

Master thesis

Sociology: Contemporary Social Problems

Preventing healthcare professionals from leaving

An exploratory study using age and tenure as predictors

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Research for better care

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Although the results of this study deserve more room for interpretation, and I would have liked to have been able to explain more, I hope this thesis makes a valuable contribution to existing research and will be useful for future studies. But most of all, I hope it offers practical suggestions for the workplace in the health and welfare sector.

To anyone reading this thesis: I hope you enjoy it!

Aniek Ruijterlinde

Abstract

This research investigates measures for preventing employees in the health and welfare sector in Region Utrecht from leaving and examines to what extent predictors age and tenure explain the differences in these prevention measures. The study is conducted in two steps. First, the prevention measures are identified using a document-term-matrix (DTM) analysis of responses to the open answered question “What could ‘organization’ have done to prevent your leave?”. Approximately 25 prevention measures were revealed, of which recognition and appreciation, development opportunities, communication, and rewards were mentioned most frequently. Second, logistic and marginality tests revealed that younger employees and employees with 5 to 10 years of tenure were more likely to mention development opportunities, while recognition and appreciation was significantly more mentioned by employees aged 35 to 44 and employees with a tenure of 5 to 10 years. The study highlights the importance of differentiating between groups of employees based on age and tenure in developing prevention measures. These findings provide practical insights for health and welfare organizations that seek to reduce employee turnover. Future research should consider applying further differentiation in demographic and job characteristics and testing the prevention measures through experimental research.

Ethical statement

This research has been approved by the Ethical Board of Utrecht University (reference number 24-1461).

Table of contents

- 1. Introduction 4**

- 2. Theoretical Framework 7**
 - 2.1 Turnover predictors 7**
 - 2.2 Prevention measures..... 8**
 - 2.3 Age..... 10**
 - 2.4 Tenure 13**
 - 2.5 Conceptual model 15**

- 3. Methods 16**
 - 3.1 What are the prevention measures?..... 16**
 - 3.2 Predictors for prevention measures 18**
 - 3.3 Control variables 19**
 - 3.4 Analyses 20**

- 4. Results..... 21**
 - 4.1 What are the prevention measures?..... 21**
 - 4.2 Predictors for prevention measures 23**
 - Distribution of age and tenure in prevention measures 23
 - Predicting prevention measures by age and tenure 24
 - Hypotheses 28
 - Additional results 31

- 5. Conclusion and discussion 32**

- 6. Policy advice..... 35**

- Bibliography 37**

- Appendix..... 43**

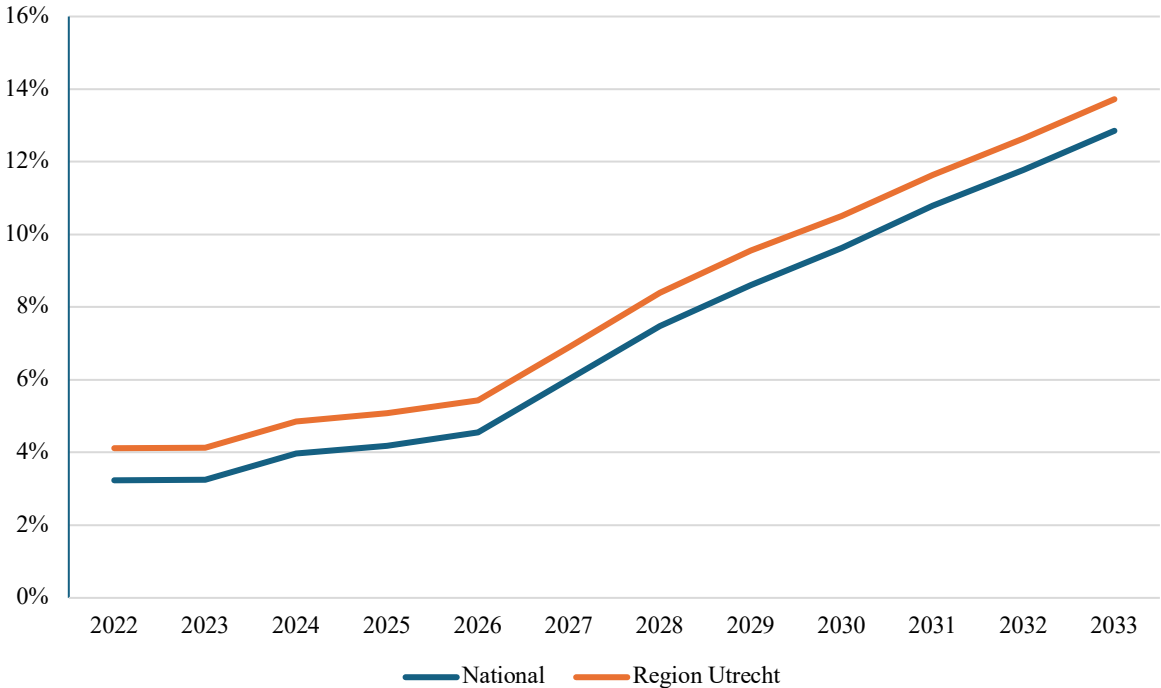
1. Introduction

The health and welfare sector is central to the Dutch society's social infrastructure and plays a vital role in ensuring the quality, accessibility, and affordability of healthcare for everyone (Ministry of Health, Welfare and Sport, 2022a). Despite the obvious importance of a well-organized healthcare system, the sector has been struggling with labor market shortages for years, and the corona pandemic compounded it considerably (Michaeli et al., 2022). Societal factors such as the (double) aging population (Public Health and Care, 2023; VNG, 2019) and the increase in mental health issues among young people (National Institute of Public Health and the Environment, 2023) are causing these shortages to worsen and increase the importance of constructive solutions. Institutions have made several attempts (Ministry of Health, Welfare and Sport, 2018; Ministry of Health, Welfare and Sport, 2022b), and because of the complexity of the issue, it deserves attention from different perspectives. In this study, we investigate how to retain healthcare professionals who exit, what measures are effective in preventing the outflow and, the role of the employer. Previous research already uncovered themes that indicate reasons for leaving (Lemmelijn & Van Schaaik, 2023; Lang et al., 2022; Averens et al., 2022), and what strategies retain employees (Kamalaveni et al., 2019; Das & Baruah, 2013; Kossivi et al., 2016). We delve further into these strategies by investigating answers of former Care and Welfare employees about what the employer could have done to retain them. This perspective brings new and clear insights on preventing employees from leaving.

According to the Social Economic Council (SER) (2021), the Dutch healthcare system will need more than two million people working in the sector by 2040, which is one in four people. In 2022, there were 1.6 million, 14 percent of the working population. Region Utrecht (labor market regions Utrecht, Amersfoort and Gooi and Vechtstreek) mirrors national trends and had a percentage of 13,8 working in the sector in 2022. Looking at the Care and Welfare forecast model (2024), which considered expected effects of several relevant planned or recently introduces policy measures (for example, the coalition agreement and the Integral Care Agreement), the labor market shortages will continue to increase till 2033 (see figure 1.1). Although there are still more people entering the sector than leaving, the labor demand increases beyond the number of employees entering, and the current outflow increases this gap even further (Ministry of Health, Welfare and Sport, 2024). With the perspective of recruiting new healthcare employees, steps in the right direction are taken, but only part of the

problem will be solved (Ministry of Health, Welfare and Sport, 2022a; Regioplus, 2017). Therefore, the outflow of healthcare employees must also be investigated and tackled. Besides staying updated on contemporary social trends in retentions strategies (different generations have different reasons for leaving), it is interesting to investigate the perspective of employees that already left. Current studies particularly focus on why someone left (Lang et al., 2022; Lemmelijn & Van Schaaijk, 2023), or what factors reinforce the intent to leave (Mosadeghrad, 2013). Exploring prevention measures that would have kept former employees from leaving, provides a new perspective.

Figure 1.1 Labor market shortages Care and Welfare, relative to the labor demand



Care and Welfare forecast model (new policy scenario), Ministry of Health, Welfare and Sport (2024)

This study contains of two steps in which we investigate employee retention. In the first step, we analyze the open-ended responses to the question “What could ‘organization’ have done to prevent your leave?”. Because it contains new data (respondents from 2022 and 2023) that has not been used before, it gives new insights into possible prevention measures. Respondents have the possibility to anonymously and openly respond, creating more space to be specific, which then gives the opportunity to develop focused policies. In the second step, we include age and tenure as predictors of the most effective prevention measures. Previous research showed that individual demographic factors distinguish reasons for leaving

(Lemmelijn & Van Schaaijk, 2023; Averens et al., 2022). According to Lyons and Kuron (2013), different generations have different work values and attitudes. Understanding these differences makes it possible to develop more targeted policies. The same can be said about the differences in tenure. According to Xu and Cooper-Thomas (2011), engaged employees remain at their jobs for longer and engagement is inversely related to tenure. It seems that engagement increases slightly the longer an employee is employed but decreases when someone is employed even longer (Xu & Cooper-Thomas, 2011). As long-term employees often have in-depth knowledge of the organization and processes and employees with shorter tenures can bring fresh perspectives, it is relevant to distinguish differences in effective measures to prevent employees from leaving.

This leads us to the following research question:

What are measures that Health and Welfare organizations in Region Utrecht can take to prevent employees from leaving and can we predict how to prevent outflow of healthcare professionals by looking at the variables age and tenure?

This question is divided in the following questions:

- *What are prevention measures that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving?*
- *To what extent can age and tenure explain the differences in prevention measures to keep former employees from leaving?*
- *What policies can health and welfare organizations implement to retain employees?*

2. Theoretical Framework

Over the past decades, many scientists have tried to understand and modelized turnover patterns across different sectors (Gupta et al., 2022). Various influencing factors are uncovered and some of them proved to have significant effects (Price & Mueller, 1981; Mobley, 1977). However, turnover theories are often criticized for having limited practical relevance for practitioners (Gupta et al., 2022), whereas factors that increase the likelihood of staying give more practical insights. In the literature, we find these factors under the name of “retention strategies”, which in this paper we call “prevention measures”. Although many researchers have attempted to gain a better understanding on how to define this topic, there are still few studies that address the predictors of these strategies. In order to write targeted policies for practitioners, it is important to know which retention strategy strikes well with which group. In this chapter, we shortly dive into turnover theories, which tell us more about the predictors for leaving. After this, we describe why it is also important to reverse the perspective and see that reasons for leaving are not necessarily input for reasons for staying (Mitchell & Lee, 2001). At last, we look at how the variables age and tenure can say something about the applicability of these prevention measures.

2.1 Turnover predictors

According to Gupta et al. (2022), the organizational Equilibrium Model was the first formal model of turnover. The factors job satisfaction and “the ease of movement” influence the immediate factor “the perceived desirability of movement”, which affects turnover (March & Simon, 1993). Job satisfaction emerges in numerous theories as a good predictor of turnover, both as an independent variable and an intermediate factor (Porter et al., 1974; Mobley et al., 1979; Steel, 2002). In combination with other factors such as organizational and individual characteristics (Mobley et al., 1979; Steers & Mowday, 1979; Jackofsky, 1984), and opportunities for promotion and learning (Price & Mueller, 1981), attempts are being made to further understand employee turnover.

With the Intermediate Linkages model, Mobley (1977) tried to strengthen the relationship between job satisfaction and turnover with intermediate steps in the decision-making process. In this model, the “intention to leave” is the last step prior to actual quitting (Mobley, 1977). More models followed with intention to leave as an immediate factor to turnover behavior, all with different intermediate factors (Mobley et al., 1979; Price &

Mueller, 1981; Steel, 2002). Clearly, several factors influence the probability of employee turnover direct and indirect. Studies in the Netherlands also found significant effects of the predictor job satisfaction (CBS, 2022). Along with other factors like management/organization, safety, recognition and appreciation, shared values, and workload, efforts are being made to further understand employee turnover in the health and welfare sector (Lang et al. 2022; Van Asten et al., 2020; Baltesen, 2022; Averens et al., 2022).

In this study, we delve into the opposite perspective: what factors increase the likelihood of staying? This perspective creates more relevant information for practitioners because it eliminates any form of interpretation. Reasons for leaving could be interpreted as the solution for retaining people. But, according to Mitchell and Lee (2001), the proposition that the factors that positively influence turnover will negatively influence retention does not apply; the decision to stay or remain is not just the obverse of the decision to leave. In the following part, we will investigate predictors that prevent people from leaving.

2.2 Prevention measures

To establish our expectations for answering our first research question, we searched for employee retention factors. According to Bodjrenou et al. (2016) employee retention is about “keeping or encouraging employees to remain in an organization for a maximum period of time”. Singh (2019) defines retention strategies as “various measures taken by organizations to encourage its employees so that they remain with it for a longer duration of time”. Factors like development and promotion opportunities, compensation, management and leadership, work-life balance, relationships with colleagues, and many other factors seem to positively influence employee retention (Bedjrenou et al., 2016; Singh, 2019). A European study from 2019 found significant indirect effects of three main workplace areas on employee retention: HR practices, working conditions, and mission and orientation (Chatzoudes & Chatzoglou, 2022). The mediator in this study was work attitudes (measured with organizational identification, employee engagement, employee commitment and job satisfaction). The workplace areas include many of the above-mentioned retention strategies: HR practices is measured with training and development opportunities, remuneration and rewards, career opportunities, performance appraisal, and empowerment, workplace area working conditions with organizational climate, supervisor support, peer group interaction, work environment, and workspace quality, and mission and orientation is measured with mission, goals and direction and customer centeredness. The effects of the last workplace area, mission and

orientation, were small in comparison with HR practices and working conditions. Although there is a possibility that this area emerges in this research, we do not include it in the formation of our hypotheses. The workplace areas HR practices and working conditions, and the factors that shape these areas, are included.

Mitchell and Lee (2001) developed the construct job embeddedness, with which they sought to understand employee retention (Mitchell & Lee, 2001). The construct is based on the idea of seeing ourselves “enmeshed in a network of forces and connections” (Mitchell & Lee, 2001). They argue that the more embedded one is, the less likely they are to leave their job. This depends on three dimensions: (1) the extent to which someone has deep connections with individuals and groups within their workplace and community, (2) the extent to which someone fits with their job, workplace, and community, and (3) the extent to which someone must give up or sacrifice things if they would leave their job and community (Mitchell & Lee, 2001). Mitchell and Lee (2001) labeled these factors with links, fit and sacrifice, all three with on-the-job and off-the-job perspectives (six dimensions in total). They found significant positive effects of these factors, indicating that job embeddedness retains employees. Mitchell and Lee (2001) emphasize that this does not replace other factors that have proven to have a significant effect before, but that they can complement each other.

For this study, the concepts HR practices, working conditions and job embeddedness are used to cover factors that lead to employee retention. The expectation arises that these concepts, with their belonging retention strategies will emerge when answering the first question: “*What are the prevention measures that would have kept former employees from leaving?*”.

“HR-practices” hypothesis (H1):

Training and development opportunities, remuneration and rewards, career opportunities, performance appraisal, and empowerment are **HR-practices** that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.

“Working conditions” hypothesis (H2):

Organizational climate, supervisor support, peer group interaction, work environment, and workspace quality are **working conditions** that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.

“Job embeddedness” hypothesis (H3):

Connections (links), fitting in (fit), and the extent to which someone must sacrifice things (sacrifice), would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.

Looking back to the perspective of turnover theories, it becomes clear that person and job characteristics influence someone's reason for leaving (Lemmelijn & Van Schaijk, 2023). For example, employees under 24 years of age are more likely to leave because of lack of "development opportunities", and those with only one year of work experience more often mention work content as reason for leaving (Lemmelijn & Van Schaijk, 2023). Averens et al. (2022) argued that if someone is middle-aged and has children, certain work hours may be less suitable, and thus they might have different reasons for leaving (Averens et al., 2022). It can be argued that different characteristics have an impact on reasons for leaving, and therefore might also have an impact on reasons for staying. In the following part, we explore what effect age and tenure may have on reasons for staying. Although "retention strategies" is the leading concept in science, in this study we continue with the concept of "prevention measures".

2.3 Age

To investigate the relationship between age and prevention measures, age is viewed as a social force in organizations and not merely as a demographic variable (Lyons & Kuron, 2013). The construct age can be examined from three perspectives: age effects refer to the variation associated with getting older, period effects show the variation due to social and historical shifts, and the cohort effects are the effects of social events on groups during a specific period in their life (Costanza & Finkelstein, 2015; Luo, 2013). Lyons & Kuron (2013) argued that longitudinal sequential data provides the best evidence for measuring age effects. Because period effects impact an entire society, they are best measured before and after a particular "shift". The cohort perspective investigates the characteristics associated with generations (gained through certain experiences characteristic of a particular period in history) and because of the nature of the data in this study (cross-sectional), this seems to be most suitable. Although the analyses are based on age-categories (see chapter 3), generational perspectives are used to predict which prevention measures can be applied to which age group. In Western society, research has been done on the generational differences in the workplace, where generation is defined as "a group of individuals born within the same

historical and socio-cultural context, who experience the same formative experiences and develop unifying commonalities as a result” (Pilcher, 1994). Today’s workforce comprises three generational cohorts: The Baby Boomers (1946-1964, currently approximately 80 to 60 years old), Generation X (1965-1980, currently approximately 60 to 45 years old), and Generation Y (1981-2000, currently approximately 45 to 25 years old) (Stevanin et al., 2019; Lyons & Kuron, 2013). According to Egerová et al. (2021), Generation Z (1995-2010, currently approximately 30 to 15 years old) is about to enter the labor market and some of them already have. Therefore, we also look at which preferences belong to this generation. Because the analyses are based on age categories, the age categories associated with the generations are used in the following section.

The oldest group (Baby Boomers) grew up in healthy economic times. They have a positive perspective on work and life, tend to work hard and desire development opportunities, and acknowledgement (also known as recognition) (Jones et al., 2018; Salahuddin, 2010). They get motivated by promotions and financial rewards, they value personal improvement and the opportunity to be creative at work (Jones et al., 2018; Cennamo & Gardner, 2008). This oldest age group likes to work in teams and appreciate the democratic, participative decision-making process (Jones et al., 2018).

As a result of the changing society, largely due to the second feminist wave (Jones et al., 2018), people between 60 to 45 years old (Generation X) tend to be self-reliant and pragmatic. This generation developed a more individualistic perspective on life. The concept of work-life balance applies to this group first and they want to work in organizations that promote skills development (Smola & Sutton, 2002). Nontraditional work schedules are introduced, and an informal work environment also seems to be important (Jones et al., 2018). Smola and Sutton (2002) found that they significantly want more promotion opportunities than the oldest group. This generation is results-oriented, wants more autonomy, and responds best to direct communication (Jones et al., 2018).

The age group born from 1981 to 2000 (Generation Y) is optimistic (Jones et al., 2018) and values confidence, achievement, diversity, and change (Salahuddin, 2010). Their communication is less face-to-face because of the increase in technology (Jones et al., 2018). Family is a priority, and a good work-life balance is important, but they also want good career opportunities (Jones et al., 2018). According to Jennings (2000), older age groups crave high salaries and flexible work arrangements, but this generation wants this even more. Thompson and Gregory (2012) concluded that factors to retain this age group are a good work-life

balance, meaningful work, recognition, and strong relationships in the workplace. They prefer to have guidance of their supervisor in a coaching way, on an individual level.

Finally, the youngest group (Generation Z), shows specific behavior shaped by an environment characterized by increased digitization, abundance of resources and information, and a lot of possibilities (Vieira et al., 2024). They found that these people are sensitive to extrinsic motivation factors and prioritize good benefits, opportunities for career advancement, and the work environment. For factors like work-life balance, and an innovative workplace, no significant differences were found for this youngest group in comparison with the older groups (Vieira et al., 2024). So, work-life balance and an innovative workplace are important for generation Z, but not more or less than for other generations.

It becomes clear that many of the prevention measures found earlier (in section 2.2) also recur when age is investigated (see Appendix A an overview). But while trying to link age groups to prevention measures, we also found several additional prevention measures that did not emerge before (see Appendix A for an overview). For reasons of space and scope, not all these additional prevention measures are hypothesized. Only those that emerged across multiple generations are put into an additional hypothesis for step one of this study:

“Additional prevention measures” hypothesis (H4):

Recognition, work-life balance, and flexible work arrangements are additional prevention measures that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.

It can be concluded that all age categories prioritize promotion/career opportunities. However, Smola and Sutton (2002) did find Generation X to significantly prioritize career opportunities more than the oldest group. This effect likely continues to younger groups, and the same goes for rewards. Jennings (2000) argued that people who are 25 to 45 years old value rewards more than the older group. We therefore expect career opportunities and rewards to be more important for younger generations:

Age hypothesis 5a:

Age has a negative effect on mentioning the prevention measures career opportunities, and rewards.

Younger generations seem to place less value on training and development opportunities, which may be due to the similar nature of career opportunities. Having career opportunities is also about development and younger generations value this more than older generations (Jones et al., 2018; Vieira et al., 2024). We won't formulate a hypothesis for this measure, as we already formulated one for career opportunities. Vieira et al. (2024) did not find any differences between generations for the prevention measure work-life balance. We therefore expect work-life balance to be equally important for all generations:

Age hypothesis 5b:

Age has no effect on mentioning the prevention measure work-life balance.

It seems like the oldest group and those aged 25 to 45 prioritize strong relationships in the workplace and recognition the most. Therefore, we formulate the following hypothesis:

Age hypothesis 5c:

Being in the 25 to 45 age group or 60 to 80 age group has a positive effect on mentioning the prevention measures peer group interaction and recognition.

Work environment seems to be most important for people aged 15 to 30 and 45 to 60, and flexible work arrangements for people aged 25 to 60 (Generation X and Generation Y). There are also some prevention measures that only one generation values. Although it may be interesting to empirically test these findings, we do not set any further expectations. Due to the size of this study, the focus will be on the above-mentioned prevention measures, solving part of the puzzle and leaving room for future research.

2.4 Tenure

According to Verhofstadt et al. (2015), indicators of "career stage" like work experience and tenure are often controlled for, overlooking the fact that this distinguishes groups of employees with specific interests of their own (Proenca & Shewchuk, 1997). Investigating these groups is relevant for creating targeted retention policies.

Proenca and Shewchuk (1997), found the perspectives on the workplace of nurses who have been in the organization longer to be different from those who just got recruited. They divided the nurses into three groups based on Katz's model (1978, as cited in Proenca &

Schewschuk, 1997: p 66). Statistical analyses between the three groups are conducted and some significant effects were found. The nurses with fewer than 12 months of tenure (socialization stage) place significantly more value on development opportunities, advancement potential (career opportunities) and benefits (remuneration and rewards) than nurses with more than 36 months of tenure (adaptation stage). This also applies for the nurses with 12 to 36 months of tenure (innovation stage) in comparison with the nurses in the adaptation stage. The only difference here is that nurses in the adaptation stage want more work hour flexibility (Proenca and Shewchuk, 1997). Concluding from these results, the need for work hour flexibility grows significantly with tenure and the need for development opportunities, career opportunities and rewards reduces significantly. Thomas and Scroggins (2023) also searched for significant effects of HRM-practices (measured with development opportunities and performance management practices) on retention. They found these HRM-practices to be more important at the below average stage of tenure (2 to 4,5 years) and this indeed decreases over time (Thomas & Scroggins, 2023). The effect of work hour flexibility is somewhat confirmed in a study of home care workers. Butler et al. (2013), found that the people that were in the organization for a longer period give preference to inconsistent working hours (possibly be defined as “flexibility”). Although work hour flexibility is not a prevention measure that has emerged in earlier sections, “flexible work arrangements” is and thus will be used to indicate this.

Tenure hypothesis 6a:

Tenure has a negative effect on mentioning the prevention measures development opportunities, career opportunities and rewards.

Tenure hypothesis 6b:

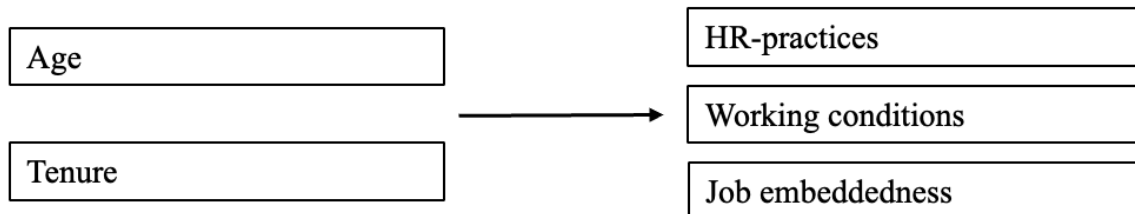
Tenure has a positive effect on the prevention measure flexible work arrangements.

See Appendix B for an overview of all the hypotheses, divided among the research questions.

2.5 Conceptual model

In the conceptual model, no directions are given due to the various factors associated with the dependent variables.

Figure 2.1 Conceptual model.



3. Methods

To investigate how to prevent employees in the health and welfare sector from leaving we used the data collected in the *Landelijk uitstroomonderzoek (national outflow study)* from 2022 and 2023. This is an ongoing study from the RegioPlus partnership, together with the research firm Presearch. Leaving employees from participating organizations receive a questionnaire in which they answer questions anonymously. This information is used to paint an overall picture of national trends, and participating organizations receive their own results at a non-reducible level. Previous analyses with this data mainly focused on the multiple-choice questions, whereas in this research we will delve into the open answer question of prevention measures to get more valuable insights. For this research, we only use the data from Region Utrecht, collected between February 2022 and January 2024.

Before using the data, we first selected all the respondents from Region Utrecht. After, we selected only the respondents that left voluntarily. This excludes all employees who were required to leave and employees who retired. At last, we only selected the client bound functions. This filters out all management roles and other functions that do not have direct contact with clients. Although it is interesting to delve into other functions in care and welfare, this is not the focus of our research. We came to a total of 1945 respondents. Some respondents did not answer the question “What could ‘[organization]’ have done to prevent your leave?”, so we erased them from the data. After this, we came to a total of 1692 respondents.

3.1 What are the prevention measures?

To identify the prevention measures, we analyzed the question “What could ‘[organization]’ have done to prevent your leave?”. Because of the open character of this question, we used a technique called document-term matrix (DTM) (Li et al., 2024; Anandarajan, 2019). This document-term matrix is a widely used technique and a way to classify and organize textual data (Li et al., 2024). In this context, “terms” represents tokens of words (one word or a selection of words) and “documents” refer to the responses provided by the respondents. Before using this technique, all the data of the concerning variable must be organized. The program you use for this does not matter much, and you can choose a document-term matrix, where the documents are displayed on the left, or a term-document matrix, where the documents are displayed at the top (Anandarajan, 2019). We used Microsoft Excel and chose

the document-term-matrix (see figure 3.1). After this the identification of topics can start. The entries, the part where terms and documents meet, get the value 1 when a term occurs in the document (Anandarajan, 2019). With this matrix, it is possible to determine which words appear in an answer, and which combinations exist.

Figure 3.1 Example of document-term matrix.

	Walk	Baking	Dog
I like to walk.	1	0	0
Tomorrow, I’m baking a cake.	0	1	0
I still have to walk my dog.	1	0	1
Baking is not really my thing.	0	1	0
Anna has a very sweet dog.	0	0	1

To make sure that the entries get a value of 1 when a term appears in a document, we used the following code: `=MIN(1;IF(ISFALSE(FIND.SPEC(“”;B2));0;1))`. The words or word combinations we wanted to examine, were put in the parentheses (“”). So, for the example in figure 3.1, for the term “walk”, the following code would be applicable: `=MIN(1;IF(ISFALSE(FIND.SPEC(“walk”;B2));0;1))`. B2 stands for the column and row where the document is located in excel. It is also possible to make combinations of words. For example, if you want to establish whether someone has a dog of their own, the following code would be applicable: `=MIN(1;IF(ISFALSE(FIND.SPEC(“my dog”;B2));0;1))`. In this case, the document about Anna’s dog will not get the value of 1 in the concerning entry. Another possibility of combining words is when the words aren’t located right after each other. If you want to establish whether someone likes to walk, the following code would be applicable: `=MIN(1;IF(ISFALSE(FIND.SPEC(“like*walk”;B2));0;1))`. With this code, all documents that contain the words “like” and “walk”, either right after each other or written apart, will get the value 1. In this case, the document about walking the dog does not get the value 1. It is also possible to use more words or word combinations for one term. The word “baking” for example, only points out the documents that use this word in present tense. Someone could also respond “I love to bake”. In this case, the following code would be applicable: `=MIN(1;IF(ISFALSE(FIND.SPEC(“baking”;B2));0;1)+IF(ISFALSE(FIND.SPEC(“bake”;B2));0;1))`. All the documents containing the words baking and bake will get the value 1.

The prevention measures we found in our literature study are used to establish the terms we wanted to look for in the documents. The prevention measures named in the first four hypotheses were put in the DTM and synonyms were added in the codes (Appendix C). For the concept of job embeddedness, we did not distinguish between on-the-job and off-the-job factors. As described, the off-the-job factors involve the relationship with someone's community (Mitchell & Lee, 2001). As this study focuses on leaving the workplace, and not the community, we only used the on-the-job factors. When all the prevention measures were put in the DTM, some documents still weren't linked to a term. To determine which terms could still be identified, a random sampling was done based on the interpretation of three researchers. Although many unlinked documents got a term from this exercise, there were still some documents without one. A list of the most common words in the unlinked documents was created and interpreted in context. A few more terms emerged from this. After thorough research, it became clear that the remaining documents contained small subtopics, affecting only a few respondents. Although there were still some documents without a term, to keep the research comprehensible, we decided to work with the terms that were found.

With this technique, it is possible to identify many themes, and classify respondents' answers (Li et al., 2024). It makes it possible to bring out multiple themes for each respondent. Often, this technique is used in combination with other textual processing techniques, for example with Latent Dirichlet Allocation (LDA) to provide more insights on how the different topics relate to each other (Marjanen et al., 2020). Given the time we have for this study and the useful information already coming from the DTM, we chose to use the DTM only.

3.2 Predictors for prevention measures

In the second step of this study, we look at the effect of predictors age and tenure. Age is measured with the question "What age group do you fall under?". The respondents got the following options: 24 years of age or younger, 25 to 34 years of age, 35 to 44 years of age, 45 to 54 years of age, 55 to 64 years of age, 65 years or older, and I would rather not say (see Appendix D). To be able to perform statistical analyses with this variable, we created five dummy variables with age group 24 years or younger as our reference group.

Tenure is measured with the question "How long were you employed by [organization]?". The answer options were 0 to 1 year, 1 to 2 years, 2 to 5 years, 5 to 10 years,

10 to 20 years and 20 years or more (see Appendix D). Five dummy variables were created and the group with tenure of 0 to 1 year was the reference group.

3.3 Control variables

To minimize the influence of external factors that could distort the relationship between prevention measures and age and tenure, the control variables educational level of the job and work experience were added.

Rambur et al. (2005) found significant differences between registered nurses with an associate degree and those with a bachelor's degree in job satisfaction and retention. There are some similarities, but they also have different work-related preferences that cause them to stay within an organization. Therefore, we can argue that an effect of education on prevention measures may be found. Although the data we use does not contain a variable of the respondent's highest attained degree, it does contain a variable about the level of job they held. The question asked in the survey was "At what job level did you work?". The following options for answering were LBO/uneducated, MBO1/MBO2, MBO3, MBO4/associate degree, HBO/HBO+, University and I would rather not say. This is based on the Dutch educational system and the categories are presented from low-educated to high-educated. The group that filled in "I would rather not say", being 1,8%, was specified as missing values. These missing values were erased from the data, and after we came to a total of 1663 respondents. Five dummies were created, with the category LBO/uneducated as the reference group.

The variable work experience was also controlled for. A Belgian study found that work experience in the education sector is a significant predictor of the intention to leave an organization and related explanations (Schelfhout & Tanghe, 2023). Although this research takes place in the Health and Welfare sector, and specifically dives into retention, controlling for work experience is arguably relevant. We expected this variable to strongly correlate with age since people start working around the same age (CBS, 2019), and thus also start to gain experience around the same age. Since it is not possible to establish collinearity with a logistic regression (the analysis we use in this study, see section 3.4), we performed a test with another dependent variable. We used the statement "My work was substantively enjoyable", to which respondents could respond with a Likert scale (1 equals completely agree and 5 equals completely disagree). The VIF in the analysis with age and work experience is 1.49, indicating that collinearity is not an issue. Respondents answered the question "How many

years of work experience do you have (in total) in health and welfare?'. The answer options were 0 to 1 year, 1 to 2 years, 2 to 5 years, 5 to 10 years, 10 to 20 years and 20 years or more. Five dummy variables were created and the group with 0 to 1 year work experience was the reference group. There were no missing values.

Although there are several industries within the health and welfare sector, Kamalaveni et al. (2019) found that retention strategies aren't necessarily different in various industries. Because of this, and because of the space and scope of this study, we did not control for industry.

3.4 Analyses

To test the effects of age and tenure on the prevention measures, we used logistic regressions and marginality analyses for the four major prevention measures identified in the first step. According to DeMaris (1995), the logistic regression analyzes dichotomous dependent variables. In this study, the dependent variable has two categories which refer to whether a respondent has mentioned the concerning prevention theme (yes = 1) or not (no = 0). The effects and probabilities are modelled for each reason separately, as respondents could mention multiple measures. For the logistic regressions, odds ratios are presented, revealing the heterogeneous effects in mentioning the prevention measures between the predictors and control variables. The marginal effects show the disparities between categories within the predictors in the probability of mentioning the prevention measures, revealing the heterogeneity between categories.

To establish collinearity between the predictors, we used the same dependent variable as for age and work experience ("My work was substantively enjoyable). The VIF in the analysis with age and tenure was 1.06, which indicates that collinearity is not an issue. After this, we added our control variables and in this gave us a VIF of 1.42.

4. Results

4.1 What are the prevention measures?

Table 4.1 presents the outcomes of the first step of this study: the prevention measures that emerged in the DTM analysis. It becomes clear that the largest group (24.6%) responded “nothing” to the question what their former organization could have done to prevent their leave. Often “nothing” was mentioned in combination with a private reason such as moving or having to take care of family. Looking at the strategies that did get mentioned, giving recognition and appreciation emerges as the most important prevention measure. 19.8% of the respondents stated that they did not feel appreciated because they were not listened to or taken seriously. Development opportunities did emerge as the second largest prevention measure that could have been implemented. While this data does not indicate that no development opportunities were present at all, it does indicate that it did not meet the employees’ needs. This measure includes the need for more advancement/career opportunities. The third measure, communication, is often mentioned in combination with supervisor and sometimes with the higher management. Respondents responded that there should be more transparency in the organization and that executives are not involved in their daily work. Concluding from table 4.1, improving this would have retained 10.8% of the respondents in this study. The fourth biggest measure, rewards, was mentioned by 8.2% of the respondents. The main issue here is salary, but the words “rewarding”, and “terms of employment” have also been added to this topic to get a picture of this whole issue. As seen before, people do not feel recognized or appreciated, and the more materialistic side of this can be observed from this measure. We’ve created an “other” category to put all the small themes and the empty words together. Although the category is still very large, we found that it contains small sub-themes that contain even fewer respondents than the themes in table 4.1. And as for the empty words, there were a lot of respondents who reported answers like “see my responses to the other questions” or “I don’t think they could have prevented my leave”. Because we are interested in the most effective measures, we do not pay further attention to this remaining category.

Table 4.1 Prevention measures that would have kept former employees from leaving.

	N	%
	1663	100
Nothing	415	24.6
Recognition and appreciation	330	19.8
Development opportunities	272	16.4
Communication	179	10.8
Rewards	137	8.2
Supervisor support	117	7.0
Work atmosphere	104	6.3
Schedule	87	5.2
Travel time	80	4.8
Reduce workload	69	4.2
The team	57	3.4
No irregularity in schedule	54	3.3
Other tasks	49	3.0
Travel remuneration	44	2.7
Keep promises	34	2.0
More staff	34	2.0
More autonomy	26	1.6
Organization that thinks with you	26	1.6
Another target group	22	1.3
Working together	21	1.3
Utilize qualities	18	1.1
Work-life balance	16	1.0
Improve onboarding period	15	0.9
Organizational structures	15	0.9
Permanent contract	13	0.8
Does not fit	9	0.5
Other	309	18.6

Note. The words and word combinations used for each theme can be found in Appendix C.

4.2 Predictors for prevention measures

Distribution of age and tenure in prevention measures

Due to reasons of space and scope only the four major themes will be used to try to predict which prevention measures are most effective for different categories within age and tenure. Table 4.2.1 and 4.2.2 present the distribution of respondents in these measures by age and tenure. Notably, 30% of the people that mentioned rewards as a prevention measure are 25 to 34 years old. The division of age-categories in recognition and appreciation, development opportunities and communication are somewhat more evenly distributed, but upon closer examination, nearly 70% of the people that mentioned development opportunities were 44 years or younger and the largest group that mentioned communication was 65 years or older (22%). For tenure, it is notable that 28% of the people that mentioned rewards have a tenure of 5 to 10 years. But also, the categories with a tenure of 1 to 2 years and 2 to 5 years have a large share in this prevention measure. We can argue that aligns with findings of table 4.2.1, given that those who are 25 to 34 years old could potentially have a tenure of 1 to 10 years (when merging the categories 1 to 2 years, 2 to 5 years, and 5 to 10 years together). Looking at the other prevention measures, there is a large share of people that have a tenure of 5 to 20 years (together 44%) in de prevention measure development opportunities. Recognition and appreciation and communication are more evenly distributed.

Table 4.2.1 Percentage of respondents who mentioned a particular prevention measure, broken down by age.

	Recognition and appreciation	Development opportunities	Communication	Rewards
24 years or younger	11%	21%	13%	18%
25 to 34 years	20%	24%	14%	30%
35 to 44 years	21%	24%	16%	21%
45 to 54 years	20%	14%	19%	18%
55 to 64 years	18%	11%	16%	14%
65 years or older	8%	7%	22%	0%
Overall mean	20%	16%	11%	8%

Note. Percentages are calculated by dividing the share of categories in prevention measures by the share of categories in total dataset.

Table 4.2.2 Percentage of respondents who mentioned a particular prevention measure, broken down by tenure.

	Recognition and appreciation	Development opportunities	Communication	Rewards
0 to 1 year	10%	12%	15%	14%
1 to 2 years	15%	16%	18%	20%
2 to 5 years	19%	17%	17%	22%
5 to 10 years	21%	24%	20%	28%
10 to 20 years	18%	20%	15%	11%
20 years or more	16%	11%	14%	5%
Overall mean	20%	16%	11%	8%

Note. Percentages are calculated by dividing the share of categories in prevention measures by the share of categories in total dataset.

Predicting prevention measures by age and tenure

Table 4.2.3 presents the log odds for predictors age and tenure, and control variables job level and work experience on the four major prevention measures. The odds ratio for mentioning development opportunities with a categorical increase in age is 0.779, indicating that older age groups are 22% less likely to mention this measure (odds ratio is between 0 and 1). The marginals effects in table 4.2.4 confirm these results. The effects increase negatively, with the last two age-categories being significant ($dy/dx = -0.100$ and $dy/dx = -0.137$). This means that people aged 55 to 64 are 10 percent point less likely to mention development opportunities than people younger than 24 (reference group mean = 21%) when all other factors remain constant. People older than 65 years old are 14 percent point less likely than the reference group to mention it when all other factors remain constant. This is also shown in table 4.2.1, where the differences between the groups are approximately as large as the percent points mentioned above.

We found significant effects of tenure on recognition and appreciation and development opportunities, with odds ratios of 1.17 for both measures. This means that with a categorical increase in tenure, there is a 17% greater chance of mentioning these measures. These findings are approximately confirmed in the margin results. What becomes clear is that the first four categories of tenure have a significantly higher probability chance of mentioning recognition and appreciation in comparison to the group with tenure of 0 to 1 year (reference group mean = 10%) when all other factors remain constant, ranging from 6 percent point to 12 percent point. But at tenure of more than 10 years, this increase decreases slightly, and at tenure of more than 20 years, it is no longer significant. This bell curve effect can also be interpreted from table 4.2.2, where the percentages keep increasing up to 10 years of tenure

and slightly decrease after. For the prevention measure development opportunities, the probability chance in comparison to the reference group (mean = 12%) is 10 percent point higher for people with tenure of 5 to 10 years and 9 percent point higher for people with tenure of 10 to 20 years when all other factors remain constant.

What should not be overlooked is that the tenure categories are not evenly distributed. The effects for the category with a tenure of 5 to 10 years are large and this could be because the effects of several groups are taken together. When looking at table 4.2.2, the first three categories (tenure of 0 to 5 years) have a share of 44% in the prevention measure recognition and appreciation. And these are as many years as 5 to 10 years of tenure. Thus, when interpreting the large effects of this group, it must be considered that this effect is spread over 5 years.

The control variable job level showed a significant effect on development opportunities, while work experience had a significant negative effect on rewards. No significant effects were found for the prevention measure communication. Although we did not find a significant odds ratio for age on recognition and appreciation and on rewards, significant margin effects did emerge. Categories between the age of 25 and 54 showed probability chances of 8 to 9 percent points, which indicates that these categories are more likely to mention recognition and appreciation than people younger than 24 (reference group mean = 11%) when all other factors remain constant. For rewards, people aged 25 to 34 years old are 4 percent point more likely to mention it than the reference group (mean = 18%) when all other factors remain constant. In addition, for tenure, a significant margin effect emerged for the category 5 to 10 years of tenure on the prevention measure rewards. No margin effects were found for the age category 65 years or older on rewards, because there were no respondents in this group who mentioned this measure.

Table 4.2.3 The odds of recognition and appreciation, development opportunities, communication, and rewards being mentioned as prevention measure by age and tenure, controlled by job level and work experience.

	Model 1		Model 2		Model 3		Model 4	
	Recognition and appreciation		Development opportunities		Communication		Rewards	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
Age	0.967	0.057	0.779**	0.055	1.125	0.082	0.916	0.076
Tenure	1.167**	0.056	1.171**	0.065	0.987	0.059	1.118	0.086
Job level	0.932	0.049	1.388**	0.086	1.097	0.076	1.025	0.077
Work experience	1.005	0.063	1.008	0.074	0.970	0.073	0.796*	0.070
Constant	0.234**	0.054	0.076**	0.022	0.080**	0.025	0.163**	0.051
N	1663		1663		1663		1663	
Prob > Chi2	0.007		0.000		0.434		0.005	
Pseudo R2	0.009		0.043		0.003		0.016	

Note. *p < 0.05, **p < 0.01.

Note. Constant estimates baseline odds.

Table 4.2.4 The margin effects of age and tenure on recognition and appreciation, development opportunities, communication, and rewards.

	Model 1		Model 2		Model 3		Model 4	
	Recognition and appreciation		Development opportunities		Communication		Rewards	
	dy/dx	SE	dy/dx	SE	dy/dx	SE	dy/dx	SE
Age								
25 to 34 years	0.081**	0.032	-0.027	0.037	-0.002	0.024	0.042*	0.018
35 to 44 years	0.085*	0.036	-0.027	0.043	0.018	0.029	0.030	0.021
45 to 54 years	0.076*	0.037	-0.081	0.043	0.046	0.032	0.027	0.022
55 to 64 years	0.064	0.039	-0.100*	0.043	0.036	0.033	0.019	0.023
65 years or older	-0.043	0.055	-0.137*	0.058	0.100	0.081	-	-
Tenure								
1 to 2 years	0.060*	0.030	0.031	0.020	0.025	0.025	0.027	0.019
2 to 5 years	0.104**	0.026	0.044	0.014	0.022	0.021	0.040	0.017
5 to 10 years	0.124**	0.033	0.099**	0.035	0.027	0.027	0.072**	0.025
10 to 20 years	0.097*	0.037	0.088*	0.036	-0.007	0.027	0.011	0.024
20 years or more	0.083	0.049	0.035	0.047	-0.023	0.031	-0.012	0.030

Note. *p < 0.05, **p < 0.01.

Hypotheses

In table 4.2.5, the results presented above are linked to the hypotheses. Although the concepts in the first two hypotheses are somewhat easier to link to the concepts that emerged from the DTM, this is more difficult to establish for the third hypothesis. Because of the open-ended nature of the dependent variable, it was uncertain whether the concepts identified by Mitchell & Lee (2001) would emerge. To determine the extent to which prevention measures linked to these concepts (links, fit, sacrifice) emerged in the DTM, we searched specifically for related concepts and used our own interpretation. Interpretation is also used for the fourth hypothesis, where flexible work arrangements was not specifically found, but “no irregularity in schedule” was. Respondents that mentioned this indicated that they experienced little flexibility in exchanging shifts, and they were especially bothered by the irregularity that comes with evening, night, and weekend shifts. Therefore, this prevention measure is also used to test hypothesis 6b.

For hypotheses five and six, only a brief explanation is given. For further details, read the section above or see Appendix E.

Table 4.2.5 Results related to hypotheses, broken down by research question.

<i>1. What are prevention measures that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving?</i>	
<i>H1: Training and development opportunities, remuneration and rewards, career opportunities, performance appraisal, and empowerment are HR-practices that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.</i>	<p><u>Partially confirmed.</u></p> <p>Training and development opportunities, remuneration (specifically “travel remuneration”) and rewards, career opportunities, and empowerment (“autonomy”) are found.</p> <p>Performance appraisal is not found or is categorized under “other”.</p>
<i>H2: Organizational climate, supervisor support, peer group interaction, work environment, and workspace quality are working conditions that would</i>	<p><u>Partially confirmed.</u></p> <p>Organizational climate (“organizational structures”), supervisor support, peer group interaction (“the</p>

<p><i>have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.</i></p>	<p>team”), and work environment (“work atmosphere”) are found.</p> <p>Workspace quality is not found or categorized under “other”.</p>
<p><i>H3: Connections (links), fitting in (fit), and the extent to which someone must sacrifice things (sacrifice), would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.</i></p>	<p><u>Partially confirmed.</u></p> <p>Prevention measure “the team” can be interpreted as an element of the concept “links”. “Utilize qualities” can be interpreted as an element of the concept “fit”, and although “this job/organization did not fit” is not a prevention measure, it was sought to determine the extent to which the concept of “fit” continued to occur.</p> <p>The dimension of “sacrifice” was not found.</p>
<p><i>H4: Recognition, work-life balance, and flexible work arrangements are additional prevention measures that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.</i></p>	<p><u>Confirmed.</u></p> <p>Recognition and work-life balance are found.</p> <p>Flexible work arrangements was not found directly, but “no irregularity in schedule” was.</p>
<p>2. To what extent can age and tenure explain the prevention measures to keep former employees from leaving?</p>	
<p><i>H5a: Age has a negative effect on the prevention measures career opportunities, and rewards.</i></p>	<p><u>Partially confirmed.</u></p> <p><i>Career opportunities</i></p> <p>Odds of mentioning development opportunities (includes career opportunities) decreases significantly with age.</p> <p>Pseudo R2 = 0.043, p < 0.01</p>

	<p>Probability chance is significantly lower when aged 55 or older.</p> <p><i>Rewards</i></p> <p>Odds of mentioning rewards decreases not significantly with age.</p> <p>Pseudo R2 = 0.016, p < 0,01</p> <p>Probability chance is significantly higher when aged 25 to 34 years old.</p>
<p><i>H5b: Age has no effect on the prevention measure work-life balance.</i></p>	<p><u>Untested.</u></p> <p>Only 16 respondents mentioned this measure, so no statistical analyses are performed (see Appendix E).</p>
<p><i>H5c: Being in the 25 to 45 age group or 60 to 80 age group has a positive effect on mentioning the prevention measures peer group interaction and recognition.</i></p>	<p><u>Partially confirmed.</u></p> <p><i>Peer group interaction</i></p> <p>Margin analyses are performed on prevention measure “the team” (see Appendix E). No significant probability chance results are found.</p> <p><i>Recognition</i></p> <p>Probability chance of mentioning recognition and appreciation is significantly higher when aged 25 to 54. With this, support was found for the 25 to 45 age group, but not for the 60 to 80 age group.</p>
<p><i>H6a: Tenure has a negative effect on the prevention measures development opportunities, career opportunities and rewards.</i></p>	<p><u>Not confirmed.</u></p> <p><i>Development and career opportunities</i></p> <p>Odds of mentioning development opportunities increases significantly with tenure. Thus, tenure has a positive effect on development opportunities.</p> <p>Pseudo R2 = 0.043, p < 0,01</p>

	<p><i>Rewards</i></p> <p>Odds of mentioning rewards increases not significantly with tenure. Thus, tenure has no effect on rewards.</p> <p>Pseudo R2 = 0.016, p < 0.01</p>
<p><i>H6b: Tenure has a positive effect on the prevention measure flexible work arrangements.</i></p>	<p><u>Not confirmed.</u></p> <p>Logistic analyses are performed on the prevention measure “no irregularity in schedule” (see Appendix E).</p> <p>Odds of mentioning no irregularity in schedule increases not significantly with tenure. Thus, tenure has no effect on this prevention measure.</p> <p>Pseudo R2 = 0.004, p > 0.05</p>

Additional results

The third most frequently mentioned measure “communication” was not hypothesized. The content of this measure was however reflected in our theory section. Chatzoudes and Chatzoglou (2022) tested a third workplace area, mission and orientation, in which direction from the management was important. Respondents in this study did indeed indicate that there should be a clearer direction when it comes to policies in the organization. No significant effects are found, suggesting that it is equally important for all categories.

5. Conclusion and discussion

In this study, we investigated how employers in the health and welfare sector in Region Utrecht can retain employees. We identified prevention measures employers can implement to prevent employees from leaving and investigated if age and tenure can predict which prevention measure works best for which group.

Almost one in five respondents mentioned recognition and appreciation as a prevention measure that would have kept them from leaving, with the highest chance of mentioning among those aged 35 to 44 or with a tenure of 5 to 10 years. This aligns with a Malaysian study, where recognition was found to be the strongest predictor for employee retention in private hospitals (Sija, 2022). The results indicate that recognizing these groups is important for retention, and that it was lacking at the time the respondents left. According to Boamah et al. (2022) this is possibly an effect of the COVID-19 pandemic. Many healthcare professionals reported feeling undervalued and unrecognized, while working as hard as they could (Boamah et al., 2022).

Development opportunities was the second largest prevention measure and the chance of mentioning this decreased with age and increased with tenure. We conclude that implementing this measure retains younger employees and people with 5 to 10 years of tenure. With these two main conclusions, it also becomes clear that age and tenure don't necessarily correlate. People switch jobs and start a new tenure somewhere else, highlighting the importance of distinguishing between groups for retention.

To answer the first research question about which prevention measures would have kept former employees in the sector, we conclude that recognition and appreciation, development opportunities, communication, and rewards are the most effective prevention measures to keep employees from leaving the Care and Welfare sector in Region Utrecht. We found approximately twenty other measures that organizations could also implement.

For the second research question, we found age to be a predictor for the prevention measure development opportunities. As people age, they give less preference to development opportunities. Furthermore, we found the highest probabilities for mentioning recognition and appreciation for those between 25 and 54 years old, and for mentioning rewards it was the category between 25 and 34. Tenure is a predictor for the prevention measures recognition and appreciation and development opportunities: people with long tenure mention these measures more often. But it also became clear that the probability of mentioning these

measures declined for those with even longer tenure. We found probabilities for mentioning rewards for the people with 5 to 10 years of tenure. There were no effects found for the prevention measure communication, which indicates that implementation could prevent all categories from leaving. We conclude that age and tenure can in part predict which prevention measure works best for which group.

Discussion

This study contributes to a better understanding of retaining employees in the Care and Welfare sector in Region Utrecht. Organizations can implement our findings, taking into account different groups within the organization, to reduce turnover and fill parts of the labor shortages. Effective implementation of the prevention measures could absorb other social problems (e.g., aging population) and enhance the provision of quality, accessible and affordable care.

The open answered question that is investigated in the first part of this study, allowed respondents to answer freely and without bias (Krosnick, 2017). We argue that there is more certainty of these measures to be effective in organizations, because the respondents came up with these measures themselves. On the other hand, the results of open answered questions are somewhat subjective, which we tried to cover with using the document-term-matrix (DTM) method. But identifying the measures and linking the results to the first four hypotheses required interpretation, also because not all concepts emerged verbatim in the DTM. Three researchers evaluated the measures as objectively as possible.

By using the DTM, it was possible to link many respondents to a prevention measure (some even multiple). We have identified as many measures as possible, but a lot of small themes are still in the “other” category. This study did not consider this further because the focus was on the most effective measures. Future research could explore this category, considering its relevance given the limited respondents linked. Combining the DTM technique with other textual processing techniques should be considered.

Using categories when measuring age and tenure made it possible to link effective prevention measures to framed groups. This simplifies implementation in organizations, which would have been more difficult with internal variables. But as mentioned before, the categories of tenure are not the same size. The first two categories exist of 1 year of tenure and the last categories exist of 10 years or more. Bias may occur because the dispersion is greater in the larger categories, making interpretation more difficult.

To increase the effectiveness of the prevention measures identified in this study, future research should conduct different types of studies. Researchers could create a survey with multiple-choice questions for the prevention measure we identified, based on the words used in the DTM. For example, “I want to feel more taken seriously”, for the prevention measure recognition and appreciation. Respondents can respond on a Likert-scale, which allows more nuanced details for each prevention measure. Based on this, interventions can be developed, and their impact examined with experimental research, comparing organizations that implement the interventions with control organizations. This would allow researchers to make statements about the effects of the interventions. Based on this research, doing this for the prevention measures recognition and appreciation, development opportunities, communication, and rewards seems most obvious, but as we’ve stated before, the smaller themes should not be overlooked.

Another proposition for future research is to measure the effects of gender. This was not possible in this study, because the variable gender was not available in the data. But several studies have shown that dissimilarities in the workplace do exist (Sicherman, 1996; Nasir et al., 2019). In fact, Peterson (2004) found that women placed significantly more value on recognition and communication, two of the four most frequently mentioned prevention measures in this study. Since nearly 80% of the workforce in the health and welfare sector is female (Molenaar & Van Reijswoud, 2022), it could well be that the prevention measures preferred by men did not surface in this study. We also found some effects for job level and work experience, indicating that it would be interesting to investigate these predictors more.

6. Policy advice

In this final chapter, we answer the question “*What policies can health and welfare organizations implement to retain employees?*”. Simply put, health and welfare organizations can implement the 25 prevention measures that are identified. For creating targeted policies with the goal of retaining particular groups, we look at the four largest prevention measures.

Not many employers know how to properly recognize and appreciate their employees (Hamrick & White, 2020). Our results show that employees want to be listened to and to be taken seriously, not just a pat on the back when they have done something well. They want an equal culture where they feel seen, millennials and employees with a tenure of 5 to 10 years especially. Hamrick and White (2020) found that 74% of their respondents want to have lunch together with their manager and 71% want their manager to spend time exchanging ideas and solutions to problems and challenges. This makes them feel involved, seen and taken seriously, and it also encourages the prevention measure “supervisor support”. The recommendation here is for organizations to sit down with their managers and discuss this issue openly, perhaps even show the results of this study. Managers need to realize first that a small action, such as eating lunch together, can have a big impact. If there is a lot of resistance from the managers, a possibility is to implement a leadership course.

For the Region Utrecht, there is a platform called “Jouwzorgbaan.nl”, intended for people working in healthcare and people thinking about joining the sector. It is a cross-organizational initiative where employees can apply for development opportunities. Thus, given that this measure is already implemented, the recommendation is to investigate why employees still want more development opportunities. Are they unaware of the existence of this platform? Or is it not meeting the needs? Also, the advice is that this platform is introduced to young employees during their onboarding, and that managers include this platform in their performance reviews, especially for employees with a tenure of 5 years or more.

Improving communication styles in an organization is not easy and requires a cultural shift. Our results show employees miss transparency and honesty, but managers can struggle with being transparent, especially during periods of uncertainty and change. Orsini (2000) identified best practices to improve internal communication and implemented tactics like newsletters, monthly announcements, and senior management debriefings. This last practice involves managers giving information to employees after important meetings (by e-mail or face to face) (Orsini, 2000). This is a way to include employees more and to be as transparent

as possible. Health and welfare organizations can implement these practices to improve internal communication.

Being able to prevent employees from leaving with better working conditions is not a new insight (ABVAKABO FNV, 2010). This is however challenging, because the sector financially depends on the government. And secondary benefits like working from home, the ability to schedule your own work hours, company cars, or more leave days are financially or practically infeasible in this sector. So, while hoping for more financial support from the government, organizations can try to eliminate the importance of more pay among the groups aged 25 to 34 years old or with a tenure of 5 to 10 years. ABVAKABO FNV (2010) showed that the most positive aspect of working in healthcare is the contact with clients. By emphasizing this, and implementing our other recommendations, employees might prioritize salary less.

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Appendix A

Table A.1 Division prevention measures for age categories.

Age category	Prevention measures of section 2.2
60 to 80 years old (Baby Boomers)	(Training and) development opportunities, rewards, career opportunities, peer group interaction/on-the-job links, and (democratic) organizational climate.
45 to 60 years old (Generation X)	Training and development opportunities, work environment, career opportunities, and empowerment (autonomy).
25 to 45 years old (Generation Y)	Career opportunities, rewards, peer group interaction/on-the-job links, and supervisor support.
15 to 30 years old (Generation Z)	Rewards, career opportunities, and work environment.

Table A.2 Division additional prevention measures for age categories.

Age category	Additional prevention measures
60 to 80 years old	Recognition, and room for creativity.
45 to 60 years old	Work-life balance, flexible work schedules, and direct communication.
25 to 45 years old	Work-life balance, flexible work arrangements (like schedules), meaningful work, and recognition.
15 to 30 years old	Work-life balance and innovative workplace.

Appendix B

Table B.1 Hypotheses broken down by research questions.

<p><u>1. What are prevention measures that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving?</u></p>
<p>“HR-practices” hypothesis (H1): Training and development opportunities, remuneration and rewards, career opportunities, performance appraisal, and empowerment are HR-practices that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.</p>
<p>“Working conditions” hypothesis (H2): Organizational climate, supervisor support, peer group interaction, work environment, and workspace quality are working conditions that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.</p>
<p>“Job embeddedness” hypothesis (H3): Connections (links), fitting in (fit), and the extent to which someone must sacrifice things (sacrifice), would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.</p>
<p>“Additional prevention measures” hypothesis (H4): Recognition, work-life balance, and flexible work arrangements are additional prevention measures that would have kept former employees in the Care and Welfare sector in Region Utrecht from leaving.</p>
<p><u>2. To what extent can age and tenure explain the prevention measures to keep former employees from leaving?</u></p>
<p>H5a: Age has a negative effect on the prevention measures career opportunities, and rewards.</p>
<p>H5b: Age has no effect on the prevention measure work-life balance.</p>
<p>H5c: Being in the 25 to 45 age group or 60 to 80 age group has a positive effect on mentioning the prevention measures peer group interaction and recognition.</p>
<p>H6a: Tenure has a negative effect on the prevention measures development opportunities, career opportunities and rewards.</p>
<p>H6b: Tenure has a positive effect on the prevention measure flexible work arrangements.</p>

Appendix C.

Table C.1 English and Dutch words and word combinations used in DTM.

For some prevention measures the number of Dutch words do not match with the number of English words. This is due to the fact that the translation of two Dutch words sometimes results in one English word. For example, “loopbaan” and “carrière” are both “career” in English. Also, some words are added in different ways, for example “nvt” is also added as “n v t” or “n.v.t.”, and these different ways are not all included in the table.

<p>Recognition and appreciation</p>	<p>ENG: “recognition”, “appreciation”, “attention”, “hear again”, “heard”, “serious”, “listen”, “appreciate”, “understand”, “hear”, "eye for," "thrifty*staff," "feel*number," "respect"</p> <p>DUTCH: “erkenning”, “waardering”, “aandacht”, “wederhoor”, “gehoord”, “serieus”, “luister”, “waarderen”, “begrip”, “aanhoren”, “oog voor”, “zuinig*personeel”, “voel*nummer”, “respect”</p>
<p>Development opportunities</p>	<p>ENG: “develop”, “growth”, “career”, “opportunities”, “training”, “education”, “more challenge”, “no challenge”, “challenge to face”, “challenged”, “promoted to”, “more training”, “challenging”</p> <p>DUTCH: “ontwikkel”, “groei”, “loopbaan”, “mogelijkheden”, “carrière”, “opleiding”, “scholing”, “meer uitdaging”, “geen uitdaging”, “uitdaging aan te gaan”, “uitdaging aangegaan”, “promotie naar”, “meer training”, “uitdagen”</p>
<p>Communication</p>	<p>ENG: "communicating," "involved," "transparent," "clarity," "clear policy," "unclear," "clear plan," "clear lines," "having a conversation," "in conversation," "talking to," "maintaining contact," "contact*department," "going into</p>

	<p>contact," "more direct contact," "more contact with," "contact between," "having contact," "contact on the workplace", "unambiguous"</p> <p>DUTCH: "communic", "betrokken", "transparant", "duidelijkheid", "duidelijk beleid", "onduidelijk", "duidelijk plan", "duidelijke lijnen", "een gesprek", "in gesprek", "gesprek aan", "contact onderhouden", "contact*afdeling", "in contact gaan", "directer contact", "meer contact met", "contact tussen", "contact hebben", "contact op de werkvloer", "eenduidig"</p>
Rewards	<p>ENG: "salary", "wage", "benefits", "remuneration", "pay", "scale", "better compensation", "step"</p> <p>DUTCH: "salaris", "loon", "arbeidsvoorwaarden", "beloning", "betalen", "schaal", "betere compensatie", "trede"</p>
Supervisor support	<p>ENG: "lead", "leadership", "more guidance", "better guidance", "team leader*help", "team leader present", "other team leader"</p> <p>DUTCH: "leidinggeven", "meer begeleiding", "betere begeleiding", "teamleider*helpen", "aanwezige teamleider", "andere teamleider"</p>
Work atmosphere	<p>ENG: "atmosphere", "climate", "safe", "gossip", "bullying", "arguing", "behavior", "humor", "complaints", "fairness", "being honest"</p>

	<p>DUTCH: “sfeer”, “klimaat”, “veilig”, “roddel”, “pesten”, “ruzie”, “gedrag”, “humor”, “klachten”, “eerlijkheid”, “eerlijk zijn”</p>
Schedule	<p>ENG: “schedule”, “more hours”, “less hours”, “workhours”</p> <p>DUTCH: “rooster”, “meer uren”, “minder uren”, “werktijden”</p>
Travel time	<p>ENG: "travel time", "commute", "closer to home", "transportation", "travel", "distance", "move", "emigrate"</p> <p>DUTCH: “reistijd”, “woon-werk”, “dichter bij huis”, “vervoer”, “reizen”, “afstand”, “verhuizen”, “emigreren”</p>
Reduce workload	<p>ENG: “workload”, "production pressure," "too busy," "less busy," "the pressure," "a lot of pressure"</p> <p>DUTCH: “werkdruk”, “productiedruk”, “te druk”, “minder druk”, “de druk”, “veel druk”</p>
<p>The team</p> <p>We used the words “colleague” and “team” in different combinations with words like “atmosphere”, “safe” and “problem”. We did not use the words “colleague” and “team” individually because there were also a lot of respondents</p>	<p>ENG: “colleague”, “team”, “teambuilding”, “rotten apples”</p> <p>DUTCH: “collega”, “team”, “teambuilding”, “rotte appels”</p>

that reported a positive experience with the colleagues.	
No irregularity in schedule	<p>ENG: "regular", "fixed hours", "fixed days", "permanence", "fixed hours", "no evening", "many evening shifts", "weekend"</p> <p>DUTCH: “regelma”, “vaste uren”, “vaste dagen”, “vastigheid”, “vaste werktijden”, “geen avond”, “veel avonddiensten”, “weekend”</p>
Other tasks	<p>ENG: "tasks", "other work", "type of work", "work*change", "work*function"</p> <p>DUTCH: “taken”, “andere werkzaamheden”, “soort werkzaamheden”, “werkzaamheden*verander”, “werkzaamheden*functie”</p>
Travel remuneration	<p>ENG: "travel expenses", "travel reimbursement", "mileage reimbursement", "mileage reimbursement", "parking", "mileage reimbursement", "mileage reimbursement"</p> <p>DUTCH: “reiskosten”, “reisvergoeding”, “kilometervergoeding”, “kilometer vergoeding”, “parkeren”, “km vergoeding”, “km-vergoeding”</p>
Keep promises	<p>ENG: "promise", "promised", "keep appointments", "embed appointments", "live up to appointments", "honor appointments", "keep appointments"</p>

	<p>DUTCH:</p> <p>“belofte”, “beloofd”, “afspraken nakomen”, “afspraken*inbedden”, “afspraken naleven”, “afspraken honoreren”, “afspraken*houden”</p>
More staff	<p>ENG:</p> <p>"sufficient staff", "staffing", "shortage", "more staff", "little staff", "additional staff", "little colleague", "more colleague", "colleague added"</p> <p>DUTCH:</p> <p>“voldoende personeel”, “bezetting”, “tekort”, “meer personeel”, “weinig personeel”, “extra personeel”, “weinig collega”, “meer collega”, “collega er bij”</p>
More autonomy	<p>ENG:</p> <p>"more responsibility," "autonomy," "independence," "participation," "control"</p> <p>DUTCH:</p> <p>“meer verantwoordelijkheid”, “autonomie”, “zelfstandigheid”, “inspraak”, “zeggenschap”</p>
Organization that thinks with you	<p>ENG:</p> <p>"think along," "can think along," "thinks along"</p> <p>DUTCH:</p> <p>“meedenken”, “mee kunnen denken”, “meedenkt”</p>
Another target group	<p>ENG:</p> <p>“target group”</p> <p>DUTCH:</p> <p>“doelgroep”</p>
Working together	<p>ENG:</p> <p>“working together”</p>

	<p>DUTCH:</p> <p>“samenwerk”</p>
Utilize qualities	<p>ENG:</p> <p>"my quality", "quality*apply", "quality*use", "use*quality", "quality*individual", "talents", “use*expert”</p> <p>DUTCH:</p> <p>“mijn kwaliteit”, “kwaliteit*toepassen”, “kwaliteit*benutten”, “gebruik*kwaliteit”, “kwaliteit*individu”, “talenten”, “gebruik*deskundig”</p>
Work-life balance	<p>ENG:</p> <p>"work and home", "balance is gone", work-life balance"</p> <p>DUTCH:</p> <p>“werk en privé”, “balans is weg”, werk-privé-balans”</p>
Improve onboarding period	<p>ENG:</p> <p>“onboard”</p> <p>DUTCH:</p> <p>“inwerk”</p>
Organizational structures	<p>ENG:</p> <p>“hierarch", "top", "upper hand", "management”</p> <p>DUTCH:</p> <p>“hierarch”, “hiërarch”, “bovenaf”, “hogerhand”, “directie”, “bovenhand”</p>
Permanent contract	<p>ENG:</p> <p>"permanent contract*offering", "permanent contract*giving", "permanent employment", "permanent job", "indefinite"</p> <p>DUTCH:</p>

	<p>“vast contract*aanbieden”, “vast contract*geven”, “vaste aanstelling”, “vaste baan”, “onbepaalde tijd”</p>
Does not fit	<p>ENG: "doesn't fit me," "doesn't fit me anymore," "suits me",</p> <p>DUTCH: “past niet bij mij”, “past niet meer”, “bij me past”</p>
Nothing	<p>ENG: "nothing", "nothing", "N/A", "not applicable", “not*avoided”</p> <p>DUTCH: “niets”, “niks”, “nvt”, “niet van toepassing”, “niet*voorkomen”</p>

Appendix D

Table D.1 Distribution of respondents by predictors.

	N	%
Age		
24 years or younger	195	12%
25 to 34 years	507	31%
35 to 44 years	340	20%
45 to 54 years	306	18%
55 to 64 years	283	17%
65 years or older	32	2%
Tenure		
0 to 1 year	363	22%
1 to 2 years	259	16%
2 to 5 years	487	29%
5 to 10 years	266	16%
10 to 20 years	195	12%
20 years or more	93	6%

Table D.2 Descriptive statistics predictors and control variables.

	N	Min	Max	Mean	S.D.
Age	1663	0	5	2.04	1.35
Tenure	1663	0	5	1.97	1.47
Job level	1663	0	5	3.07	1.20
Work experience	1663	0	5	3.37	1.38

Appendix E

Additional statistics chapter 4

Table E.1 Descriptives prevention measures.

	N	Min	Max	Mean	S.D.
Recognition and appreciation	1663	0	1	0.20	0.40
Development opportunities	1663	0	1	0.16	0.37
Communication	1663	0	1	0.11	0.31
Rewards	1663	0	1	0.08	0.28

Table E.2 Division of age categories mentioning work-life balance as prevention measure.

	Mentioned work-life balance	Did not mention work-life balance
24 years or younger	0	195
25 to 34 years	7	500
35 to 44 years	3	337
45 to 54 years	3	303
55 to 64 years	3	280
65 years or older	0	32

Table E.3 The margin effects of age on the team.

	The team	
	dy/dx	SE
Age		
25 to 34 years	0.010	0.010
35 to 44 years	0.028	0.014
45 to 54 years	0.019	0.013
55 to 64 years	0.008	0.012
65 years or older	0.019	0.036

Note. *p < 0,05, **p < 0,01.

Table E.4 The odds of no irregularity in schedule being mentioned as prevention measure by age and tenure, controlled by job level and work experience.

	No irregularity in schedule	
	Odds Ratio	SE
Age	0.866	0.118
Tenure	1.058	0.112
Job Level	0.969	0.115
Work experience	1.115	0.162
Constant	0.030**	0.016
N	1663	
Prob > Chi2	0.791	
Pseudo R2	0.004	