

Comparison of generic drug prices between China and the United States

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INTRODUCTION

Since 2019, China's Drug National Centralized Volume-based Procurement (NVBP) policy has significantly reduced drug prices and resulted in significant cost savings. However, it is unclear that the relative international level of drug prices after price reductions.

OBJECTIVE

To compare the generic drug procurement prices between China and the United States (US).

METHODS

We compared generic drugs under NVBP in China and the counterpart drugs with the same dosage forms and strengths procured by the major US public sectors. Drug price data of China were retrieved from public announcement of the 9 waves of NVBP. We sourced US Federal Supply Schedule (FSS) prices, National Contract (NC) prices, and Big Four prices (The maximum price a drug manufacturer is allowed to charge the Big Four federal agencies, which are the Department of Veterans Affairs (VA), the Department of Defense, the Public Health Service (including the Indian Health Service), and the Coast Guard) from the VA website. After calculating the median price for each generic drug, prices in China and the US were adjusted to 2023 using consumer price index (CPI), with further adjustment to US dollar price according to annual average exchange rate (AAER) and purchasing power parity (PPP), respectively. Then the median price ratios of China to the US for each generic drug were calculated.

RESULTS

China has seen a total of 321 winner generics in the 9 waves of NVBP tender since 2019. After screening the winner generic drugs in terms of comparable dosage forms and strengths across China and the US, 150 generics with 192 dosage forms and strengths were analyzed. The overall median price ratio was 41.0% (IQR 11.3%-127.6%) under AAER, however, the prices of 53 (27.6%) generic drugs in China were higher than that in the US. Under PPP, the overall median price ratio was 80.2% (IQR 22.2%-249.7%), while the prices of 81 (42.2%) generic drugs in China were higher than that in the US.

Table 1 Median price ratios of China to the US

China prices v.s. US prices (US prices = 1)	No. of comparable drugs	
	AAER-adjusted	PPP-adjusted
Median Price Ratio >1	53 (27.6%)	81 (42.2%)
Median Price Ratio <1	139 (72.4%)	111 (57.8%)

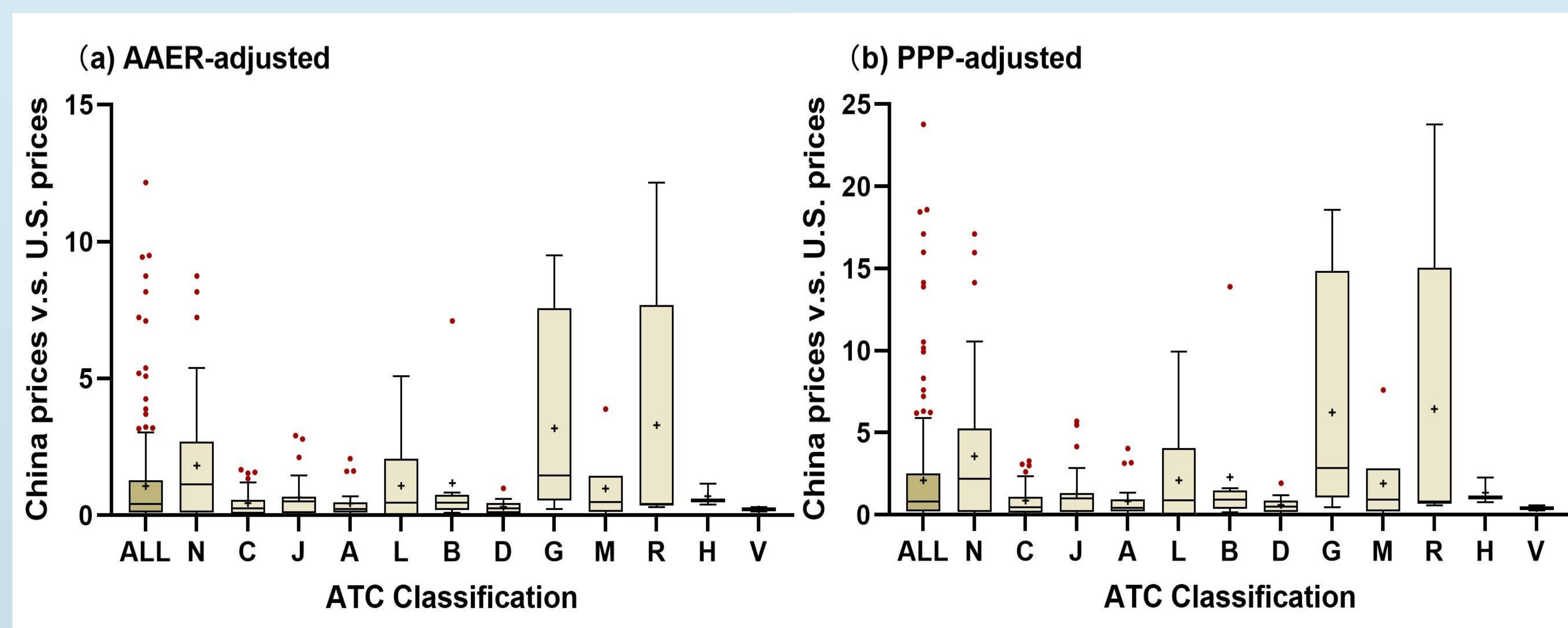


Fig.1 The overall median price ratios of comparable drugs between China and the US.

NOTE: U.S. prices=1; '+' represents the average value in box charts

ABBREVIATIONS: N: Nervous system; C: Cardiovascular system; J: Anti-infective for systemic use; A: Alimentary tract and metabolism; L: Antineoplastic and immunomodulating agents; B: Blood and blood forming organs; D: Dermatological; G: Genito urinary system and sex hormones; M: Musculo-skeletal system; R: Respiratory system; H: Systemic hormonal preparations, excluding sex hormones and insulins; V: Various

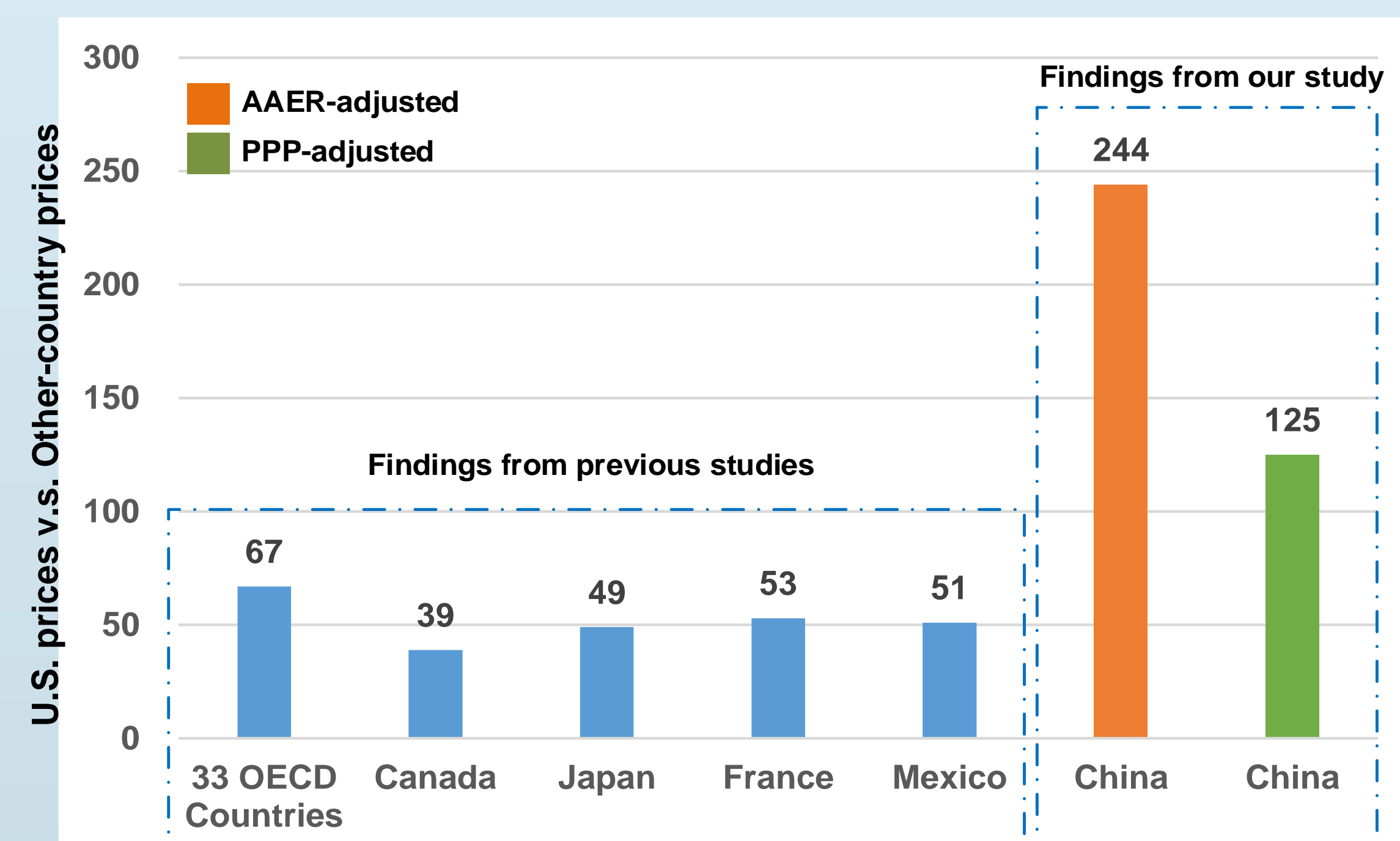


Fig.2 US unbranded generic drug prices as a percentage of other countries' prices

NOTE: Other-countries' prices=100

SOURCE:RAND REPORT, 2024.

DISCUSSION

We compared our findings with those of previous studies (Fig. 2) in attempt to find out where China's generic drug procurement prices level stood internationally. Generic drug prices in the US (not just procurement prices) were lower than that in OECD countries such as Canada, Japan, France and Mexico. Our results showed that generic drug procurement prices in the U.S. were 244 or 125 percent higher than that in China, while the existence of higher generic drug procurement prices in China compared to US was still a concern. Also, generic drug procurement prices in China compared to the other countries needs further investigation in order to gain a wider comparison picture.

CONCLUSION

Although NVBP resulted in deep cut of generic drug price, a certain number of NVBP generic drugs in China still had a higher price than that in the US.

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