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Prioritization and resource allocation in health care. The views of older people receiving continuous public care and service

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Abstract

Objective To describe the views of people, 65 years and over, receiving continuous public care and service, on prioritization and resource allocation in health care, in relation to gender, age, housing, health-related quality of life (QoL) and degree of activities of daily living (ADL) dependency.

Background How older people receiving continuous public care and service view prioritization and resource allocation in health care is sparsely investigated, although this group most certainly has the experience and also often is the target in discussions concerning prioritization. It is necessary, for democracy and for the development of new models of service delivery, to find out how people receiving long-term care and service view these issues.

Design 146 persons, 34 men (23%) and 112 women (77%), aged 66–100 years were interviewed face to face, following a structured questionnaire.

Results The respondents thought that the patients' well-being, way of living and family situation should affect prioritization, not age *per se*. Resourcing of several health-care services were considered to be below what is required by a majority of the respondents. The respondents wanted doctors to decide on prioritization at an individual level and wanted higher taxes to finance increasing health-care costs. Although the respondents wanted publicly financed health care, a relatively high number were willing to pay for treatment.

Conclusions Knowledge of how older people receiving care and services, view prioritization and resource allocation has not previously been available. It seems that their views are in line with the Swedish Parliamentary Priority Commission which suggested that no account should be taken of age when allocating resources within the health-care system. Respondents' age, gender, housing, health-related QoL and degree of dependency in ADL had limited influence on their views of resource allocation.

Background

Resource allocation and prioritization in health care is not a new issue, but an issue of growing importance as constrained resources have forced policy-makers to address it more directly. Reports in the media about individuals who have been denied treatment have played an important role in bringing prioritization into the public domain.[1] Studies concerning prioritization in health care have mainly focused on the opinions of the general public or on older healthy people.[2,3] As people's views may change when they have experiences of their own, the results of these studies cannot easily be generalized to those older people who receive continuous public care and services. According to Arber and Evandrou[4] the experiences of older people with poor health are seldom used as a source of expertise in the development of new models of service delivery. It is important to investigate their views as they are major care consumers.

Prioritization means 'putting first', implying that something that is important or urgent has priority over what is less important or less urgent. Prioritization thus means opting for one thing and discarding or postponing another. The impact of prioritization will probably increase in the near future since people are living longer, and people aged 65 years and over, now form a much larger share of the population than they did before.[5] This age group uses health-care services most; for example in a Swedish county, Region Skåne, people aged 65 and over accounted for 26% of contacts with doctors and 45% of hospital admissions during 2004.[6] The debate about age as a criterion for prioritization has been going on for a long time,[5,7,8] a debate in which older people themselves have rarely been included.

Few health authorities know what values local service users hold about prioritization in health care because earlier studies have focused mainly on the general public.[9–11] Studies have shown that both young and middle-aged people wanted young age to be a criterion for prioritization in health care,[12] and that doctors are unwilling to refer older patients for elective surgery.[13] For instance, Johannesson and Johansson[12] found that among 1000 randomly selected adults who were asked about life-saving treatment, people were willing to sacrifice five 50 year olds or 35 70 year olds to save one 30-year-old person. In that study, the youngest participants were 15 years old, and the mean age was 46.6 (SD 18.5). The view of old age as a lower priority may be related to the relatively young age of the sample. A recent study[14,15] including older healthy people ($n = 902$, mean age 73, SD 10) showed that the respondents did not want to use age as criterion when making prioritization. Werntoft *et al.*[15] further showed that most older people (63%) wanted to pay to avoid being on a waiting list for cataract surgery, men and young-old (60–72 years) to a significantly higher degree than women and old-old (78–84 years). Differences in relation to gender and age were found in several items, for example, women were more likely to say that most health services needed more resources while men had a more restrained opinion on how to finance health-care costs. However, the sample in these studies was healthy and not in need of continuous care and service, and their view was thus based on little or no experience of health care.

Although many people remain fit and independent when they are over 80 years, about 16% of people aged 65 and over in Sweden receive care and service from the municipality, of whom 54% are living at home and 46% are living in special accommodation.[16] It has been shown that people receiving continuous municipal care and living in their own homes have significantly more hospital admissions than people living in special accommodation.[17] There is thus reason to believe that views on prioritization in health care might differ when related to place of living as people receiving continuous public care and service at home are also more frequent visitors to hospitals.

Being dependent on help from others to maintain daily activities have been shown to lead to a lower quality of life (QoL). Hellstrom *et al.*[18] demonstrated that help with activities of

daily living (ADL), from both informal and formal helpers at home, and a higher number of self-reported diseases predicted low QoL. Another way to focus on how health and disability influence people's life is to measure health-related quality of life (HRQoL). Most of the existing definitions of HRQoL are in line with the WHO definition of health: a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.[19] Stenzelius *et al.*[20] found that people who were dependent on help reported significantly lower HRQoL than those who were independent. This was also seen in a study by Thomé *et al.*,[21] where receiving help with ADL from others and high number of complaints were associated with low HRQoL. Thus, HRQoL may be an indicator of severity of dependency as well as of people's physical and mental health situation. Older people's views of prioritization in health care and resource allocation might therefore be influenced by aspects such as living conditions, health situation and dependency.

Objective

The aim of this study was to describe the views of people, 65 years and over, receiving continuous public care and service, about prioritization and resource allocation in health care, in relation to gender, age, housing, health-related QoL and degree of dependency in ADL.

Material and method

The study comprised structured interviews with people aged 65 years and over receiving continuous public care and services who participated in a national, longitudinal, on-going study, the Swedish National study on Aging and Care (SNAC).[22] In the care and service part a systematic, longitudinal, individually based collection of data is performed concerning municipal provision of care and services as well as data concerning the older person's functional ability, specific health-care problems and living conditions.[22]

Setting and participants

The sample consisted of 146 persons, 34 men (23%) and 112 women (77%), aged from 66 to 100 years. The mean age of the respondents was 85 years (SD 7), for men 84 years (SD 7) and for women 86 years (SD 7). Fifty-five percentage of the respondents were living in special accommodation and 45% at home (Table 1). The sample was drawn from participants in the care and service part of the SNAC study in five municipalities in southern Sweden. All the participants gave their written informed consent. The inclusion criteria for the current study were that participants should be 65 years and over, receiving continuous public care, not have any cognitive impairment, and be able to understand and speak Swedish. Nurses working in the

Table 1 Characteristics of the respondents ($n = 146$)

Gender, *n* (%)	
Men	34 (23)
Women	112 (77)
Age (years)	
Mean (SD)	85 (7)
Educational level, *n* (%)	
Primary, < 8 years	95 (64)
Secondary, > 8 years	46 (32)
Tertiary, university degree	5 (4)
Marital status, *n* (%)	
Married	15 (13)
Widowed	82 (70)
Never married	14 (12)
Divorced	5 (3)
Living situation, *n* (%)	
Special accommodation	80 (55)
Ordinary home	66 (45)
Having access to €1500[1], *n* (%)	
Yes	45 (64)
No	25 (36)
Economic problems[1], *n* (%)	
Yes	7 (4)
No	67 (96)
SF-12 mean	
PCS	34
MCS	56
Katz ADL index (%)	
IADL (0–3/ > 4)	32/68
PADL (0–2/ > 3)	38/62

[1]Missing 52%.
PCS, physical component summary; MCS, mental component summary; ADL, activities of daily living; PADL, personal activities of daily living; IADL, instrumental activities of daily living.

municipalities were responsible for asking people they were responsible for and who met the inclusion criteria if they would permit an interview in their home. The first author (EW) then contacted them to arrange an appointment. Data were collected over 2 months (year 2003) in two of the municipalities and over 3 months (year 2005) in the other municipalities.

Data collection

A questionnaire was used as an interview guide comprising questions about prioritization and resource allocation, in all 24 questions with fixed response alternatives. In this study, 21 questions are presented (see Tables 2–5). The questions focused on diseases in old age for which there are feasible treatments and diseases related to lifestyle. They were developed from a review of the literature and centred on three ethical principles: *the principle of human dignity*, *the principle of need and solidarity* and *the cost-efficiency principle*.[23] To test the applicability of the questionnaire 54 older persons were asked to participate in a pilot study[24] where the participants' reflections in relation to the questions

Table 2 Respondents' views on health-care priorities

Questions	Total, $n = 146$[1] (%)
Who do you think should be prioritized in health care?[2]	
Younger patients	11 (8)
Older patients	11 (8)
All age groups	120 (84)
What alternative do you think is most fair?[3]	
Among people with life-threatening illness, younger patients should have some priority over older people	22 (15)
People should have the same priority with respect to life-saving treatment, unless they are very old	7 (5)
People should have the same priority with respect to life-saving treatment, no matter what their age is	117 (80)
Who should be the one to have a new kidney?	
A 60-year-old woman	112 (92)
A 70-year-old woman	6 (5)
An 80-year-old woman	4 (3)
Who should be the one to have a new hip joint?[4]	
A 60-year-old man with walking difficulties	33 (24)
A 70-year-old man with bad pain	90 (65)
An 80-year-old man using a wheelchair because of his bad hip	16 (11)
Who should be the one to have cataract surgery to improve the eyesight?	
A 60-year-old with dementia	17 (13)
A 70-year-old with coronary disease	29 (23)
An 80-year-old healthy person	83 (64)
Which of the following patients should be first ranked for treatment?	
A patient who smokes, refuses to stop and needs a coronary by-pass operation	25 (20)
A patient who is an alcoholic and needs a liver transplant	7 (6)
A patient who is a football player, injured during training and needs a new knee to be able to continue his sport activity	53 (43)
A patient who because of several abortions is infertile and needs an operation to be able to get pregnant	37 (31)

[1]Missing between 1 and 24.
[2]Significant differences found between respondents with high/low PCS ($P = 0.040$).
[3]Significant differences found between respondents being independent/dependent in PADL ($P = 0.018$).
[4]Significant differences found between respondents with high/low MCS ($P = 0.030$) and at ordinary home/special accomodation ($P = 0.050$).
No significant differences were found when comparing independency/dependency in IADL, or between age groups.
PCS, physical component summary; MCS, mental component summary; IADL, instrumental activities of daily living; PADL, personal activities of daily living.

Table 3 Respondents' views on decisions about priorities

Questions	Total, $n = 146$[1] (%)	IADL, indep/dep, $n = 45/95$ (%)	PADL, indep/dep, $n = 53/88$ (%)	PCS, high/low, $n = 70/65$ (%)	MCS, high/low, $n = 71/64$ (%)	Living-situation, home/spec accom $n = 66/80$ (%)	Age, young-old/oldest[2], 67/79 (%)
What method or which criterion ought to be used when choosing between patients who should be satisfactorily treated?		$P = 0.013$	$P = 0.457$	$P = 0.048$	$P = 0.122$	$P = 0.512$	$P = 0.303$
Lottery	4 (3)	0/4 (0/7)	0/4 (0/6)	3/1 (4/2)	1/3 (2/7)	1/3 (2/5)	1/3 (2/5)
The patient's importance in society	4 (3)	2/2 (3/3)	2/2 (4/3)	4/0 (7/0)	2/2 (3/4)	2/2 (3/3)	2/2 (4/3)
The patient's age	32 (28)	16/15 (38/15)	13/17 (29/25)	20/10 (34/20)	14/16 (22/36)	18/14 (33/23)	19/13 (35/21)
The patient's ability to pay	1 (1)						
The patient's importance for family support	75 (65)	20/55 (57/75)	30/45 (67/65)	31/39 (53/78)	47/23 (73/51)	33/42 (60/69)	31/44 (57/71)
Who should make the decisions about prioritization between patients?		$P = 0.716$	$P = 0.133$	$P = 0.170$	$P = 0.346$	$P = 0.223$	$P = 0.353$
Doctors	130 (91)	43/84 (98/93)	46/81 (87/94)	67/54 (96/86)	63/58 (91/92)	57/73 (88/94)	60/70 (91/91)
Nurses	5 (4)	0/5 (0/4)	4/1 (8/1)	2/3 (3/5)	4/1 (6/2)	2/3 (2/4)	1/4 (2/5)
Local politicians	1 (1)						
National politicians	1 (1)						
The National Board of Health and Welfare	1 (1)						
The public	6 (4)	0/4 (1/3)	2/4 (3/5)	1/5 (1/8)	2/4 (3/6)	3/6 (8/1)	4/2 (5/3)
Who should make the decisions about prioritization on resource allocation?		$P = 0.036$	$P = 0.662$	$P < 0.001$	$P = 0.420$	$P < 0.001$	$P = 0.068$
Doctors	99 (72)	36/60 (74/72)	35/61 (69/74)	56/35 (82/58)	46/45 (70/73)	44/55 (68/76)	45/54 (67/77)
Nurses	7 (5)	1/6 (6/5)	3/4 (6/5)	6/1 (9/2)	4/3 (6/5)	3/4 (5/6)	1/6 (2/9)
Local politicians	10 (7)	0/10 (0/15)	5/5 (10/6)	2/8 (3/13)	7/3 (10/5)	0/10 (0/13)	8/2 (12/3)
National politicians	3 (2)	1/2 (3/1)	0/2 (0/1)	2/1 (3/2)	1/2 (2/3)	3/0 (4/0)	1/2 (2/3)
The National Board of Health and Welfare	9 (7)	5/3 (10/2)	5/4 (10/5)	2/7 (3/12)	6/3 (9/5)	7/2 (11/2)	6/3 (9/4)
The public	9 (7)	2/6 (7/5)	3/6 (6/7)	0/8 (0/13)	2/6 (3/9)	8/1 (12/1)	6/3 (9/4)

[1]Missing between 1 and 9.
[2]Young-old: 66–84 years and oldest: 85–100 years.
PCS, physical component summary; MCS, mental component summary; IADL, instrumental activities of daily living; PADL, personal activities of daily living.

Table 4 Respondents' views on how different indicators should affect prioritization ($n = 146$)

Indicators	Respondents' evaluation		
	A lot, *n* (%)	A little, *n* (%)	Not at all, *n* (%)
The severity of the disease	110 (78)	19 (13)	11 (9)
The prognosis of the disease	82 (60)	34 (25)	21 (15)
The patient is working	49 (36)	33 (25)	53 (39)
The patient is a child	37 (26)	41 (29)	63 (45)
The patient is old	17 (12)	29 (21)	94 (67)
The patient is middle-aged	15 (11)	37 (26)	87 (63)
The disease is self-inflicted	8 (6)	25 (18)	105 (76)
The patient is institutionalized	9 (7)	31 (23)	95 (70)
The patient is well off	4 (3)	8 (6)	126 (91)

were tape-recorded. The results from the pilot study showed that both the construction and content of the questionnaire were well suited for the study group, but revealed a need for questions distinguishing between horizontal (resource allocation) and vertical (on an individual level) prioritization and on how to finance health care. Questions from previous studies illuminating these aspects were therefore added to the questionnaire.

The interview also included questions on demographic data, HRQoL and need of help with ADL. To measure HRQoL the Short-Form Health Survey (SF-12)[25] was used. SF-12 is a short form of SF-36[26] that has shown to be useful as a health status instrument in large community-based studies of older people.[27] The instrument consists of two components: physical component summary (PCS) and mental component summary (MSC). PCS covers questions about Physical Functioning, Role-Physical, Bodily Pain and General Health, while MCS covers questions about Vitality, Social Functioning, Role-emotional and Mental Health. The score in each component summary is standardized to range from 0 (poorest well-being) to 100 (highest well-being), and no overall score can be calculated.[25] Jakobsson[28] showed, in a Swedish sample of 4278 older people living at home as well as in special accommodation (response rate 51% of 8500), that the mean value for PCS/MCS in the age group 75–105 years was 37.5/50.3.

To assess dependency, information about personal activities of daily living (PADL) and instrumental activities of daily living (IADL) was collected, including six PADL items from Katz's ADL Index,[29] bathing, dressing, going to the toilet, transfer, continence and feeding, and four IADL items from Hulter Åsberg and Sonn:[30] cleaning, shopping, transportation and cooking. Each item is graded 0–1, where 0 indicates no dependency and 1 dependency on help from someone to perform the activity. The summarized score for IADL ranges between 0 and 5 and for PADL between 0 and 6.[30] One additional IADL item, laundry, was also used in accordance with Karlsson *et al.*[31]

The first author and another registered nurse carried out the interviews, which lasted from 30 to 90 min, in the respondents' home or in special accommodation. The interviews were tape-recorded and transcribed. The qualitative analysis of the transcribed interviews is reported elsewhere.[32]

Analyses

Comparison between groups were made using chi-square test for categorical data. For comparisons the sample was divided into: the young-old, 66–84 years, and the oldest, 85–100 years. The median value was used to divide the groups into high and low PCS and MCS in HRQoL. *A multiple logistic analysis regression* (forward, LR) was carried out with preference for wanting to pay for cataract surgery ('1'). The entered independent variables were HRQoL (PCS and MCS), IADL, PADL, housing, sex and age. For the regression analysis IADL was divided into

Table 5 Responses to statements on health-care costs

Question	Total, $n = 146$[1] (%)
Expensive examinations or treatments for the elderly should not be subsidized by public money	
Agree	15 (10)
No opinion	49 (35)
Disagree	75 (54)
If patients have caused their disease themselves, they should pay for treatment[2]	
Agree	61 (44)
No opinion	29 (21)
Disagree	49 (35)
Rich people should pay for their treatment	
Agree	46 (32)
No opinion	34 (24)
Disagree	60 (43)
If a disease has an effective treatment, the patient should be treated regardless of the expense[3]	
Agree	101 (73)
No opinion	28 (20)
Disagree	10 (7)
No more expenditure cuts can be performed in health care	
Agree	82 (59)
No opinion	34 (24)
Disagree	23 (17)
If two types of treatment exist, the cheaper one should be chosen, even if it is less efficient[3]	
Agree	15 (11)
No opinion	28 (20)
Disagree	97 (69)
Money is spent on unnecessary things in health care	
Agree	57 (41)
No opinion	54 (39)
Disagree	29 (21)

[1]Missing 1–7.
[2]Significant dierences found between respondents with high/low PCS ($P = 0.012$).
[3]Significant dierences found between respondents in dierent age groups ($P = 0.044$).
No significant differences were found when comparing independency/dependency in IADL and PADL, high/low MCS and between living at ord home/spec accom.
PCS, physical component summary; MCS, mental component summary; IADL, instrumental activities of daily living; PADL, personal activities of daily living.

no/minimal/moderate (0–3) and much/total dependency (>4), while PADL was divided into no/minimal dependency (0–2) and slight to total dependency (>3). Also *a multinomial logistic regression analysis* was performed with the independent variables sex, age groups, housing, HRQoL (MCS and PCS), IADL and PADL as covariates. Different prioritization criteria were used as dependent variables. Confidence intervals (CI) of 95% were calculated for the odds ratio (OR). Statistical data analysis was performed with the SPSS, version 11.5.

Ethical considerations

There was a risk that the respondents' willingness to participate in the study would be influenced by the fact that they were in a state of dependence on the nurses asking them to participate. The respondents had, however, earlier agreed to participate in the SNAC study, and the advantage of receiving information from a person who was known to them was judged to be preferable as this group were vulnerable. The inclusion of people in poor health could also be criticized, but the value of including people that probably have experienced prioritization, was felt to outweigh the disadvantages. Another ethical issue is related to the discomfort that questions about prioritization can arouse. The questionnaire was, however, used in a structured interview and the respondents were supported to narrate their thoughts in relation to the questions asked. The choice of this procedure was based on previous reports from the literature[24,33] indicating a need for the respondents to explain their standpoints in relation to each question to avoid discomfort. Permission for the study was obtained from the research ethics committee of Lund University (LU 650-00).

Results

Prioritization in health care

Eighty percentage of the respondents stated that neither young age nor old age should be a reason for prioritization in health care or for life-saving treatment, though this was stated by fewer of the respondents who were dependent in PADL (78%) than respondents who were not (85%; $P = 0.018$; Table 2). Seventy-five percentage of those in the oldest age group responded that old age should not affect prioritization at all, whilst this view was less frequent among the young-old respondents (59%; $P = 0.023$). The multinomial logistic regression analysis showed that the

young-old age group was associated with the view that being old should affect prioritization decisions 'a lot' (OR = 4.43; 95% CI: 1.28–15.23, $P = 0.018$) with 'not at all' as reference. When having to choose between three patients who needed a kidney transplant, the youngest patient was prioritized by 92% of respondents whilst pain was the strongest criteria for prioritization (65%) when choosing between patients in need of a new hip joint. People living in special accommodation prioritized pain to larger extent (72% vs. 56%) while people living at home were more likely to prioritize age (33% vs. 16%) when choosing between patients for a new hip joint ($P = 0.050$). Respondents with low MCS (74%) also gave higher priority to pain than respondents with high MCS (53%; $P = 0.030$). When choosing between patients to have cataract surgery, a healthy 80-year-old patient was prioritized before a younger patient with dementia (64% vs. 13%; Table 2). The multinomial logistic regression analysis showed that belonging to the oldest age group was significantly associated with prioritizing a 60 years old with dementia to have a cataract surgery (OR = 3.66; 95% CI: 1.01–13.30, $P = 0.048$) with an 80-year-old healthy person as reference.

When choosing between patients for treatment, the patient's importance for family support was the strongest criterion (65%) while the patient's age was the most important factor for 28% of the respondents (Table 3). When choosing between patients with lifestyle-related or self-inflicted diseases, a patient who was an alcoholic was prioritized for treatment by 6%, a smoker by 20%, a woman who had gone through several abortions by 31% and a football player by 43% of the respondents (Table 2). The smoker was prioritized by 17% of the women and 32% of the men and the football player by the 47% of the women and 32% of the men but these differences were not statistically significant.

The two alternatives that most respondents stated should affect prioritization 'a lot' were the severity (78%) and the prognosis (60%) of the disease (Table 4). Women more than men ($P = 0.035$), and respondents with high MCS more than respondents with low MCS ($P = 0.026$) thought that the disease prognosis should affect prioritization. Indicators that the respondents thought should have low impact on prioritization were wealth (91%), when the disease was self-inflicted (76%), being in an institution (70%) and age (67%; Table 4).

According to 91% of the respondents doctors should decide on prioritization between patients, while 72% also thought that doctors should decide on resource allocation. Significant differences were seen related to housing, 68% of the respondents living at home wanted the doctors to decide on resource allocation compared with 76% of the respondents living in special accommodation ($P < 0.001$; Table 3). Significant differences were also seen in relation to HRQoL, with 58% of the respondents with low PCS wanting the doctors to be decision-makers in resource allocation compared to 82% of the respondents with high PCS ($P < 0.001$).

Financing increasing health-care costs

Seventy-three percentage of the respondents stated that patients should be effectively treated regardless of the expense, 78% of the young-old and 62% of the oldest ($P = 0.044$), and only 11% thought a cheaper but less efficient treatment should be used before a better one. Respondents with high PCS (57%) more than respondents with low PCS (32%) thought that if patients have caused the disease themselves they should pay for treatment ($P = 0.012$; Table 5).

The level of resources allocated to psychiatric care was considered to be below that required by 67% of the respondents, by women (76%) to a significantly higher extent than by men (41%; $P = 0.010$). Other services that were felt to be receiving too few resources were health education, according to 60%, dental service, 59%, hospital care, 56% and end-of-life care by 51% (Table 6). Sixty-eight percentage of respondents with low PCS thought that elder care got too little resources compared to 44% of the respondents with high PCS ($P = 0.010$). The only service that the respondents thought received sufficient resources was child care. Health-care administration was considered to

Table 6 Respondents' views on the adequacy of resource allocation ($n = 146$)

	Too little, *n* (%)	Enough, *n* (%)	Too much, *n* (%)	Don't know, *n* (%)
Psychiatric care	45 (31)	20 (14)	2 (1)	79 (54)
Health education	56 (38)	36 (25)	1 (1)	53 (36)
Dental service	67 (46)	43 (29)	3 (2)	33 (23)
Elder care	72 (49)	55 (38)		19 (13)
Hospital care	58 (41)	43 (29)	3 (2)	42 (28)
Primary health care	57 (39)	50 (34)	2 (2)	37 (25)
End-of-life care	37 (25)	33 (24)	2 (1)	74 (50)
Drug addict care	33 (23)	25 (17)	17 (12)	70 (48)
Health-care information	44 (30)	51 (35)	4 (3)	47 (32)
Health-care administration	25 (17)	18 (12)	19 (13)	84 (58)
Child care	17 (12)	33 (23)	7 (5)	89 (60)

have too little resources by 40% of respondents, fewer men (25%) than women (44%; $P = 0.018$) and fewer respondents living at home (31%) than in special accommodation (49%; $P = 0.037$; Table 6).

To finance the increasing health-care costs, 8% of the respondents considered reduction of the public expenses, 4% higher patient fees and 8% private health insurance as alternatives, while increases in general taxes and taxes on alcohol and tobacco were chosen by 35% and 45%, respectively. On the other hand, 48% of the respondents were willing to pay to avoid being on a waiting list for 18 months in order to have cataract surgery, 58% of the respondents in the young-old age group and 39% in the oldest age group ($P = 0.027$; Table 7). The multiple logistic regression showed that the factor most significantly associated with willingness-to-pay (WTP) €1100 for cataract surgery was being in the youngest age group (66–84 years; OR = 2.22; 95% CI: 1.1–4.48, $P = 0.020$). Neither gender, housing, high or low PCS and MCS, nor the degree of dependency in PADL or IADL was associated with WTP. Gender and HRQoL had no influence on the view of resource allocation, while the multinomial logistic regression analysis showed that 'agreement' with the statement 'no more expenditure cuts can be performed in health care' was associated with having much or total dependency in ADL (OR = 6.32; 95% CI: 1.52–26.20, $P = 0.011$) and with living in special accommodation (OR = 3.77; 95% CI: 1.20–11.86, $P = 0.023$) with 'disagreement' as reference.

Discussion

In this study, it was revealed that, according to the respondents, the way a patient should be prioritized depended on the circumstances of the patient rather than on the patient's age. This is in line with the recommendations of the Swedish Parliamentary Priority Commission, who suggested that no account should be taken of age when allocating resources within the health-care system.[23] For example, in this study, pain was seen as a stronger criterion than age and so was health, when physical or mental disability was added to younger age. Dolan and Shaw[2] found, through focus group interviews, that the general public (aged >18 years) in the UK wished to take account of a number of patient characteristics when allocating donor kidneys such as the patient's age, being a parent or if the disease was self-inflicted. In this study too, the patient's importance for family support was taken into account and only few respondents gave priority to patients with diseases caused by alcohol or tobacco abuse. It seems that the patients' well-being, lifestyle and family situation are regarded as being important in prioritization, by younger people in general as well as by older people.

It was clearly stated by participants that the doctor should be the one to decide on priorities. However, significantly fewer of those with a low

Table 7 Respondents' willingness-to-pay

Questions	Total	Age, young-old/oldest[1] (%)	*P*-value
If you need cataract surgery to be able to see, what alternative would you choose?	*n* = 140 (%)	*n* = 65/75	0.027
Be on a waiting list for 18 months	73 (52)	27/46 (42/61)	
Pay €1100 out of your own pocket and get the surgery at once	67 (48)	38/29 (58/39)	
How should the increasing health-care costs be financed?[2]	*n* = 134 (%)	*n* = 62/72	0.953
Higher taxes in general	33 (35)	16/17 (26/24)	
Higher taxes on alcohol and tobacco	43 (45)	22/21 (36/29)	
Reduction of the public expenses	8 (8)	3/5 (5/7)	
Higher patient fees	4 (4)	2/2 (3/3)	
Private health insurance	7 (8)	4/3 (7/4)	
Don't know	39 (29)	15/24 (24/32)	
Which of the following treatment alternatives ought to be paid from your own pocket? (more than one alternative could be chosen)	*n* = 146 (%)	*n* = 67/79	
Cosmetic surgery, e.g. nose, breast or scar reduction	117 (78)	57/60 (85/75)	
IVF (invitro fertilisation)	85 (57)	45/40 (67/50)	
Pharmaceutical treatment against impotence or obesity	101 (67)	51/50 (76/63)	
Dental service	64 (43)	27/37 (40/46)	
Industrial health service	41 (27)	23/18 (34/22)	
A new hip joint	10 (7)	5/5 (7/7)	
Hearing aids	53 (35)	26/27 (38/34)	

[1]Young-old: 66–84 years; oldest-old: 85–100 years.
No significant differences were found when comparing independency/dependency in IADL and PADL, high/low PCS and MCS and between living at ord home/spec accom.
PCS, physical component summary; MCS, mental component summary; IADL, instrumental activities of daily living; PADL, personal activities of daily living; IVF, *in vitro* fertilization.

PCS, who probably have most frequent contact with doctors, wanted doctors to make decisions on a horizontal level, compared to participants with a high PCS. It might be that they have found that their needs have not been met when in contact with doctors.

Willingness-to-pay for treatment varied by age. In this study, fewer of the oldest compared with the young-old preferred to pay instead of staying on a waiting list to receive treatment. The financial situation of participants, however, did not differ between the age groups. It could be that older age implies a more restrictive view of spending money than younger age. People born at the beginning of the last century experienced hard times when growing up and raising families, which in turn might influence their WTP.[4] On the other hand, a high proportion of respondents in this study as well as in an earlier study,[15] were prepared to pay higher taxes to cover health care. This is in some way contradictory as they were also willing to pay directly for treatment. However, a lower proportion of the respondents in this study wanted to pay to avoid a waiting list than in the previously described study[15] including people without continuous care and service (48% vs. 63%). One reason for this could be that people receiving public care are in a worse financial situation than people not receiving this service.[34] Thus, not only older age, but also being in need of care influence the WTP for treatment.

The results showed that the respondents wanted more resources allocated to health care. Those having much or total dependency in ADL and those living in special accommodation, who are probably the most experienced health-care consumers, thought that 'no more expenditure cuts can be made in health care'. This could be seen in the light of the results of Sundstrom *et*

al.,[35] who found that total spending on older people in Sweden has stagnated that institutional care is shrinking in both absolute and relative terms, and that public home help for older people in the community is decreasing even more. This is in contrast to the ethical principles of need and solidarity, meaning that most of the resources of care should be given to those who are most in need, devoting special consideration to the needs of the weakest, for example, children, people with dementia and others who have difficulty in communicating with others.[23] The knowledge of how older people who receive care and service view prioritization and resource allocation has not been available until now, and this knowledge could be a valuable contribution to the debate about prioritization in health care.

Although the sample of this study is unique in that it is rare that older people are asked about their view, the sample may not be entirely representative of older people receiving continuous public care and service as people having cognitive impairment and not being able to understand and speak Swedish were not included. Further the representation of women in this study was slightly higher than in the population receiving municipal care and service in Sweden. When generalizing the findings it is also important to consider the Swedish context of the publicly financed health care.

Conclusions

Patients' well-being, lifestyle and family situation are factors that older people think should be considered in prioritization. Although the respondents wanted publicly financed health care, a relatively high number of them were willing to pay for treatment. Resources allocated to several health services were considered to be below required size, and especially respondents with low PCS thought that elder care received too little resources, indicating that public home help for older people in the community is insufficient. The result also indicated that the respondents' age, gender and housing had little influence on their views of resource allocation.

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