



# Trends of Outpatient Medication Adherence among Patients with Type 2 Diabetes in China

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## Introduction

### Background

- Adherence to medication is a crucial part of diabetes mellitus type 2 (T2DM) patients care and indispensable for improving health outcomes
- It is necessary to provide insight into the current profile of medication adherence among T2DM patients
- There is a lack of long-term research on medication adherence of T2DM patients based on real-world data in China

### Objectives

- To examine the trends of outpatient medication adherence among T2DM patients in China

## Method

### Data source

- Cohort data from chronic disease management database and health insurance claim database in an eastern provincial capital city of China

### Study population

- T2DM patients. Individuals diagnosed with type 2 diabetes in 2014 were identified as target population and their drug used records were tracked in the year of 2014, 2016 and 2019

### Outcome variables

- The following drug classes were included: biguanides(BI), sulfonylureas(SU), meglitinides(ME), TZDs,  $\alpha$ -glucosidase inhibitors(AGIs), DPP-4i, insulin, GLP-1RA
- Medication usage was defined by the percentages of users
- Medication adherence was measured by proportion of days covered (PDC) at individual level.  $PDC \geq 0.8$  was defined as high medication adherence

### Statistical Analysis

- Descriptive analysis and statistical test were employed to demonstrate the trends of medication usage and adherence

## Result

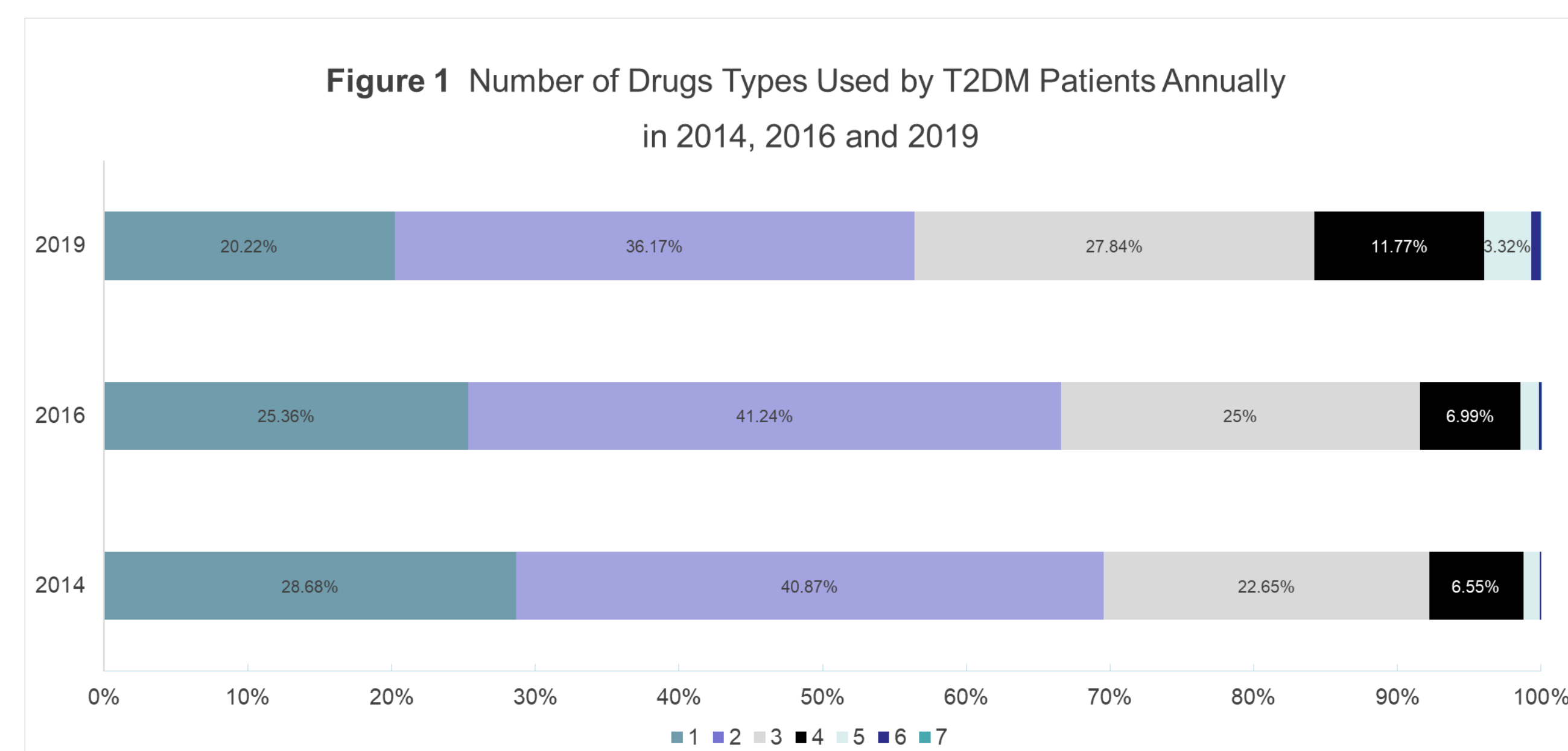
### Demographics

- A total of 20,270 T2DM patients were included in this study with average age of 67.75 years old

### Drug usage

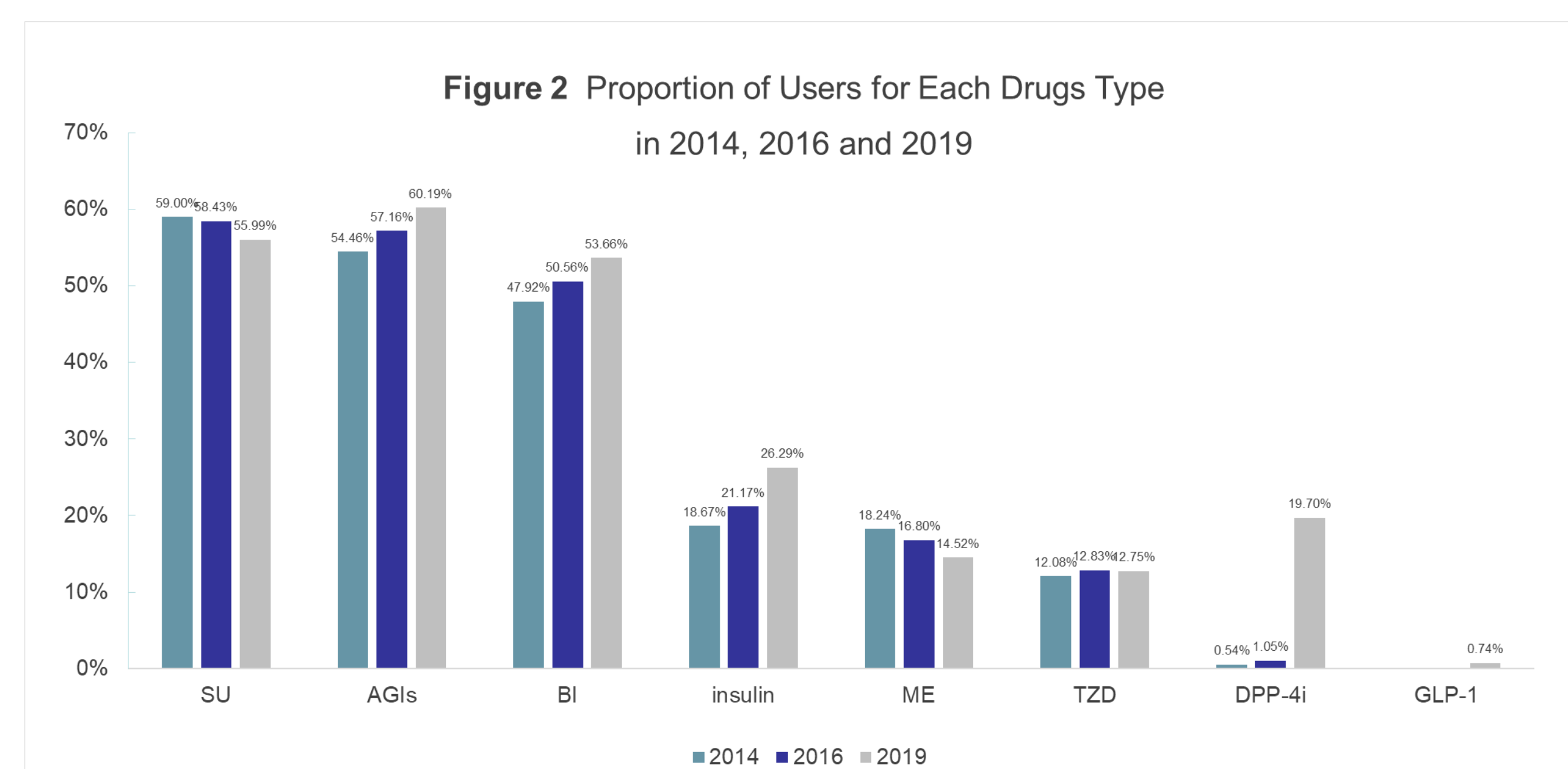
#### Number of drugs types used annually

- The proportion of monotherapy decreased from 28.68% in 2014 to 20.22% in 2019
- Patients using two types of medication annually are the most numerous, with a proportion of 40.87% in 2014, 41.24% in 2016, and 36.17% in 2019
- Number of patients using three or more types of drugs within a year was increasing



#### Proportion of users for each drugs type

- The three types of drugs most commonly used were sulfonylureas,  $\alpha$ -glucosidase inhibitors and biguanides



### Medication adherence

#### PDC of observation years

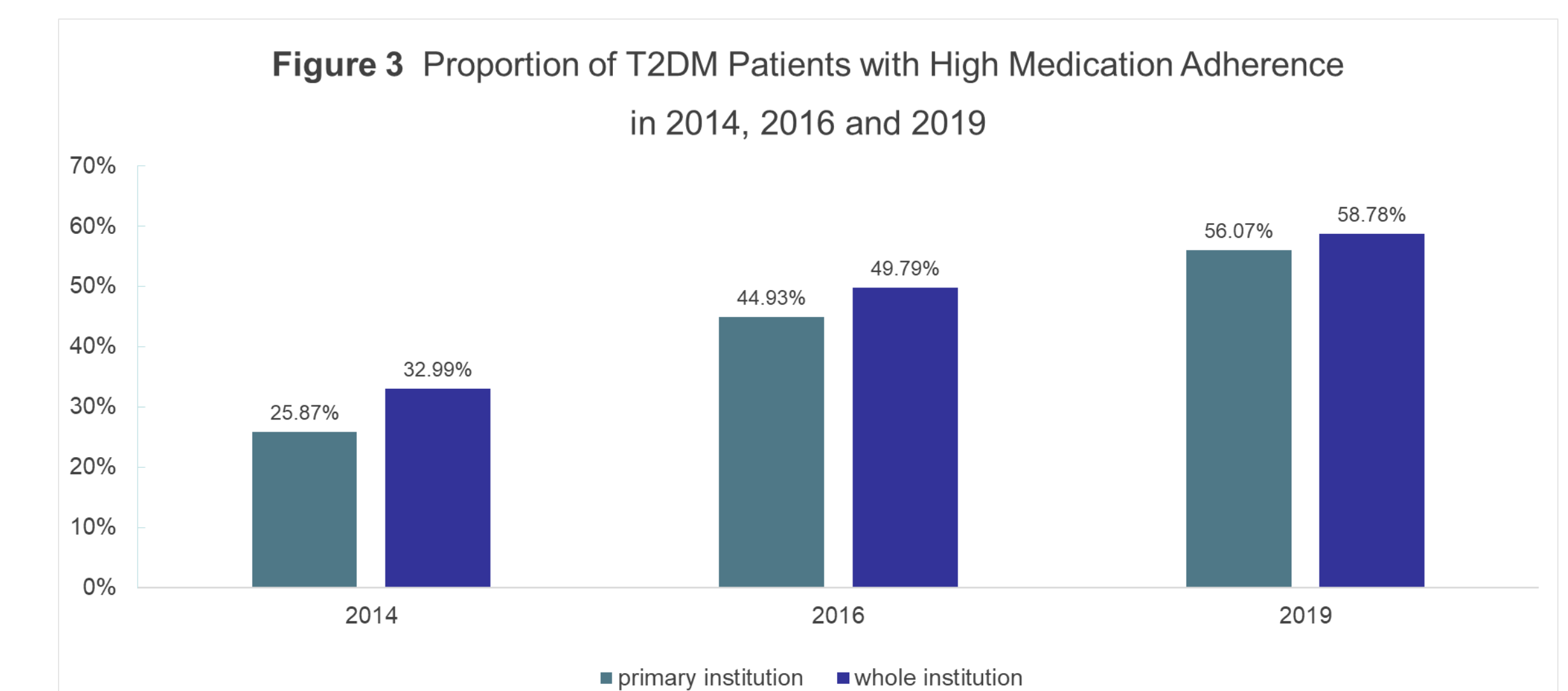
- The average outpatient PDC among T2DM patients in both whole institutions and primary institutions reflected a rising trend ( $p < 0.01$ )

**Table 1** PDC of T2DM Patients in whole institutions and primary institutions in 2014, 2016 and 2019

	2014		2016		2019	
	Average, %, Mean (SD)	Median, %	Average, %, Mean (SD)	Median, %	Average, %, Mean (SD)	Median, %
Whole institutions	62±27	64	73±24	80	77±24	86
Primary institutions	55±29	53	69±27	75	74±26	84

#### Medication adherence classification

- The proportion of patients with high medication adherence in whole institution in 2014, 2016, and 2019 was 32.99%, 49.79%, 58.78%, revealing a significant increase ( $p < 0.01$ )
- In primary institution, the proportion of patients with high medication adherence was 25.87%, 44.93%, 56.07% in observation years, reflecting a rising trend, too ( $p < 0.01$ )



## Conclusions

- The overall medication adherence among T2DM patients was improving during recent years while more efforts should still be made to elevate the level to be high adherence