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Unmet Care Needs and Influencing Factors in Older Adults with Disabilities and Chronic Conditions

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Abstract

To examine the prevalence and determinants of unmet care needs among older adults with disabilities and chronic conditions, with the aim of mitigating the adverse effects of these unmet needs and providing a theoretical foundation for enhancing long-term care services for this population. Based on data from the 2018 China Health Survey of the Elderly, Anderson's health behavior model was applied, and binary logistic regression was used for data analysis. Fifty percent of older adults with disabilities and chronic conditions experienced unmet care needs. Factors influencing these unmet needs included rural versus urban household registration (hukou), degree of disability, economic status, adequacy of living resources, and primary caregivers' willingness. Professional care should be provided for older adults with moderate to severe disabilities and chronic conditions. Hypertension awareness education should be strengthened. Particular attention should be paid to older adults with disabilities and chronic conditions facing economic hardship in rural areas, and efforts should focus on enhancing primary caregivers' willingness.

Keywords: Older Adults with Disabilities and Chronic Conditions; Care; Unmet Needs; Influencing Factors; Anderson's Model

1. Introduction

China has entered an ageing society, with a continuously increasing population of elderly individuals suffering from chronic diseases. Certain chronic conditions can lead to physical functional decline in the elderly, subsequently impacting their ability to perform activities of daily living (Chen, 2005) and progressing to disability. Concurrently, the physiological functional decline associated with ageing also increases the risk of developing chronic diseases. The older adults with disabilities and chronic conditions population often coexists with one or more chronic diseases, resulting in varying care requirements.

Existing domestic and international research primarily addresses factors contributing to unmet care needs among older adults with disabilities and chronic conditions individuals (Deng et al., 2022) , with limited exploration of unmet care needs among those concurrently affected by chronic diseases and disability. This study focuses on the specific cohort of older adults with disabilities and chronic conditions, investigating their unmet care needs and influencing factors. This holds significant importance for identifying high-risk groups with unmet community needs, mitigating the adverse effects of unmet care demands among older adults with disabilities and chronic conditions chronic disease patients, and improving long-term care services for this population.

2. Data and Methods

2.1. Data Source

This study utilised the 2018 Community-based Long-term Health and Loneliness Survey (CLHLS) data. The original dataset covered 500 sample areas across 22 provinces, municipalities, and autonomous regions nationwide, surveying individuals aged 65 years and above. The total sample size was 15,874 cases, from which 10,528 elderly individuals with chronic diseases were selected.The study population comprised older adults with chronic conditions and functional impairment.Using the Activities of Daily Living (ADL) assessment method, individuals unable to independently perform one or more of the following six tasks were defined as functionally impaired: bathing, dressing, indoor mobility, toileting, eating, and bowel/bladder control. This criterion identified 2,408 eligible samples of older adults with disabilities and chronic conditions.

2.2. Variable Selection

2.2.1. Dependent Variable

The degree of care dependency was selected as the dependent variable.For older adults with disabilities and chronic conditions chronic disease patients, if the response to "Who is your primary helper when you require assistance with bathing, dressing, toileting, indoor mobility, continence management, or eating?" was "No one assists me," this was defined as a completely unmet need. If assistance was reported, participants were further asked: "Do you consider the assistance you currently receive with these six daily activities sufficient to meet your needs?"Responses of "unsatisfied" or "not fully satisfied" were classified as partially unmet needs, while "fully satisfied" indicated fully met needs. Both fully unmet and partially unmet needs were defined as unmet needs (assigned value 1), whereas fully met needs constituted met needs (assigned value 0).

2.2.2. Independent Variables Predisposing Factors

Age, gender, marital status, place of household registration, years of education, pre-retirement occupation; Enabling Factors: Degree of disability, type of chronic illness; Containing Factors: Per capita household income, independence of livelihood sources, adequacy of livelihood sources, possession of at least one social security benefit, ownership of housing under the respondent's or spouse's name;Social Support: Whether the community provides at least one social service for the

elderly; number of cohabiting family members; number of children.

For assessing limitations in activities of daily living (ADLs), only responses of "no assistance required" on the ADLs assessment scale were considered free of functional impairment; otherwise, limitations in performing the daily activity were deemed present.The degree of disability was categorized as follows: mild (requiring assistance with 1–2 ADLs), moderate (requiring assistance with 3–4 ADLs), and severe (requiring assistance with 5–6 ADLs).

2.2.3. Statistical Analysis Data analysis

Statistical Analysis Data analysis was conducted using SPSS. Descriptive analysis employed sample size and composition ratio indicators, while difference analysis utilised chi-square tests. Factor analysis was based on a binary logistic regression model, with $\alpha=0.05$ as the significance level.

3. Results

3.1. General Characteristics of older adults with disabilities and chronic conditions

The total sample comprised 2,408 older adults with disabilities and chronic conditions, with females accounting for 65% and males 35%. Age distribution showed: 1.5% aged 65–70 years, 7.4% aged 71–80 years, 21.7% aged 81–90 years, and 69.4% aged 90 years or older.Regarding marital status, 19.1% were married with a spouse, while 80.9% were unmarried without a spouse. In terms of educational attainment, 32.3% had attended school, and 57.1% had not received any schooling. For occupations prior to age 60, 27.7% held formal employment, 46.9% were farmers, 1.7% were self-employed, and 23.8% engaged in other occupations.

Regarding urban-rural composition, 40.5% held urban household registration while 59.5% held rural registration; 65% resided in urban areas and 35% in rural areas. Economically, 18.4% were affluent, 67.5% were of moderate means, 12.5% faced hardship, and 1.6% were undeclared.Regarding livelihood sufficiency, 83.1% reported adequate resources, 16.2% reported insufficient resources, and 0.7% were unsure. 96.1% possessed at least one form of insurance, 2.4% had no insurance, and 1.6% were unaware of their insurance status.

Regarding housing arrangements, 82.6% owned their residence while 8.4% did not; 7.8% lived alone, with 92.2% sharing accommodation;1.1% lived with no one, 27.8% lived with one person, and 55.4% lived with two or more people. Regarding community factors, 65.4% resided in communities providing elderly care services, while 34.6% resided in communities without such services.

Among the survey participants, 37.3% of elderly individuals had one chronic condition, while 62.7% had two or more chronic conditions. Mild disability affected 44.1%, moderate disability 22.9%, and severe disability 33.0%.The primary carers for older adults with disabilities and chronic conditions were family members in 87.7% of cases, friends or neighbours in 0.2%, social services in 2.9%, and domestic helpers in 8.4%. 1.3% responded that they did not

know.Regarding primary carers' willingness: 88.2% were willing; 2.1% were unwilling; 4.9% were willing but felt unable to cope; 4.8% did not know.

Table 1. Unmet Care Needs Among Elderly Individuals with Chronic Conditions and Disabilities

Variable		Total	Unmet Needs	Satisfied Needs	x^2	*P*
Predisposing Factor						
Gender	Male	843 (35)	423 (17.6)	420 (17.4)	1	0.874
	Female	1565 (65)	780 (32.4)	785 (32.6)		
Age	65–70	37 (1.5)	22 (0.9)	15 (0.6)	3	0.052
	71–80	177 (7.4)	104 (4.3)	73 (3.0)		
	81–90	522 (21.7)	261 (10.8)	261 (10.8)		
	90 and above	1672 (69.4)	816 (33.9)	856 (35.5)		
Household Registration	Urban	975 (40.5)	396 (16.4)	579 (24.0)	1	0.000
	Rural	1433 (59.5)	807 (33.5)	626 (26.0)		
Marital Status	Married	461 (19.1)	249 (10.3)	212 (8.8)	1	0.053
	No spouse	1947 (80.9)	954 (39.6)	993 (41.2)		
Educational status	Attended School	778 (32.3)	348 (14.5)	430 (17.9)	2	0.001
	No schooling	1375 (57.1)	732 (30.4)	643 (26.7)		
	Don't know	255 (10.6)	123 (5.1)	132 (5.5)		
Occupation before age 60	Regular employment	667 (27.7)	273 (11.3)	394	3	0.000
	Farmers	1129 (46.9)	641 (26.6)	488 (20.3)		
	Freelancer	40 (1.7)	20 (0.8)	20 (0.8)		
	Other	572 (23.8)	269 (11.2)	303 (12.6)		
Demand factors						
Number of chronic	1 condition	898 (37.3)	455 (18.9)	443 (18.4)	1	0.591

conditions						
	Two or more	1510 (62.7)	748 (31.1)	762 (31.6)		
Number of chronic conditions						
Presence of hypertension	Yes	1261 (52.4)	603 (25.0)	658 (27.3)	2	0.001
	No	1008 (41.9)	511 (21.2)	497 (20.6)		
	Don't know	139 (5.8)	90 (3.7)	49 (2.0)		
Diabetes	Yes	279 (11.6)	125 (5.2)	154 (6.4)	2	0.015
	No	1861 (77.3)	926 (38.5)	935 (38.8)		
	Unknown	268 (11.1)	153 (6.4)	115 (4.8)		
Do you have heart disease?	Yes	675 (28.0)	305 (12.7)	370 (15.4)	2	0.003
	No	1502 (62.4)	767 (31.9)	735 (30.5)		
	Don't know	231 (9.6)	132 (5.5)	99 (4.1)		
History of stroke or cerebrovascular disease	Yes	585 (24.3)	299 (12.4)	286 (11.9)	2	0.322
	No	1587 (65.9)	778 (32.3)	809 (33.6)		
	Don't know	236 (9.8)	127 (5.3)	109 (4.5)		
Do you have bronchitis, asthma, emphysema or pneumonia?	Yes	436 (18.1)	209 (8.7)	227 (9.4)	2	0.025
	No	1687 (70.1)	832 (34.6)	855 (35.5)		
	Don't know	285 (11.8)	163 (6.8)	122 (5.1)		
Degree of disability	Mild	1062 (44.1)	426 (17.7)	636 (26.4)	2	0.000
	Moderate	551 (22.9)	278 (11.5)	273 (11.3)		
	Severe	795 (33.0)	499 (20.7)	296 (12.3)		
Enabling factors						
Place of residence	Urban	1564 (65.0)	733 (30.5)	830 (34.5)	1	0.000
	Rural	844 (35.0)	469 (19.5)	375 (15.6)		
Home ownership	Yes	1990 (82.6)	999 (41.5)	991 (41.2)	2	0.636

	No	203 (8.4)	95 (3.9)	108 (4.5)		
	Don't know	215 (8.9)	109 (4.5)	106 (4.4)		
Living alone	Yes	189 (7.8)	107 (4.4)	82 (3.4)	1	0.057
	No	2219 (92.2)	1096 (45.5)	1123 (46.6)		
Economic status	Affluent	444 (18.4)	136 (5.6)	308 (12.8)	3	0.000
	Average	1625 (67.5)	835 (34.7)	790 (32.8)		
	Difficult	301 (12.5)	216 (9.0)	85 (3.5)		
	Don't know	38 (1.6)	16 (0.7)	22 (0.9)		
Is your income sufficient?	Yes	2001 (83.1)	926 (38.5)	1075 (44.6)	2	0.000
	No	390 (16.2)	265 (11.0)	125 (5.2)		
	Don't know	17 (0.7)	12 (0.5)	5 (0.2)		
At least one form of insurance	Yes	2313 (96.1)	1150 (47.8)	1163 (48.3)	2	0.257
	No	57 (2.4)	29 (1.2)	28 (1.2)		
	Don't know	38 (1.6)	24 (1.0)	14 (0.6)		
Number of people living in the household	0	27 (1.1)	13 (0.5)	14 (0.6)	3	0.231
	1	670 (27.8)	321 (13.3)	349 (14.5)		
	2 persons or more	1333 (55.4)	663 (27.5)	670 (27.8)		
	Don't know	378 (15.7)	206 (8.6)	172 (7.1)		
Community provides elderly care services	Yes	1574 (65.4)	771 (32.0)	803 (33.3)	1	1.189
	No	834 (34.6)	432 (17.9)	402 (16.7)		
Primary Carer	Family Member	2098 (87.1)	1048 (58.5)	1050 (43.6)		
	Friends and Neighbours	5 (0.2)	3 (0.1)	2 (0.0)	4	0.115
	Social services	71 (2.9)	38 (1.6)	33 (1.4)		
	Nannies	203 (8.4)	93 (3.9)	110 (4.6)		

	Don't know	31 (1.3)	22 (0.9)	9 (0.4)		
Primary Carer's Preference	Willing	2125 (88.2)	971 (40.3)	1154 (47.9)	3	0.000
	Unwilling	50 (2.1)	42 (1.7)	8 (0.3)		
	Willing but unable to do so	118 (4.9)	102 (4.2)	16 (0.7)		
	Not sure	115 (4.8)	89 (3.7)	26 (1.1)		

3.2. Analysis of Care Needs Differences Among Older Adults with Disabilities and Chronic Conditions Chronic Disease

Patients Care needs among older adults with disabilities and chronic conditions chronic disease patients were 50% met and 50% unmet. Among predisposing factors, care needs showed significant differences based on rural vs. urban household registration (hukou), educational attainment, and occupation prior to age 60.Regarding demand factors, care needs varied significantly among elderly individuals with varying degrees of disability. Among enabling factors, care needs differed markedly based on place of residence, economic status, adequacy of livelihood resources, and the willingness of primary caregivers.

3.3. Regression Analysis of Care Needs for Older Adults with Disabilities and Chronic Conditions

To further analyse the factors influencing care needs among older adults with disabilities and chronic conditions, a binary logistic regression model was employed. Integrating the results of the differential analysis, eight key factors were incorporated into the model: rural vs. urban household registration (hukou), educational attainment, occupation prior to age 60, degree of disability, place of residence, economic status, adequacy of livelihood resources, and primary caregiver attitude.Results indicated a Hosmer-Lemeshow test (HL test) P-value of 0.628, demonstrating good model fit.

Among the predisposing factors, rural vs. urban household registration (hukou); among the demand factors, degree of disability; and among the enabling factors, economic status, adequacy of livelihood sources, and primary caregiver willingness were found to significantly influence care needs among older adults with chronic diseases and disability.Specifically: - older adults with disabilities and chronic conditions registered as rural residents had 1.675 times the unmet care needs compared to their urban counterparts. - Moderately older adults with disabilities and chronic conditions had 1.541 times the unmet care needs compared to mildly disabled individuals. - Severely older adults with disabilities and chronic conditions had 2.512 times the unmet care needs compared to mildly disabled individuals.Among older adults with chronic illnesses and disabilities, those with average economic circumstances had 1.947 times the unmet care needs of those with affluent economic circumstances. older adults with chronic illnesses and disabilities

experiencing economic hardship had 2.780 times the unmet care needs of those with affluent economic circumstances.Among elderly individuals with chronic illnesses and functional impairment, those with insufficient livelihood resources had 1.506 times the unmet care needs of those with adequate livelihood resources. Those uncertain about their livelihood sufficiency had 3.941 times the unmet care needs of those with adequate livelihood resources.

The unmet care needs of primary carers who were unwilling to provide care were 6.115 times greater than those who were willing. For those willing but unable to provide care, the unmet needs were 5.293 times greater than those who were willing. For those whose willingness was unknown, the unmet needs were 3.790 times greater than those who were willing.

Table 2. Logistic regression analysis of factors influencing unmet care needs among older adults with disabilities and chronic conditions

Characteristic		Control group	B	Standard Error	Wald	Significance	Exp(B)	95% confidence interval for Exp(B)
Predisposing Factor								
Household Registration								
	Rural	Urban	0.516	0.135	14.686	0.000	1.675	1.287–2.181
Educational status								
	Attended school	No schooling	0.041	0.114	0.130	0.718	1.042	0.833–1.304
	Unknown		-0.005	0.179	0.001	0.977	0.995	0.700–1.414
Occupation before age 60								
	Farmer	Formal employment	0.041	0.154	0.071	0.789	1.042	0.771–1.409
	Freelance		-0.170	0.364	0.219	0.640	0.843	0.414 -1.720
	Other		-0.232	0.161	2.068	0.150	0.793	0.579 -1.088
Demand factors								

Level of disability								
	Moderate	Mild disability	0.432	0.113	14.555	0.000	1.541	1.234–1.925
	Severe		0.921	0.104	77.981	0.000	2.512	2.047–3.082
Hypertension	No	Yes	0.082	0.097	0.725	0.394	1.086	0.898–1.312
	Unknown		0.587	0.243	5.836	0.016	1.799	1.117–2.898
Diabetes	No	Yes	0.013	0.147	0.008	0.930	1.013	0.760–1.351
	Unknown		-0.141	0.260	0.293	0.588	0.869	0.522 -1.446
Heart disease	No	Yes	0.119	0.106	1.253	0.263	1.127	0.914–1.388
	Unknown		0.090	0.258	0.122	0.727	1.094	0.660–1.814
Do you have bronchitis, asthma, emphysema or pneumonia?	No	Yes	-0.028	0.120	0.055	0.815	0.972	0.768–1.231
	Unknown		0.265	0.220	1.455	0.228	1.304	0.847–2.006
Enabling factors								
Place of residence								
	Rural	Urban	-0.027	0.113	0.059	0.808	0.973	0.780–1.214
Economic status								
	Average	Affluent	0.666	0.122	29.605	0.000	1.947	1.532 -2.476
	Difficult		1.023	0.196	27.187	0.000	2.780	1.893–4.084
	Unknown		-0.361	0.430	0.702	0.402	0.697	0.300-1.621
Is your income sufficient?								
	No	Yes	0.410	0.141	8.407	0.004	1.506	1.142–1.987

	Unknown		1.371	0.675	4.124	0.042	3.941	1.049–14.804
Primary Carer's Willingness	Unwilling	Willing	1.811	0.403	20.141	0.000	6.115	2.773 -13.486
	Willing but unable		1.666	0.282	34.956	0.000	5.293	3.046 -9.195
	Unknown		1.332	0.240	30.805	0.000	3.790	2.367 -6.066
Constant			-1.629	0.226	52.059	0.000	0.196	

4. Discussion

4.1. High Unmet Care Needs Among Older Adults with Disabilities and Chronic Conditions

Survey findings indicate that unmet care needs among older adults with disabilities and chronic conditions reach as high as 50.0%. Among these patients with unmet care needs, 62.2% suffer from two or more chronic diseases, 41.5% are severely disabled,23.1% were moderately incapacitated, and 35.4% were mildly incapacitated.

4.2. Degree of Disability Significantly Influences Care Needs

Survey findings indicate that the degree of disability significantly impacts unmet care needs. As disability severity increases, the probability of fully meeting care requirements for six activities of daily living decreases. Specifically, compared to mildly older adults with disabilities and chronic conditions, the degree of unmet care needs progressively increases among those with moderate and severe disabilities.Currently, family members remain the primary caregivers for moderately and severely older adults with disabilities and chronic conditions individuals in China. Findings indicate that among moderately older adults with disabilities and chronic conditions chronic disease patients, 87.8% receive care from relatives and 7.8% from domestic helpers. Among severely older adults with disabilities and chronic conditions chronic disease patients, 81.9% are cared for by relatives,and 13.0% by domestic helpers. Only a very small proportion of elderly individuals with moderate to severe disability receive care from professional social services.Elderly individuals with chronic illnesses and functional impairment often present complex healthcare needs, yet family carers frequently struggle to meet these demands due to a lack of specialised knowledge and skills (Deng et al., 2022) . Consequently, for those with moderate to severe impairment, professional care provision better addresses their care requirements and represents a superior option.

4.3. Relationship between Chronic Diseases, Disability, and Unmet Care Needs

There is no significant correlation between suffering from chronic diseases such as diabetes, heart disease, bronchitis, asthma, emphysema, or pneumonia and unmet care needs. However, elderly individuals with long-term chronic diseases are more prone to disability (Chen, 2015; Gao

et al., 2017; Gao et al., 2020) . Moreover, the degree of disability varies among elderly individuals with different chronic conditions. Comparing disability levels among elderly chronic disease patients with hypertension, diabetes, heart disease, stroke and cerebrovascular disease, as well as bronchitis, asthma, emphysema or pneumonia, those with stroke and cerebrovascular disease exhibited significantly different disability levels (p<0.05).Specifically, among those with stroke or cerebrovascular disease, mild disability accounted for 33.8%, moderate disability for 20.7%, and severe disability for 45.5%. In contrast, among those without stroke or cerebrovascular disease, mild disability accounted for 47.4%, moderate disability for 24.1%, and severe disability for 28.4%.This disparity may stem from chronic conditions such as hypertension, diabetes, heart disease, and chronic respiratory disorders not directly manifesting as disability. However, progression to stroke or cerebrovascular disease often results in physical functional deficits (Lai et al., 1998) , leading to markedly differing degrees of disability.

Furthermore, insufficient awareness of chronic conditions contributes to unmet care needs among the elderly. Survey findings indicate that disabled older adults with chronic conditions who were unaware of their hypertension had unmet care needs 1.799 times more frequently than those who knew they had hypertension.For elderly chronic disease patients, understanding the diagnostic criteria, risk factors, and common symptoms of hypertension—a prevalent chronic condition—enables more targeted care interventions. This facilitates hypertension prevention and control, thereby reducing complications. Consequently, enhancing hypertension awareness education among older adults with disabilities and chronic conditions chronic disease patients unaware of their condition can mitigate unmet care needs to some extent.

4.4. Economic Factors Correlate with Greater Unmet Care Needs

Compared to non-chronic-illness-afflicted elderly with disabilities, older adults with disabilities and chronic conditions incur higher healthcare expenditure due to regular medical appointments and medication requirements. Furthermore, their chronic conditions and disabilities create difficulties in accessing healthcare, increasing demands for transport assistance and thereby imposing heavier economic burdens.

Survey findings indicate that compared to affluent older adults with disabilities and chronic conditions individuals with chronic illnesses residing locally, those experiencing greater economic hardship exhibit higher levels of unmet care needs. Furthermore, older adults with disabilities and chronic conditions individuals with chronic illnesses who report insufficient income or uncertainty regarding their income adequacy demonstrate higher unmet care needs than those with fully adequate income.

Older adults with disabilities and chronic conditions individuals with chronic illnesses holding rural household registrations exhibited greater unmet care needs than their urban counterparts, potentially reflecting significantly lower living standards in rural areas (p=0.000). Overall, diminished economic resources among older adults with disabilities and chronic conditions individuals with chronic illnesses correlate with reduced access to care resources and heightened difficulty in meeting care requirements.In summary, economically disadvantaged elderly individuals with chronic illnesses and functional impairment in rural areas constitute a high-risk

group for unmet care needs. When establishing long-term care insurance systems, priority should be given to addressing the unmet care needs and insurance payment capacity of this vulnerable population in rural areas.

4.5. Primary Carer Attitude Proves Critical

Regarding carer factors, the primary carer's identity is not the key variable; rather, the primary carer's attitude is pivotal. Findings indicate that the more negative the primary carer's attitude, the greater the unmet care needs among elderly individuals with chronic illnesses and functional impairment.

Research indicates that the greater the degree of disability and the number of illnesses, the more time, physical effort and financial expenditure required of carers, and the greater the pressure they experience (Lai et al., 1998). During the caregiving process, potential cognitive differences between the older adults with disabilities and chronic conditions and their carers, coupled with the physical, psychological, and financial burdens of caregiving alongside role conflicts, place carers in a state of prolonged overload. Conversely, the greater the intensity of social support, the better carers can cope with heightened physical and psychological stressors (Xu, 2016) .

Therefore, for carers—particularly those who are willing but unable or unwilling—the state and society must provide social support. This includes respite services, education on the physiological, psychological, and social processes of ageing and death(Ikeda-Sonoda et al., 2020),emotional support, establishing standardised care schedules to facilitate carer replacement and rotation, and offering professional information on home care.

5. Conclusion

This study examined the prevalence and determinants of unmet care needs among older adults with disabilities and chronic conditions in China, utilizing a nationally representative sample from the 2018 CLHLS survey. The findings reveal that half of the sampled population experienced unmet care needs, underscoring a significant gap in the long-term care system for this vulnerable group.

The analysis identified several key influencing factors rooted in Andersen’s behavioral model. Predisposing factors such as rural household registration (hukou), demand factors like the severity of disability, and enabling factors including economic hardship, inadequate livelihood resources, and primary caregivers’ unwillingness or inability to provide care were all significantly associated with higher odds of unmet needs. Notably, caregiver attitude emerged as a critical determinant, with unwilling or uncertain caregivers corresponding to substantially elevated unmet needs.

The study offers both theoretical and practical contributions. Theoretically, it validates and contextualizes Andersen's behavioral model within the framework of China’s aging population and socio-economic disparities. Practically, the findings highlight priority areas for intervention:

Systemic Support: There is an urgent need to develop and subsidize professional care services,

especially for those with moderate to severe disabilities who currently rely heavily on family caregivers lacking specialized skills.

Geographic and Economic Targeting: Policies should prioritize rural and economically disadvantaged older adults, who face compounded barriers to accessing adequate care. Integrating long-term care insurance with poverty alleviation initiatives could mitigate financial constraints.

Caregiver Empowerment: Enhancing social support for caregivers—through respite services, training, financial assistance, and emotional counseling—is essential to sustain caregiving willingness and capacity.

Health Education: Strengthening hypertension awareness and chronic disease management education among older adults and their families can help prevent disability progression and reduce care burdens.

This study has several limitations. The cross-sectional design prevents causal inference. The reliance on self-reported data may introduce recall or social desirability bias. Furthermore, the measure of unmet needs was based on perceived sufficiency of assistance, which may not fully capture objective care deficits. Future longitudinal research is needed to trace the dynamics of care needs and evaluate the impact of policy interventions.

In summary, addressing the unmet care needs of older adults with disabilities and chronic conditions requires a multi-faceted approach that integrates health services, social protection, and community support. By focusing on high-risk groups and strengthening both formal and informal care systems, policymakers and practitioners can work toward equitable and sustainable long-term care for China’s aging population.

Author Contributions:

Conceptualization, Xiangyu Chen; methodology, Wanting Lin; validation, Wanting Lin, ; formal analysis, Luyao Pan; investigation, Wanting Lin; resources, Luyao Pan.; data curation, Xiangyu Chen; writing—original draft preparation, Wanting Lin; writing—review and editing, Xiangyu Chen; visualization, Luyao Pan; supervision, Xiangyu Chen; project administration, Wanting Lin; funding acquisition, Luyao Pan.

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Informed Consent Statement:

Not applicable.

Conflict of Interest:

The authors declare no conflict of interest.

Data Availability Statement:

Data available in a publicly accessible repository.The original data presented in the study are openly available in [CHARLS] at or [2018 CHARLS Wave 4].

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References

Chen, M. M., Chen, P. L, Chen, C. M., Hsu, Y. Y.(2005). The impact of institutional respite services on the burden of primary caregivers for disabled elderly. Chang Gung Nursing, 16(2), 152-166.

Chen, Q. N. (2015). Disability prevention in the elderly. Journal of Long-Term Care, 19(02), 149-155.

Deng, X. R., Liu, Q. R., & Geng, L. (2022). Research status of unmet needs in home care for disabled elderly. Journal of Nursing Science, 37(16), 99-102.

Gao, C. Q., Zhang, X. L., Wu, B., & Zhang, K. N.. (2020). A study on chronic diseases, living conditions, and elderly care needs of severely disabled Dai, Tibetan, and Dong elderly. Economic Research Guide, (13), 37-39.

Gao, C. Q., Li, F. X., Liu, D., & Jia, X. J. (2017). Analysis of chronic disease disability status and rehabilitation needs of the elderly in Dai, Dong and Tibetan rural areas. Soft Science of Health, 31(11), 22-26.

Ikeda-Sonoda, S., Ichihara, N., Okochi, J., Takahashi, A., & Miyata, H. (2020). Association of care workers' job satisfaction and global happiness with change of functional performance of severely older adults with disabilities and chronic conditions residents in nursing homes: a cohort and questionnaire study in Japan. BMJ Open, 10(10), e033937.

Lai, F. M. & Lu, J. Y. (1998). The experiences of female caregivers of home-based disabled patients. The Journal of Nursing Research, 06(05), 372-382.

Xu, H. P., Li, J. C., Li, L. Q., Deng, C. Q., & Zhu, M. X. (2016). Stress and needs of primary caregivers of disabled elderly in Macao. Macau Journal of Nursing, 15(01), 9-14.