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Self-Rated Poor Health and Its Associated Factors among Older Adults with Physician-Rated Good Health: A Cross-Sectional Questionnaire Survey of Long-Term Care Insurance Applicants in Shanghai

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【**Abstract**】 **Background** Self-rated health (SRH) is an important indicator of individuals' perceived health. However, in China, studies focusing on SRH among older adults with normal cognitive function who are assessed as healthy by medical professionals (i.e., who have physician-rated good health) remain limited. This gap may prevent health policies from adequately identifying the true health needs of older adults. **Objective** This study aimed to examine the status of self-rated health and its associated factors among older adults with respect to physician-rated good health, to analyse the difference between physician-rated good health and perceived health, and to provide theoretical evidence for optimizing health policies for older populations. **Methods** This study was based on a cross-sectional survey conducted in Shanghai between January and May 2023 and included 17,276 eligible older adults. Information on demographic characteristics, living conditions, physical health, psychological status, and the social environment was collected through questionnaires and physician assessments. Chi-square tests and multivariable logistic regression analyses were used to identify factors associated with self-rated health among cognitively normal older adults with physician-rated good health. **Results** A total of 46.33% of older adults with physician-rated good health reported poor self-rated health. Multivariable analysis showed that older age, a fair living environment, a greater number of diagnosed conditions, and a greater variety of treatment modalities were associated with higher odds of good self-rated health and, correspondingly, a lower likelihood of poor self-rated health (OR > 1). In contrast, higher educational

attainment, visual impairment, low compatibility with others, and impairment in activities of daily living (ADL) were associated with lower odds of good self-rated health and, correspondingly, a higher likelihood of poor self-rated health (OR < 1). **Conclusions** Among cognitively normal older adults with physician-rated good health, self-rated health is associated with multiple mechanisms, including gaps between health expectations and reality, social comparison, temporal comparison, and social support. Relying solely on physician-rated good health may overlook latent health needs. Policymakers should pay greater attention to self-rated health and incorporate it into health assessment systems for older adults, thereby improving subjective health perceptions and enhancing the overall performance of health service systems.

【**Key words**】 Healthy older adults, Self-rated health, physician-rated good health，Felt health

Health is not a unidimensional concept but a complex phenomenon that needs to be understood and measured from multiple perspectives. In his classic theory, Bradshaw (1972)[1] proposed that health assessment can be observed from at least four interrelated but not necessarily consistent dimensions: normative health, felt health, expressed health, and comparative health. Among them, normative health is usually determined by medical experts or professionals on the basis of clinical standards and objective examination results; felt health originates from individuals' subjective judgments of their health status on the basis of their own experiences, cognition, and value systems; expressed health is manifested through healthcare utilization behaviors; and comparative health is measured through comparisons between different populations or regions. In this study, Bradshaw's normative dimension provided the conceptual background, but it was operationalized through physician-rated health status based on family doctors' practical assessments during the long-term care insurance application process. There is no hierarchy of superiority or inferiority among these four dimensions of health measurement; rather, they are similar to different "prisms" that reflect different aspects of health status from different angles.

Among the four dimensions above, the most commonly used measure of felt health is self-rated health (SRH), an indicator reflecting individuals' subjective perceptions of health. The World Health Organization

and multiple international organizations regard SRH as an important tool for health measurement, and its unique value lies in that it is a comprehensive judgment of one's overall health status made from the perspective of healthcare service users. A large body of research has demonstrated that SRH can effectively predict older adults' risk of morbidity[2, 3], functional decline[3], and mortality risk[4, 5]. Moreover, the Organization for Economic Co-operation and Development (OECD)[6] regards SRH as an important indicator for measuring population health and well-being, which can be used to predict future healthcare needs[4, 5, 7, 8], and it is an indispensable decision-making reference indicator in regional health planning and resource allocation.

However, in the practical context of China, SRH remains largely at the level of academic research and is less systematically incorporated into regional health planning and policymaking processes. Current health planning relies mainly on two types of indicators: first, normative health indicators represented by disease prevalence and mortality, and second, expressed health indicators represented by outpatient visit rates and hospitalization rates. In contrast, felt health indicators obtained from resident surveys have not yet received sufficient attention in the top-down health decision-making system because of the high cost of data collection and the strong influence of individual subjective factors on measurement results. To some extent, this limits the ability of policies to identify residents' real health needs and may also affect the responsiveness and people-centered orientation of the healthcare service system.

Notably, there is no inevitable consistency between physician-rated good health and felt health. In practice, although some older adults meet the criteria for "physician-rated good health"—in that medical assessment identifies no definite disease or functional impairment, or any disease has little impact on health—they may still continuously feel physical discomfort or perceive their overall health status as poor, thereby making a negative subjective evaluation of their own health. Conversely, a typical example involves common conditions such as hypertension and diabetes: individuals may have no obvious symptoms and experience no impact on daily life, and their self-rated health may be very good; however, when clinicians apply clinical standards and auxiliary examinations, they can determine that the individuals are patients with hypertension or diabetes with poor control. Previous studies have focused mostly on the measurement and analysis of a single health dimension, whereas studies on the consistency or divergence between

different health evaluation dimensions are relatively insufficient, and there is a particular lack of systematic investigations of older adults who are assessed as having physician-rated good health but report poor self-rated health. In addition, individuals' perceptions of health are influenced by complex psychosocial mechanisms, including personal cognitive expectations[10], comparisons based on social and temporal frames of reference[12-13], physical functioning[21], and social participation[22, 24]. Therefore, exploring the difference between physician-rated good health and felt health requires not only identifying associated factors but also understanding the deeper reasons for such divergence from a psychosocial perspective.

Among older adults, there may also be divergence between physician-rated good health and felt health. Older adults are the main users of healthcare services; their health perceptions not only reflect their overall judgments of their own health status but also directly influence their healthcare-seeking decisions and healthcare utilization behaviors. However, existing studies have emphasized normative health indicators such as disease prevalence and functional limitations in older populations, with relatively little attention given to felt health among older adults with physician-rated good health. Consequently, older adults who are "nominally healthy but perceive themselves as unhealthy" are more likely to be overlooked in the healthcare system, and their negative health perceptions may indicate potential risks of functional decline or health needs that have not been sufficiently identified. On this basis, the present study focuses on older adults with physician-rated good health (i.e., those assessed as healthy by medical evaluation, or whose diseases have little impact on health) to address the following questions: How many of them feel unhealthy? What factors influence their perceived health? By analysing the differences between physician-rated good health and felt health and their influencing factors, this study may help deepen the understanding of older adults' health needs, facilitate a better understanding of the important value of felt health measurement in people-centered healthcare planning, and promote a more responsive healthcare service system.

1 Materials and Methods

1.1 Data source

The data were derived from a cross-sectional survey conducted in Shanghai, China, from January to May

2023. The study participants were older adults aged ≥60 years who applied for Shanghai Long-Term Care Insurance and who voluntarily participated in this study. Other eligibility criteria included the following: (1) normal cognitive function confirmed by the family doctor and (2) physician-rated health status indicating good health, defined as being rated by the family doctor as having good health status or having diseases with little impact on health. A total of 17,276 eligible older adults were included in this survey (Figure 1). The study procedures followed the ethical guidelines of the Declaration of Helsinki. In addition, this study was approved by the Ethics Committee of the Shanghai Health Development Research Center (Approval No. 2020001). All participants provided written informed consent, and all study methods were conducted in accordance with the relevant established guidelines. All the investigators received specific training prior to the survey to ensure data accuracy. The assessment in this survey was jointly completed by two assessors who received standardized training and one family doctor familiar with older adults' health conditions, and the assessment covered older adults' activities of daily living and health status. A professional data-entry team verified all the survey questionnaires. In the questionnaire, the two items "cognitive function" and "whether diseases have an impact on health" were judged by the family doctor on the basis of the older adult's current condition, whereas the item "self-rated health (SRH)" was judged by the older adult on the basis of their own health status.

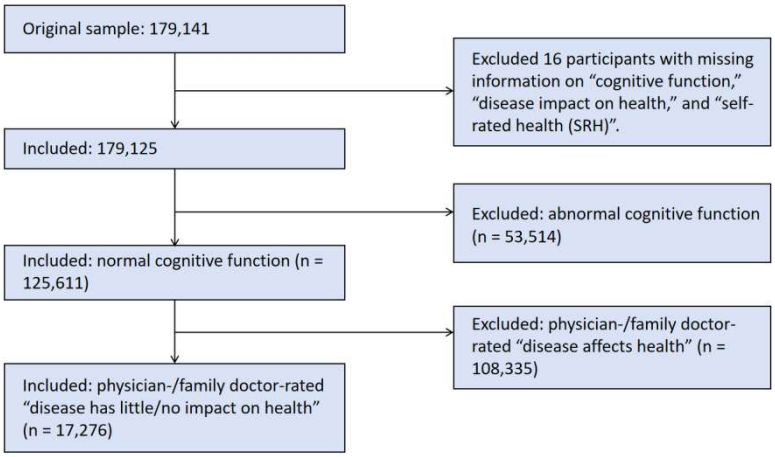


Figure 1 Data screening flowchart

131

132 1.2 Variable description

133 1.2.1 Dependent variable

134 The dependent variable in this study was “self-rated health status,” which was measured and analysed
135 using responses to the questionnaire item “How do you think your physical health is?” The response
136 options were “very good,” “good,” “fair,” “poor,” and “very poor.” For the main analysis, self-rated health
137 was dichotomized as good (“very good,” “good,” and “fair”) versus poor (“poor” and “very poor”),
138 consistent with prior studies in Chinese populations and older Chinese adults that used the same
139 operationalization[9].

140 1.2.2 Independent variables

141 The selection of variables was based on the theoretical framework of previous SRH studies and covered
142 the dimensions of individual characteristics and health expectations (including sex, main source of income,
143 educational level, spouse, and religious belief); the dimension of health comparison reference (age, number
144 of diseases, continuous treatment within 14 days, and living environment); the dimension of physical
145 functioning (including pain, sleep, need for care, vision, hearing, constipation, chewing function, sensory
146 function, language function, and degree of disability); and the dimension of social participation and
147 support (emotion, affect, compatibility with others, and social interaction). The degree of disability was
148 measured using the Barthel Index, which is among the most widely used tools for assessing functional
149 independence and activities of daily living (ADL). The cut-off value for the “normal” group was 20.0
150 points; for the “mild disability” group, 12.1–19.9 points; for the “moderate disability” group, 8.1–12.0
151 points; and for the “severe disability” group, 0–8.0 points[10].

152 1.3 Methods

153 Descriptive statistics were used to analyse self-rated health among cognitively normal older adults with
154 physician-rated good health. Statistical analyses were performed using SPSS 27.0. Chi-square tests were
155 used to compare differences between the “healthy” and “unhealthy” groups in terms of demographic
156 characteristics, physical health status, psychological health status, and social environment. Variables that
157 were statistically significant in univariate analyses ($P < 0.05$) were entered into a multivariable logistic

158 regression model for multivariable analysis, with a significance level of $\alpha = 0.05$.

159

160 **2 Results**

161 2.1 Basic characteristics of the study participants

162 After screening, a total of 17,276 older adults with normal cognitive function and physician-rated good
163 health were included in this study. Among them, 6,777 were men (39.2%), and 10,499 were women
164 (60.8%). The mean age was 79.9 ± 8.8 years; 60.2% of the older adults were illiterate or had a primary
165 school education, 73.1% were widowed, 46.7% had one or more diseases, and the remaining 53.3% had no
166 other diseases.

167

168 2.2 Self-rated health status among cognitively normal older adults with physician-rated good health

169 Among the 17,276 cognitively normal older adults with physician-rated good health included in the study,
170 9,272 (53.67%) reported good self-rated health, whereas 8,004 (46.33%) reported poor self-rated health.

171

172 2.3 Univariate analysis of self-rated health among cognitively normal older adults with physician-rated
173 good health

174 Univariate analysis revealed that the following factors were statistically significant ($P < 0.05$): the
175 dimensions of individual characteristics and health expectations (educational level, main source of income,
176 religious belief, and spouse); the dimension of comparison reference (age, number of diseases, treatment
177 modalities within 14 days, and living environment); the dimension of physical health status (ADL, vision,
178 hearing, sleep, pain, constipation, chewing, sensory function, and language function); and the dimension of
179 social participation and support (compatibility with others and emotions) (Table 1).

180

181 Table 1 Univariate Analysis of Self-Rated Health among Older Adults with Normal Cognitive Function
182 and physician-rated good health

Domain	Variable		SRH Poor [*n*（%）]	Good [*n* （%）]	χ^2	*P value*
Individual characteristics and health expectations	Education level	Illiterate	2263(13.1%)	4689(27.1%)	1147.8328	.000*
		Primary school	1581(9.2%)	1874(10.8%)		
		Junior high school	2370(13.7%)	1537(8.9%)		
		Senior high school	1204(7%)	790(4.6%)		
		College or above	630(3.6%)	338(2%)		
	Main source of income	Pension	7983(46.2%)	9010(52.2%)	92.611813	.000*
		Support from children	16(0.1%)	9(0.1%)		
		Support from relatives/friends	1(0%)	0(0%)		
		Other subsidies	48(0.3%)	209(1.2%)		
	Religious belief	Yes	7921(45.8%)	8953(51.8%)	37.17993	.000*
		No	127(0.7%)	275(1.6%)		
	Spouse	Yes	1130(6.5%)	3524(20.4%)	1273.5728	.000*
		No	6918(40%)	5704(33%)		
Health comparison	Age group	60–69 years	1348(7.8%)	1287(7.4%)	39.441	.000*
		70–79 years	2362(13.7%)	2572(14.9%)		

Domain	Variable		SRH Poor [n（%）]	Good [n （%）]	χ^2	*P value*
reference		≥80 years	4338(25.1%)	5369(31.1%)		
	Number of diseases	0	6579(38.1%)	2626(15.2%)	4909.3965	.000*
		1	555(3.2%)	2500(14.5%)		
		2	538(3.1%)	2547(14.7%)		
		3	274(1.6%)	1216(7%)		
		≥4	102(0.6%)	339(2%)		
	Continuous treatment within 14 days	No	6638(39.6%)	2515(15%)	5111.2889	.000*
		Yes	1305(7.8%)	6306(37.6%)		
	Clean and tidy living environment	Yes	2704(15.7%)	2245(13%)	243.94183	.000*
		No	5173(29.9%)	6903(40%)		
		Fair	171(1%)	80(0.5%)		
	Vision	Normal	1924(11.1%)	4356(25.2%)	1477.8841	.000*
		Mild impairment	4264(24.7%)	4240(24.5%)		
Physical functioning		Moderate impairment	1516(8.8%)	487(2.8%)		
		Severe impairment	261(1.5%)	108(0.6%)		
		Blindness	83(0.5%)	37(0.2%)		

Domain	Variable		SRH Poor [*n*（%）]	Good [*n*（%）]	χ^2	*P value*
	Hearing	Normal	2451(14.2%)	3945(22.8%)	718.13194	.000*
		Mild impairment	3106(18%)	3882(22.5%)		
		Moderate impairment	1796(10.4%)	1164(6.7%)		
		Severe impairment	625(3.6%)	216(1.3%)		
		Deafness	70(0.4%)	21(0.1%)		
	Sleep	Normal	914(5.3%)	2045(11.8%)	353.515	.000*
		Abnormal	7134(41.3%)	7183(41.6%)		
	Pain	No	418(2.4%)	895(5.2%)	124.231	.000*
		Yes	7630(44.2%)	8333(48.2%)		
	Constipation	No	851(4.9%)	2156(12.5%)	489.133	.000*
		Yes	7197(41.7%)	7072(40.9%)		
	Chewing function	Normal	703(4.1%)	3060(17.7%)	1505.279	.000*
		Abnormal	7345(42.5%)	6168(35.7%)		
	Sensory function	Normal	50(0.3%)	28(0.2%)	9.663	.002*
		Abnormal	7998(46.3%)	9200(53.3%)		
	Language function	Normal	108(0.6%)	247(1.4%)	38.049	.000*
		Abnormal	7940(46%)	8981(52%)		

Domain	Variable		SRH Poor [n（%）]	Good [n（%）]	χ^2	*P value*
Social participation and support	ADL disability level	Normal	130(0.8%)	752(4.4%)	4773.3934	.000*
		Mild disability	2280(13.2%)	6475(37.5%)		
		Moderate disability	2216(12.8%)	1542(8.9%)		
		Severe disability	3422(19.8%)	459(2.7%)		
	Emotion	Normal	74(0.4%)	116(0.7%)	4.503	.034*
		Abnormal	7974(46.2%)	9112(52.7%)		
	Compatibility with others	Very good	1137(6.6%)	3761(21.8%)	3818.6947	.000*
		Good	1619(9.4%)	3158(18.3%)		
		Fair	1487(8.6%)	1512(8.8%)		
		Poor	2854(16.5%)	662(3.8%)		
		Very poor	951(5.5%)	135(0.8%)		

2.4 Multivariable analysis of self-rated health among older adults with normal cognitive function and physician-rated good health

Self-rated health status (0 = poor, 1 = good) was used as the dependent variable, and the independent variables that were statistically significant in the univariate analyses were entered into a multivariable binary logistic regression model. Therefore, an OR > 1 indicates higher odds of good self-rated health and, correspondingly, a lower likelihood of poor self-rated health, whereas an OR < 1 indicates lower odds of

good self-rated health and, correspondingly, a higher likelihood of poor self-rated health. The regression analysis showed that older age, a fair living environment, a greater number of diseases, and a greater variety of treatment modalities within 14 days were associated with higher odds of good self-rated health and, correspondingly, a lower likelihood of poor self-rated health (OR > 1). In contrast, higher educational attainment, visual impairment, low compatibility with others, and impairment in activities of daily living (ADL) were associated with lower odds of good self-rated health and, correspondingly, a higher likelihood of poor self-rated health (OR < 1) (Table 2).

Table 2 Multivariate Logistic Regression Analysis of Self-Rated Health among Older Adults with Normal Cognitive Function and physician-rated good health

Variables		*B*	*SE*	Wald χ^2	*P value*	*OR (95% CI)*
Individual characteristics and health expectations	Educational attainment (reference: illiterate)			223.869	0.000**	
	Primary school	-0.392	0.058	45.567	0.000**	0.676 (0.603, 0.757)
	Junior high school	-0.592	0.055	115.23	0.000**	0.553 (0.496, 0.616)
	Senior high school	-0.643	0.066	95.294	0.000**	0.526 (0.462, 0.598）
	College or above	-0.994	0.089	125.206	0.000**	0.37 (0.311, 0.44)
Health comparison reference	Age (reference: 60–69 years)			51.25	0.000**	
	70–79 years	0.32	0.062	26.264	0.000**	1.377 (1.218, 1.556)

Variables		*B*	*SE*	Wald χ^2	*P value*	*OR (95% CI)*
	≥80 years	0.452	0.063	50.845	0.000**	1.571 (1.388, 1.779)
	Number of diseases (reference: 0)			51.435	0.000**	
	1	0.693	0.098	50.146	0.000**	2.001 (1.651, 2.424)
	2	0.565	0.106	28.308	0.000**	1.76 (1.429, 2.167)
	3	0.527	0.118	19.832	0.000**	1.693 (1.343, 2.135)
	≥4	0.414	0.157	6.993	0.008**	1.514 (1.113, 2.058)
	Treatment modalities within 14 days (reference: 0)			194.364	0.000**	
	1	1.327		194.36	0.000**	3.768 (3.127, 4.541)
	≥2	1.262	0.157	64.602	0.000**	3.532 (2.596, 4.804)
	Living environment (reference: very good)			405.235	0.000**	
	Fair	0.897	0.045	399.216	0.000**	2.453 (2.246, 2.678)

Variables		*B*	*SE*	Wald χ^2	*P value*	*OR (95% CI)*
	Poor	0.137	0.168	0.666	0.414	1.147 (0.826, 1.592)
Physical functioning	Vision (reference: normal)			31.99	0.000**	
	Mild impairment	-0.11	0.054	4.189	0.041*	0.895 (0.806, 0.995）
	Moderate impairment	-0.484	0.087	31.209	0.000**	0.617 (0.52, 0.731)
	Severe impairment	-0.273	0.156	3.054	0.081	0.761 (0.56, 1.034)
	Blindness	-0.08	0.261	0.093	0.76	0.923 (0.553, 1.541)
	ADL impairment level (reference: normal)			769.644	0.000**	
	Mild impairment	-0.399	0.078	25.93	0.000**	0.671 (0.576, 0.783)
	Moderate impairment	-1.413	0.088	255.582	0.000**	0.243 (0.205, 0.289)
	Severe impairment	-2.245	0.105	457.311	0.000**	0.106 (0.086, 0.13)
Social participation and support	Compatibility with others (reference: very good)			320.913	0.000**	
	Fair	-0.37	0.059	39.218	0.000**	0.691 (0.615, 0.776)

Variables		*B*	*SE*	Wald χ^2	*P value*	*OR (95% CI)*
	Poor	-0.316	0.066	22.895	0.000**	0.729 (0.641, 0.83)
	Very poor	-1.224	0.07	303.229	0.000**	0.294 (0.256, 0.338)
	Unable to get along well with anyone	-0.429	0.148	8.357	0.004**	0.651 (0.487, 0.871)

Note: P < 0.05 is indicated by *, and P < 0.01 is indicated by **.

3 Discussion

3.1 Core findings

This study discussed and analysed the question of whether physician-rated good health is consistent with felt health. The results revealed that among the 17,276 older adults in Shanghai with physician-rated good health in this survey, 46.33% reported poor self-rated health. These data indicate that among older adults assessed as healthy by medical evaluation, nearly half still had poor subjective perceived health, revealing a marked divergence between physician-rated good health and felt health. These findings suggest that if regional healthcare service assessment relies solely on professional medical evaluation, it may systematically overlook the unmet health needs of a considerable proportion of older adults. Therefore, understanding why older adults with physician-rated good health still report poor self-rated health is central to explaining this divergence.

3.2 Why do older adults with physician-rated good health report poor self-rated health?

This study suggests that the divergence between physician-rated good health and felt health may be related to the combined influence of psychological, functional, and social factors. Felt health may reflect a broader and richer understanding of health than physician-rated good health alone. The following discussion mainly draws on relevant theories to interpret the findings from three dimensions: individual expectation

gaps, adjustment of health comparison reference frames, and physical functioning and social support. These perspectives may help explain why some older adults with physician-rated good health still report poor self-rated health.

First, the gap between cognitive health expectations and reality and stronger self-awareness, are important cognitive mechanisms for explaining this phenomenon. A higher educational level was associated with lower odds of good self-rated health and, correspondingly, a higher likelihood of poor self-rated health among older adults, because older adults with higher education levels have higher health expectations[11] and more acute self-awareness[12]. According to expectation theory[11], individuals' satisfaction with health does not depend on objective health status itself but on the gap between the actual situation and their expectations. Older adults with higher education levels often have relatively higher health awareness and concepts, and their expectations and standards for health are also higher; therefore, even if their actual health status is good, they may still have a lower self-evaluation because they do not meet their ideal standards. On the basis of self-awareness theory[12], individuals with higher levels of education often have stronger reflective ability and self-examination awareness; when facing physiological changes such as aging, they evaluate their physical status in a more rational and stringent manner. Therefore, although older adults with higher levels of education are objectively healthier, they are subjectively more likely to amplify concerns, resulting in lower self-rated health.

Second, adjustment of comparison reference frames profoundly influences the formation of older adults' health perceptions. This study found that older age, a greater number of diseases, a greater variety of treatment modalities, and a fair living environment were associated with higher odds of good self-rated health and, correspondingly, a lower likelihood of poor self-rated health. These seemingly counterintuitive findings can be explained by social comparison theory[13] and longitudinal temporal comparison theory[14]. The finding that the likelihood of good self-rated health increases with age is consistent with findings of several international studies[15-17]. From the perspective of social comparison theory[13], this phenomenon is related to older adults' adjustment of health expectations: When older adults lower the reference point of their health comparison targets and adopt downward social comparison (i.e., compared with peers in worse health), they may observe that while peers develop severe illness or die, they themselves can still maintain

a relatively good living status, thereby strengthening their perceived self-rated health[18]. In addition, because the respondents in this survey were older adults who needed to apply for long-term care insurance, such individuals often submitted applications because, after inpatient or outpatient treatment for diseases, their physical condition still required care by others. On the basis of longitudinal temporal comparison theory [14] (i.e., compared with their own acute phase of illness or periods of poorer functioning), they compared their current health status with that during their disease exacerbation period[13], thereby maintaining relatively high self-rated health[19]. Moreover, the greater the diversity of treatment modalities received, the more likely older adults are to develop the perception that, compared with the untreated period, they are actively improving their health[20]. A fair living environment was also a protective factor for self-rated health because older adults with a "fair" living environment may form a lower psychological expectation threshold[21]; that is, older adults with a fair living environment are more likely to engage in downward comparisons.

Finally, physical functioning and social participation and support are important foundations of felt health. The results of this study revealed that visual impairment and impairment in activities of daily living (ADL) significantly reduced the level of self-rated health among older adults with physician-rated good health. Older adults' independence in daily living[22] and social participation[23] are affected by visual impairment and ADL impairment. According to social participation–subjective health theory[24], declines in role functioning and reductions in social connectedness lead to lower self-rated health among older adults. In addition, social support plays an important role in health perceptions. This study found that low compatibility with others was associated with lower odds of good self-rated health and, correspondingly, a higher likelihood of poor self-rated health. Social support theory[25] indicates that insufficient social support increases individuals' loneliness and psychological stress, thereby weakening positive evaluations of one's own health status. Even in the absence of definite diseases, social relational alienation can still amplify poor health perceptions through psychological mechanisms, and previous studies have confirmed a significant negative association between social isolation and subjective health[26].

3.3 Relationship between physician-rated good health and felt health

From the perspective of health assessment, physician-rated good health and felt health are not interchangeable; rather, they reflect different aspects of health status. Physician-rated good health focuses on disease diagnosis and functional assessment and can identify definite medical risks; in contrast, felt health integrates individuals' functional experiences, psychological feelings, and social participation status and better reflects older adults' overall judgments of their own health. The two may diverge to some extent, but such divergence itself is important for identifying latent health needs.

4 Implications

The finding that nearly half of older adults with physician-rated good health reported poor self-rated health suggests that felt health can capture subjective health distress that is difficult to detect using traditional medical indicators and can help identify the real health needs of older adults. Health service systems should incorporate self-rated health (SRH), and policymaking and primary healthcare services should pay attention to felt health indicators to help identify populations at potentially high risk of poor health. For older adults with physician-rated good health who nevertheless report poor self-rated health, comprehensive interventions such as the maintenance of functional capacity, mental health support, and the promotion of social participation can be implemented, thereby providing more precise healthcare services and social support for this group and improving the development of a people-centered health service system.

5 Limitations

Because this study was cross-sectional, causal relationships cannot be confirmed. It should be noted that the study population consisted of older adults applying for long-term care insurance, representing a non-random and self-selected group rather than the general older population. Such individuals may have greater care needs, higher health concerns, or increased vulnerability, which may partly explain the relatively high prevalence of poor self-rated health observed in this study despite physician-rated good health. Future studies should include more diverse samples and adopt mixed methods, such as qualitative interviews, to further explore the complex psychological and social processes underlying poor self-rated

health among older adults with physician-rated good health.

Declarations

Ethics approval and consent to participate

This study was approved by the Ethics Committee of the Shanghai Health Development Research Center (Approval No. 2020001). The study was conducted in accordance with the Declaration of Helsinki and relevant guidelines.

Written informed consent to participate was obtained from all participants included in this study.

Consent for publication

Not applicable.

Availability of data and materials

The datasets generated and analysed during this study cannot be made publicly available or shared due to confidentiality restrictions.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

SHI Ying was responsible for proposing the specific research topic, study design, statistical analysis, manuscript drafting, and revision of the final version. ZHOU Zichun was responsible for writing the English manuscript. XU Jiajie was responsible for revising and improving the manuscript. DING Hansheng was responsible for developing the research concept, quality control of the manuscript, manuscript review, and overall responsibility for the study. WAN Lingshan was responsible for liaison and follow-up of the questionnaire survey, and for data collection and organization. XUE Jia was responsible for data cleaning.

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