

# Early Capture Prevents Fatal Rupture- A QI Project to Improve AAA Screening in a rural hospital

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## BACKGROUND

- Abdominal aortic aneurysm (AAA) is a localized enlargement of the abdominal aorta with a diameter >3 cm or >50% larger than normal.
- AAA is usually asymptomatic, except during rupture, but may include pain in abdomen, leg or back.
- According to one study, ruptured AAAs were found in 5.6 of 100,000 persons (8.4/100,000 men and 3.0/100,000 women) <sup>1</sup>.
- The overall mortality rate for ruptured AAA is 88% <sup>1</sup>.
- In the United States, ruptured AAA is estimated to cause 4 to 5% of sudden deaths<sup>2</sup>.
- Based on one study, cost effectiveness with timely screening was estimated at 7600 USD per life gained based on all cause mortality and 19,500 USD per life-year gained based on AAA mortality<sup>3</sup>.
- For early diagnosis of AAA and prevention of rupture, the USPSTF recommends 1-time screening for AAA with ultrasonography in men aged 65 to 75 years who have ever smoked<sup>1</sup>.

## PROBLEM

At our institution, the screening rates have been low. The potential reasons include:

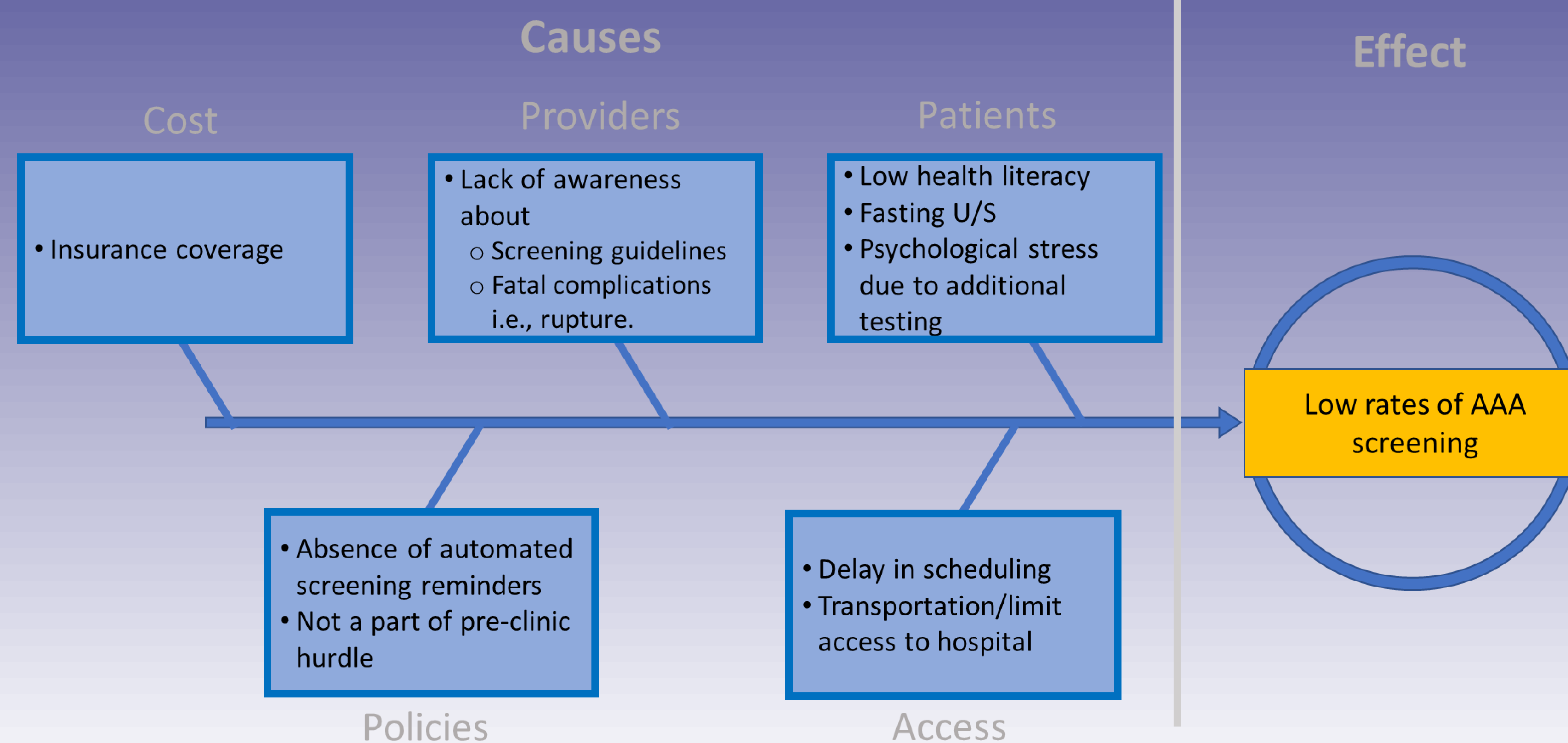
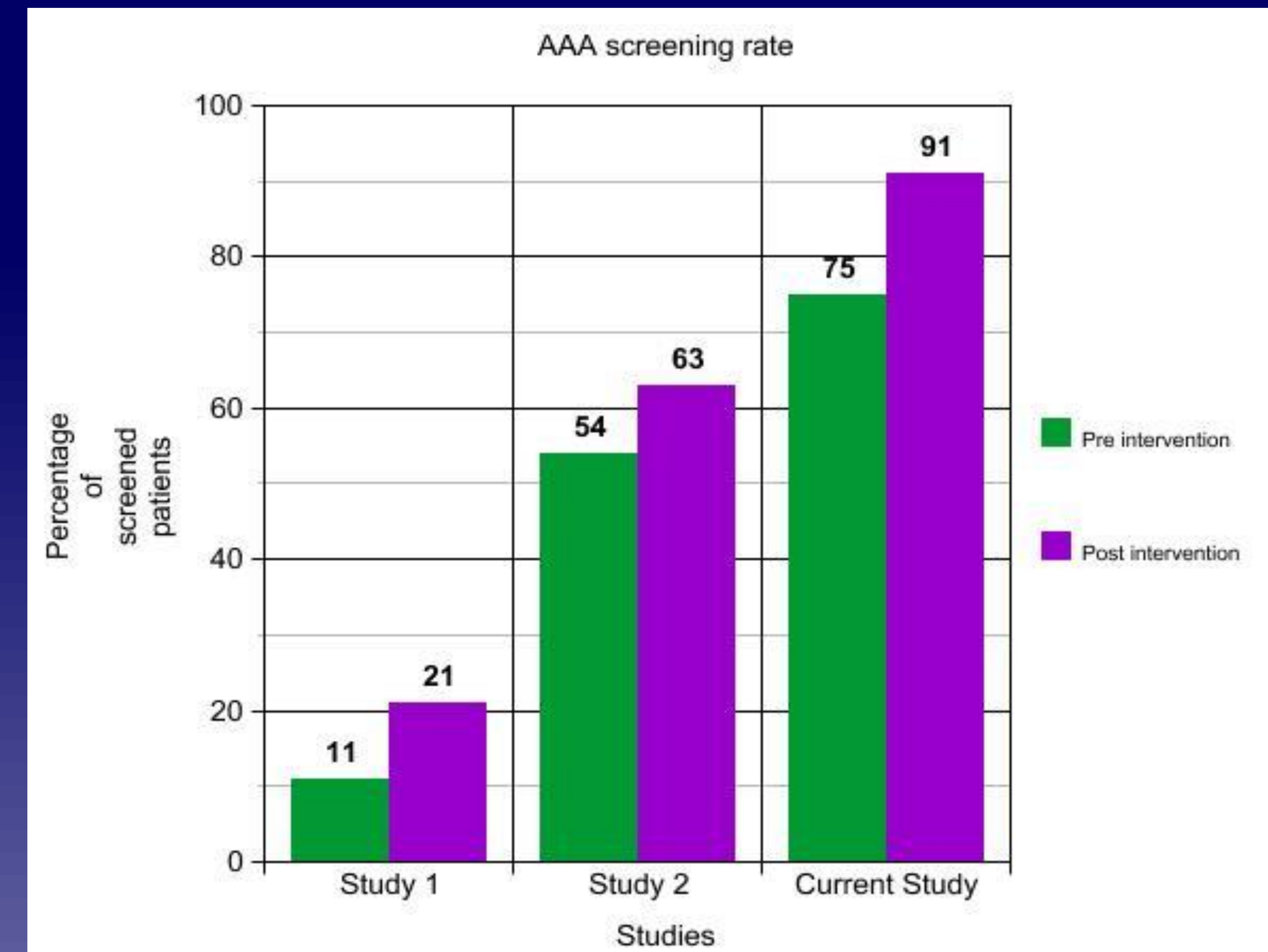
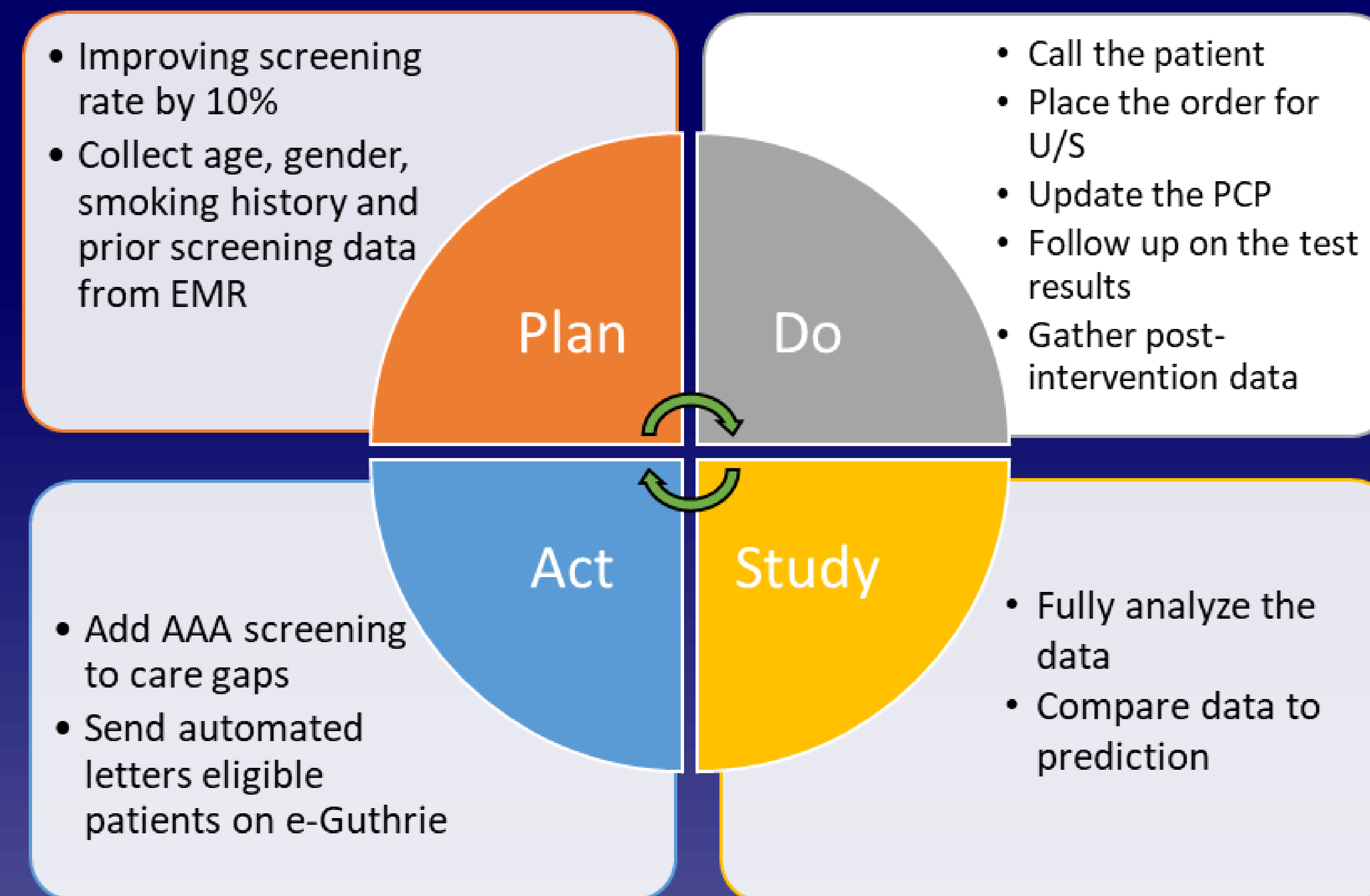
1. Rural community and lack of education
2. Lack of awareness, knowledge among providers and patients.
3. Time constraints in clinics
4. Patient compliance
5. Cost of screening

Before our intervention, screening rate was 71% in both resident and attending patient panels.

## METHODS/INTERVENTIONS

- The study was planned as a prospective quality improvement study that also included a retrospective review of records. Data was reviewed using electronic health records. Around 94 males above the age of 65 years eligible for abdominal aortic aneurysm screening are included in this study. The first step involved the collection of pre-intervention data on eligible patients. The next step involved educating the resident physicians about the appropriate screening and counseling strategies with an emphasis on current USPSTF screening guidelines and cost-effectiveness of the screening. Subsequent steps included weekly reminders to the providers, calling patients who were due for AAA screening and post-interventional data analysis. The primary outcome was assessed as an improvement in AAA screening rate in the internal medicine clinic patient panel. Secondary outcome was aimed at including AAA screening as a part of pre-clinic hurdle.

## Calling and effective counseling significantly increases the screening rate of abdominal aortic aneurysm (AAA)



## RESULTS

As a result of frequent calling, effective counseling and reminder calls, the screening rate improved from 70% to 91%, which was nearly 20% above our goal.

Automated letters were also sent to the patients after the screening results were back. PCPs were updated.

	Percentage of Screened Patients (%)	
	Pre-Intervention	Post-Intervention
Previous Study (N = 43)	54	63
Current Study (N = 94)	75	91

## CONCLUSIONS

- Strategies like effective counselling, provider/patient education, daily reminders result in a noticeable improvement in AAA screening rate. Long-lasting strategies to sustain this improvement can include sending automated e-letters to eligible patients on periodic basis