

Welfare risks for companion animals owned by physically or mentally limited elderly, living in care facilities in the Netherlands.



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Summary

In The Netherlands in the year 2012, 1536 of the 2042 nursing homes and homes for the elderly stated that companion animals were welcome. However, the decision for elderly people to live in an eldercare institution is often based on the (increasing) need of extra care in their daily living and the question arises whether and for how long they are still able to provide sufficient care to their animals, if people are not able to support themselves any longer. An inability to care for pets could cause serious animal welfare risks if the situation is not recognized in time.

The goal of this study is to gain more insight in the policy of allowing, keeping and surrendering pets, the way of monitoring animal care and the living conditions of the animals, in care institutions for elderly in the Netherlands. This information can reveal possible animal welfare risks that need addressing.

Results were gathered by means of two different questionnaires directed to the staff of eldercare institutions. In the first questionnaire information was asked about the institution's policy and reasons for allowing and keeping companion animals of residents in their facilities. In the second questionnaire welfare risks for companion animals of elderly owners in these institutions were researched, based on the discomfort analysis developed from the European research program Welfare Quality®. Questions were asked about situations where owners are not anymore capable of taking good care of their animal and information was gathered about the indications, methods and knowledge the staff uses to recognize situations where animal welfare may be at risk.

Results from the two questionnaires show that institutions where animals are allowed use very different policies for the allowance and further care for these animals, where the most used requirements are the owner being physically (73% of the institutions that allowed the keeping of pets) and mentally (62%) able to take care of their pet, and the pet being no nuisance for the other residents (71%). If institutions used an admission policy (68%), 39% applied it before clients moved into the institution. A trial period of several weeks/months after movement was used by 11% of the institutions.

The most indicated problems with companion animals are caused by smell and filthiness and significantly more problems were indicated when the institutions stated they set criteria for the admission of pets and when pets were allowed in general facilities.

Sixty-three % of the staff reported not to have above average knowledge about animal welfare or care and none had done a course or training on animal welfare/keeping animals. When the staff had experiences with own animals, or had read more about this subject, significantly more indicators were used to monitor the animal welfare and more problems were indicated.

Most institutions only look closely at pets after comments of other residents or the owner him/herself. Arrangements for regular pet inspections are rare.

Overall it can be concluded that most care institutions for elderly hold the owner or his/her family fully responsible for the care and wellbeing of the pets living in these institutions. Typically, there is no regularly monitoring of the animals' health and welfare by the staff. The knowledge levels of the staff about animal welfare seems in most cases insufficient to accurately assess the wellbeing of the animals. This implies that the animal welfare related problems observed and reported by staff are likely to be an underestimation of the real situation. Not recognizing animal welfare problems in time is a significant risk for keeping animals in care institutions for elderly.

The overall advice from this study is to enhance the institutions staff's knowledge about animal welfare and to develop a more restricted policy to keep animals in care institutions for elderly.



Introduction

Many of our elderly people come to a point in life where extra help is needed in their daily living. Care institution for elderly like nursing homes or homes for the elderly are often used solutions. Moving to this new housing means in most cases making a lot of adaptations.

When moving to a nursing home or home for the elderly, choices have to be made regarding the pets one owns. A high number of studies on the effect of companion animals on elderly people report that animals can have several beneficial effects on the elderly. It was shown that the presence of an animal can have a positive effect on the mood of cognitively intact residents (Colombo et al., 2006); (Fick, 1993); (Winkler et al., 1989). In a psycho geriatric study where 144 cognitively intact residents over seven nursing homes in Italy were given a bird, plant or nothing, the residents that received a bird had a better mood outcome over the whole experiment (Colombo et al., 2006). Furthermore, when introducing a dog to a socialization group of 36 male elderly, the number of verbal interactions increased significantly compared to the non-dog situation (Fick, 1993). In a study where a resident dog was introduced to elderly residents, the dog acted as a catalyst for social interactions (Winkler et al., 1989).

A beneficial effect on the decreasing mental state of patients suffering from dementia was also found (Enders-Slegers, 2001); (Banks et al., 2008). After introducing two cats to a department of residents suffering from dementia, positive effects as an alert state of consciousness, stable positive effects and not increasing asking for help behaviour were seen, compared to the control group (Enders-Slegers, 2001). In a study of Banks et al. (2008) where Animal Assisted Therapy (AAT) with a living dog was compared with AAT with a robot dog, only AAT with a living dog had a significant decrease in loneliness between the start and end of the experiment. Furthermore, interacting with pets is stress relieving by a high increase in the release of the neurochemicals: oxytocin, prolactin and β -endorphin (Odendaal, 2000). Also, increased exercise might explain the better physical condition of dog owners (Serpell, 1991).

Partly because of the known favourable effects of pets on the mood of elderly owners, more and more care institutions for elderly, who previously did not allow pets due to extra care, allergies and hygiene, decided to change their protocol and currently allow companion animals in their facilities (DiSalvo et al., 2006). In The Netherlands in the year 2012, 1536 of the 2042 nursing homes and homes for the elderly stated that companion animals were welcome (kiesBeter, 2012).

However, the most common reason why elderly people plan to live in a care institution is the (increasing) need of extra care in their daily living. If people can't support themselves any



longer, the question arises whether and for how long they are still able to provide sufficient care to their animals.

Although many studies have been done on the effect of animals on elderly people, no information can be found on the welfare of animals that live with their owners in a care institution. As the mental and physical limitations of the owner probably will increase in time, there might come a point in life where the owner is not anymore capable of sufficiently caring for the pet. This can cause serious welfare risks if the situation is not recognized in time.

Nursing staff is usually not trained in animal care and might not have enough knowledge about companion animals. Also, nursing staff can only spend a small amount of time per resident, seeing the owners and their animals only for a short moment per day. The question arises whether nursing staff is able to recognise welfare implicating situations in time.

Besides, the question can be asked if living conditions in a nursing home or home for the elderly are at all sufficient to house companion animals, as people usually live in small rooms with general facilities shared by a lot of different people.

With the increasing interest in and the number of studies on animal welfare it is surprising that no study has been performed on this subject yet.

Animal welfare can be described as the physical and psychological well-being of animals, as stated in the five freedoms formulated by the commission of Brambell (**Appendix 3.2**) (Leenstra et al., 2010). Considering the five freedoms means that animals require ready access to fresh water; a diet that maintains full health and strength; a suitable environment including a comfortable resting area and shelter; the prevention, early diagnosis and treatment of diseases; the provision of space; suitable facilities; (for social species) the company of the animal's own kind; and conditions that avoid mental suffering (Ryder, 1998). To assess welfare it has to be considered that welfare is a multidimensional concept that cannot be measured directly but only inferred from external parameters (Fraser, 1995). Since the 1980s and 1990s animal welfare science developed rapidly and was very important in separating science from moral judgement. Many studies have been done to develop different assessments to measure animal welfare in an objective way, independent of moral judgement based on the measurement of physiological indicators as: reproductive performance, mortality rate, extend of adrenaline activity, severity of injury, amount of abnormal behaviour, degree of immunosuppression or level of disease incidence (Broom and Fraser, 2007). Studies done on the effects of difficult conditions on animals by researchers of different backgrounds (zoology, physiology, psychology, animal production and veterinary medicine) rapidly improved our knowledge about these welfare indicators. Much remains to be learned, but we are already in a position to apply recently gained knowledge to comparative studies on animals of different systems of management, methods of handling of

transportation, design of housing and procedures in operation or in slaughter (Broom and Fraser, 2007).

Overall, design criteria for the assessment of animal welfare have to be based on the welfare of particular species. This has to be formulated in the criteria for measuring the actual welfare state of the animals in terms of their behaviour, health, physiology, performance and disease-resistance using existing and innovative methods. Both the design criteria and the animal-based criteria should be founded on sound scientific analyses and integrated into a standardised methodology for assessing welfare in an objective, scientific way (Blokhuys et al., 2003).

The increasing interest in animal welfare reflects in the conclusion of the Dutch government, in a coalition agreement in 2007, that the welfare of animals should be improved (Leenstra et al., 2010). As a consequence, a discomfort analysis for several animal species was developed based on the European research program 'Welfare Quality®': a welfare assessment method that is focussed on animal characteristics and is based on the five freedoms of Brambell, addressing 4 principles (1. Good housing, 2. good feeding, 3. good health and 4. appropriate behaviour) that cover in total twelve welfare criteria. The Welfare Quality® protocol was originally developed for farm animals, but parts of it can also be used to measure discomfort in companion animals (Leenstra et al., 2010). A discomfort analysis differs from the Welfare Quality® protocol by only measuring the negative experiences of the animal, instead of a consideration between positive and negative experiences. This discomfort analysis was designed for as well farm animals as later companion animals and was based on the estimation of animal discomfort by experts.

When envisioning the problem of possible welfare risks for animals owned by mentally or physically limited elderly in eldercare institutions, with the help of the described discomfort analysis for companion animals an analysis can be made of the current situation of animals in these settings. The goal of this project is to determine the welfare risks of companion animals owned by physically or mentally limited elderly living in care facilities. This is done by gathering information about the animal admission policy in Dutch care institutions for elderly, condition of the animals and knowledge of the staff and the way of monitoring animal care. This information can reveal possible welfare risks and by recognizing these welfare implicating situations, welfare of animals in these institutions can be improved.

Materials & Method

Care institutions for elderly were approached to participate in two different questionnaires about keeping companion animals in their facilities. The answers to these questionnaires were statistically analysed and conclusions were drawn from these results about rules, reasons, policy and living conditions, to identify possible animal welfare risks.

Homes for the elderly, nursing homes and residential care centres (see **Appendix 3.1** for definitions) that were registered on the website of (kiesBeter, 2012), a website made by the Dutch National Institute for Health and Environment (RIVM) about health and care in the Netherlands, were approached to participate in this project. No distinction was made between institutions that allow or do not allow companion animals. Questions were asked by means of two different questionnaires directed to the staff of the institutions. The two different questionnaires could be filled in online via the website www.dierenwetenschap.com. If institutions could not be approached by e-mail, the possibility was offered to fill in the questionnaires on paper.

Questionnaire 1

In the first questionnaire, sent to all registered care institutions for elderly, information was asked about their policy and reasons for allowing companion animals of residents in their facilities and the problems they encounter (**Appendix 1**). In total 1691 institutions were approached of which 915 were sent the questionnaire by e-mail and 776 by mail. The information from the first questionnaire was used to make an overview of the existing animal policies and to identify relations between the policy, type of institution and problems. In this questionnaire respondents could indicate if they wanted to be approached for additional questions, which were formulated in a second questionnaire.

Questionnaire 2

The second questionnaire (**Appendix 2**) was based on the answers of the first questionnaire and was sent to the 129 institutions that volunteered in the first questionnaire and allowed companion animals of residents in their facilities. By means of the second questionnaire welfare risks for companion animals of elderly owners in these institutions were researched. Questions were asked about situations where owners are not anymore capable of taking good care of their animals. Furthermore, information was gathered about the indications, methods and knowledge the staff uses to recognize welfare implicating situations and the living conditions of the animals.

Questionnaire 2 is based on the discomfort analysis of Leenstra et al. (2010), developed from the European research program Welfare Quality®, who designed a method to estimate

discomfort in different species of companion animals. The 12 welfare criteria used in this discomfort analysis (see **Appendix 3.3**) and the results of this study were used to formulate the questions to objectively identify possible welfare risks for the animals of elderly owners in these institutions.

Statistical analysis

Results were analysed with the help of *Microsoft Access* and *IBM SPSS Statistics 19* (*Statistical Package for the Social Sciences*). Significance was determined by a 0.05 level. Specific questions regarding any 2 nominal or ordinal (discrete) factors were addressed with a *Pearson Chi-Square Test*. Cell values were always over 5. Standardized residuals were calculated in *IBM SPSS Statistics 19* and *MatManTM* and were calculated in a 2x2 cross table of each answer-option (**Appendix 4**).

Results

The institutions that responded to the two questionnaires had an average capacity of 167 residents, ranging from 7-1500 residents. Most institutions combined different types of settings within their building with residential care centres being most common (55%) and homes for the elderly the least (44%). Institutions that responded were divided over every province of the Netherlands and located in both city as rural areas.

Questionnaire 1

From the 1691 institutions that were approached, 319 respondents filled in the first questionnaire of which 298 results were usable. Double entries and entries which were not completed for at least the general part of the questionnaire, were regarded as useless and removed. Because respondents had the choice to leave questions open, not every question was answered by all respondents. Therefore, N was not constant for all questions.

Eighty-nine % (264) of the respondents who filled in the questionnaire stated that animals were welcome in their institution. Little singing birds are the most permitted (92.4%) and the most often kept animals in care institutions for elderly at the moment (73.5%), followed by aquarium fish (44.3%), cats (43.2%) and dogs (40.9%), see **Table 1**.

Table 1. Companion animals allowed and present in 264 care institution for elderly in the Netherlands

Animal species ³	Welcome ¹	Present ²
Aquaria/fish	219 (83.0%)	117 (44.3%)
Birds-little singing birds (canary, finches)	244 (92.4%)	194 (73.5%)
Birds-parrots (lovebirds, parakeets)	184 (69.7%)	74 (28.0%)
Cat	220 (83.3%)	114 (43.2%)
Dog	206 (78.0%)	108 (40.9%)
Farm animals	20 (7.6%)	8 (3.0%)
Rabbit	148 (56.1%)	19 (7.2%)
Rodents	178 (67.4%)	18 (6.8%)
Terrarium animals	103 (39.0%)	3 (1.1%)

¹ Number of institutions that stated the animal species is welcome in their facility (N=264)

² Number of institutions that stated the animal species was present in the institution at that moment (N=264)

³ Multiple answers possible

The different care institutions for elderly that allow pets, use different criteria for as well the animal as the owner, for the allowance of companion animals in their facilities, see **Tables 2 & 3**. However, most implemented requirements are formulated for the owner, being

physically (73.6%) and mentally (62.8%) able to take care of their pet, and the pet being no nuisance for the other residents (72.0%).

Table 2. Amount of reported criteria for the animal used for the admission of companion animals in care institutions for elderly

Requirements ²	Number of institutions ¹
No requirements	17 (6.5%)
No nuisance by the animal	188 (72.0%)
Free from diseases	141 (54.0%)
Friendly behaviour	120 (46.0%)
Low maintenance	22 (8.4%)
Size	11 (4.2%)
Other	25 (9.6%)

¹ N=261

² Multiple answers possible

Table 3. Amount of reported criteria used for the owner for the admission of companion animals in care institutions for elderly

Requirements ²	Number of institutions ¹
No requirements	14 (5.4%)
Physically able to take care of the animal	192 (73.6%)
Mentally able to take care of the animal	164 (62.8%)
Being able to afford in the cost	156 (59.8%)
Guarantee by a third person for the animal	124 (47.5%)
Other	11 (4.2%)

¹ N=261

² Multiple answers possible

When looking at the kind and amount of problems with companion animals of residents, as identified by the staff, it is shown that most problems are caused by filthiness and smell (**Table 4**). It is also seen from the residuals that these problems are higher than expected (std. residuals > |2|).

Table 4. Frequency of staff reported problems with animals in care institutions for elderly in the Netherlands

Problems	Frequency No. of problems (std. residual)				Total score ¹
	0=Never	1=Occasionally	2=Regularly ^a	3=Often ^b	
Filthiness (room)	56 (-5.4)	108 (2.8)	14 (3.4)	0	136
Smell Problems	69 (-3.9)	99 (2.2)	8 (2.2)	0	115
Irritation Problems (residents)	77 (-1.8)	76 (1.0)	7 (1.0)	1	93
Medical Problems (animal)	98 (1.0)	85 (0.8)	3 (0.3)	0	91
Neglect of the animal	103 (0.4)	71 (-0.1)	5 (-0.3)	1	84
Noise Problems	88 (-0.2)	66 (0.2)	5 (0.0)	0	76
Weight Problems (animal)	117 (3.7)	40 (-2.6)	12 (-1.7)	0	64
Behavioural Problems (animal)	112 (2.3)	56 (-1.2)	3 (-1.5)	1	65
Allergies (residents/staff)	94 (1.8)	49 (-1.0)	5 (-1.0)	2	65
Fear (residents)	104 (2.7)	46 (-1.5)	4 (-1.6)	1	57
Annoying behaviour (animal)	107 (3.2)	44 (-1.7)	3 (-1.9)	0	50

^a Residuals calculated over column 1+2, to prevent counts < 5

^b No residuals calculated because of the very small amount of counts

¹ Total score is calculated by the sum of the following scores*number of institutions: 0 = never, 1 = occasionally, 2 = regularly, 3 = often

When comparing the kind and amount of problems with the animals that are present in the institution (“animal” (dog, cat, etc.) x “problem” (weight, behaviour, etc.) , it was found that significantly more problems with weight (30/108) and a trend for more problems with behaviour (33/108), sound (42/108), filthiness (63/108) and annoying behaviour (28/108) were found when dogs were present in the institution. With cats a trend was found for more problems with smell (60/114) and filthiness (67/114) compared to institutions where cats were not present. With rodents a trend for more medical problems (11/18) was found (**Table 5**). From these results can be seen that particularly the presence of dogs results in an increase in observed problems.

Table 5. The kind of animal species present in the institution compared with the number of problems that were reported by the staff

Problems	No. of institutions with problems/total of institutions (std. residual) ^{a,b} when dog is present in the institution:	
	no	yes
Weight Problems (animal) ¹	12/115 (-2.1)	30/108 (2.1)
Behavioural Problems (animal) ²	20/115 (-1.4)	33/108 (1.4)
Sound Problems (animal) ²	23/115 (-1.8)	42/108 (1.9)
Filthiness (room) ²	46/115 (-1.4)	63/108 (1.4)
Annoying behaviour (animal) ²	14/115 (-1.6)	28/108 (1.7)
	No. of institutions with problems/total of institutions (std. residual) ^{a,b} when cat is present in the institution:	
	no	yes
Smell Problems (room) ²	38/109 (-1.4)	60/114 (1.4)
Filthiness (room) ²	42/109 (-1.5)	67/114 (1.5)
	No. of institutions with problems/total of institutions (std. residual) ^{a,b} when rodent is present in the institution:	
	no	yes
Medical Problems (animal) ²	69/205 (-0.5)	11/18 (1.8)

^a Results were statistically significant by the chi-square test ($P < 0.05$)

^b Standardized residuals were calculated over a 2x2 cross table for each answer option (appendix 4)

¹ Significant test-statistic with residuals $> |2|$

² Significant test-statistic without residuals $> |2|$

When the requirements for the animals and the pet owners are compared to the related problems stated by the respondent ("requirement" (behaviour, guarantee, etc.) x "problem" (behaviour, medical, etc.)) (Table 2, 3, 4), with a Chi-Square Test, it was found that when the facility required friendly behaviour, more problems with behaviour (42/133) and fear (36/133), and a trend for more problems with sound (44/133) and irritation (51/133) were stated. When the institution required a guarantee by the third person, more problems were indicated with neglect (53/137) and a trend for more problems with health (54/137) and smell (64/137). An exception is the requirement for the owner being physically able to take care of the animal. Institutions that used this requirement had a trend of less problems with neglect of the animal by the owner (16/210) (Table 6). From these results can be seen that using a requirement for friendly behaviour leads to the highest increase in the number of observed problems.

Table 6. Requirements for the animal and the pet owner for admission of the pet compared with the number of problems reported by the staff

Problems	No. of institutions with problems/total of institutions (std. residual) ^{a,b} when friendly behaviour is used as a requirement:	
	no	yes
Behavioural Problems (animal)¹	23/154 (-2.0)	42/133 (2.2)
Fear (residents)¹	20/154 (-1.8)	36/133 (2.0)
Sound Problems (animal)²	32/154 (-1.4)	44/133 (1.5)
Irritation Problems (residents)²	39/154 (-1.3)	51/133 (1.4)
	No. of institutions with problems/total of institutions (std. residual) ^{a,b} when guarantee by a third person is used as a requirement:	
	no	yes
Neglect of the animal¹	32/150 (-1.9)	53/137 (2.0)
Medical Problems (animal)²	41/150 (-1.2)	54/137 (1.3)
Smell Problems (room)²	51/150 (-1.2)	64/137 (1.2)
	No. of institutions with problems/total of institutions (std. residual) ^{a,b} when the physical ability of the owner (to care for the animal) is used as a requirement:	
	no	yes
Neglect of the animal²	69/77 (-1.4)	16/210 (0.9)

^a Results were statistically significant by the chi-square test ($P < 0.05$)

^b Standardized residuals were calculated over a 2x2 cross table for each answer option (appendix 4)

¹ Significant test-statistic with residuals $> |2|$

² Significant test-statistic without residuals $> |2|$

When institutions that allow pets in their general facilities (besides the owners room) are compared with the institutions that permit the owner to keep the pet only in the room ("general facilities" (yes, no) x "problem" (medical, behaviour, etc.), more problems with behaviour (15/34), sound (15/34), fear (13/34), irritation (19/34) and annoying behaviour (12/34) were indicated when the animals can use the general facilities as a living environment. Furthermore, a trend was found for more medical problems (17/34) (**Table 7**).

Table 7. Number of problems reported by the staff when owned companion animals are allowed or are not allowed in general facilities

Problems	No. of institutions with problems/total of institutions (std. residual) ^{a,b} animals are allowed in general facilities:	
	no	yes
Behavioural Problems (animal)¹	44/114 (-1.0)	15/34 (2.4)
Sound Problems (animal)¹	50/114 (-0.8)	15/34 (2.0)
Fear (residents)¹	35/114 (-1.0)	13/34 (2.5)
Irritation Problems (residents)¹	60/114 (-1.0)	19/34 (2.5)
Annoying behaviour (animal)¹	32/114 (-1.0)	12/34 (2.4)
Medical Problems (animal)²	65/114 (-0.7)	17/34 (1.7)

^a Results were statistically significant by the chi-square test ($P < 0.05$)

^b Standardized residuals were calculated over a 2x2 cross table for each answer option (appendix 4)

¹ Significant test-statistic with residuals $> |2|$

² Significant test-statistic without residuals $> |2|$

Questionnaire 2

66 of 129 respondents filled in the second questionnaire of which 62 results were usable. Double entries and entries which were not completed for at least one chapter of the questionnaire, were regarded as useless and removed. Because respondents had the choice to leave questions open, not every question was answered by all respondents. Therefore, N is not constant for all questions.

Respondents were questioned about their knowledge of animals. 78% stated they had no specific knowledge in this area and none had done a course or training on animal welfare/keeping animals (**Table 8**).

Table 8. Indicated knowledge of the staff monitoring the animals of residents

Knowledge ²	Answers (%) ¹
No extra knowledge	39 (78.0%)
Experience with animals	18 (36.0%)
Extra knowledge through books	3 (6.0%)
Done a course/training in animal welfare/caring	0 (0%)
Other	2 (4.0%)

¹ N=50

² Multiple answers possible

The knowledge of people about animal welfare was compared to the indicators people used to monitor the welfare of the animal ("extra knowledge" (yes, no) x "indicator" (wounds, gait, etc.)). People who stated they had extra knowledge about animals gained by own

experiences or by reading about this subject, used significantly more indicators to monitor animal care and welfare, than people who stated they had no extra knowledge (**Table 9**).

Table 9. Indicators used to monitor animal welfare for the different animal species compared with the knowledge level of the staff (with or without extra knowledge of animals, gained by own experiences or reading literature)

Indicator used	No. of institutions using a that requirement/total of institutions (std. residual) ^{a,b} when the staff has extra knowledge about animals:	
	no	yes
Gait (cat) ¹	3/32 (-2.1)	12/18 (2.8)
Gait (dog) ¹	3/32 (-1.7)	9/18 (2.3)
Vaccination (cat) ¹	0/32 (-2.4)	9/18 (3.2)
Vaccination (dog) ¹	1/32 (-1.8)	7/18 (2.4)
Wounds (cat) ²	8/32 (-1.3)	12/18 (1.8)
Behaviour Owner (cat) ²	11/32 (-1.0)	12/18 (1.3)
Exercise (cat) ²	7/32 (-1.2)	10/18 (1.6)
Exercise (dog) ²	9/32 (-1.1)	11/18 (1.4)
Living conditions (cat) ²	10/32 (-1.4)	14/18 (1.8)
Feed/fluid (cat) ²	8/32 (-1.3)	12/18 (1.8)

^a Results were statistically significant by the chi-square test ($P < 0.05$)

^b Standardized residuals were calculated over a 2x2 cross table for each answer option (appendix 4)

¹ Significant test-statistic with residuals $> |2|$

² Significant test-statistic without residuals $> |2|$

When the knowledge of the staff about animals was compared with the problems they indicated in the questionnaire (“extra knowledge” (yes, no) x “problem” (condition, behaviour, etc.)) it was found that more problems were indicated with cats and dogs for physical condition (8/13), gait (5/13), behaviour (8/13), behaviour of the owner towards the animal (7/13), exercise (7/13) and vet visits (4/13), if the staff had extra animal knowledge either through own experiences with animals or reading literature (**Table 10**). For rodents, rabbits, birds and fish the same calculations were done, but no significant differences were found.

Table 10. Number of problems with cats/dogs reported by staff compared with the knowledge level of the staff (with or without extra knowledge of animals, gained by own experiences or reading literature)

Problems	No. of institutions with problems/total of institutions (std. residual) ^{a,b} when the staff has extra knowledge about animals:	
	no	yes
Physical Condition Problems (animal) ¹	6/37 (-1.4)	8/13 (2.3)
Gait Problems (animal) ¹	2/37 (-1.4)	5/13 (2.4)
Behavioural Problems (animal) ¹	6/37 (-1.4)	8/13 (2.3)
Behavioural Problems (owner) ¹	3/37 (-1.6)	7/13 (2.7)
Exercise Problems (animal) ¹	4/37 (-1.5)	7/13 (2.4)
Vet Visit Problems (animal) ¹	2/37 (-1.2)	4/13 (2.0)

^a Results were statistically significant by the chi-square test ($P < 0.05$)

^b Standardized residuals were calculated over a 2x2 cross table for each answer option (appendix 4)

¹ Significant test-statistic with residuals $> |2|$

Respondents were asked about using an admission policy for the different animal species to decide if the animal and its owner are capable of living in the care institution. Most respondents stated they used an admission policy before movement (37%, in general over all species) or used no admission policy (32% in general over all species). A trial period for the first few weeks/months after movement was used the least (11%, in general over all species), see **Table 11** for the detailed results.

Table 11. Different types of admission policies (no policy, selection before movement, trial period) used for the different companion animal species

Species ^{1, 3}	Admission policy ²			
	No admission policy	Selection before movement	Trial period	Other
Dog	20 (32.3%)	26 (41.9%)	9 (14.5%)	7 (11.3%)
Cat	20 (32.3%)	26 (41.9%)	9 (14.5%)	7 (11.3%)
Birds	21 (33.9%)	29 (46.8%)	9 (14.5%)	3 (4.8%)
Rodents	18 (29.0%)	19 (30.6%)	5 (8.1%)	8 (12.9%)
Rabbits	19 (30.6%)	15 (24.2%)	4 (6.5%)	7 (11.3%)
Fish/aquaria	21 (33.9%)	22 (35.5%)	5 (8.1%)	7 (11.3%)

¹ N=62

² People could also decide not to answer when they had no experiences with a particular animal, causing the questions for every animal not being 100% filled in

³ Multiple answers possible

The different admission policies used were also compared with the stated problems with the different animals species and the used indicators to monitor these problems. No significant relations were found.

Answers about the moment of monitoring the animals showed that in the case the staff monitored the animals, 40.4% of the staff took a look at the animals after comments of other residents and 38.5% after the owner indicated something was wrong. 19.2% of the

institutions use special appointments to look at the animal, which was the least chosen answer (**Table 12**).

Table 12. Frequency of used moments to monitor the animals by the staff

Moment of monitoring ²	Number of respondents ¹
After comments from other residents	21 (40.4%)
After the owner indicates this	20 (38.5%)
During cleaning things are noticed by accident	19 (36.5%)
During cleaning they take a specific look at the animal	15 (28.8%)
Appointments are made to look at the animal	10 (19.2%)
Other	15 (28.8%)

¹ N=52

² Multiple answers possible

The living environment of animals in care institutions for elderly was also analysed (**Table 13 and 14**). The owner's rooms are on average 28.5 m² (ranging from 10-74m²).

For cats, the living environment is diverse, with cats living exclusively in the owner's room (30.8%) to cats that are allowed to roam freely outside (38.5%) (**Table 13**).

Table 13. Used living area (%) of owned cats living in care institutions for elderly

Living area cat ²	Amount of cases ¹
Room only	16 (30.8%)
General leashed	19 (36.5%)
General free	24 (46.2%)
Outside leashed	19 (36.5%)
Outside free	20 (38.5%)

¹ N=52

² Multiple answers possible

The living area of the dogs in care institutions for elderly never limits itself to only the room, dogs are always allowed in general spaces either leashed (84.9%) or free (28.3%) or outside, see **Table 14**.

Furthermore, 76.1% of the cats and dogs do not have a separate place to sleep.

Table 14. Used living area (%) of owned dogs in care institutions for elderly

Living environment dog ²	Amount of cases ¹
Room only	0 (0%)
General leashed	45 (84.9%)
General free	15 (28.3%)
Outside leashed	43 (81.1%)
Outside free	17 (32.1%)

¹ N=53² Multiple answers possible

It is expected that young animals are less frequently present with elderly institutionalized people. Because of the risk of increasing care for the owner, elderly people might not often purchase, new, young animals. Furthermore, age of the animal can be related to certain problems. Therefore, the age of the cats and dogs in the different institutions was analysed. Most animals seemed to be either adult or senior (**Table 15**).

Table 15. The age of owned cats/dogs in care institutions for elderly

	0-3 years	4-8 years	9-> years
0-25%	7 (17.9%)	5 (12.8%)	8 (20.2%)
25-50%	1 (2.6%)	8 (20.5%)	2 (5.1%)
50-75%	2 (5.1%)	10 (25.6%)	10 (25.6%)
75-100%	1 (2.6%)	6 (15.4%)	9 (23.1%)

N=39

Discussion & Conclusion

The aim of this research was to determine the welfare risks for companion animals owned by physically or mentally limited elderly living in care facilities. By gathering information about the animal policy, condition of the animals and knowledge of the staff, welfare risks are identified in this sector.

The results of this study show that institutions where animals are allowed use very different policies for the admission and further care for these animals. From questionnaire 1 it was determined that most requirements that were set for the admission of pets relate to the capability of the owner to take care of the pet at the moment of reception and the prevention of nuisance for other residents. Furthermore, the most indicated problems with animals are caused by smell and filthiness. Significantly more problems were found when the institutions stated they set requirements for pets and when pets were allowed in general facilities. The causality of such relations could be in different ways and directions.

From the second questionnaire it could be concluded that most staff members that monitored the animals had no extra knowledge about animal welfare or keeping animals. When the staff had experiences with own animals, or had read more about this subject, significantly more indicators were used to monitor the animal welfare and more problems were indicated. Furthermore, in most institutions no selection or a selection before admission is used to assess whether the combination animal/owner is suitable to live in the institution. Some institutions use a trial period where they assess the animal and the owner. After the animal and its owner moved in the institution, very few institutions handle a policy where the animal and its owner are regularly monitored. Most institutions look at the animal after comments of other residents or the owner himself. Arrangements to regular pet inspections are rare.

Results from the first questionnaire are based on 14.6% of the total number (2042) of registered care institutions for elderly in the Netherlands of which 89% allowed pet animals. Results from questionnaire 2 are based on 3.0% of the total of institutions of which all allowed pets in their facilities. The institutions that responded are very diverse in their capacity, care type and area, which suspects a reliable representation of the total. However it has to be taken into consideration that the motivation to respond might be the interest in the subject of the study. This statement is enhanced by the fact that 89% of the respondents allowed animals in their institution. This interest might be correlated with other characteristics as for example, more animal knowledge of the respondent or problems with the animals present.

The questionnaires of this study were directed to the staff of the care facilities. Questions about policies, rules and reasons of keeping animals are probably well known by the staff. However questions about living conditions of the animals might not be clear to all staff

members as they might not visit residents with pets regularly (or at all). However, questioning residents about their animals was, because of limited access to this group, limited research time and the sometimes decreased mental state of the residents, not a feasible option in this study, but can be a logical next step to gain more insight in the living conditions of the animals.

From the experiences of this study can be concluded that assessing animal welfare by questionnaires was in this study the most appropriate option, because of time limits. However, when time is not a limitation, it would be a good option if the welfare is assessed through personal visits by someone with good knowledge about the animal species and animal welfare.

Many respondents stated the reason animals were allowed in the institution was for the happiness and wellbeing of the residents. As stated in the introduction, animals can indeed have a positive effect on elderly people. Many studies have been done to the effects of (companion) animals on elderly people. Unfortunately most of these studies were observational or quasi-experimental in nature rather than being truly experimental. The experimental design is in most cases not enough scientifically based to draw hard conclusions. Most studies use pet ownership as a variable, which is controlled to some extent but not to a truly experimental design, whereas animals should be randomly assigned to exclude variables than can lead individuals to own or not own a pet (Pachana et al., 2005). Other studies have been described where Animal Assisted Therapy (AAT) is compared to a non-AAT situation where residents get no therapy at all. In this situation not the presence of the dog can be the variable, but just the fact of getting therapy (Banks and Banks, 2002).

However, when interpreting the data from these studies with caution and carefully considering their methodological limitations, the high number of these studies can be used as an indication that the bond that humans have with their animal can have several positive effects on their physical and mental health, which can be used for further research.

The studies mentioned in the introduction of this study are only the strongly science-based studies.

Besides all the positive effects that companion animals seem to have on the mental and physical health of an elderly person, possible negative effects also have to be taken into consideration. For example, not all residents in a care home facility like pets. Some of them are frightened of them, others get irritated by the smell or noise (Khan and Farrag, 2000). Biting and aggression might be problems that have to be faced if (pet) animals are allowed in care facilities (Fitzgerald, 1986). Moreover, some people are allergic to animals which would seriously implicate their health when pets are kept in these facilities. Furthermore, animal bites and zoonoses are animal-associated health hazards, especially with elderly people who

are often more immune compromised (Khan and Farrag, 2000). When keeping animals in care institutions for elderly, these risks should be considered. When adopting for example a good hygiene, knowledge of transmissions of diseases and parasites and stating friendly behaviour of the animal as an requirement, the mentioned risks can be greatly reduced (Robertson et al., 2000).

Older people often develop a stronger bond with their companion animals than pet owners of other ages, reviewed by (Sharkin and Knox, 2003). Elderly people are often more deprived from other meaningful social relationships and therefore companion animals are often the main source of companionship and affection. Pets can provide a sense of being needed, a stimulus for a daily routine and a focus of attention, which can especially in elderly people be very important for their quality of life, reviewed by (Sharkin and Knox, 2003). Pets can serve to decrease the effects of loneliness, social isolation, anxiety and depression, act as a buffer against stressful life events, boost self-esteem, and facilitate social interactions with others (Hart, 2000). Therefore, pets can be a great social support for elderly people. These finding support the option to allow companion animals in residential care facilities for the elderly.

Furthermore, because of the stronger bond with their pets and an often diminished support system, older pet owners might be more vulnerable to feelings of grief and bereavement with the loss or the surrender of a pet, (Sharkin and Knox, 2003).

The policy used in most care institutions for elderly is that owners or their family are fully responsible for the pet. It is also to the owner or family to see if the care for and wellbeing of the animal is still sufficient. It is however questionable if the owner, because of possible mental limitations or emotional bonding, or the family, who might not be visiting regularly, are able to adequately judge this situation. Welfare implicating situations might be better recognized if regularly monitoring of owner and animal were done by the institutions itself as an objective party who are intensively involved and see owner and animals more frequent. In institutions who do not handle this policy, welfare implicating situations might not be recognized in time.

Most institutions do have a selection policy for the allowance of animals, where they set specific requirements for the animal and its owner. Against expectations, institutions that set requirements for companion animals stated they had significantly more problems related to a specific requirement than institutions that did not use these requirements. An explanation might be that animals are checked more specifically when specific requirements are used, so problems are recognized earlier than when no requirements are set. Setting requirements might also be a result of the staff having more knowledge of animals. As can be seen from the answers of questionnaire 2, staff that had some extra knowledge of animals, either

through own experiences or reading, used more indicators to monitor the animals. Also, staff indicated more problems with cats and dogs if they had more knowledge of animals. So, as a consequence of having more knowledge about animals, more criteria are set to select and monitor the animals for their welfare.

Respondents stated that the most used criteria to select and monitor the care for the animal were the physical and mental capability of the owner and the prevention of nuisance for other residents. The most stated problems with animals were smell and filthiness. These two might be related: when an owner is less capable (due to physical or mental problems) to take care of the animal and its housing, smell and filthiness problems are more likely to occur. Animal parameters to score the care for and the wellbeing of the animal were less used (most used human parameters: physically able to take care of the animal (73%) & mentally able to take care of the animal (62%), most used animal parameters: free from disease (53%) & friendly behaviour (46%)). This might indicate that knowledge about animal parameters is present to a lesser extent than knowledge about human parameters to score the welfare of and caring for the animal.

Conclusions that companion animals are in most cases not monitored regularly and when monitored, animal related indicators are rarely used, indicate that the amount of stated welfare problems might be an underestimation. This is partly reflected by the fact that more problems were recorded when animals are allowed in public spaces. When an animal is more frequently seen by multiple people, problems will be recognized earlier.

Another interesting fact that underpins the use of limited parameters for the monitoring of animal welfare are the results of questionnaire 2 where respondents were asked to fill in what they specifically monitored if they used the behaviour of the animal to score wellbeing. 90% of the respondents answered to only look at aggression to other people. However, the behaviour of the animal is a broad parameter to gain knowledge about the mental and physical state of the animal. Besides aggression there are many other behavioural parameters (Broom and Fraser, 2007). When aggression is the only indication, problems can easily be overlooked.

The conclusion that animal welfare problems reported by the staff are probably underestimated, for the reasons that companion animals are not regularly monitored and knowledge about animals welfare by the staff might not be sufficient to make an adequate estimation of the wellbeing of the animal, might lead to problems with the care of animals of care needing elderly being not recognized in time.

Furthermore, the living environment of the animal was also researched to determine possible welfare risks. From this research was shown that 30.8% of the cats were restricted to the

room of the owner, which is an average of 28.5m² ranging from 10-74m². 76.1% of the cats and dogs do not have a separate place to sleep. When animals don't have the possibility to retreat for rest and are regularly disturbed in their sleep, this can cause stress and discomfort to the animals (Leenstra et al., 2010). When an animal's resting place is in the same space as the owner and the room is too small to retreat, situations like this can occur.

Comparable questions were asked about the living environment of rodents and rabbits. Unfortunately not enough respondents filled in the living environments questions about these animals to make hard conclusions.

Another interesting fact was that only 12.5% of institutions had the policy to vaccinate animals once a year. If companion animals are not regularly vaccinated or checked for diseases and parasites, the risk of infection is higher, not only for the animals but also in some cases for residents. As elderly people have often a diminished immune system, they are more vulnerable for transmissible diseases (zoonoses) and parasites, which can seriously endanger the residents health, as stated in the hygiene guidelines for health and care institutions (LCHV, 2009).

These results indicate that a lack of proper resting areas and vaccination policy can cause welfare problems for as well the animal as the resident.

In conclusion, most elderly care institutions handle the policy that the owner or his/her family is responsible for the care and wellbeing of the animal. The answers given in the questionnaires show in many cases an inadequate knowledge on the subject of animal welfare to make an adequate estimation of the wellbeing of the animal. Regularly monitoring the animals living in the institution is rare. Together with the stated indicators that are used to monitor problems it can be concluded that animal welfare problems are likely to be underestimated and there are probably even factual (much) more problems to expect. Furthermore the absence of vaccination and veterinary visit policies could risk the health of animals and elderly people (LCHV, 2009).

From these results can be concluded that the highest welfare risk for companion animals owned by mentally or physically limited elderly in care facilities, is the situation where problems caused by insufficient care are not recognized in time. This risk is caused by insufficient animal knowledge, not frequently monitoring the animals and leaving the responsibility with the care needing owner and his or her family who might not visit the owner regularly.

It is recommended that a general protocol for housing companion animals in care institutions for elderly is developed and introduced. At the moment, besides hygiene guidelines (LCHV, 2009), a general protocol for housing companion animals in care institutions for elderly is not

existing. A newly developed protocol should give guidelines for the selection of suitable pets, regularly monitoring the animals, vaccinations and medical check-ups, and should include an objective checklist to score welfare which can easily be used by the staff (e.g. based on the Welfare Quality program). Using this protocol will help to ensure the welfare of the animal and recognize problems in time. The results of this study can be used to help designing such protocol for institutions to identify and solve problems on this matter. Furthermore better arrangements have to be made regarding care, consequences and responsibly for the animal. These arrangements can for example be placed into a pet contract that has to be signed by the owner and a second caretaker, for each pet someone owns.

As can be concluded from the results of this study, knowledge of animal welfare is most cases not sufficient to adequately score the wellbeing of the animal. Increasing the knowledge about animal welfare will help to recognize problems earlier and solve them in time. There are a wide number of special training programmes or small courses available to learn more about animal care and welfare¹. If a person of the staff or a volunteer is willing to follow a training to increase their knowledge about animal welfare, this might lower animal welfare risks in these institutions.

¹ Some examples:

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Appendices

Appendix 1: Questionnaire about keeping pets in care facilities, Part 1

Enquête: Huisdieren in Oudereninstellingen

Welkom bij de enquête voor deelnemers aan het onderzoek naar het beleid en welzijn van dieren in een oudereninstelling.

Deze enquête bestaat uit 3 onderdelen:

DEEL 1. Een korte algemene inleidende vragenlijst

DEEL 2. Specifieke vragen voor instellingen met een verschillend huisdierenbeleid

DEEL 3. Een algemene afsluitende vragenlijst

Het invullen van deze vragenlijst duurt ongeveer 10 minuten. De vragen die niet voor uw instelling van toepassing zijn kunt u open laten of de n.v.t. keuze aanvinken. Ook andere vragen kunt u, indien nodig, open te laten als u deze niet kunt beantwoorden.

De resultaten zijn alleen beschikbaar voor de direct betrokken onderzoekers en worden gecodeerd (anoniem) verwerkt. Mocht u geïnteresseerd zijn in de uitkomsten van het onderzoek, dan kunt u dat aan het einde van de vragenlijst aangeven.

Bij de vragen met een sterretje (*) is slechts 1 antwoord mogelijk.

DEEL 1: ALGEMENE INLEIDENDE VRAGENLIJST

1. Wat is de naam van uw instelling?

2. Wat voor instelling is dit?

- ☐ Woonzorgcentrum
- ☐ Verzorgingshuis
- ☐ Verpleeghuis
- ☐ Anders, namelijk:

3. Hoeveel bewoners telt uw instelling?

4. Wat is uw functie binnen de instelling?

5. Zijn huisdieren van bewoners welkom in uw instelling?*

- ☐ Nee, huisdieren zijn bij ons niet toegestaan
- ☐ Nee, maar wij hebben wel eigen (algemene) huisdieren
- ☐ Ja, huisdieren van bewoners zijn welkom

Dit was het einde van de inleidende algemene vragenlijst. Nu volgt een aantal specifieke vragen voor zorginstellingen met een verschillend huisdierenbeleid (DEEL 2):

2.1. Instellingen zonder huisdieren

2.2. Instellingen met algemene 'eigen' huisdieren (dieren van de instelling zelf)

2.3. Instellingen met huisdieren van bewoners

Mocht een bepaald deel van de vragen niet op u van toepassing zijn, kruis dan n.v.t. aan of laat de vragen open.

DEEL 2: VRAGENLIJSTEN VOOR ZORGINSTELLINGEN MET EEN SPECIFIEK HUISDIERENBELEID

2.1: ZORGINSTELLINGEN ZONDER HUISDIEREN

6. Waarom heeft u er als instelling voor gekozen geen huisdieren toe te laten?

- ☐ N.v.t.
- ☐ Vanwege de extra zorg die het met zich mee brengt
- ☐ Vanwege hygiëne maatregelen en ziektes
- ☐ Vanwege allergieën van de bewoners/het personeel
- ☐ Vanwege extra kosten die het met zich mee brengt
- ☐ Vanwege de grootte van onze instelling (gebrek aan ruimtes/aparte afdelingen)
- ☐ Anders, namelijk:

7. Onder welke omstandigheden zou u wel huisdieren toelaten in uw instelling?

- ☐ N.v.t.
- ☐ Als wij een compensatie zouden krijgen voor het extra werk

- ☐ Als wij een groter complex zouden hebben waar wij aparte afdelingen kunnen maken waren dieren wel of niet worden toegestaan
- ☐ Als externen de dieren zouden verzorgen
- ☐ Wij zullen onder geen enkele omstandigheid huisdieren toelaten
- ☐ Anders, namelijk:

8. Ervaart u weleens verdriet van de eigenaar vanwege het afstaan van een huisdier?

- ☐ N.v.t.
- ☐ Nee
- ☐ Ja, soms
- ☐ Ja, geregeld
- ☐ Anders, namelijk:

9. Merkt u dat de eigenaar nog lang (meer dan een half jaar) last heeft van dit verdriet?

- ☐ N.v.t.
- ☐ Nee
- ☐ Ja, soms
- ☐ Ja, geregeld
- ☐ Anders, namelijk:

Dit was het einde van de specifieke vragenlijst voor instellingen zonder huisdieren. Ga nu verder met de afsluitende algemene vragenlijst die begint bij 'vraag 30' (Deel 3).

2.2: ZORGINSTELLINGEN MET EIGEN (ALGEMENE) HUISDIEREN

10. Wat voor eigen huisdieren heeft u op dit moment in uw instelling?

- ☐ Hond
- ☐ Kat
- ☐ Vogels - kleine zangvogels (kanarie, vinkjes e.d.)
- ☐ Vogels - papegaaien en parkieten

- ☐ Knaagdieren (cavia, hamster)
- ☐ Konijn
- ☐ Landbouwhuisdieren: zoals paarden, koeien, geiten, ganzen, kippen etc.
- ☐ Terrarium dieren (schildpad, hagedissen, wandelende takken e.d.)
- ☐ Vissen/aquaria
- ☐ Anders, namelijk:

11. Waarom heeft u er als instelling voor gekozen huisdieren te nemen?

- ☐ N.v.t.
- ☐ Voor de bewoners (geluk, gezelschap)
- ☐ Tegen het verdriet van het afstaan van eigen dieren van bewoners
- ☐ Anders, namelijk:

12. Waar verblijven de algemene huisdieren in uw instelling?

- ☐ N.v.t.
- ☐ Bij de bewoners op de kamers/in de woning
- ☐ Voor grote (landbouw)huisdieren hebben wij een apart (buiten)verblijf
- ☐ Voor alle dieren hebben wij een apart verblijf
- ☐ In een algemeen deel van de afdeling
- ☐ In de kantine/algemeen deel van de instelling
- ☐ Anders, namelijk:

13. Wie verzorgen deze dieren?

- ☐ N.v.t.
- ☐ De bewoners
- ☐ Het verzorgend personeel
- ☐ Apart aangesteld personeel

- ☐ Vrijwilligers
- ☐ Anders, namelijk:

14. Hoe reageren de bewoners op de algemene huisdieren?

15. Indien van toepassing, kunt u deze effecten nader omschrijven(bijv. minder eenzaam, meer sociale interactie etc.?)

- ☐ N.v.t.

Dit was het einde van de specifieke vragenlijst voor instellingen met eigen (algemene) huisdieren. U kunt nu verder gaan met de vragenlijst over huisdieren van bewoners. Als deze niet op uw instelling van toepassing is, kunt u deze overslaan en rechtstreeks doorgaan naar 'vraag 30' van de algemene afsluitende vragenlijst (Deel 3).

2.3: INSTELLINGEN MET HUISDIEREN VAN BEWONERS

16. Wat voor huisdieren van bewoners zijn welkom in uw instelling?

- ☐ Hond
- ☐ Kat
- ☐ Vogels - kleine zangvogels (kanarie, vinkjes e.d.)
- ☐ Vogels - papegaaien en parkieten
- ☐ Knaagdieren (cavia, hamster)
- ☐ Konijn
- ☐ Landbouwhuisdieren: zoals paarden, koeien, geiten, ganzen, kippen etc.
- ☐ Terrarium dieren (schildpad, hagedissen, wandelende takken e.d.)
- ☐ Vissen/aquaria
- ☐ Anders, namelijk:

17. Wat voor huisdieren van bewoners zijn er op dit moment aanwezig?

- ☐ Hond
- ☐ Kat
- ☐ Vogels - kleine zangvogels (kanarie, vinkjes e.d.)
- ☐ Vogels - papegaaien en parkieten
- ☐ Knaagdieren (cavia, hamster)
- ☐ Konijn
- ☐ Landbouwhuisdieren: zoals paarden, koeien, geiten, ganzen, kippen etc.
- ☐ Terrarium dieren (schildpad, hagedissen, wandelende takken e.d.)
- ☐ Vissen/aquaria
- ☐ Anders, namelijk:

18. Waarom heeft u er als instelling voor gekozen huisdieren toe te laten?

- ☐ N.v.t.
- ☐ Voor de bewoners (Geluk, gezelschap)
- ☐ Tegen het verdriet van het afstaan van de dieren
- ☐ Anders, namelijk:

19. Waar verblijven de huisdieren van de bewoners?

- ☐ N.v.t.
- ☐ Bij de eigenaar op de kamer/in de woning
- ☐ Voor grote (landbouw)huisdieren hebben wij een apart (buiten)verblijf
- ☐ Voor alle dieren hebben wij een apart verblijf
- ☐ In een algemeen deel van de afdeling
- ☐ Mensen met dieren zitten op bepaalde afdelingen

☐ Anders, namelijk:

20. Aan wat voor eisen moeten de huisdieren van bewoners voldoen?

- ☐ N.v.t.
- ☐ Geen eisen
- ☐ Gedrag (vriendelijk/rustig)
- ☐ Weinig onderhoud/tijd
- ☐ Geen overlast
- ☐ Vrij van ziektes/parasieten/besmettelijke aandoeningen
- ☐ Formaat, namelijk:

☐ Anders, namelijk:

21. Aan wat voor eisen moeten de eigenaren voldoen?

- ☐ N.v.t.
- ☐ Geen eisen
- ☐ Fysiek nog in staat zijn zelfstandig voor het huisdier te zorgen
- ☐ Mentaal nog in staat zijn zelfstandig voor het huisdier te zorgen
- ☐ Het zelf te kunnen bekostigen
- ☐ Iemand van buitenaf moet garant staan voor het dier
- ☐ Anders, namelijk

22. Bent u extra tijd of kosten kwijt tijdens uw werk als gevolg van de huisdieren van bewoners?

- ☐ N.v.t.
- ☐ Nee

- ☐ Ja, vanwege tijd voor extra verzorging van de dieren (schoonmaken/uitlaten)
- ☐ Ja, vanwege kosten voor onderhoud (voer/behuizing/verzorging)
- ☐ Ja, vanwege kosten voor verzorging door externen
- ☐ Ja, vanwege extra tijd voor hygiënische maatregelen
- ☐ Anders, namelijk:

23. Welke problemen signaleert u BIJ de huisdieren van bewoners?

	Nooit	Incidenteel	Geregeld	Vaak
N.v.t.	☐	☐	☐	☐
Medische problemen zoals ziekte, verwondingen etc.	☐	☐	☐	☐
Gewichtsproblemen	☐	☐	☐	☐
Gedragsproblemen (agressie, voernijd, loomheid e.d.)	☐	☐	☐	☐
Verwaarlozing van het dier	☐	☐	☐	☐
Anders	☐	☐	☐	☐

24. Welke problemen signaleert u VAN huisdieren van bewoners?

	Nooit	Incidenteel	Geregeld	Vaak
N.v.t.	☐	☐	☐	☐
Geluidsoverlast	☐	☐	☐	☐
Stank	☐	☐	☐	☐
Vuil (haren, ontlasting e.d.)	☐	☐	☐	☐
Allergieën/medische problemen van bewoners	☐	☐	☐	☐
Angst van bewoners	☐	☐	☐	☐
Irritatie van bewoners	☐	☐	☐	☐
Gedrag (agressie, bedelgedrag, stelen) van het dier	☐	☐	☐	☐
Anders	☐	☐	☐	☐

25. Wie controleert of de eigenaren nog goed voor hun dier (kunnen) zorgen?

- ☐ N.v.t.
- ☐ Niemand/de eigenaren zelf
- ☐ Het verzorgend personeel
- ☐ Familieleden/kennissen
- ☐ Deskundigen (dierenartsen)

- ☐ Anders, namelijk:

26. Wat voor maatregelen neemt u als de eigenaar niet meer voor zijn/haar huisdier kan zorgen?

- ☐ N.v.t.
- ☐ Niets, hier zijn de eigenaren zelf verantwoordelijk voor
- ☐ Familieleden/kennissen nemen de zorg over
- ☐ Wij hebben vrijwilligers in dienst om in de zorg te ondersteunen
- ☐ Wij bieden andere externe diensten aan die ondersteunen in de zorg
- ☐ Het verzorgend personeel ondersteunt in de zorg voor het dier
- ☐ Het dier wordt een algemeen dier van de instelling en valt niet meer onder de zorg van de eigenaren
- ☐ Het dier moet in dit geval afgestaan worden/ mag niet meer in de instelling verblijven
- ☐ Anders, namelijk:

27. Hoe worden bezoeken aan de dierenarts geregeld?

- ☐ N.v.t.
- ☐ De eigenaren gaan zelf (als ze hier nog toe in staat zijn)
- ☐ Een verzorgend personeelslid gaat mee of gaat zelf
- ☐ Een vrijwilliger gaat mee of gaat zelf
- ☐ De familieleden gaan mee of gaan zelf
- ☐ De dierenarts komt aan huis/in de instelling
- ☐ Wij hebben een eigen dierenarts in dienst
- ☐ Anders, namelijk:

28. Merkt u zelf een effect op de bewoners sinds u huisdieren toelaat in de instelling?*

- ☐ N.v.t.
- ☐ Nee

- ☐ Ja, de huisdieren hebben veelal een negatief effect op de bewoners
- ☐ Ja, de huisdieren hebben veelal een positief effect op de bewoners
- ☐ Ja, de huisdieren hebben zowel positieve als negatieve effecten op bewoners
- ☐ Anders, namelijk:

29. Indien van toepassing, kunt u deze effecten nader omschrijven (bijv. vermindering eenzaamheid, meer sociale interacties etc.)?

- ☐ N.v.t.

Dit was het einde van de specifieke vragenlijst voor instellingen met huisdieren van bewoners. Ga nu verder met de afsluitende algemene vragenlijst (hierop volgend).

DEEL 3: ALGEMENE AFSLUITENDE VRAGENLIJST

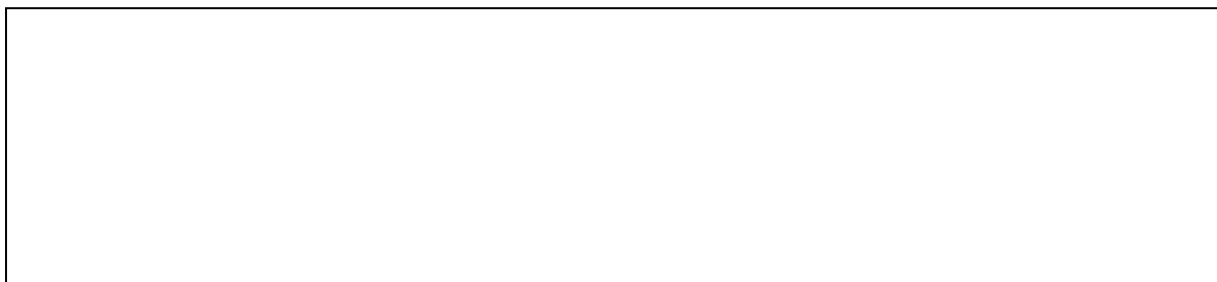
30. Doet u mee aan bezoekprogramma's met dieren?*

- ☐ Nee
- ☐ Ja
- ☐ Anders, namelijk:

31. Mogen familieleden/kennissen met een dier op bezoek komen?*

- ☐ Nee
- ☐ Ja
- ☐ Anders, namelijk:

32. Wat zijn uw plannen voor de toekomst omtrent het houden van huisdieren in uw instelling?



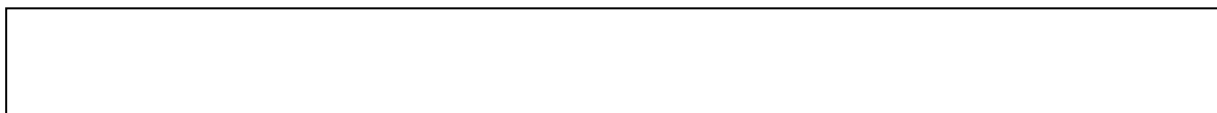
33. Heeft u nog ervaringen, verbeterpunten, suggesties die u met ons wilt delen?



34. Zou u zich beschikbaar willen stellen voor een aantal aanvullende vragen naar aanleiding van de uitslag van dit onderzoek? Deze zullen wederom in de vorm van een enquête worden gesteld.*

- ☐ Nee
☐ Ja

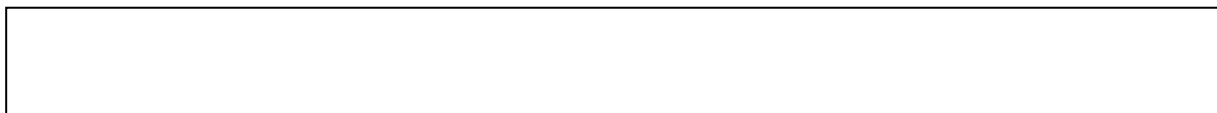
35. Wie kunnen wij het beste hiervoor benaderen? (Graag naam en e-mailadres invullen)



36. Bent u geïnteresseerd in de (anonieme) resultaten van dit onderzoek?*

- ☐ Nee
☐ Ja

37. Zo ja, wat is het e-mailadres waarnaar wij de resultaten kunnen verzenden?



Stuur na het invullen van de enquête deze uiterlijk 21 juni 2012 op naar Postbus 86, 3770 AB Barneveld, of via de fax (0342 42 45 75).

Heel erg bedankt voor uw medewerking!

Appendix 2: Questionnaire about keeping pets in care facilities, Part 2

Welkom bij de vervolg enquête voor deelnemers aan het onderzoek naar dierenwelzijn in zorginstellingen.

Deze enquête bestaat uit een aantal aanvullende vragen op de eerste enquête met de thema's: Toelaten van huisdieren, Controleren van het dier/verzorging, Leefomstandigheden en Afstaan

Het invullen van deze vragenlijst duurt ongeveer 10 minuten. Vragen kunt u, indien nodig, open laten als u deze niet kunt beantwoorden.

Net als bij de vorige enquête zijn de resultaten alleen beschikbaar voor de direct betrokken onderzoekers en worden deze gecodeerd (anoniem) verwerkt.

Bij de vragen met een sterretje (*) is slechts 1 antwoord mogelijk.

Vergeet u niet aan het einde van de enquête op "Submit form" te klikken om uw antwoorden te versturen!

ALGEMEEN

1. Wat is de naam van uw instelling?

2. Wat is uw functie binnen de instelling?

TOELATEN VAN HUISDIEREN

3. Wat is het selectiebeleid om te bepalen of een dier in de instelling kan verblijven?

	Hond	Kat	Vogels	Knaagdieren	Konijnen	Vissen	Toelichting niet verplicht
Selectiebeleid voorafgaand aan de verhuizing	☐	☐	☐	☐	☐	☐	
Proefperiode na de verhuizing	☐	☐	☐	☐	☐	☐	
Geen selectiebeleid	☐	☐	☐	☐	☐	☐	
Anders	☐	☐	☐	☐	☐	☐	

4. Tijdens de selectie vooraf/proefperiode wordt gelet op de volgende eigenschappen om te bepalen of een dier in de instelling kan verblijven:

	Hond	Kat	Vogels	Knaagdieren	Konijnen	Vissen
Gedrag	☐	☐	☐	☐	☐	☐
Overlast	☐	☐	☐	☐	☐	☐
Ziektes/parasieten	☐	☐	☐	☐	☐	☐
Formaat van het dier	☐	☐	☐	☐	☐	☐
Eigenaren fysiek nog in staat het dier te kunnen verzorgen	☐	☐	☐	☐	☐	☐
Eigenaren mentaal nog in staat het dier te kunnen verzorgen	☐	☐	☐	☐	☐	☐
Het dier zelf kunnen bekostigen	☐	☐	☐	☐	☐	☐

Iemand van buitenaf staat garant voor het dier	☐	☐	☐	☐	☐	☐
Conditie van het dier	☐	☐	☐	☐	☐	☐
Er kan een contract opgesteld worden waarin een aantal van deze zaken kunnen worden vastgelegd	☐	☐	☐	☐	☐	☐
Anders	☐	☐	☐	☐	☐	☐

5. Kunt u een toelichting geven op bovenstaande antwoorden? Geef hier ook eventuele overige criteria aan waar op gelet wordt tijdens de selectie/proefperiode. Zet de diersoort waarvoor dit geldt tussen haakjes erachter.

6. Heeft de bewoner na overlijden van zijn/haar huisdier de mogelijkheid een nieuw huisdier aan te schaffen?

- ☐ Nee
- ☐ Ja
- ☐ Anders, namelijk:

CONTROLLEREN VAN HET DIER/VERZORGING

7. Meestal controleert het verzorgend personeel en/of familieleden de zorg voor het dier. Als deze taak bij het verzorgend personeel ligt, wanneer zijn de momenten dat dit wordt gecontroleerd?

- ☐ Tijdens de verzorging/schoonmaak wordt er specifiek ook naar het dier gekeken.
- ☐ Tijdens de verzorging/schoonmaak worden er per toeval dingen opgemerkt.
- ☐ Er worden aparte afspraken gemaakt om naar het dier te kijken.
- ☐ Nadat de eigenaar zelf aangeeft dat dit nodig is.
- ☐ Na opmerkingen van anderen (bewoners, bezoekers) wordt naar het dier gekeken.
- ☐ Anders namelijk,

8. Over welke kennis beschikt degene die de dieren beoordeelt?

- ☐ Hij/zij heeft een cursus/opleiding hiervoor gedaan.
- ☐ Hij/zij heeft zelf huisdieren thuis en heeft daardoor ervaring met dieren.
- ☐ Hij/zij heeft zich hierin verdiept door veel te lezen hierover.
- ☐ Hij/zij heeft geen extra kennis over dit onderwerp.
- ☐ Anders namelijk,

9. Waar let u op bij het beoordelen van dieren die in uw instelling wonen? Kiest u alstublieft alleen de diersoorten die voor uw instelling van toepassing zijn.

10. Katten/Honden

Katten Honden Hoe vaak signaleert u problemen op dit gebied? (nooit/soms/regelmatig/vaak)

Gewicht (Over/ondergewicht)	☐	☐	
Algemene conditie (vacht, ogen / neus, vlooiën, verwondingen)	☐	☐	
Uiterlijke verwondingen	☐	☐	
Gang/manier van lopen en bewegen	☐	☐	
Gedrag	☐	☐	
Gedrag van de bewoner tegenover het dier? (agressie, negeren, angst)	☐	☐	
Uitlaten/beweging	☐	☐	
Leefomstandigheden van het dier in de woning (hygiëne, rustplaats, schuilmogelijkheden)	☐	☐	
Aanwezigheid van voldoende schoon drinkwater/voedsel	☐	☐	
Controleren afspraken dierenarts	☐	☐	
Anders	☐	☐	

11. Kunt u een toelichting geven op bovenstaande antwoorden? (welke specifieke problemen komen voor)

12. Wilt u alstublieft toelichten waar u specifiek op let bij het beoordelen van het GEDRAG v/h dier?

13. Kooidieren (Knaagdieren/konijnen/vogels)

	Knaagdieren	Konijnen	Vogels	Hoe vaak signaleert u problemen op dit gebied? (nooit/soms/regelmatig/vaak)
Algemene conditie (vacht/ogen/neus/vlooiën/verwondingen)	☐	☐	☐	
Beweging/gang	☐	☐	☐	
Gebit/snavel	☐	☐	☐	
Voedselopname (hoeveelheid)	☐	☐	☐	
Ontlasting (vorm/kleur)	☐	☐	☐	
Gedrag dier	☐	☐	☐	
Gedrag bewoners tegenover het dier (agressie/negeren)	☐	☐	☐	
Inrichting kooi	☐	☐	☐	
Grootte kooi	☐	☐	☐	
Schoonmaken kooi	☐	☐	☐	
Aanwezigheid van voldoende schoon drinkwater/voedsel	☐	☐	☐	
Soort voer (geschiktheid voor het soort dier)	☐	☐	☐	

Anders ☐ ☐ ☐

14. Kunt u een toelichting geven op bovenstaande antwoorden? (welke specifieke problemen komen voor)

15. Kunt u alstublieft toelichten waar u specifiek op let bij het beoordelen van het GEDRAG v/h dier?

16. Vissen

Hoe vaak signaleert u problemen op dit gebied?
(nooit/soms/regelmatig/vaak)

Schoonmaken bak	☐	
Conditie aquarium / watersamenstelling	☐	
Inrichting aquarium	☐	
Dode vissen	☐	
Conditie vissen (verwondingen, misvormingen, kleur)	☐	
Afwijkend gedrag van de vissen (schommelen, schuren)	☐	
Aanwezigheid werkende filters, pompen, etc.	☐	
Anders	☐	

17. Kunt u een toelichting geven op bovenstaande antwoorden? (welke specifieke problemen komen voor)

18. Overig: Mocht u nog een ander dier (van een bewoner) in uw instelling hebben die niet tussen de mogelijke opties staat, dan kunt u hier invullen welk dier dat is en waar u op let bij de controle van dit dier.

LEEFOMSTANDIGHEDEN/HUISVESTING

19. Mogen honden/katten in het algemene deel van de afdeling of buiten de instelling komen?

	Hond	Kat	Toelichting (niet verplicht)
Algemeen deel van de afdeling, aangelijnd	☐	☐	
Algemeen deel van de afdeling, loslopend	☐	☐	
Buiten, aangelijnd	☐	☐	
Buiten, loslopend	☐	☐	
Nergens, alleen op de kamer	☐	☐	
Anders, namelijk:	☐	☐	

20. Zijn er weleens problemen geweest met de dieren onderling in de algemene ruimtes?

	Nooit	Incidenteel	Geregeld	Vaak	Toelichting (niet verplicht)
Agressie	☐	☐	☐	☐	
Angst	☐	☐	☐	☐	

Stress	☐	☐	☐	☐
Anders	☐	☐	☐	☐

21. Heeft de hond/kat in de woning van de bewoner ook een eigen afsluitbare ruimte/plek waar hij zich terug kan trekken? (zoals een bench, kamer e.d.)

- ☐ Nee
- ☐ Ja, namelijk:

22. Hoe vaak worden de honden en katten gevaccineerd? Is dit een verplicht beleid? Wie controleert dit?

23. Hoe vaak worden overige gezondheidchecks door de dierenarts uitgevoerd? Bijv. gebit, nagels knippen, dieetvoer, etc.

24. Hoe oud zijn de honden/katten in uw instelling?

	0-25%	25-50%	50-75%	75-100%
0-3 (jong)	☐	☐	☐	☐
4-8 (volwassen)	☐	☐	☐	☐
9 en ouder (senior)	☐	☐	☐	☐

25. Hoe groot (m2) zijn de kamers van de bewoners met dieren?

26. Wat voor soort verblijf hebben de konijnen en knaagdieren? A.U.B. Diersoort(en) waarvoor het antwoord geldt aangeven in de laatste kolom.

	0-25%	25-50%	50-75%	75-100%	Diersoort
Kooi < 80 cm lang	☐	☐	☐	☐	
Kooi > 80 cm lang	☐	☐	☐	☐	
Mogen hiernaast ook loslopen	☐	☐	☐	☐	
Mogen niet los lopen	☐	☐	☐	☐	
Individueel gehuisvest	☐	☐	☐	☐	
Samen met soortgenoten gehuisvest	☐	☐	☐	☐	

27. Wat voor soort verblijf hebben de vogels? A.U.B. vogelsoort(en) waarvoor het antwoord geldt aangeven in de laatste kolom.

	0-25%	25-50%	50-75%	75-100%	Vogelsoort
Kooi <50 cm lang	☐	☐	☐	☐	
Kooi >50 cm lang	☐	☐	☐	☐	
Individueel gehuisvest	☐	☐	☐	☐	
Samen met soortgenoten	☐	☐	☐	☐	

28. In wat voor verblijf zitten de vissen gehuisvest?

	0-25%	25-50%	50-75%	75-100%
	☐	☐	☐	☐

Ronde kom	☐	☐	☐	☐
Klein rechthoekig aquarium (< 60 cm lang)	☐	☐	☐	☐
Groter rechthoekig aquarium (> 60 cm lang)	☐	☐	☐	☐

AFSTAAN VAN HUISDIEREN

29. Familieleden nemen grotendeels de zorg over als een bewoner niet meer voor zijn of haar dier kan zorgen. Wat gebeurt er meestal met het dier in dit geval?

	0-25%	25-50%	50-75%	75-100%	Toelichting (niet verplicht)
Het dier blijft bij de bewoner en de familieleden komen langs om extra zorg te verlenen	☐	☐	☐	☐	
Het dier verhuist naar de familieleden zodra de bewoner hier niet meer voor kan zorgen	☐	☐	☐	☐	
Het dier wordt eerst nog extra verzorgd door de familie op locatie, maar verhuist als de zorg intensiever wordt naar de familie	☐	☐	☐	☐	
Anders, namelijk:	☐	☐	☐	☐	

30. Welke omstandigheden leiden er toe dat een bewoner de zorg van zijn/haar dier moet overdragen?

	0-15%	15-30%	30-45%	45-60%	60-85%	85-100%	Toelichting (niet verplicht)
Gewichtsproblemen door te weinig/overmatig voeren	☐	☐	☐	☐	☐	☐	
Het dier vertoont probleemgedrag / uitingen van stress	☐	☐	☐	☐	☐	☐	
Het dier heeft te veel medische verzorging nodig	☐	☐	☐	☐	☐	☐	
Het dier wordt niet meer uitgelaten (honden)	☐	☐	☐	☐	☐	☐	
Onzindelijkheid (hond/kat)	☐	☐	☐	☐	☐	☐	
Het dier raakt vervuild (klitten, vieze vacht)	☐	☐	☐	☐	☐	☐	
De woning raakt vervuild (klitten, vieze vacht e.d.)	☐	☐	☐	☐	☐	☐	
Het verblijf wordt niet goed schoongehouden (kooi, kattenbak, ligmand, aquarium)	☐	☐	☐	☐	☐	☐	
Eigenaar geeft zelf aan dat hij/zij het niet meer aan kan	☐	☐	☐	☐	☐	☐	
Anders	☐	☐	☐	☐	☐	☐	

31. Wilt u alstublieft toelichten wat voor GEDRAG/STRESS UITINGEN er voorkomen waardoor het dier moet worden afgestaan?

32. Hoe vaak komt het voor dat een bewoner om dergelijke redenen een dier moet afstaan?

Van de bewoners met dieren gebeurt in% van de gevallen dat het dier moet worden afgestaan omdat de bewoner hier niet meer goed voor kan zorgen.

33. Om welke dieren gaat dit dan meestal?

	0-15%	15-30%	30-45%	45-60%	60-85%	85-100%
Hond	☐	☐	☐	☐	☐	☐
Kat	☐	☐	☐	☐	☐	☐
Vogels	☐	☐	☐	☐	☐	☐
Konijn	☐	☐	☐	☐	☐	☐
Knaagdier	☐	☐	☐	☐	☐	☐
Vissen/aquarium	☐	☐	☐	☐	☐	☐
Anders	☐	☐	☐	☐	☐	☐

34. Wat gebeurt er na het overlijden van de eigenaar met het dier?

- ☐ Het dier gaat naar familieleden/kennissen
- ☐ Het dier gaat naar het asiel
- ☐ Dit staat in het contract dat vooraf bij intake is opgesteld
- ☐ Anders, namelijk:

35. Wat voor maatregelen neemt u als de eerste indicaties van problemen zich voordoen?

- ☐ Wij wijzen de eigenaar hierop en controleren of er verbetering optreedt.
- ☐ Op het moment dat wij het merken is het meestal al zover dat de eigenaar niet meer voor het dier kan zorgen en het dier moet worden afgestaan.
- ☐ Zodra dit gebeurt wordt er met de familie besproken wat verder te doen.
- ☐ Wij ondersteunen eerst nog een tijdje in de zorg tot het punt dat het echt niet meer haalbaar is.
- ☐ Er worden vrijwilligers ingezet om te helpen met de verzorging van het dier.
- ☐ Anders, namelijk:

36. Heeft u weleens specifieke informatie opgezocht over een situatie van het dier?

- ☐ Ja
- ☐ Nee

37. Heeft u weleens op de website van het LICG gekeken om kennis op te doen?

- ☐ Ja
- ☐ Nee

38. Als u de ideale omstandigheden zou kunnen creëren, hoe zou u dan uw instelling inrichten / wat zou u willen veranderen/verbeteren m.b.t. het houden van dieren door bewoners?

39. Ik zou graag naast de enquêtes ook eens in een instelling komen kijken om een objectief beeld te vormen van de praktijksituatie. Zou dit in uw instelling mogelijk zijn?

- ☐ Ja
- ☐ Nee

Klik na het invullen van de enquête 1x op submit form om deze in te sturen (let op: slechts 1x klikken, na een kleine wachttijd ontvangt u een bevestiging van ontvangst)!

Heel erg bedankt voor uw medewerking!

Appendix 3: Definitions

3.1. Definitions different care centres

Home for the elderly: Institution for elderly who are not anymore able to take care of themselves on their own or with additional help.

Nursing home: Institution where long lasting intensive care is given to residents who are not anymore able to live in a home for the elderly or people who don't need hospital care anymore, but still need additional intensive care.

Residential care centre: residential of independent homes, aimed at living in a protected environment with care and service facilities, but with a contractual division between living, care and services. Intended for people who are not anymore capable to live on their one, but don't need institutional care.

3.2. Five freedoms formulated by the commission of Brambell

1. Freedom from thirst, hunger and malnutrition – by ready access to fresh water and a diet to maintain full health and vigour.
2. Freedom from discomfort – by providing a suitable environment including shelter and a comfortable resting area.
3. Freedom from pain, injury and disease – by prevention or rapid diagnosis and treatment.
4. Freedom to express normal behaviour – by providing sufficient space, proper facilities and company of the animal's own kind.
5. Freedom from fear and distress – by ensuring conditions which avoid mental suffering.

3.3. European research program Welfare Quality®

The European research program Welfare Quality®, designed a method to measure welfare on the animal. This method is focussed on animal characteristics and is based on the five freedoms formulated by the Commission of Brambell. This program is based on farm animals, but is in a way formulated that it also gives a good general overview of discomfort in companion animals. This model is based on four main groups for the review of in total twelve welfare criteria (Rapport 374, 2011):

1. Behaviour
 - a. Natural behaviour and behavioural problems

- b. Social behaviour
 - c. General fear
 - d. Fear for humans
- 2. Health with the different components
 - a. Sickness
 - b. Injuries
 - c. Interventions
- 3. Physical comfort with the different components
 - a. Resting and lying comfort
 - b. Free movement
 - c. Thermo comfort
- 4. Nutrition with the different components
 - a. Nutrition
 - b. Moisture supply

This method was used to indicate welfare risk of companion animals among the Dutch population.



Appendix 3: Statistical calculations per table

Table 4 (calculated in MatMan)

	never	occasionally	reguraly
Filthiness (room)	-5.42	2.84	3.39
Smell	-3.87	2.24	2.21
Irritation (residents)	-1.75	0.99	1.02
Medical Problems			
(animal)	-0.95	0.80	0.31
Neglect of the animal	0.35	-0.10	-0.29
Noise	-0.17	0.16	0.03
Weight problems (animal)	3.70	-2.59	-1.69
Behavioural problems			
(animal)	2.27	-1.15	-1.46
Allergies (residents/staff)	1.76	-1.01	-1.01
Fear (residents)	2.73	-1.52	-1.62
Annoying behaviour			
(animal)	3.17	-1.71	-1.93

Standardized Residuals of Matrix: Sheet1

Chi Square:	147.0084
Degrees of Freedom:	20
Likelihood Ratio Statistic G:	152.2722
Adjusted Likelihood Ratio Statistic Gadj:	151.7819

Table 5 (calculated in SPSS)

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Weightpr * Dog	223	100.0%	0	.0%	223	100.0%
Behaviourpr * Dog	223	100.0%	0	.0%	223	100.0%
Soundpr * Dog	223	100.0%	0	.0%	223	100.0%
Filthinesspr * Dog	223	100.0%	0	.0%	223	100.0%
Annoyingbehpr * Dog	223	100.0%	0	.0%	223	100.0%

Weightpr * Dog

Crosstab					
			Dog		Total
			0	1	
Weightpr	0	Count	103	78	181
		Expected Count	93.3	87.7	181.0
		Std. Residual	1.0	-1.0	

1	Count	12	30	42
	Expected Count	21.7	20.3	42.0
	Std. Residual	-2.1	2.1	
Total	Count	115	108	223
	Expected Count	115.0	108.0	223.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.958 ^a	1	.001	.001	.001
Continuity Correction ^b	9.853	1	.002		
Likelihood Ratio	11.214	1	.001		
Fisher's Exact Test					
Linear-by-Linear Association	10.909	1	.001		
N of Valid Cases	223				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 20.34.

b. Computed only for a 2x2 table

Behaviourpr * Dog

Crosstab

			Dog		Total
			0	1	
Behaviourpr	0	Count	95	75	170
		Expected Count	87.7	82.3	170.0
		Std. Residual	.8	-.8	
	1	Count	20	33	53
		Expected Count	27.3	25.7	53.0
		Std. Residual	-1.4	1.4	
Total	Count		115	108	223
	Expected Count		115.0	108.0	223.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.327 ^a	1	.021	.027	.016
Continuity Correction ^b	4.625	1	.032		
Likelihood Ratio	5.360	1	.021		
Fisher's Exact Test					
Linear-by-Linear Association	5.303	1	.021		
N of Valid Cases	223				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 25.67.

b. Computed only for a 2x2 table

Soundpr * Dog

Crosstab					
			Dog		Total
			0	1	
Soundpr	0	Count	92	66	158
		Expected Count	81.5	76.5	158.0
		Std. Residual	1.2	-1.2	
	1	Count	23	42	65
		Expected Count	33.5	31.5	65.0
		Std. Residual	-1.8	1.9	
Total	Count		115	108	223
	Expected Count		115.0	108.0	223.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.622 ^a	1	.002	.002	.002
Continuity Correction ^b	8.729	1	.003		
Likelihood Ratio	9.714	1	.002		
Fisher's Exact Test					
Linear-by-Linear Association	9.579	1	.002		
N of Valid Cases	223				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 31.48.

b. Computed only for a 2x2 table

Filthinesspr * Dog

Crosstab					
			Dog		Total
			0	1	
Filthinesspr	0	Count	69	45	114
		Expected Count	58.8	55.2	114.0
		Std. Residual	1.3	-1.4	
	1	Count	42	55	97
		Expected Count	50.0	47.0	97.0
		Std. Residual	-1.1	1.2	
	2	Count	4	8	12
		Expected Count	6.2	5.8	12.0

	Std. Residual	- .9	.9	
Total	Count	115	108	223
	Expected Count	115.0	108.0	223.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.916 ^a	2	.019
Likelihood Ratio	7.978	2	.019
Linear-by-Linear Association	7.723	1	.005
N of Valid Cases	223		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.81.

Annoyingbehpr * Dog

Crosstab

			Dog		Total
			0	1	
Annoyingbehpr	0	Count	101	80	181
		Expected Count	93.3	87.7	181.0
		Std. Residual	.8	-.8	
	1	Count	14	28	42
		Expected Count	21.7	20.3	42.0
		Std. Residual	-1.6	1.7	
Total	Count	115	108	223	
	Expected Count	115.0	108.0	223.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.890 ^a	1	.009		
Continuity Correction ^b	6.020	1	.014		
Likelihood Ratio	6.979	1	.008		
Fisher's Exact Test				.010	.007
Linear-by-Linear Association	6.859	1	.009		
N of Valid Cases	223				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 20.34.

b. Computed only for a 2x2 table

Cat

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Smellpr * Cat	223	100.0%	0	.0%	223	100.0%
Filthinesspr * Cat	223	100.0%	0	.0%	223	100.0%

Smellpr * Cat

Crosstab

			Cat		Total
			0	1	
Smellpr	0	Count	71	54	125
		Expected Count	61.1	63.9	125.0
		Std. Residual	1.3	-1.2	
	1	Count	38	60	98
		Expected Count	47.9	50.1	98.0
		Std. Residual	-1.4	1.4	
Total		Count	109	114	223
		Expected Count	109.0	114.0	223.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.142 ^a	1	.008	.010	.005
Continuity Correction ^b	6.439	1	.011		
Likelihood Ratio	7.188	1	.007		
Fisher's Exact Test					
Linear-by-Linear Association	7.110	1	.008		
N of Valid Cases	223				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 47.90.

b. Computed only for a 2x2 table

Filthinesspr * Cat

Crosstab

			Cat		Total
			0	1	
Filthinesspr	0	Count	67	47	114
		Expected Count	55.7	58.3	114.0

	Std. Residual	1.5	-1.5	
1	Count	38	59	97
	Expected Count	47.4	49.6	97.0
	Std. Residual	-1.4	1.3	
2	Count	4	8	12
	Expected Count	5.9	6.1	12.0
	Std. Residual	-.8	.8	
Total	Count	109	114	223
	Expected Count	109.0	114.0	223.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.281 ^a	2	.010
Likelihood Ratio	9.357	2	.009
Linear-by-Linear Association	8.674	1	.003
N of Valid Cases	223		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.87.

Rodent

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Medicalpr * Rodent	223	100.0%	0	.0%	223	100.0%

Medicalpr * Rodent Crosstabulation

			Rodent		Total
			0	1	
Medicalpr	0	Count	136	7	143
		Expected Count	131.5	11.5	143.0
		Std. Residual	.4	-1.3	
	1	Count	69	11	80
		Expected Count	73.5	6.5	80.0
		Std. Residual	-.5	1.8	
Total	Count	205	18	223	
	Expected Count	205.0	18.0	223.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.421 ^a	1	.020	.037	.021
Continuity Correction ^b	4.293	1	.038		
Likelihood Ratio	5.159	1	.023		
Fisher's Exact Test					
Linear-by-Linear Association	5.397	1	.020		
N of Valid Cases	223				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.46.

b. Computed only for a 2x2 table

Table 6 (calculated in SPSS)

Behaviour

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Behaviourpr * Behaviour	287	100.0%	0	.0%	287	100.0%
Soundpr * Behaviour	287	100.0%	0	.0%	287	100.0%
Fearpr * Behaviour	287	100.0%	0	.0%	287	100.0%
Irritationpr * Behaviour	287	100.0%	0	.0%	287	100.0%

Behaviourpr * Behaviour

Crosstab

			Behaviour		Total
			0	1	
Behaviourpr	0	Count	131	91	222
		Expected Count	119.1	102.9	222.0
		Std. Residual	1.1	-1.2	
	1	Count	23	42	65
		Expected Count	34.9	30.1	65.0
		Std. Residual	-2.0	2.2	
Total	Count	154	133	287	
	Expected Count	154.0	133.0	287.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-	Exact Sig. (2-	Exact Sig. (1-
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			sided)	sided)	sided)
Pearson Chi-Square	11.285 ^a	1	.001		
Continuity Correction ^b	10.355	1	.001		
Likelihood Ratio	11.345	1	.001		
Fisher's Exact Test				.001	.001
Linear-by-Linear Association	11.246	1	.001		
N of Valid Cases	287				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 30.12.

b. Computed only for a 2x2 table

Soundpr * Behaviour

Crosstab

			Behaviour		Total
			0	1	
Soundpr	0	Count	122	89	211
		Expected Count	113.2	97.8	211.0
		Std. Residual	.8	-.9	
	1	Count	32	44	76
		Expected Count	40.8	35.2	76.0
		Std. Residual	-1.4	1.5	
Total	Count	154	133	287	
	Expected Count	154.0	133.0	287.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.549 ^a	1	.018		
Continuity Correction ^b	4.935	1	.026		
Likelihood Ratio	5.547	1	.019		
Fisher's Exact Test				.022	.013
Linear-by-Linear Association	5.530	1	.019		
N of Valid Cases	287				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 35.22.

b. Computed only for a 2x2 table

Fearpr * Behaviour

Crosstab

			Behaviour		Total
			0	1	
Fearpr	0	Count	134	97	231
		Expected Count	124.0	107.0	231.0

	Std. Residual	.9	-1.0	
1	Count	20	36	56
	Expected Count	30.0	26.0	56.0
	Std. Residual	-1.8	2.0	
Total	Count	154	133	287
	Expected Count	154.0	133.0	287.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.009 ^a	1	.003		
Continuity Correction ^b	8.135	1	.004		
Likelihood Ratio	9.050	1	.003		
Fisher's Exact Test				.003	.002
Linear-by-Linear Association	8.978	1	.003		
N of Valid Cases	287				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 25.95.

b. Computed only for a 2x2 table

Irritationpr * Behaviour

Crosstab

			Behaviour		Total
			0	1	
Irritationpr	0	Count	115	82	197
		Expected Count	105.7	91.3	197.0
		Std. Residual	.9	-1.0	
	1	Count	39	51	90
		Expected Count	48.3	41.7	90.0
		Std. Residual	-1.3	1.4	
Total	Count	154	133	287	
	Expected Count	154.0	133.0	287.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.621 ^a	1	.018		
Continuity Correction ^b	5.033	1	.025		
Likelihood Ratio	5.621	1	.018		
Fisher's Exact Test				.022	.012
Linear-by-Linear Association	5.602	1	.018		

N of Valid Cases	287			
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a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 41.71.

b. Computed only for a 2x2 table

Guarantee

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Medicalpr * Guarantee	287	100.0%	0	.0%	287	100.0%
Neglectpr * Guarantee	287	100.0%	0	.0%	287	100.0%
Smellpr * Guarantee	287	100.0%	0	.0%	287	100.0%

Medicalpr * Guarantee

Crosstab

			Guarantee		Total
			0	1	
Medicalpr	0	Count	109	83	192
		Expected Count	100.3	91.7	192.0
		Std. Residual	.9	-.9	
	1	Count	41	54	95
		Expected Count	49.7	45.3	95.0
		Std. Residual	-1.2	1.3	
Total		Count	150	137	287
		Expected Count	150.0	137.0	287.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.721 ^a	1	.030	.033	.020
Continuity Correction ^b	4.191	1	.041		
Likelihood Ratio	4.727	1	.030		
Fisher's Exact Test					
Linear-by-Linear Association	4.704	1	.030		
N of Valid Cases	287				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 45.35.

b. Computed only for a 2x2 table

Neglectpr * Guarantee

Crosstab

			Guarantee		Total
			0	1	
Neglectpr	0	Count	118	84	202
		Expected Count	105.6	96.4	202.0
		Std. Residual	1.2	-1.3	
	1	Count	32	53	85
		Expected Count	44.4	40.6	85.0
		Std. Residual	-1.9	2.0	
Total	Count	150	137	287	
	Expected Count	150.0	137.0	287.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.343 ^a	1	.001	.002	.001
Continuity Correction ^b	9.528	1	.002		
Likelihood Ratio	10.403	1	.001		
Fisher's Exact Test					
Linear-by-Linear Association	10.307	1	.001		
N of Valid Cases	287				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 40.57.

b. Computed only for a 2x2 table

Smellpr * Guarantee

Crosstab

			Guarantee		Total
			0	1	
Smellpr	0	Count	99	73	172
		Expected Count	89.9	82.1	172.0
		Std. Residual	1.0	-1.0	
	1	Count	51	64	115
		Expected Count	60.1	54.9	115.0
		Std. Residual	-1.2	1.2	
Total	Count	150	137	287	
	Expected Count	150.0	137.0	287.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.821 ^a	1	.028		

Continuity Correction ^b	4.306	1	.038		
Likelihood Ratio	4.829	1	.028		
Fisher's Exact Test				.031	.019
Linear-by-Linear Association	4.804	1	.028		
N of Valid Cases	287				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 54.90.

b. Computed only for a 2x2 table

Physically able

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Neglectpr * Physically able	287	100.0%	0	.0%	287	100.0%

Neglectpr * Physically able Crosstabulation

			Physically able		Total
			0	1	
Neglectpr	0	Count	61	141	202
		Expected Count	54.2	147.8	202.0
		Std. Residual	.9	-.6	
	1	Count	16	69	85
		Expected Count	22.8	62.2	85.0
		Std. Residual	-1.4	.9	
Total	Count		77	210	287
	Expected Count		77.0	210.0	287.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.943 ^a	1	.047		
Continuity Correction ^b	3.385	1	.066		
Likelihood Ratio	4.127	1	.042		
Fisher's Exact Test				.058	.031
Linear-by-Linear Association	3.929	1	.047		
N of Valid Cases	287				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 22.80.

b. Computed only for a 2x2 table

Table 7 (calculated in SPSS)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Medicalpr * General facilities	248	100.0%	0	.0%	248	100.0%
Behaviourpr * General facilities	248	100.0%	0	.0%	248	100.0%
Soundpr * General facilities	248	100.0%	0	.0%	248	100.0%
Fearpr * General facilities	248	100.0%	0	.0%	248	100.0%
Irritationpr * General facilities	248	100.0%	0	.0%	248	100.0%
Annoyingpr * General facilities	248	100.0%	0	.0%	248	100.0%

Medicalpr * General facilities

Crosstab

			General facilities		Total
			0	1	
Medicalpr	0	Count	149	17	166
		Expected Count	143.2	22.8	166.0
		Std. Residual	.5	-1.2	
	1	Count	65	17	82
		Expected Count	70.8	11.2	82.0
		Std. Residual	-.7	1.7	
Total		Count	214	34	248
		Expected Count	214.0	34.0	248.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.106 ^a	1	.024	.031	.021
Continuity Correction ^b	4.258	1	.039		
Likelihood Ratio	4.853	1	.028		
Fisher's Exact Test					
Linear-by-Linear Association	5.086	1	.024		
N of Valid Cases	248				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.24.

b. Computed only for a 2x2 table

Behaviourpr * General facilities

Crosstab

	General facilities	Total
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			0	1	
Behaviourpr	0	Count	170	19	189
		Expected Count	163.1	25.9	189.0
		Std. Residual	.5	-1.4	
	1	Count	44	15	59
		Expected Count	50.9	8.1	59.0
		Std. Residual	-1.0	2.4	
Total	Count	214	34	248	
	Expected Count	214.0	34.0	248.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.980 ^a	1	.003	.005	.004
Continuity Correction ^b	7.728	1	.005		
Likelihood Ratio	8.011	1	.005		
Fisher's Exact Test					
Linear-by-Linear Association	8.944	1	.003		
N of Valid Cases	248				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.09.

b. Computed only for a 2x2 table

Soundpr * General facilities

Crosstab

			General facilities		Total
			0	1	
Soundpr	0	Count	164	19	183
		Expected Count	157.9	25.1	183.0
		Std. Residual	.5	-1.2	
	1	Count	50	15	65
		Expected Count	56.1	8.9	65.0
		Std. Residual	-.8	2.0	
Total	Count	214	34	248	
	Expected Count	214.0	34.0	248.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
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Pearson Chi-Square	6.534 ^a	1	.011		
Continuity Correction ^b	5.505	1	.019		
Likelihood Ratio	5.977	1	.014		
Fisher's Exact Test				.019	.012
Linear-by-Linear Association	6.507	1	.011		
N of Valid Cases	248				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.91.

b. Computed only for a 2x2 table

Fearpr * General facilities

Crosstab

			General facilities		Total
			0	1	
Fearpr	0	Count	179	21	200
		Expected Count	172.6	27.4	200.0
		Std. Residual	.5	-1.2	
	1	Count	35	13	48
		Expected Count	41.4	6.6	48.0
		Std. Residual	-1.0	2.5	
Total	Count	214	34	248	
	Expected Count	214.0	34.0	248.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.999 ^a	1	.003		
Continuity Correction ^b	7.651	1	.006		
Likelihood Ratio	7.785	1	.005		
Fisher's Exact Test				.005	.005
Linear-by-Linear Association	8.962	1	.003		
N of Valid Cases	248				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.58.

b. Computed only for a 2x2 table

Irritationpr * General facilities

Crosstab

			General facilities		Total
			0	1	
Irritationpr	0	Count	154	15	169
		Expected Count	145.8	23.2	169.0
		Std. Residual	.7	-1.7	

1	Count	60	19	79
	Expected Count	68.2	10.8	79.0
	Std. Residual	-1.0	2.5	
Total	Count	214	34	248
	Expected Count	214.0	34.0	248.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.479 ^a	1	.001		
Continuity Correction ^b	9.236	1	.002		
Likelihood Ratio	9.785	1	.002		
Fisher's Exact Test				.002	.002
Linear-by-Linear Association	10.437	1	.001		
N of Valid Cases	248				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.83.

b. Computed only for a 2x2 table

Annoyingpr * General facilities

Crosstab

			General facilities		Total
			0	1	
Annoyingpr	0	Count	182	22	204
		Expected Count	176.0	28.0	204.0
		Std. Residual	.4	-1.1	
	1	Count	32	12	44
		Expected Count	38.0	6.0	44.0
		Std. Residual	-1.0	2.4	
Total	Count		214	34	248
	Expected Count		214.0	34.0	248.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.318 ^a	1	.004		
Continuity Correction ^b	6.982	1	.008		
Likelihood Ratio	7.138	1	.008		
Fisher's Exact Test				.007	.006
Linear-by-Linear Association	8.284	1	.004		
N of Valid Cases	248				

- a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.03.
b. Computed only for a 2x2 table

Table 9 (calculated in SPSS)

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
WoundsCat * Knowledge	50	100.0%	0	.0%	50	100.0%
GaitCat * Knowledge	50	100.0%	0	.0%	50	100.0%
GaitDog * Knowledge	50	100.0%	0	.0%	50	100.0%
OwnerCat * Knowledge	50	100.0%	0	.0%	50	100.0%
ExerciseCat * Knowledge	50	100.0%	0	.0%	50	100.0%
ExerciseDog * Knowledge	50	100.0%	0	.0%	50	100.0%
LivingconditionsCat * Knowledge	50	100.0%	0	.0%	50	100.0%
Food/waterCat * Knowledge	50	100.0%	0	.0%	50	100.0%
VaccinationsCat * Knowledge	50	100.0%	0	.0%	50	100.0%
VaccinationsDog * Knowledge	50	100.0%	0	.0%	50	100.0%

WoundsCat * Knowledge

Crosstab					
			Knowledge		Total
			0	1	
WoundsCat	0	Count	24	6	30
		Expected Count	19.2	10.8	30.0
		Std. Residual	1.1	-1.5	
	1	Count	8	12	20
		Expected Count	12.8	7.2	20.0
		Std. Residual	-1.3	1.8	
Total		Count	32	18	50
		Expected Count	32.0	18.0	50.0

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.333 ^a	1	.004		
Continuity Correction ^b	6.688	1	.010		
Likelihood Ratio	8.397	1	.004		
Fisher's Exact Test				.006	.005
Linear-by-Linear Association	8.167	1	.004		

N of Valid Cases	50			
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a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.20.

b. Computed only for a 2x2 table

GaitCat * Knowledge

Crosstab					
			Knowledge		Total
			0	1	
GaitCat	0	Count	29	6	35
		Expected Count	22.4	12.6	35.0
		Std. Residual	1.4	-1.9	
	1	Count	3	12	15
		Expected Count	9.6	5.4	15.0
		Std. Residual	-2.1	2.8	
Total		Count	32	18	50
		Expected Count	32.0	18.0	50.0

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	18.006 ^a	1	.000	.000	.000
Continuity Correction ^b	15.381	1	.000		
Likelihood Ratio	18.260	1	.000		
Fisher's Exact Test					
Linear-by-Linear Association	17.646	1	.000		
N of Valid Cases	50				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.40.

b. Computed only for a 2x2 table

GaitDog * Knowledge

Crosstab					
			Knowledge		Total
			0	1	
GaitDog	0	Count	29	9	38
		Expected Count	24.3	13.7	38.0
		Std. Residual	.9	-1.3	
	1	Count	3	9	12
		Expected Count	7.7	4.3	12.0
		Std. Residual	-1.7	2.3	
Total		Count	32	18	50

Expected Count	32.0	18.0	50.0
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Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.424 ^a	1	.001	.004	.002
Continuity Correction ^b	8.315	1	.004		
Likelihood Ratio	10.242	1	.001		
Fisher's Exact Test					
Linear-by-Linear Association	10.215	1	.001		
N of Valid Cases	50				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.32.

b. Computed only for a 2x2 table

OwnerCat * Knowledge

Crosstab

			Knowledge		Total
			0	1	
OwnerCat	0	Count	21	6	27
		Expected Count	17.3	9.7	27.0
		Std. Residual	.9	-1.2	
	1	Count	11	12	23
		Expected Count	14.7	8.3	23.0
		Std. Residual	-1.0	1.3	
Total	Count		32	18	50
	Expected Count		32.0	18.0	50.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.836 ^a	1	.028	.040	.028
Continuity Correction ^b	3.623	1	.057		
Likelihood Ratio	4.896	1	.027		
Fisher's Exact Test					
Linear-by-Linear Association	4.739	1	.029		
N of Valid Cases	50				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.28.

b. Computed only for a 2x2 table

ExerciseCat * Knowledge

Crosstab

			Knowledge		Total
			0	1	
ExerciseCat	0	Count	25	8	33
		Expected Count	21.1	11.9	33.0
		Std. Residual	.8	-1.1	
	1	Count	7	10	17
		Expected Count	10.9	6.1	17.0
		Std. Residual	-1.2	1.6	
Total	Count	32	18	50	
	Expected Count	32.0	18.0	50.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.824 ^a	1	.016	.028	.018
Continuity Correction ^b	4.419	1	.036		
Likelihood Ratio	5.752	1	.016		
Fisher's Exact Test					
Linear-by-Linear Association	5.707	1	.017		
N of Valid Cases	50				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.12.

b. Computed only for a 2x2 table

ExerciseDog * Knowledge

Crosstab

			Knowledge		Total
			0	1	
ExerciseDog	0	Count	23	7	30
		Expected Count	19.2	10.8	30.0
		Std. Residual	.9	-1.2	
	1	Count	9	11	20
		Expected Count	12.8	7.2	20.0
		Std. Residual	-1.1	1.4	
Total	Count	32	18	50	
	Expected Count	32.0	18.0	50.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.223 ^a	1	.022		

Continuity Correction ^b	3.939	1	.047		
Likelihood Ratio	5.220	1	.022		
Fisher's Exact Test				.035	.024
Linear-by-Linear Association	5.118	1	.024		
N of Valid Cases	50				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.20.

b. Computed only for a 2x2 table

LivingconditionsCat * Knowledge

Crosstab

			Knowledge		Total
			0	1	
LivingconditionsCat	0	Count	22	4	26
		Expected Count	16.6	9.4	26.0
		Std. Residual	1.3	-1.8	
	1	Count	10	14	24
		Expected Count	15.4	8.6	24.0
		Std. Residual	-1.4	1.8	
Total	Count	32	18	50	
	Expected Count	32.0	18.0	50.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.992 ^a	1	.002		
Continuity Correction ^b	8.214	1	.004		
Likelihood Ratio	10.416	1	.001		
Fisher's Exact Test				.003	.002
Linear-by-Linear Association	9.792	1	.002		
N of Valid Cases	50				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.64.

b. Computed only for a 2x2 table

Food/WaterCat * Knowledge

Crosstab

			Knowledge		Total
			0	1	
Food/waterCat	0	Count	24	6	30
		Expected Count	19.2	10.8	30.0
		Std. Residual	1.1	-1.5	
	1	Count	8	12	20
		Expected Count			
		Std. Residual			

	Expected Count	12.8	7.2	20.0
	Std. Residual	-1.3	1.8	
Total	Count	32	18	50
	Expected Count	32.0	18.0	50.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.333 ^a	1	.004		
Continuity Correction ^b	6.688	1	.010		
Likelihood Ratio	8.397	1	.004		
Fisher's Exact Test				.006	.005
Linear-by-Linear Association	8.167	1	.004		
N of Valid Cases	50				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.20.

b. Computed only for a 2x2 table

VaccinationsCat * Knowledge

Crosstab

			Knowledge		Total
			0	1	
VaccinationsCat	0	Count	32	9	41
		Expected Count	26.2	14.8	41.0
		Std. Residual	1.1	-1.5	
	1	Count	0	9	9
		Expected Count	5.8	3.2	9.0
		Std. Residual	-2.4	3.2	
Total	Count	32	18	50	
	Expected Count	32.0	18.0	50.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	19.512 ^a	1	.000		
Continuity Correction ^b	16.272	1	.000		
Likelihood Ratio	22.186	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	19.122	1	.000		
N of Valid Cases	50				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.24.

b. Computed only for a 2x2 table

VaccinationsDog * Knowledge

Crosstab

			Knowledge		Total
			0	1	
VaccinationsDog	0	Count	31	11	42
		Expected Count	26.9	15.1	42.0
		Std. Residual	.8	-1.1	
	1	Count	1	7	8
		Expected Count	5.1	2.9	8.0
		Std. Residual	-1.8	2.4	
Total	Count	32	18	50	
	Expected Count	32.0	18.0	50.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.963 ^a	1	.001	.002	.002
Continuity Correction ^b	8.464	1	.004		
Likelihood Ratio	11.010	1	.001		
Fisher's Exact Test					
Linear-by-Linear Association	10.744	1	.001		
N of Valid Cases	50				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.88.

b. Computed only for a 2x2 table

Table 10 (calculated in SPSS)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
ConditionDog * Knowledge	50	100.0%	0	.0%	50	100.0%
OwnerDog * Knowledge	50	100.0%	0	.0%	50	100.0%
GaitDog * Knowledge	50	100.0%	0	.0%	50	100.0%
BehaviourDog * Knowledge	50	100.0%	0	.0%	50	100.0%
ExerciseDog * Knowledge	50	100.0%	0	.0%	50	100.0%
VetvisitsDog * Knowledge	50	100.0%	0	.0%	50	100.0%

ConditionDog * Knowledge

Crosstab

			Knowledge		Total
			0	1	
ConditionDog	0	Count	31	5	36
		Expected Count	26.6	9.4	36.0
		Std. Residual	.8	-1.4	
	1	Count	6	8	14
		Expected Count	10.4	3.6	14.0
		Std. Residual	-1.4	2.3	
Total	Count		37	13	50
	Expected Count		37.0	13.0	50.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.802 ^a	1	.002		
Continuity Correction ^b	7.683	1	.006		
Likelihood Ratio	9.172	1	.002		
Fisher's Exact Test				.004	.004
N of Valid Cases	50				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.64.

b. Computed only for a 2x2 table

OwnerDog * Knowledge

Crosstab

			Knowledge		Total
			0	1	
OwnerDog	0	Count	34	6	40
		Expected Count	29.6	10.4	40.0
		Std. Residual	.8	-1.4	
	1	Count	3	7	10
		Expected Count	7.4	2.6	10.0
		Std. Residual	-1.6	2.7	
Total	Count		37	13	50
	Expected Count		37.0	13.0	50.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12.578 ^a	1	.000		

Continuity Correction ^b	9.882	1	.002		
Likelihood Ratio	11.272	1	.001		
Fisher's Exact Test				.001	.001
N of Valid Cases	50				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.60.

b. Computed only for a 2x2 table

GaitDog* Knowledge

Crosstab

			Knowledge		Total
			0	1	
GaitDog	0	Count	35	8	43
		Expected Count	31.8	11.2	43.0
		Std. Residual	.6	-1.0	
	1	Count	2	5	7
		Expected Count	5.2	1.8	7.0
		Std. Residual	-1.4	2.4	
Total		Count	37	13	50
		Expected Count	37.0	13.0	50.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.731 ^a	1	.003		
Continuity Correction ^b	6.201	1	.013		
Likelihood Ratio	7.612	1	.006		
Fisher's Exact Test				.009	.009
N of Valid Cases	50				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 1.82.

b. Computed only for a 2x2 table

BehaviourDog* Knowledge

Crosstab

			Knowledge		Total
			0	1	
BehaviourDog	0	Count	31	5	36
		Expected Count	26.6	9.4	36.0
		Std. Residual	.8	-1.4	
	1	Count	6	8	14
		Expected Count	10.4	3.6	14.0
		Std. Residual	-1.4	2.3	

Total	Count	37	13	50
	Expected Count	37.0	13.0	50.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.802 ^a	1	.002		
Continuity Correction ^b	7.683	1	.006		
Likelihood Ratio	9.172	1	.002		
Fisher's Exact Test				.004	.004
N of Valid Cases	50				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.64.

b. Computed only for a 2x2 table

ExerciseDog * Knowledge

Crosstab

			Knowledge		Total
			0	1	
ExerciseDog	0	Count	33	6	39
		Expected Count	28.9	10.1	39.0
		Std. Residual	.8	-1.3	
	1	Count	4	7	11
		Expected Count	8.1	2.9	11.0
		Std. Residual	-1.5	2.4	
Total	Count	37	13	50	
	Expected Count	37.0	13.0	50.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.383 ^a	1	.001		
Continuity Correction ^b	8.026	1	.005		
Likelihood Ratio	9.398	1	.002		
Fisher's Exact Test				.003	.003
N of Valid Cases	50				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.86.

b. Computed only for a 2x2 table

VetvisitsDog * Knowledge

Crosstab

			Knowledge		Total
			0	1	
VetvisitsDog	0	Count	35	9	44
		Expected Count	32.6	11.4	44.0
		Std. Residual	.4	-.7	
	1	Count	2	4	6
		Expected Count	4.4	1.6	6.0
		Std. Residual	-1.2	2.0	
Total	Count	37	13	50	
	Expected Count	37.0	13.0	50.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.861 ^a	1	.015		
Continuity Correction ^b	3.705	1	.054		
Likelihood Ratio	5.083	1	.024		
Fisher's Exact Test				.033	.033
N of Valid Cases	50				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.56.

b. Computed only for a 2x2 table