



# Impacts of Long-Term Prescription Policy on Primary Care Utilization and Costs Among Hypertensive Patients in China: A Difference-in-Differences Analysis

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## Background

- Patients with chronic diseases are often treated in primary care settings and need to take drugs for a long time to control their conditions.
- China has implemented the long-term prescription policy recently, which allowed patients who register with family doctors to have up to 12-weeks prescription.
- This study aims to evaluate the impact of this policy on healthcare utilization and costs at community health centers (CHCs) among hypertensive patients.

## Methods

- **Sample city:** A capital city in southeastern China
- **Study population:** Hypertensive patients enrolled in chronic disease management in 2014
- **Data Source:**
  - ① Chronic disease management database(2014-2017) : demographic characteristics; family doctor contracted record
  - ② Health insurance claim database (2014-2019): healthcare utilization and costs
- **Intervention:** Long-term prescription policy implemented in 2018
- **Statistical analysis:** Difference-in-differences (DID) model, compare healthcare utilization and costs between who were eligible for long-term prescription policy and who were not

## Results

- A total of 164,857 hypertensive patients were included with average age as 69.93 years old.
- The average annual number of outpatient visits at CHCs was 19.82 in 2017, with growth rate of 27.79% from 2014, while decreased to 16.10 in 2019.

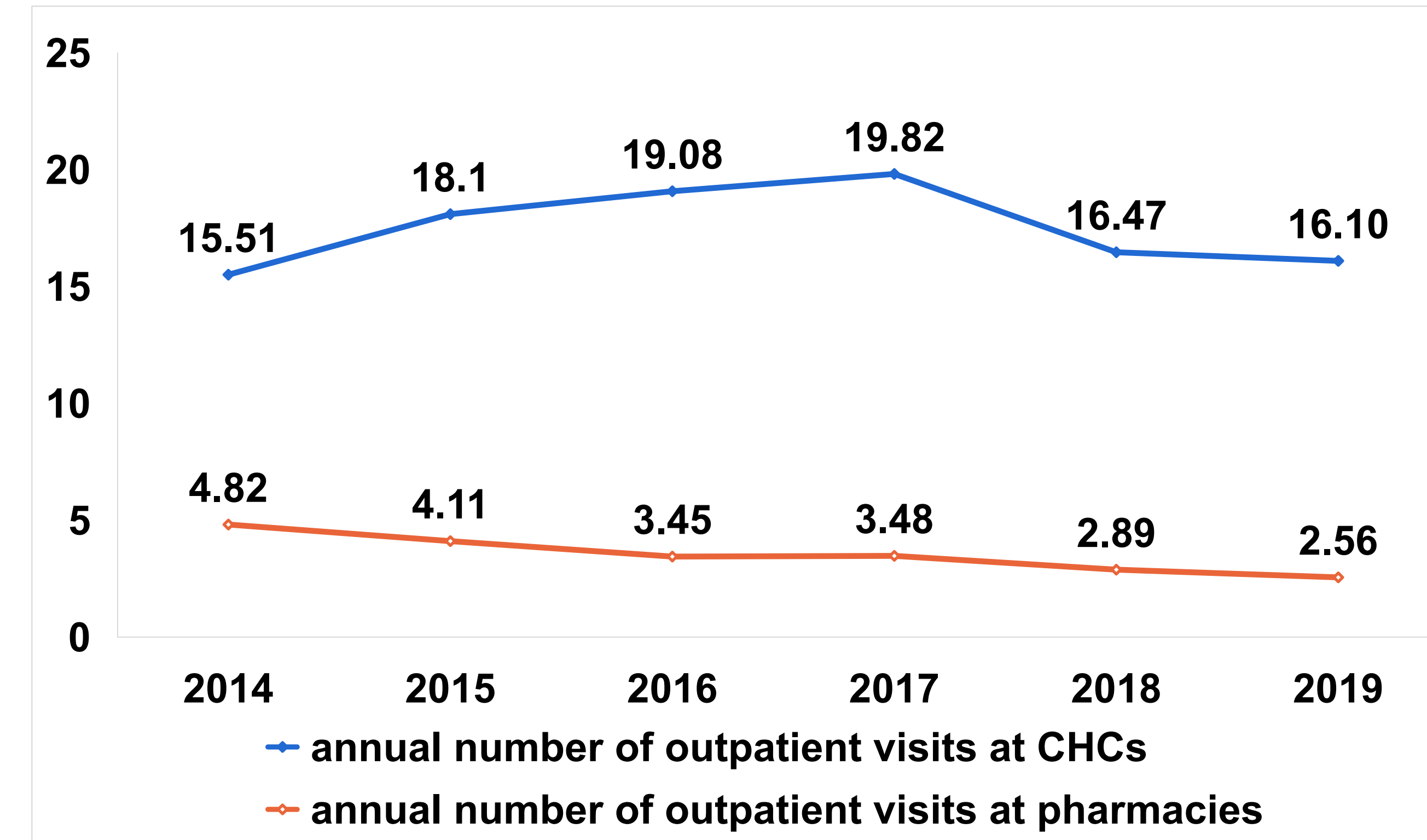


Fig1 Hypertensive patients' utilization at primary care in 2014-2019

- The median interval of prescriptions at CHCs was 24.50 days in 2017, with decrease rate of 18.55% from 2014, whilst prolonged to 29.72 days in 2019.

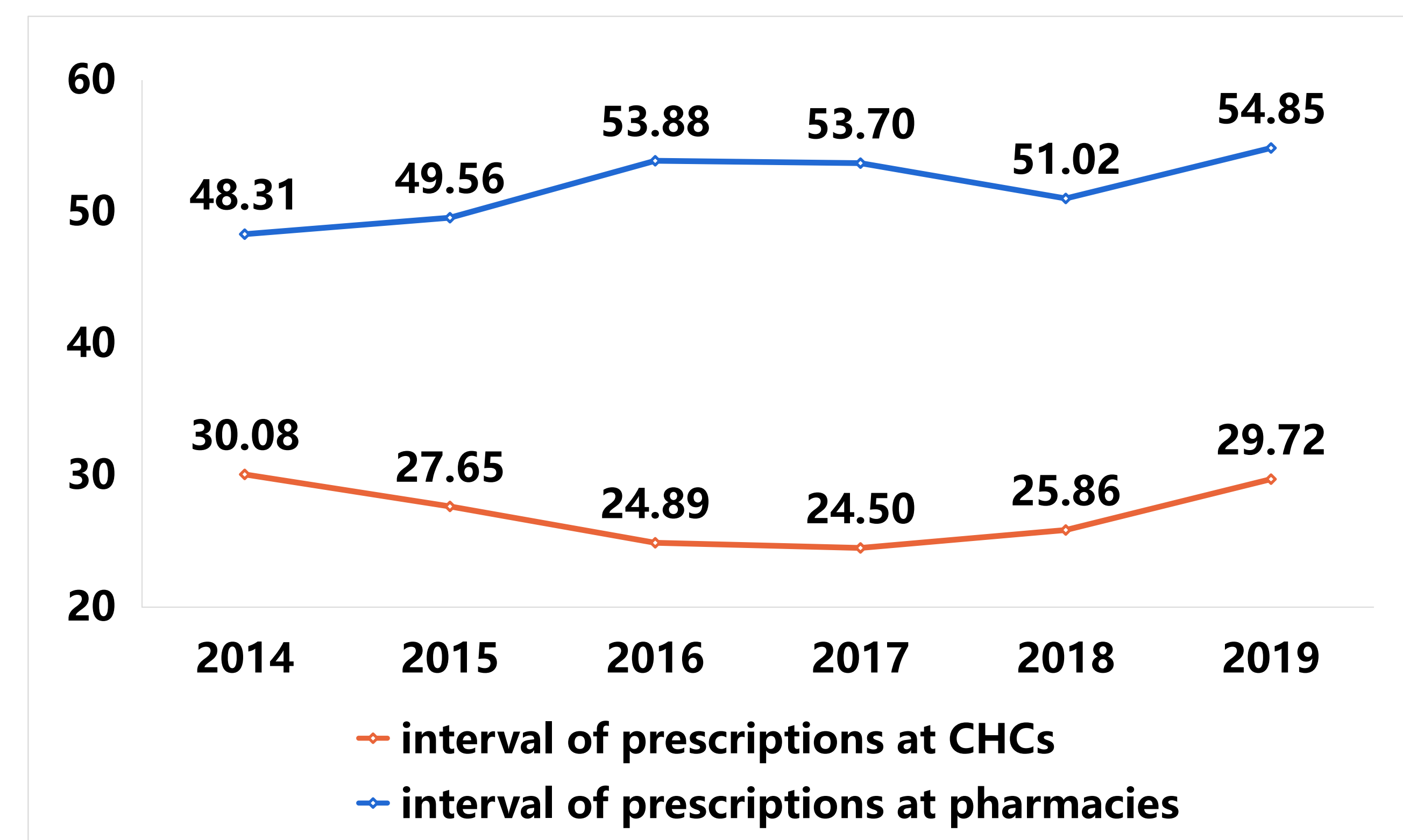


Fig2 Hypertensive patients' interval of prescriptions at primary care in 2014-2019

- The average annual outpatient costs at CHCs were USD 1,007.29 and USD 991.02 in 2017 and 2019, respectively.

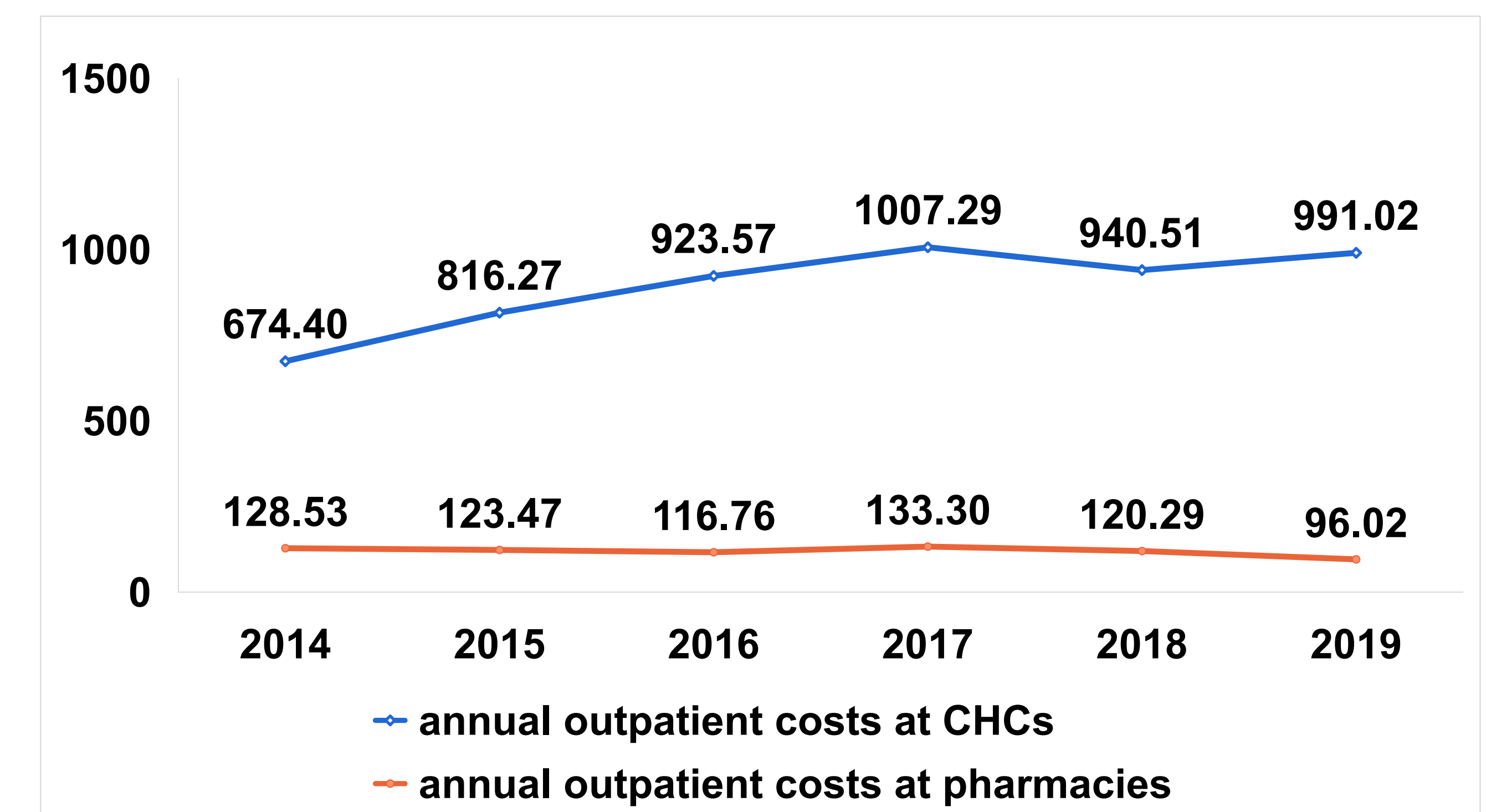


Fig3 Hypertensive patients' costs at primary care in 2014-2019

- **Impact on healthcare utilization:** The long-term prescription policy significantly reduced the annual outpatient visits by 2.44 at CHCs and 0.19 at pharmacies, prolonged the median interval of prescriptions by 3.16 days at CHCs.
- **Impact on healthcare costs:** It reduced the average annual drug costs at pharmacies by 48%, but there was no significant effect on the annual outpatient costs at CHCs.

Table1 DID outcomes

Outcome Variables	DID estimates
annual number of outpatient visits at CHCs	-2.44**
annual number of outpatient visits at pharmacies	-0.19*
interval of prescriptions at CHCs	3.16**
interval of prescriptions at pharmacies	-0.09
annual outpatient costs at CHCs	0.05
annual outpatient costs at pharmacies	-0.48**

\* P <0.05, \*\* P <0.01

## Conclusions

- Long-term prescription policy effectively prolonged the intervals of prescriptions and reduced the number of patient visits for drug refills.
- Its impact on healthcare costs needs to be further observed.