de thuissituatie. Het kan zijn dat er veel ruzie is, bedreiging of zelfs geweld. Maar er kan ook mishandeling plaatsvinden.

U hebt aangegeven in het afgelopen jaar een of enkele nare gebeurtenissen thuis te hebben meegemaakt. Het kan zijn dat thuis veel ruzie wordt gemaakt of bedreigingen plaatsvinden. Mogelijk bent u slachtoffer van (ouderen)mishandeling. Dit kan gebeuren door uw partner, of uw kinderen of iemand anders die u “helpt”. Dit mag niet zo blijven. U staat er niet allen voor. U kunt hierbij hulp krijgen.

Praktische tips

- Praat erover met iemand die u vertrouwt: uw partner, een goede vriend of vriendin, buurvrouw of buurman of uw huisarts.
- Bij het Sociale Wijkteam in uw gemeente kunt u met uw vragen terecht.

Handige websites

- Slachtofferhulp: https://www.slachtofferhulp.nl/geweld/delicten/mishandeling/
- Slachtofferhulp wijzer: http://www.slachtofferwijzer.nl/geweld/mishandeling
- Veilig thuis: http://www.vooreenveiligthuis.nl/

Apps:

- SlachtofferWijzer-app