Research paper

Health and treatment priorities of older patients and their general practitioners: a cross-sectional study

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ABSTRACT

Background General practitioners (GPs) deal with the multiple health needs of older patients. During patient encounters GPs are often only able to manage a limited number of problems and tend to focus on single diseases resulting in fragmented and overloaded care. A systematic approach that considers multiple health problems simultaneously and sets priorities for treatment is necessary.

Aim To disclose patients' and doctors' perspectives on individual health and treatment priorities.

Methods Cross-sectional study in which 123 older patients and their 11 GPs evaluated the importance and severity of patients' individual health problems. Patients were systematically enrolled to receive a geriatric assessment. This generated a problem list on the basis of which patients and their GPs independently rated the importance and components of severity (in relation to emotional experience, hindrance in everyday life and prognosis) of each problem. The proportion of important problems and the chance corrected agreement (Cohen's Kappa)

of importance between doctors and patients were assessed. Multilevel logistic regression models were used to relate the importance of a problem with its severity components – from the perspective of both the patient and the doctor.

Results Patients and GPs considered about two-thirds of all disclosed health problems important (69% and 64% respectively). However, they perceived different problems as important (Kappa 0.11). Doctors and patients also related different components of severity to the importance of a problem: the strongest predictor of a problem's importance for patients was the emotional experience, whereas for doctors it was an unfavourable prognosis.

Conclusion Patients and doctors have different perspectives on the importance of health problems. Setting priorities for treatment necessitates an open exchange of views on what to treat.

Keywords: family practice, health priorities, multimorbidity, older people, patient-centred care

How this fits in with primary care

What do we know?
There is evidence that GPs have difficulties dealing with the multiple problems of older patients at the same time as balancing priorities for treatment. Little is known about which problems are important to patients and which to their GPs, and whether patients and doctors agree on priorities.

What does this paper add?
Patients and their GPs have poor agreement on the priority of individual health problems. Patients find different types of problems more important than their GPs. Patients and their GPs share a different concept of importance: whereas unfavourable prognosis predicts a problem's priority most strongly for doctors, for patients it is their emotional experience of a problem. In order to integrate the multiple health needs of older patients into a holistic care plan, priority setting will be essential. This will need to involve transparent communication between patients and doctors, sharing their different views on how problems are prioritised.

Introduction

The growing proportion of older people with multiple health conditions prompts the search for new consultation approaches. Consultations usually focus on one or two agenda items, each requiring its own treatment regimen. This can lead to overburdened medication regimens when patients repeatedly consult and treatments are added with each contact.[1] Recent healthcare advances, such as disease management programmes and guidelines, are tools that intensify the focus on separate disease managements thereby risking patient safety when recommendations are added together.[2,3]

Patients with multimorbidity require a consultation approach that is comprehensive, holistic and patient centred.[4] A comprehensive approach for older patients means that a doctor gains a health overview, e.g. by utilising a standard geriatric assessment.[5] Holistic care requires attention to the interconnectedness and complexity of patients' problems and their management.[6] Person-centredness involves focusing on the patient, acting in partnership and setting priorities.[7] Priority setting is necessary, whenever a great number of health problems compete for attention.[4] If patients' health priorities and doctors' treatment priorities are to lead to a common treatment plan, agreement is essential. Lack of agreement is generally recognised as damaging to patient compliance, to health outcomes and to the doctor–patient relationship.[8,9]

Research on individual health and treatment priorities of older patients is limited.[10] Whereas there is increasing literature on general health goals[11] and on shared decision making for single diseases,[12] few studies have dealt with setting priorities for an array of a patient's health problems. The Canadian WOW (What Older Women Want) health survey from 2003, for example, assessed health priorities of 2161 women on 26 common health conditions and related issues.[13] In a South Tyrolean study, 45 GPs and their 894 older patients prioritised individual health problems according to their supposed therapeutic benefit.[14] In another approach, ranking was used by doctors and their patients with diabetes to identify the most important health problems.[15]

The aim of this study was to gain insight into setting individual priorities with older patients using a priority definition that was coherent to the patients' life and doctors' work context. The study design involved a two-step procedure: initially study patients received a geriatric assessment to generate a health overview, resulting in a problem list. Patients and their GPs then independently rated the priority and the severity for each problem on the list.

The patient and doctor ratings formed the basis for the following research questions:

- What are health priorities for patients (importance of problems in terms of their life) and treatment priorities for their GPs (importance of problems in terms of relevance to care)?
- What is the degree of agreement between patients' and doctors' priorities?

The last question explored the concept of a patient's health priority and a doctor's treatment priority:

- How well does the severity rating of a problem predict a priority problem for patients and for doctors?

Methods

Recruitment of GPs and patients

We intended to recruit a convenience sample of ten practices with 12 older patients each in the adjacent districts of Hannover and Braunschweig (North Germany). The practice staff were instructed to sys-

tematically enrol patients into the study in a pre-defined week. This meant that, starting on a Monday, the first three older patients entering the practice after 9 am, regardless of their reason for attending, were approached. Inclusion criteria were: patient consent, age of at least 70 years and living at home. Exclusion criteria were: limited consent capabilities or major communication problems as assessed by the practice staff.

Health assessment of the patients

From October 2006 until March 2007, two research doctors (DS and PS) visited the participating patients in their homes within six weeks of recruitment and conducted the STEP assessment[16] to gain an overview of existing health problems. STEP contains a battery of 44 items (questionnaires and tests), allowing a standard and broad appraisal of eight health domains. A category 'further problems' permits patients and doctors to add individual patient problems that have not been included in the standard assessment (Table 1).

STEP was developed by GPs in a European Concerted Action.[16] It has been tested and used in feasibility studies[17] and surveys of older patients in general practices.[14]

The collection of data on health priorities and severity of health problems

Immediately after the assessment, patients received a list of their disclosed health problems. For each of the problems, they had to answer five questions developed by Okkes *et al*[18] on an ordinal rating scale (for questions 1–3: not at all, a little, fairly, very; for questions 4–5: worse, unchanged, better):

1 How important is this health problem for you (in your life)?
2 To what extent are you emotionally affected by this health problem?
3 To what extent are you hindered in your daily activities by this problem?

Table 1 Health domains and items of the STEP assessment

Eight health domains	44 items in STEP	Topics
Somatic problems	25	Symptoms (15 items), e.g. shortness of breath History of diseases (8 items), e.g. heart attack Tests (2 items): foot and pulse examination
Functional problems	4	Hardest physical activity Difficulty with usual activities Basic activities of daily living Instrumental activities of daily living
Problems with mood	2	Depression Mourning
Problems with social network or finances	5	Help in case of emergency Help in case of severe illness Having a confidant Being a carer Financial resources
Lifestyle problems	4	Smoking Exercise Healthy eating Alcohol abuse
Medication problems	2	Five and more prescribed drugs Difficulties with medication
Cognitive malfunction	1	Clock-drawing test
Problems with home environment	1	Danger of falling, basic building services, repairs, security

4   What do you think is the course of your condition without treatment?

5   What do you think is the course of your condition with treatment?

The GPs received the same problem lists separately for each patient and were asked to give independent ratings for each problem. GPs rated the importance and the course of the patient's condition from their own perspective. To clarify this perspective, question 1 was rephrased as question 6: 'How relevant is this health problem for your health care?' For questions 2 and 3 GPs assumed the patient's perspective. The doctors were also asked to indicate any newly discovered problems. They had the opportunity to consult their patients' records.

Operationalisation

All patient and doctor ratings were dichotomised in order to accentuate the divergent responses. Priority problems were defined as problems which were rated by the patient as fairly or very important, or by the doctor as fairly or very relevant (questions 1 and 6). The evaluation of severity (questions 2 to 5) was modified from Okkes *et al*[18] and included four components: 'emotional experience', 'hindrance in daily activities' and the 'course of a condition' with or without treatment as an approximation of the perceived prognosis. Problems were labelled as severe if they were assessed to be fairly or very emotionally affecting/hindering of daily activities, or if they were deemed to have an unfavourable prognosis.

Data analysis

Data were entered into SPSS-17 and checked for accuracy. Basic doctor and patient characteristics were reported.

On the patient and doctor level, the mean number of important and relevant problems were respectively described. For further analyses, the number of disclosed health problems constituted the denominator. We determined the proportion of problems that were important and the proportion of problems that were severe (using the separate severity components) from the perspectives of both patients and doctors. Importance ratings were additionally categorised into the eight health domains provided by the STEP assessment (Table 1) to explore how the proportion of priority problems varied by health domain. Domain specific differences between patients and doctors for the proportion of priority problems were calculated using the sign test for dependent samples. This test determines the number of positive and negative differences of paired data and is equivalent to the Wilcoxon test, if binary variables are used.

To ascertain the degree of agreement between patients and doctors, we matched the dichotomised patient and doctor ratings for each individual health problem. We described the observed proportion of concordant ratings for importance and the three components of severity (emotionally affected, hindered in daily activities and worse without treatment). The fourth severity component 'worse with treatment' was excluded in any further analysis because of a pronounced floor effect. Cohen's Kappa, a statistical measure of chance corrected interrater agreement,[19] was used and interpreted according to Landis and Koch.[20] Values between –1 and 0 indicate no agreement (other than by chance). Values of 0.0–0.2 indicate slight, 0.21–0.4 fair, 0.41–0.6 moderate, 0.61–0.8 substantial and 0.81–1 almost perfect agreement.[20] In addition, the mean Kappa and standard deviation were calculated to show the variance of agreement on the patient and doctor level.

Two multilevel logistic regression procedures were performed using Stata 11 in order to investigate the conditional association between severity and priority of a problem. The three severity variables plus patient age and gender, as well as the doctor's previous knowledge of the problem, were entered as fixed effects. Because of the nested data structure, doctors and patients were included as random effects. One model represents the patient perspective, in which only patient ratings on priority and severity are included; the other model represents the doctor perspective with only doctor ratings. The results of both regression models are presented as odds ratios with 95% confidence intervals (CIs).

Results

Participating GPs and patients

A convenience sample of five GPs from Hannover and six from Braunschweig participated – one more than planned – because ultimately not all practices provided 12 study patients. The GPs had a median age of 49 years (interquartile (IQR) range 45–54) and a median experience of 11 years (IQR 10–16) in general practice. Two GPs were female.

The reception staff systematically invited 176 patients for an assessment in their homes. Of these, 53 patients (30%) did not take part because they either immediately declined (*n*=39) or were unable to undergo the assessment in the following six weeks (*n*=14; seven had died, two were in hospital, two had changed their GP and three had moved to nursing homes). Thus 123 patients with an average age of 77.7 (± 5.4) years participated, of whom 66.6% were female. The age of the female participants (77.2 ± 4.6 years) did not

differ significantly from that of the male participants (78.7 ± 6.4 years). Non-participants did not differ in age (78.0 ± 5.6 years, t-test: $p=0.738$) and gender (64.3% female, chi^2: $p=0.066$) from the participants.

Health problems disclosed by the assessment

DS and PS visited the patients in their homes to conduct the STEP assessment. It revealed on average 11.9 (±5.4) health problems per patient, a mean of 8.8 (± 4.6) in men and 13.5 (± 5.1) in women (t-test, $p<0.001$). Patients had at least one and a maximum of 27 problems. The 123 study patients reported a total of 1464 health problems. Most of the problems emerged in the somatic domain as this domain provides the greatest set of items in STEP (Table 2).

Proportion of important and severe health problems

Immediately after the assessment patients received a list of their health problems to enable them to evaluate each condition according to its importance and severity. Depending on the question, patients rated between 1191 and 1464 out of their 1464 problems. Doctors evaluated between 1320 and 1414 problems. Patients found on average 8.2 (± 4.9) problems important, whereas the GPs rated 7.3 (± 4.8) patient problems as relevant. Table 3 shows the proportion of health problems rated as important or severe – from the perspective of the patients and their GPs. The doctors

additionally indicated whether a problem was previously unknown. They were unaware of 9% ($n=132$) of all problems, which is considerably less than the 17% of new detections from a STEP assessment trial in 45 South Tyrolean general practices.[14]

Importance and severity ratings of doctors and patients

For the following analysis, only problems that were rated by both the patient and the doctor were considered (n 1057–1380; Table 4). Importance and severity ratings were divided into ratings that were concordant and discordant between doctors and patients. The discordant ratings were of particular interest because they indicated the number of differences in each direction between doctors and patients. In the case of 'importance', significantly more problems were considered important by patients than relevant by doctors. However, doctors perceived significantly more problems to be emotionally affecting the patient, to be hindering in daily activities and to have an unfavourable prognosis (sign tests, $p<0.05$; Table 4).

Agreements between doctors and patients

Sixty percent of all health conditions were rated concordantly important or unimportant by patients and doctors. After allowing for chance agreements, agreement was reduced to 11% (Kappa=0.11, indicating slight agreement). Patients' and doctors' agreements

Table 2 Number of problems per health domain for all patients, and proportion of patients affected by at least one problem in this domain

Health domains of STEP	Items (n) in STEP	Problems (n)	% of patients with problems
Somatic problems	25	909	99.2
Functional problems	4	191	70.7
Problems with mood	2	83	49.6
Problems with social network or finances	5	23	14.6
Lifestyle problems	4	92	61.0
Medication problems	2	67	49.6
Cognitive malfunction	1	56	45.5
Problems with home environment	1	43	35.0
All domains	44	1464	100

Table 3 Patients' and doctors' evaluations of health problems uncovered by the STEP assessment

Problems are:	Patients			Doctors		
	Ratings (*n*)	Positive responses	%	Ratings (*n*)	Positive responses	%
Important	1464	1010	69.0	1414	903	63.9
Emotionally affecting	1463	717	49.0	1414	835	59.1
Hindering of daily activities	1463	569	38.9	1415	680	48.1
Worse without treatment	1191	624	52.4	1332	776	58.3
Worse with treatment	1235	3	0.2	1320	93	7.0

Table 4 Health problems rated by both doctors and patients: proportion of concordant and discordant ratings

Ratings		Concordant ratings			Discordant ratings[a]		
Problems are:	Total *n*	Total *n* (%)	Both yes	Both no	Total *n* (%)	Doctor yes	Patient yes
Important	1380	828 (60.0)	639	189	552 (40.0)	238	314[b]
Emotionally affecting	1380	873 (63.3)	492	381	507 (36.7)	326	181[b]
Hindering of daily activities	1380	855 (61.9)	339	516	525 (38.1)	326	199[b]
Worse without treatment	1057	643 (60.8)	400	243	414 (39.1)	232	182[c]
Worse with treatment	1087	1003 (92.3)	0	1003	84 (7.8)	82	2[b]

[a] sign-test; [b] $p<0.01$; [c] $p<0.05$

on the severity components were 'slight' to 'fair' according to Landis and Koch.[20] The mean Kappa on the doctor level showed a lower standard deviation than that on the patient level, possibly due to the larger variation of Kappa within doctor-specific agreements. The agreement on hindrance in daily activities on the doctor level varied more than the similar agreement on emotional effect, perhaps due to a greater difficulty in evaluating daily activities (Table 5).

Importance according to type of problem

Patients' problems were categorised into the eight health domains provided by STEP, to examine whether the importance of problems differed amongst the health domains. Patients found at least 80% of their problems important in the domains 'social participation', 'mood' and 'function'. 'Lifestyle' problems were least important to them. Doctors significantly less often judged problems to be relevant in the domains 'social participation', 'mood' and 'function', and in the 'somatic' domain. However, they found 'lifestyle'

Table 5 Health problems rated by both doctors and patients: their agreement on the problem, patient and doctor level

Ratings	Agreement		
Problems are:	Kappa[a] on the problem level (*n*=1057–1380)	Mean Kappa[b] on the patient level (*n*=123)	Mean Kappa[b] on the doctor level (*n*=11)
Important	0.11[c]	0.13 ($\pm$0.39)[c]	0.11 ($\pm$0.16)[d]
Emotionally affecting	0.27[c]	0.27 ($\pm$0.33)[c]	0.28 ($\pm$0.12)[c]
Hindering in daily activities	0.23[c]	0.20 ($\pm$0.34)[c]	0.21 ($\pm$0.22)[d]
Worse without treatment	0.20[c]	0.20 ($\pm$0.38)[c]	0.14 ($\pm$0.16)[d]

[a] Cohen's Kappa; [b] One sample t-test; [c] $p<0.01$; [d] $p<0.05$

problems significantly more often relevant (sign tests, $p<0.05$; Figure 1).

Determinants for a priority problem

In order to investigate whether the three severity components (emotional experience, hindrance in daily activities and prognosis without treatment) predicted a high priority problem, two multilevel logistic regression models were calculated. One model represented the patient ratings, the other the doctor ratings.

Patients gave a full set of ratings for 1186 problems, which formed the basis for the first model. Patients' emotional experience for a given health problem was the strongest predictor of an important problem. In fact the odds of a problem being rated as important if it was also emotionally affecting the patient was 11 times

that of one which was not emotionally affecting them (OR 11.11, CI 6.73–18.33). Hindrance in daily activities (odds ratio (OR) 4.34, CI 2.45–7.70) and the perceived unfavourable prognosis (OR 2.28, CI 1.63–3.21) predicted a priority problem to a lesser extent (Figure 2).

Doctors fully evaluated 1325 patient problems. The second model based on doctor ratings determined unfavourable prognosis as the strongest predictor for perceived problem relevance (OR 6.39, CI 4.61–8.87). The perceived effect on patient emotion (OR 4.1, CI 2.73–6.17) and the hindrance in daily activities (OR 2.01, CI 1.32–3.05) were weaker predictors (Figure 3).
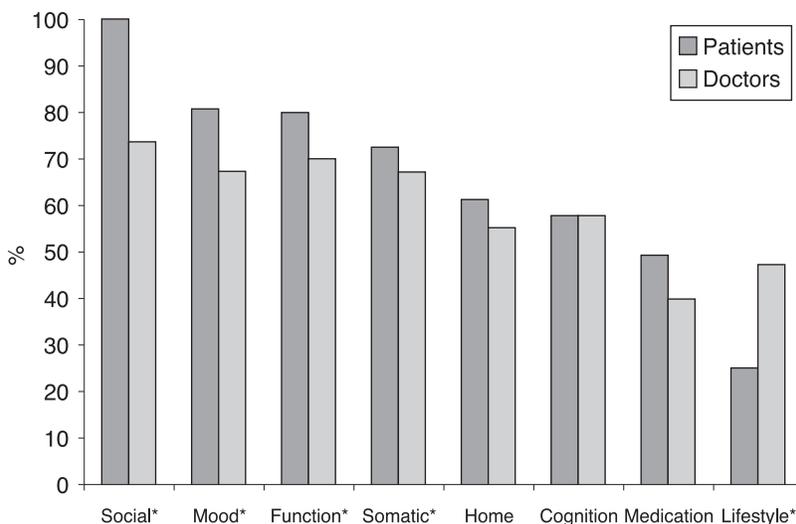

Figure 1 Proportion of health problems rated as important for each health domain. * $p<0.05$ (sign test)
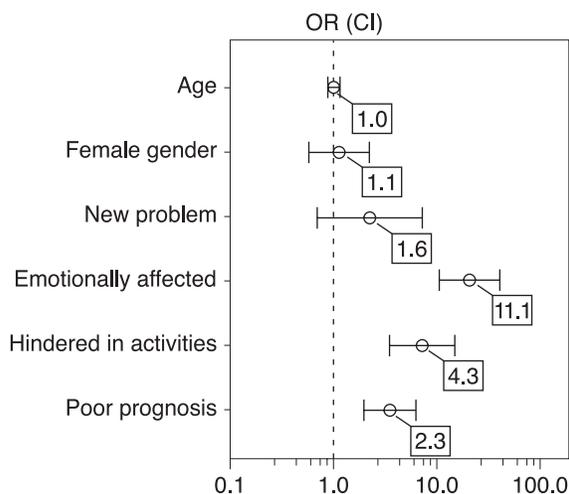
Figure 2 Multilevel logistic regression model demonstrating the influence of the severity components, as predictors of the importance of a problem – from the patient's perspective
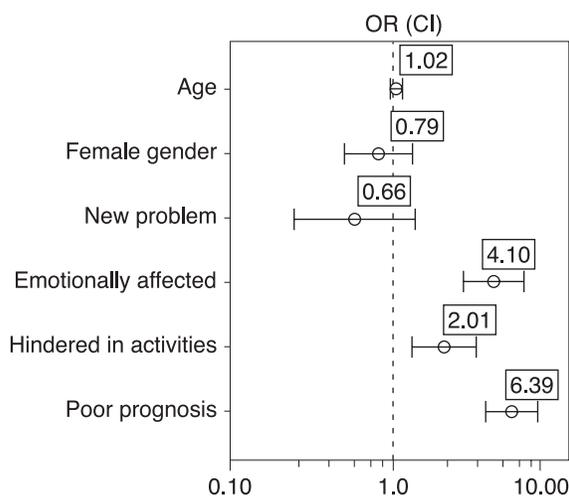

Figure 3 Multilevel logistic regression model demonstrating the influence of the severity components, as predictors of the importance of a problem – from the doctor's perspective

Discussion

This in-depth assessment of 123 older general practice patients resulted in three main findings: first, patients and their GPs differentiated between more or less important health problems. Second, doctors' healthcare priorities were in poor agreement with patients' health priorities. Third, a problem's priority from the doctor's perspective was strongly determined by an unfavourable prognosis, whereas for patients the strongest predictor was the emotional experience.

Priority problems: the view of patients and doctors

The study patients were able to discriminate between important (69%) and less important problems (31%). The GPs were asked to evaluate health problems according to the relevance for patient care, integrating both the patient's experience of illness and the medical aspects of disease.[21] GPs rated a slightly smaller proportion of patient problems as a priority (64%). However, patient and doctor evaluations differed significantly in some health domains. Doctors undervalued the relevance of problems in the domains of 'somatic problems' and also in 'social participation', 'mood' and 'function'. The latter domains are particularly relevant to older people[22] and are known to entail unmet needs.[23] In contrast patients paid less attention to 'lifestyle problems' than their doctors. In practice, doctors' advice concerning changes in health behaviour often met with little success. Underlying reasons are manifold and include difference in patient awareness and reasoning.[24]

Agreement between patients and doctors

Our results showed that doctors and patients agreed little on the importance and severity of each health problem. Poor agreement between patients and doctors has been demonstrated in many studies and embraces a number of health and care aspects, such as diverging views on disease impact,[18,25,26] quality of life,[27] information concerning diagnosis and prognosis[28] and on treatment preferences.[29] Agreement, however, has been related to better participation, satisfaction and adherence,[30] and in turn to better outcomes of treatment.[31] The benefit also lies in the process itself, allowing an open exchange of beliefs which may also result in an agreement to differ.[32] However, it has also been said that agreement is a means to persuade patients to follow the advice of doctors,[32,33] and that it can produce conflict if patients are not able to adhere.[34]

Patient and doctor views of disease severity and their impact on a priority problem

Our multilevel logistic regression models show that doctors and patients hold divergent views on the contribution of disease severity towards a problem's priority. The current illness experience mattered most to our study patients. For the doctors it was the unfavourable prognosis that mattered most. This finding confirms the different perspectives in the disease–illness model. The perception of disease severity has practical implications: it prompts patients to visit the doctor,[35] and doctors to induce medical interventions.[18]

Strengths and limitations of this study

With this study we have generated new insights into individual health priorities of older patients and the respective care priorities of their doctors. There are, however, some limitations. We enrolled a non-random sample of doctors. They were slightly younger than the average German GP (49.6 versus 51.2 years); and a higher percentage of male than female GPs participated (82% versus 62%).[36] Our recruitment design for patients excluded immobile patients receiving home visits only.

Some issues with health problem evaluations are worth noting. First, the type of response options may have influenced the validity. A Likert scale with four response options and no middle value was chosen because we wanted the participants to make a clear choice. Second, the cross-sectional design of the study did not allow us to examine the reliability of the evaluations. Third, some problems were previously unknown to doctors, who may have had difficulties in further evaluating these (unverified) problems. Finally, we deliberately gave two different definitions of a priority problem (doctors: relevance for care; patients: importance in their lives). Thus poor agreement on a priority problem should not be interpreted as a GP's poor understanding of his patient.

Implications for research and practice

In the past 20 years, the proportion of patients with four or more chronic diseases has tripled.[37] GPs increasingly face patients with complex health problems. The traditional consultation style with a single disease approach is not sustainable. In Germany consultations are short (on average 7.6 min) but frequent (between 30 and 40 contacts with a primary care doctor per year for patients aged above 70).[38] Thus doctors spend up to five hours on each older patient per year. This time may be better spent.

The presence of multiple chronic conditions necessitates that GPs and their patients gain an overview of their health status, share their views on health and care priorities and mutually develop a healthcare plan. Our results show that priorities differ between older patients and their doctors. A common understanding on priorities is not intuitive. Consequently communication is the key aspect for the decision on what to treat. This is challenging in terms of time, communication and reconciliation of perspectives. However, it makes the current practice of implicit priority setting transparent[39] and may contribute towards successful health care for older patients. Future research should investigate ways to determine priorities explicitly with the patient and strategies to integrate other professionals into this process.

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None.

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