

# Distribution, Inequalities and Associated Factors of Unmet Medical Needs Among Older Adults: Evidence From The National Health Service Survey



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## BACKGROUND & OBJECTIVES

- Unmet medical needs (UMNs)**, defined as the subjective perception of not receiving appropriate medical care when needed, are a critical indicator of healthcare system vulnerabilities and the extent of universal health coverage.
- Analyzing UMNs and the associated inequalities can help understand the scale and nature of the medical service gaps in an aging society, which is vital for achieving universal health coverage.
- This study aims to investigate the distribution, determinants, and inequalities of UMNs among the older population in China.

## METHODS

- Data and sample:** the 2023 National Health Service Survey in Hainan, with a sample of 4112 adults aged 60 and above who completed a face-to-face questionnaire.
- Measures:** The UMNs were operationalized into four types: financial difficulty, access difficulty, perceived dissatisfaction, and other reasons. The Andersen Model was used to establish the study framework and the determinants include predisposing, enabling, and need factors.
- Analyses:** Chi-square tests and binary logistic regression were used to examine the factors associated with UMNs. Additionally, concentration indices and concentration curves to reflect the health inequalities in UMNs, and a decomposition approach was further employed to examine the contribution of each factor to these inequalities

Tab 3. Binary logistic analysis of factors associated with UMNs of the elderly (N = 4112)

	OR	SE	P-value	95% CI
<b>Gender (Ref: Male)</b>				
Female	1.043	0.093	0.641	(0.875, 1.242)
<b>Age (Ref: 60-69)</b>				
70-79	1.021	0.095	0.822	(0.850, 1.227)
≥80	0.748	0.102	0.033	(0.572, 0.977)
<b>Ethnics (Ref: Han)</b>				
Li	1.68	0.152	0	(1.408, 2.006)
Other	1.386	0.307	0.14	(0.898, 2.140)
<b>Marital status (Ref: Married)</b>				
Other	1.067	0.109	0.524	(0.873, 1.304)
<b>Education level (Ref: Illiterate)</b>				
Primary school	0.793	0.095	0.053	(0.627, 1.003)
Middle school	0.842	0.113	0.2	(0.646, 1.096)
High school	0.796	0.122	0.135	(0.590, 1.074)
College and above	0.664	0.2	0.174	(0.369, 1.198)
<b>Per capita household income (Ref: Q1)</b>				
Q2	0.733	0.076	0.003	(0.598, 0.897)
Q3	0.643	0.074	0	(0.513, 0.805)
Q4	0.699	0.085	0.003	(0.551, 0.886)
<b>Medical insurance (Ref: Yes)</b>				
No	0.784	0.163	0.243	(0.522, 1.179)
<b>Region (Ref: Eastern)</b>				
Central	0.896	0.098	0.315	(0.722, 1.111)
Western	1.333	0.136	0.005	(1.092, 1.627)
<b>Distance to nearest medical institution (Ref: &lt;1km)</b>				
1-2km	0.753	0.082	0.009	(0.609, 0.932)
2-3km	0.871	0.1	0.229	(0.696, 1.091)
>3km	0.946	0.101	0.604	(0.768, 1.166)
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## RESULTS

- 21.60% of the sample reported UMNs.
- Compared to the reference group, older adults who are of the Li ethnic group, had no personal income, did not participate in social activities, had no access to aging services, had a higher number of chronic diseases, and not physically independent had a higher likelihood of UMNs ( $P < 0.05$ ). (Table 3)
- Socioeconomic-related health inequalities existed in the UMNs of the older adults, with a higher concentration among those with poorer economic condition, lower educational level, and those living in the western region ( $P < 0.01$ ). (Figure 1) The top three contributing factors to these inequalities were ethnicity (-47.03%), number of chronic diseases (-36.93%), and household per capita income (-25.36%). (Table 4)

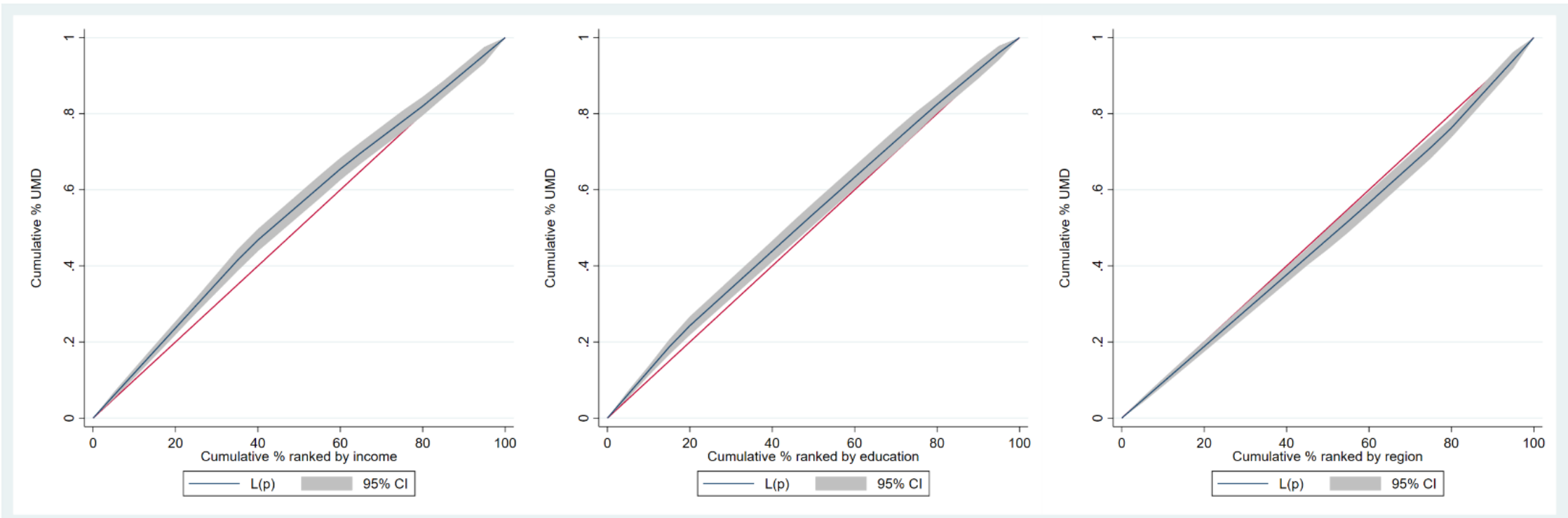


Fig 1. Concentration curves for socioeconomic-related inequalities in UMNs

Tab 4. Decomposition of the socioeconomic-related inequalities in UMNs

Variable	Elasticity	Margin effects	CI	Contribution to income-related CI (%)	Contribution to education-related CI (%)
Gender	0.057	0.008	0.018	-1.416	-1.778
Age	-0.109	-0.014	0.002	0.298	0.375
Ethnics	0.343	0.054	0.1	-47.032	-59.089
Marital status	0.068	0.008	-0.015	1.392	1.748
Education level	-0.087	-0.007	-0.058	-6.938	-8.716
Per capita household income	-0.253	-0.023	-0.073	-25.362	-31.864
Medical insurance	-0.185	-0.037	-0.004	-1.017	-1.278
Region	0.163	0.021	0.043	-9.603	-12.065
Distance to nearest medical institution	-0.027	-0.002	0.001	0.037	0.046
Personal income	0.239	0.037	0.063	-20.674	-25.974
Engaged in social activities	0.414	0.082	0.033	-18.725	-23.526
Access to aging services	0.285	0.05	0.02	-7.823	-9.828
Number of chronic diseases	0.191	0.08	0.141	-36.929	-46.397
ADL	-0.946	-0.098	-0.012	-15.578	-19.572

## CONCLUSIONS

- Our findings support the view that efforts to achieve equity in the provision of medical services should continue and remain a significant policy concern, especially in the context of the strategic pursuit of healthy aging and universal health coverage. Specifically, policy interventions should focus on expanding the coverage of medical services and address financial and non-financial barriers to accessing medical services, especially for poor and vulnerable individuals living in areas with fewer medical resources. .