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## INTRODUCTION

ST-elevation myocardial infarction (STEMI) is a severe manifestation of potentially preventable cardiovascular (CVD) disease.

Statins, antihypertensives, and antiplatelet agents lower CVD risk but are often underused.

## AIM

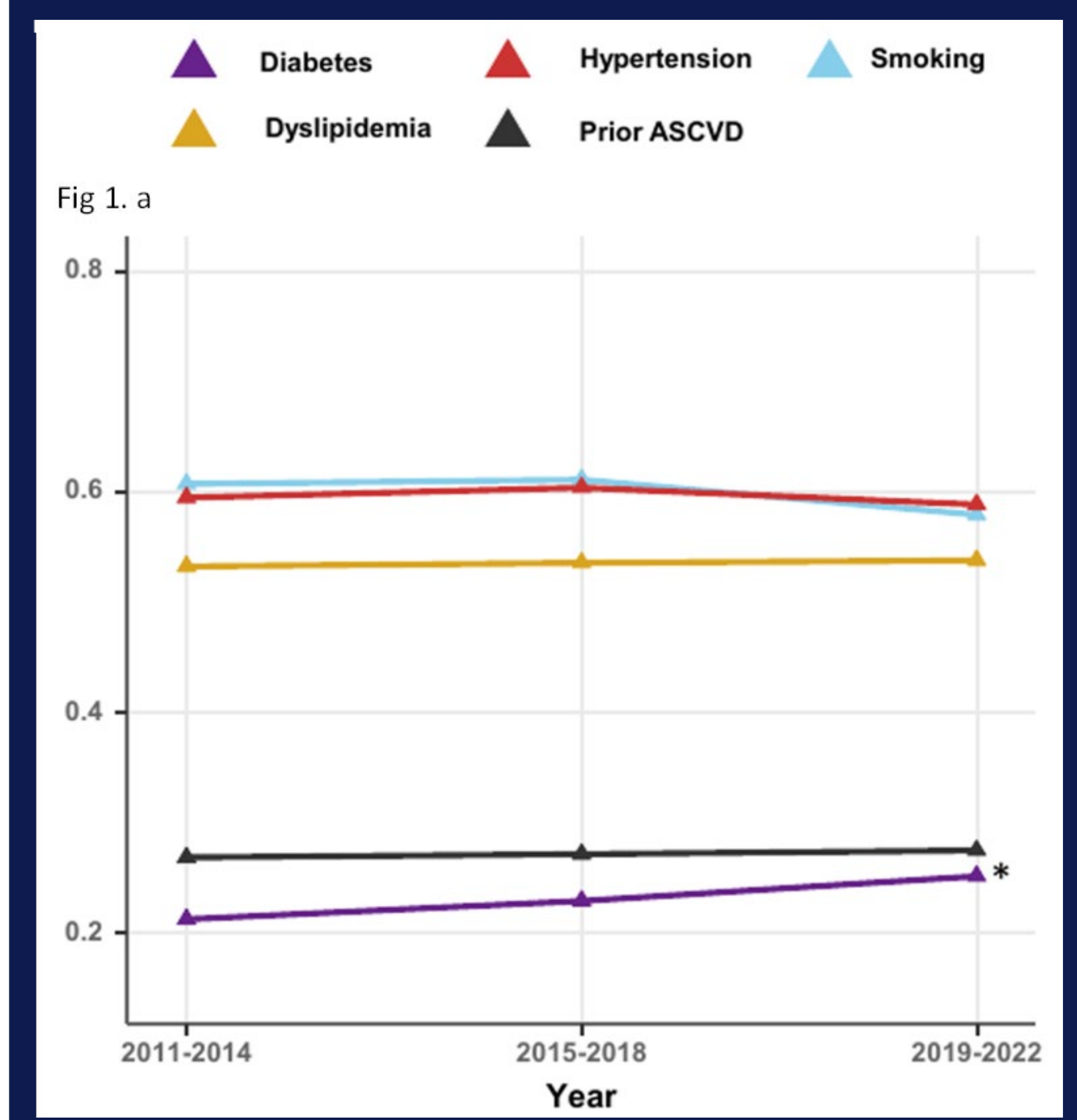
To assess the prevalence of CVD risk factors and use of preventive CVD medications over the past 10+ years in a large Midwest STEMI system.

## METHODS

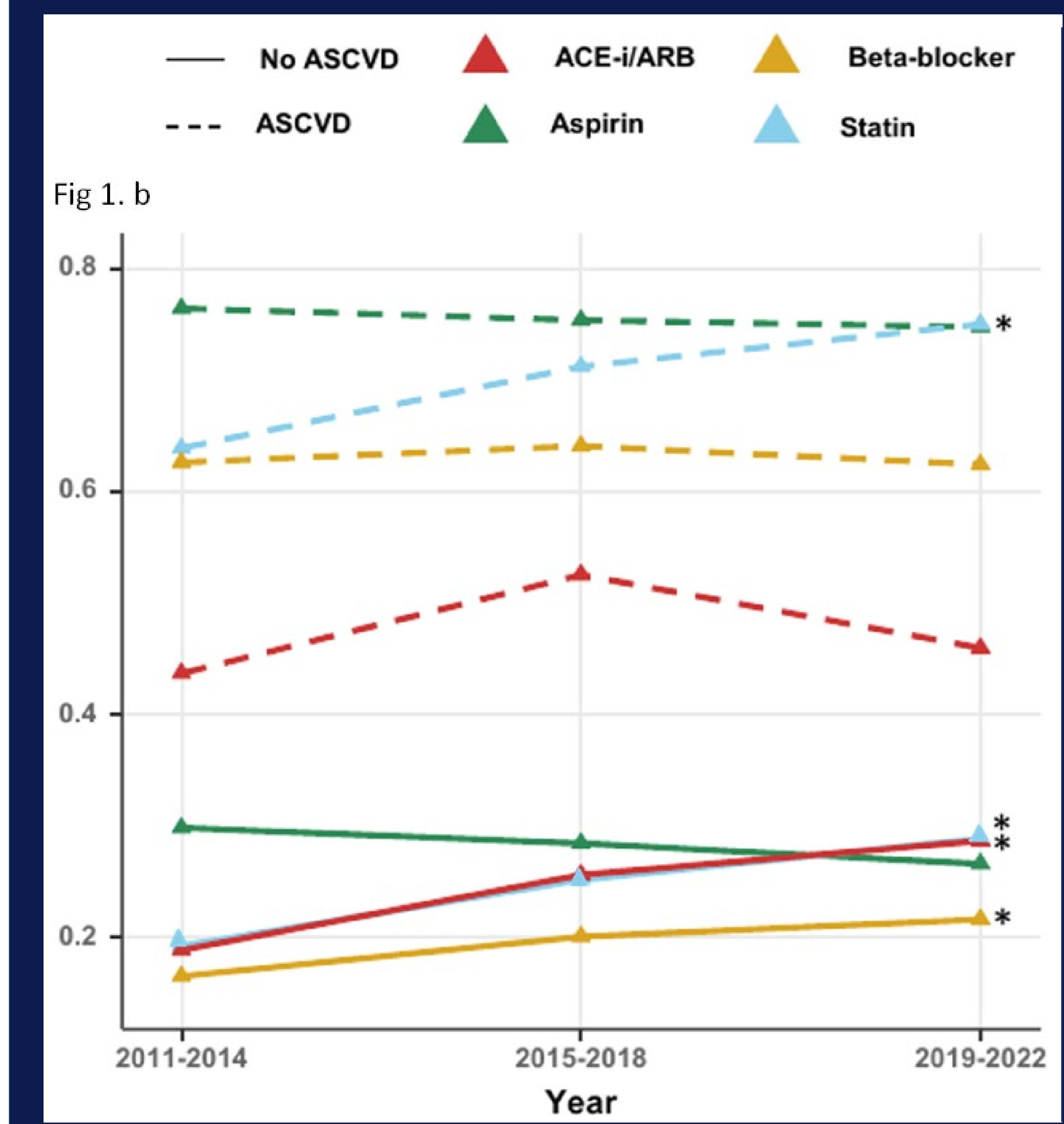
**Analysis** → Consecutive STEMI patients from the Level One STEMI program at the Minneapolis Heart Institute between 2003 and 2023.

**Variables collected** → Baseline demographics, traditional CVD risk factors, and pre-admission CVD medications.

## Prevalence of CVD risk factors and use of preventive CVD medications during 2011-14, 2015-2018, and 2019-2022 in 7,854 STEMI patients



**7,854**  
first-time STEMI patients



Pearson's Chi-Squared; \*p<0.05, comparing 2011-14 to 2019-22

Table 1. Baseline Characteristics

Characteristics	Total population 7,854
Age	64 (54, 74)
Female	2,369 (30%)
White	7,111 (93%)
Dyslipidemia	4,138 (54%)
Diabetes	1,617 (20%)
Hypertension	4,569 (59%)
Smoker	2,465 (32%)
Prior CVD	2,013 (27%)

Abbreviations:  
• ACE-i: Angiotensin-converting enzyme inhibitor  
• ARB: Angiotensin receptor blocker  
• ASCVD: Atherosclerotic Cardiovascular Disease

## RESULTS

The sample (n=7,854) was relatively young (mean age 64 years) with a high prevalence of dyslipidemia (54%) and hypertension (59%). (Table 1)

More than 70% of STEMI patients had no prior ASCVD, which has remained stable over the past decade (Figure 1a).

Comparing 2011-14 to 2019-22, there were no significant changes in the prevalence of smoking, hypertension, prior CVD, or dyslipidemia, but diabetes increased from 21% to 25% (p=0.012) (Figure 1a).

In those without prior CVD, statin use prior to STEMI increased from 19% to 29% (p<0.01), ACE-i/ARB from 19% to 29% (p<0.01), and beta-blockers from 17% to 22% (p<0.05), with a non-significant decline in use of aspirin. Secondary prevention statin increased from 64% to 75% (p<0.01), with no change in other medications, including aspirin (Figure 1b).

## CONCLUSIONS

- In a sample of >7,800 patients with STEMI, >70% had no clinical ASCVD prior to STEMI, which has remained unchanged over time
- The prevalence of traditional CVD risk factors prior to STEMI has remained stable except for a slight increase in diabetes
- Utilization of preventive CVD medications remains suboptimal, especially in primary prevention.
- Better methods of CVD risk assessment and implementation of current guidelines are needed.