

# Socioeconomic inequity and influence factors of inpatient service utilization in urban Shanghai from 2010 to 2021

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Hospital admission rate decreased from 2010 to 2021 in urban Shanghai, but there was still socioeconomic inequity in inpatient service utilization.

## BACKGROUND

Although inpatient service utilization improved in recent years, inequity was still existed worldwide and in China. This study aimed to understand the trend, socioeconomic inequity, and influence factors of inpatient service utilization in urban Shanghai.

## METHODS

- Data from three waves of health service investigations among the community population in Xuhui District, Shanghai conducted in 2010, 2015, and 2021 were included into this study.
- The hospital admission rate was described by income and educational level from 2010 to 2021.
- The concentration index was used to estimate the socioeconomic inequity in inpatient service utilization.
- Binary logistic regression was established to explore the influence factors for inpatient service utilization.

## RESULTS

- From 2010 to 2021, the hospital admission rate decreased from 6.25% to 3.12%. Hospital admission rates showed a downward trend with income increasing in 2015 and 2021, with education level increasing in 2010, 2015, and 2021.
- Income-related concentration indexes of inpatient service utilization were -0.026 in 2010, -0.123 in 2015, and -0.093 in 2021.
- Educational level-related concentration indexes of inpatient service utilization were -0.132 in 2010, -0.154 in 2015, and -0.140 in 2021.
- Age $\geq$ 60 years (OR=1.39, 95%CI=1.16, 1.66), having a junior middle school degree (OR=0.75, 95%CI=0.62, 0.90), having a senior middle school degree (OR=0.62, 95%CI=0.51, 0.75), having a college degree and above (OR=0.78, 95%CI=0.65, 0.95), being unemployed (OR=1.97, 95%CI=1.52, 2.56), being retired (OR=1.53, 95%CI=1.23, 1.90), having a health examination (OR=1.33, 95%CI=1.19, 1.50), with any chronic disease (OR=5.56, 95%CI=4.75, 6.50) were significantly associated with inpatient service utilization.

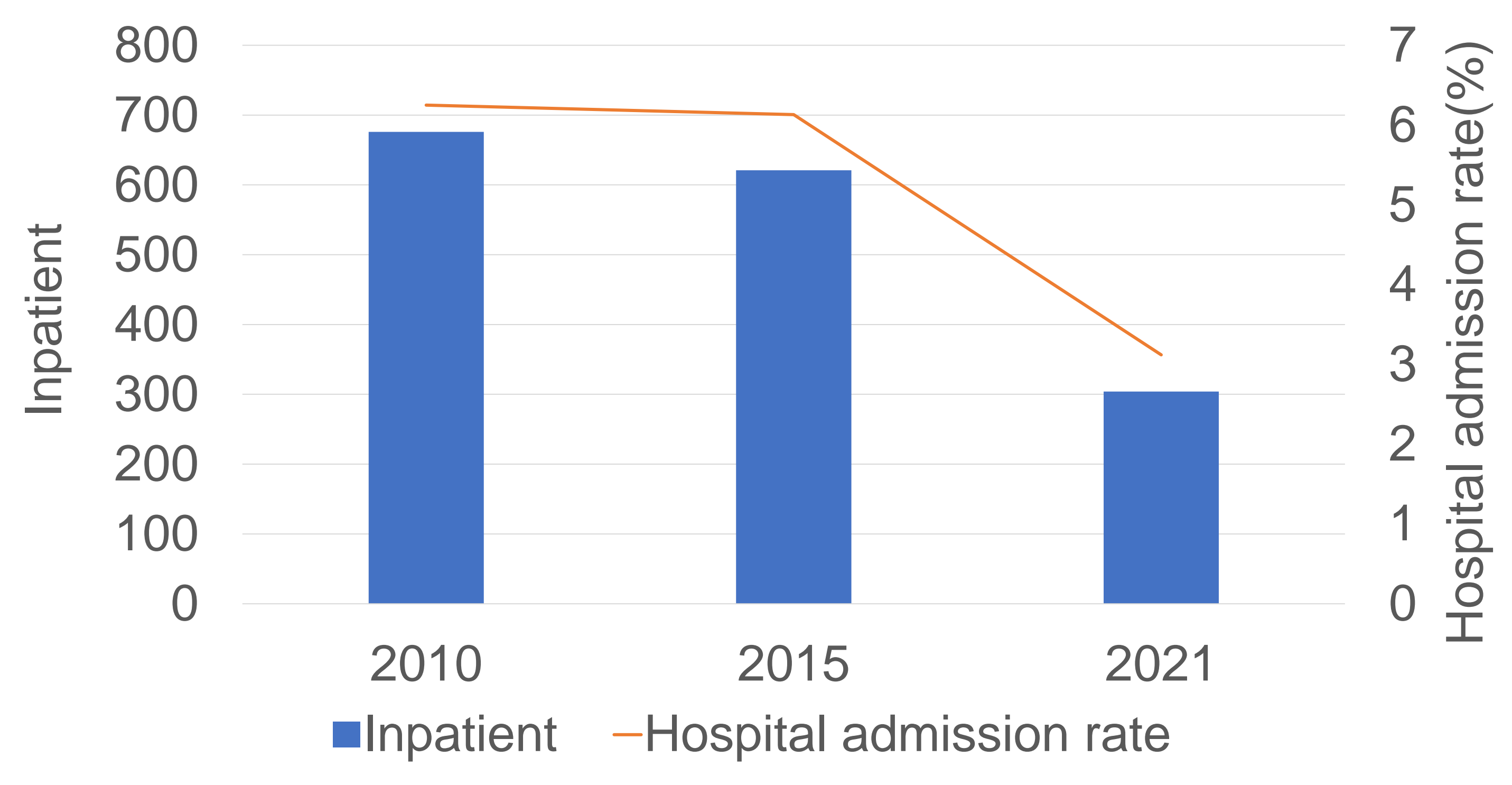


Figure 1 Inequity of inpatient service utilization

## RESULTS CONTINUED

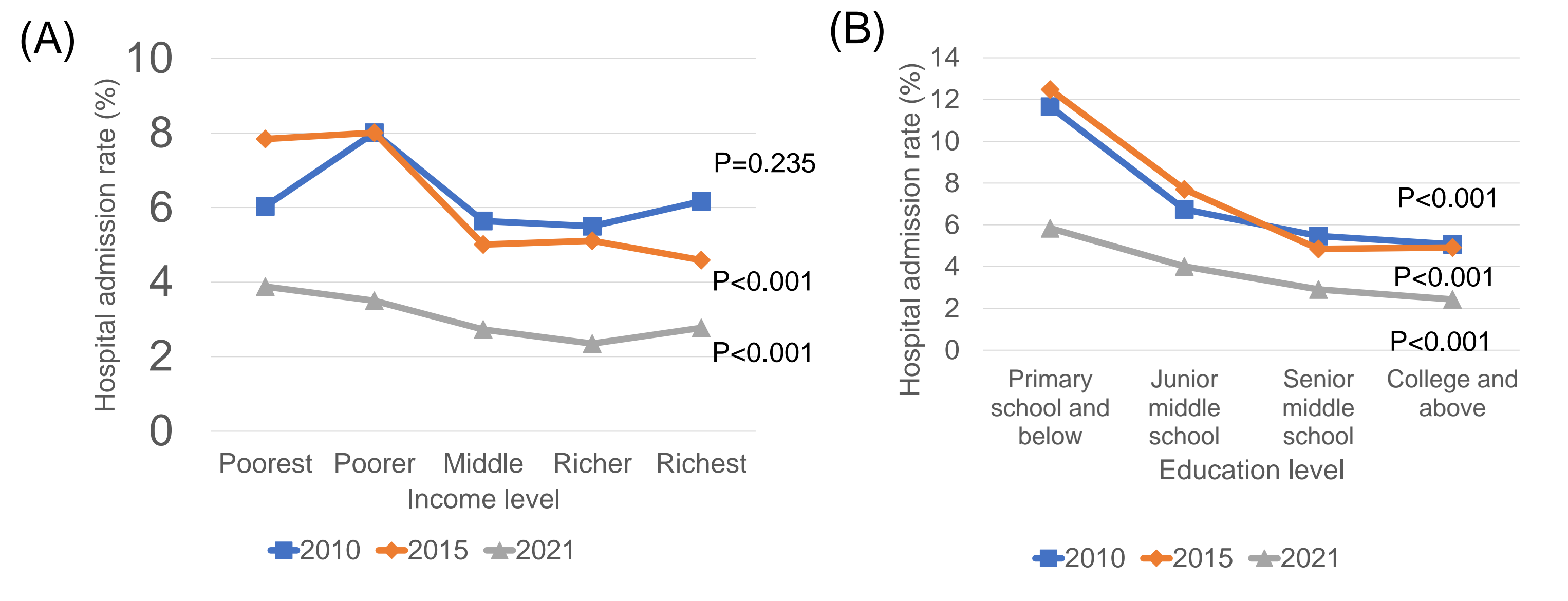


Figure 2 Inpatient service utilization by income (A) and education (B)

Table 1 Influencing factors of inpatient service utilization

Variables	OR(95%CI)	P	Variables	OR(95%CI)	P
Age, year			Income		
<60			Poorest	ref	
$\geq$ 60	1.39(1.16, 1.66)	<0.001	Poorer	0.95(0.79, 1.13)	0.543
Sex			Middle	0.95(0.80, 1.12)	0.539
Men	ref		Richer	1(0.84, 1.21)	0.932
Women	1.02(0.91, 1.15)	0.717	Richest	1.16(0.94, 1.43)	0.156
Marital status			Medical insurance		
Others	ref		No	ref	
Married	1.17(1.00, 1.37)	0.058	Yes	0.8(0.57, 1.12)	0.191
Education			Health Examination		
Primary school and below	ref		No	ref	
Junior middle school	0.75(0.62, 0.90)	0.002	Yes	1.33(1.19, 1.50)	<0.001
Senior middle school	0.62(0.51, 0.75)	<0.001	Chronic disease		
College and above	0.78(0.65, 0.95)	0.013	No	ref	
Census register			Yes	5.56(4.75, 6.50)	<0.001
Others	ref		Year		
Shanghai	0.81(0.64, 1.03)	0.08	2010	ref	
Employment status			2015	0.81(0.71, 0.93)	0.003
Employed	ref		2021	0.43(0.36, 0.52)	<0.001
Retired	1.53(1.23, 1.90)	<0.001			
Unemployed	1.97(1.52, 2.56)	<0.001			

## CONCLUSIONS

- Hospital admission rate showed a downtrend from 2010 to 2021 in urban Shanghai.
- There was socioeconomic inequity in inpatient service utilization, which was pro-poor and pro-lower education.
- Age, educational level, employment status, health examination, and chronic disease were possible influence factors for inpatient service utilization

## ADDITIONAL KEY INFORMATION

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