

Vascular Quality of Care Assessment: How Admission to a Vascular Surgery Service Affects Evidence Based Risk Factor Modification in Patients with Lower-Extremity Peripheral Arterial Disease



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Peripheral arterial disease (PAD) is a prevalent condition that affects 12% to 29% of the elderly population in North America and is associated with a high risk of cardiovascular morbidity and mortality. PAD guidelines recommend aggressive risk factor modification to improve cardiovascular outcomes for patients.

OBJECTIVES

We studied the degree to which patient admission to a vascular surgery service increased the use of antiplatelet agents, ACE inhibitors, ARBs and statins. We also examined the documented or presumed reasons for not prescribing these medications. Finally we investigated whether there were differences in prescribing rates according to type of admission (emergent vs. elective) and patient sex.

METHODS

The authors conducted a retrospective chart review of patients admitted to the vascular surgery service at the University Health Network from January 2010 through July 2010. Inclusion in the study required:

- a diagnosis of lower-extremity PAD
- a best possible medication history (BPMH)
- a discharge summary including a list of discharge medications

A multidisciplinary clinical team established criteria by which patients were deemed eligible to receive each of the recommended therapies:

Therapy	Number of patients
Antiplatelet therapy (n=13)	0 5 0 7 0 1
hypersensitivity	
upper GI bleed	
thrombus	
patient on oral anticoagulation; no other indication for AP	
advised family MD to prescribe or restart	
other*	
ACE inhibitor or ARB (n=27)	1 0 0 0 0 4 17 2 1 2
creatinine >221 µmol/L	
intolerable cough	
bilateral renal artery stenosis	
single kidney+ unilateral renal artery stenosis	
angioedema, hives or severe rash with use	
hyperkalemia	
acute renal dysfunction	
symptomatic hypotension	
advised family MD to prescribe or restart	
other†	
Statin (n=5)	2 0 2 0 1
Allergy or intolerance	
History of myalgia and/ or elevated CK	
hepatic impairment	
advised family MD to prescribe or restart	
other*	

Table 1: Number of patients with clinically acceptable reasons for not receiving guideline therapies

Recommended pharmacologic therapies include:

- an antiplatelet agent
- an angiotensin converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB)
- an HMG-CoA-reductase inhibitor (statin)

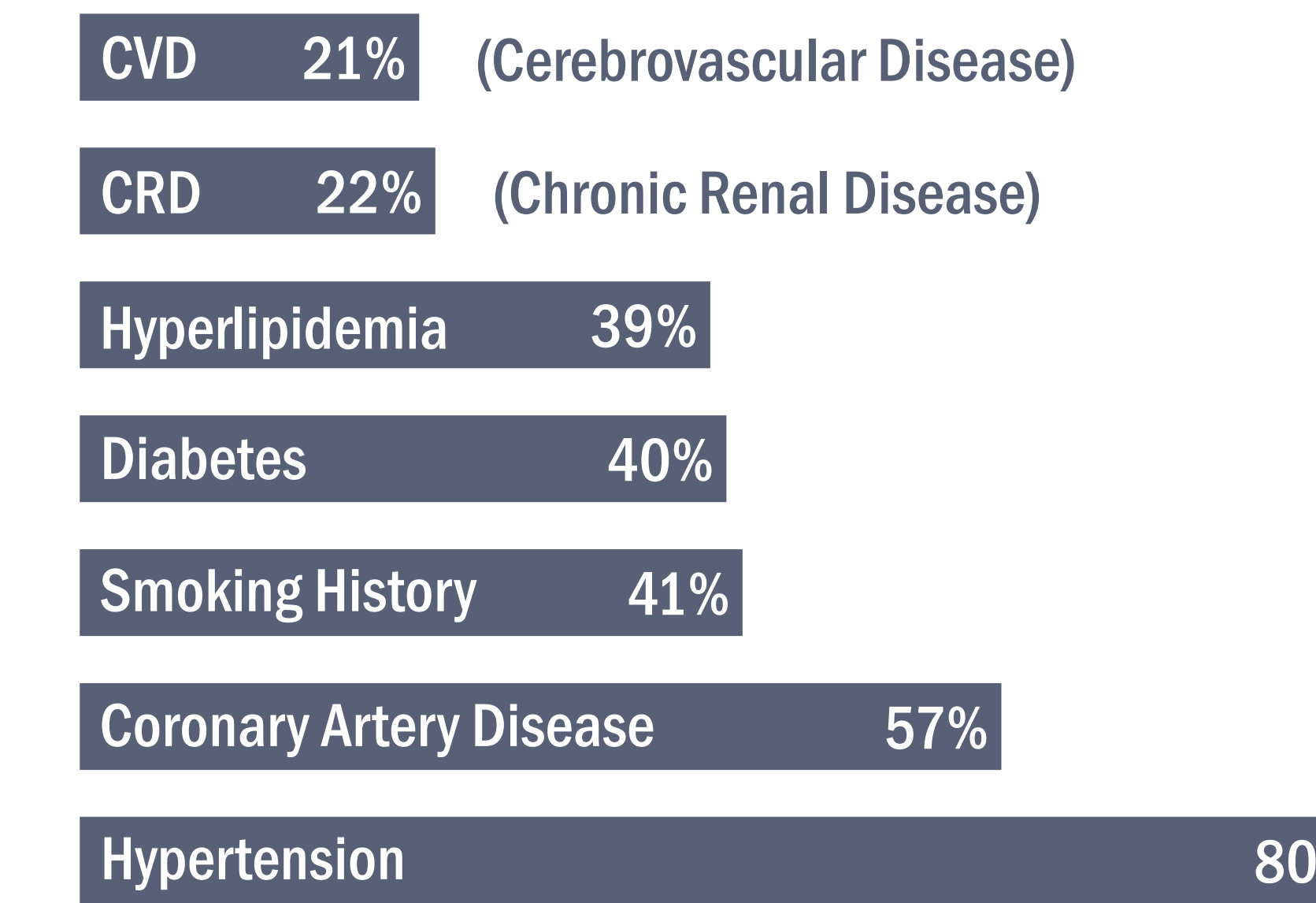
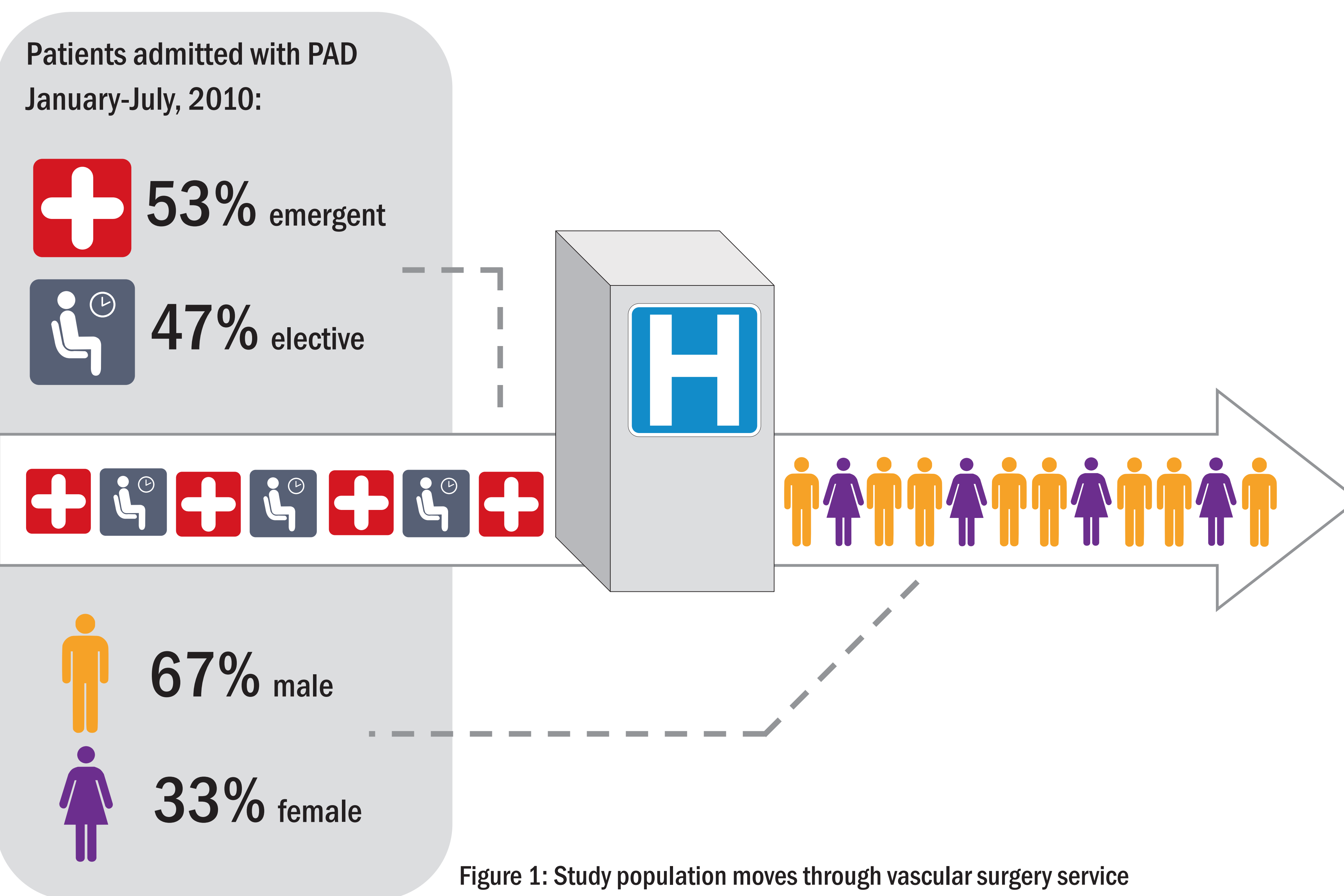


Figure 2: Comorbidities in study population

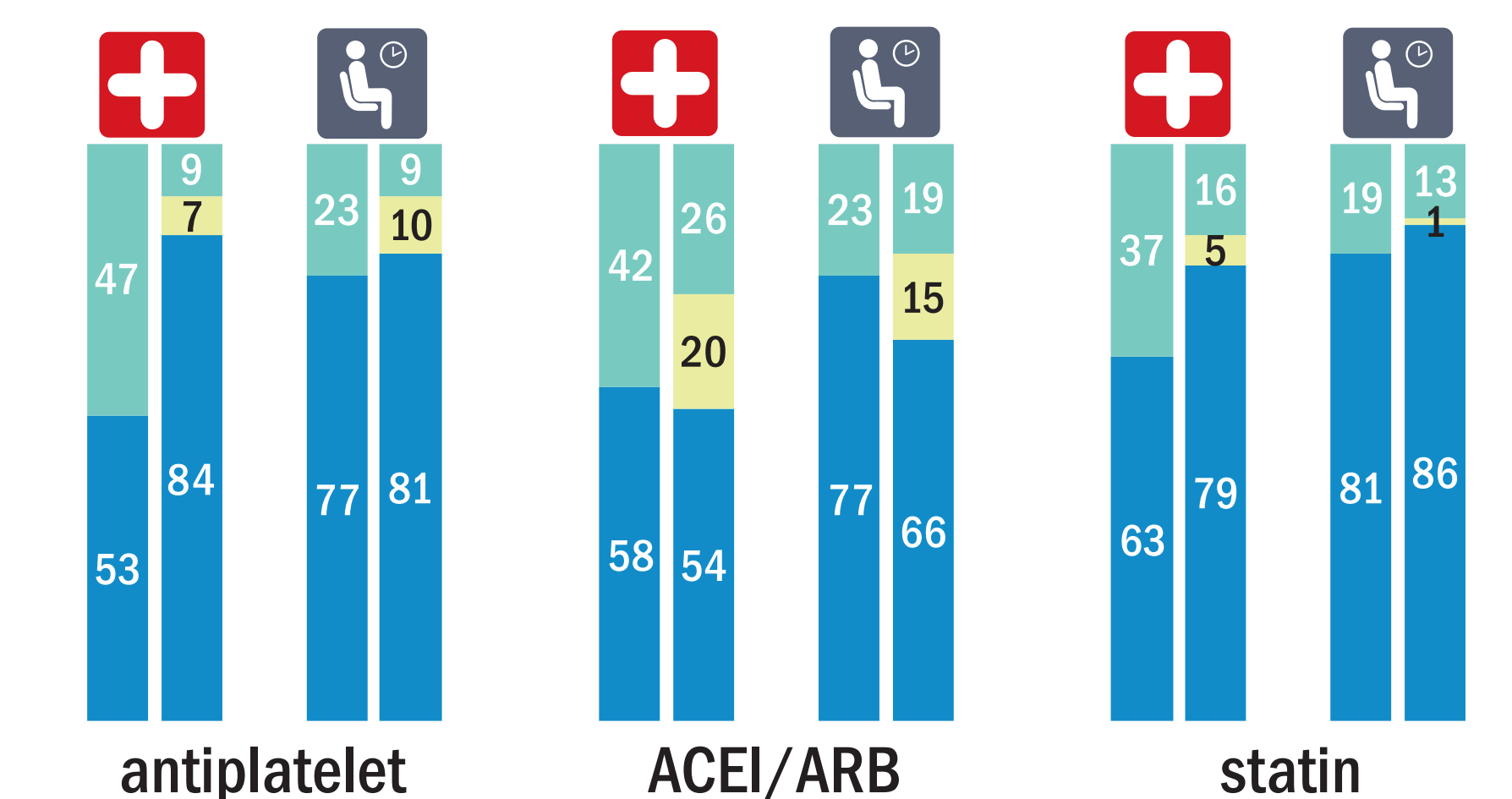


Figure 4: Percentages of patients on therapies pre-admission and at discharge, stratified by admission type

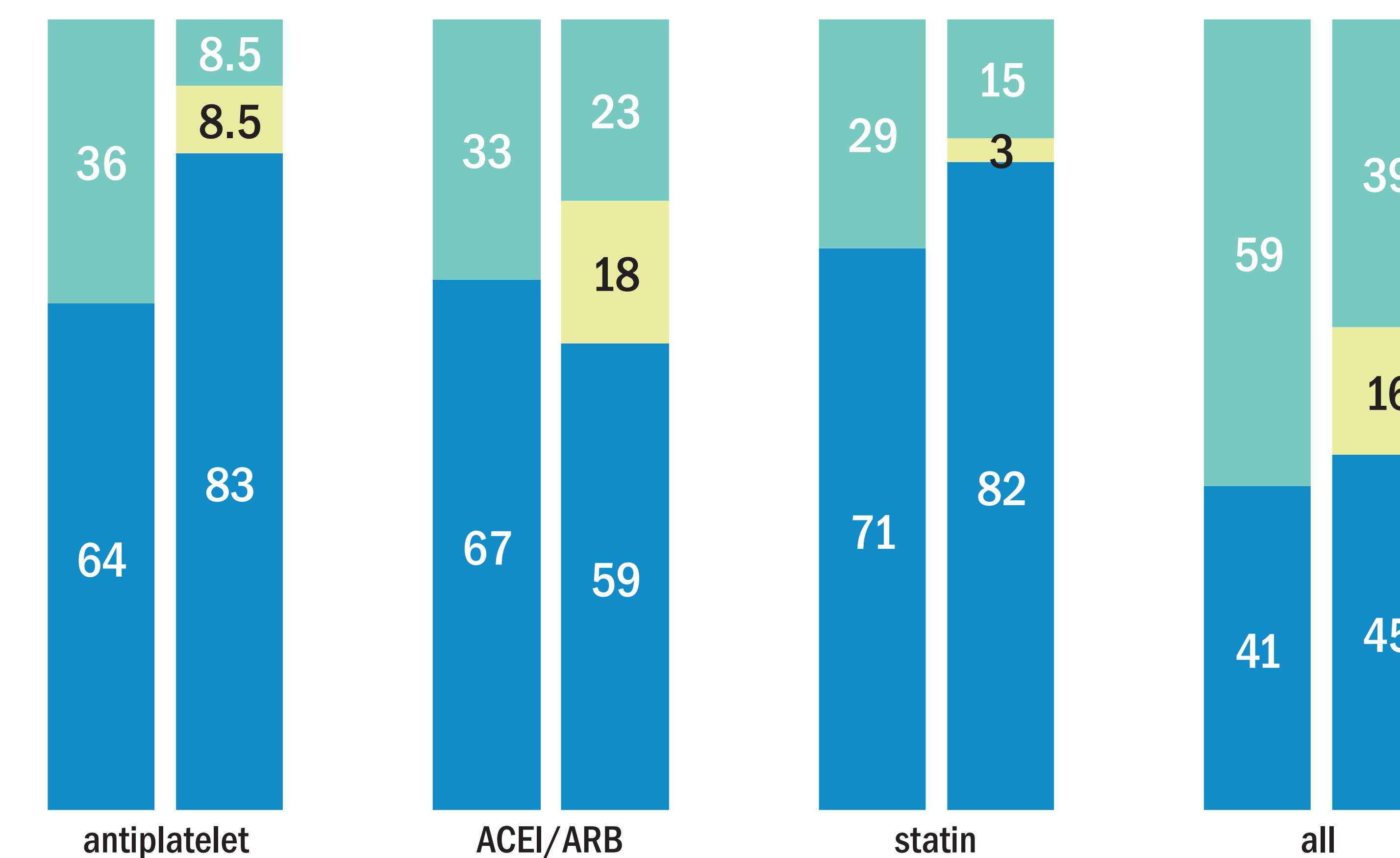


Figure 3: Percentages of patients on therapies pre-admission and at discharge

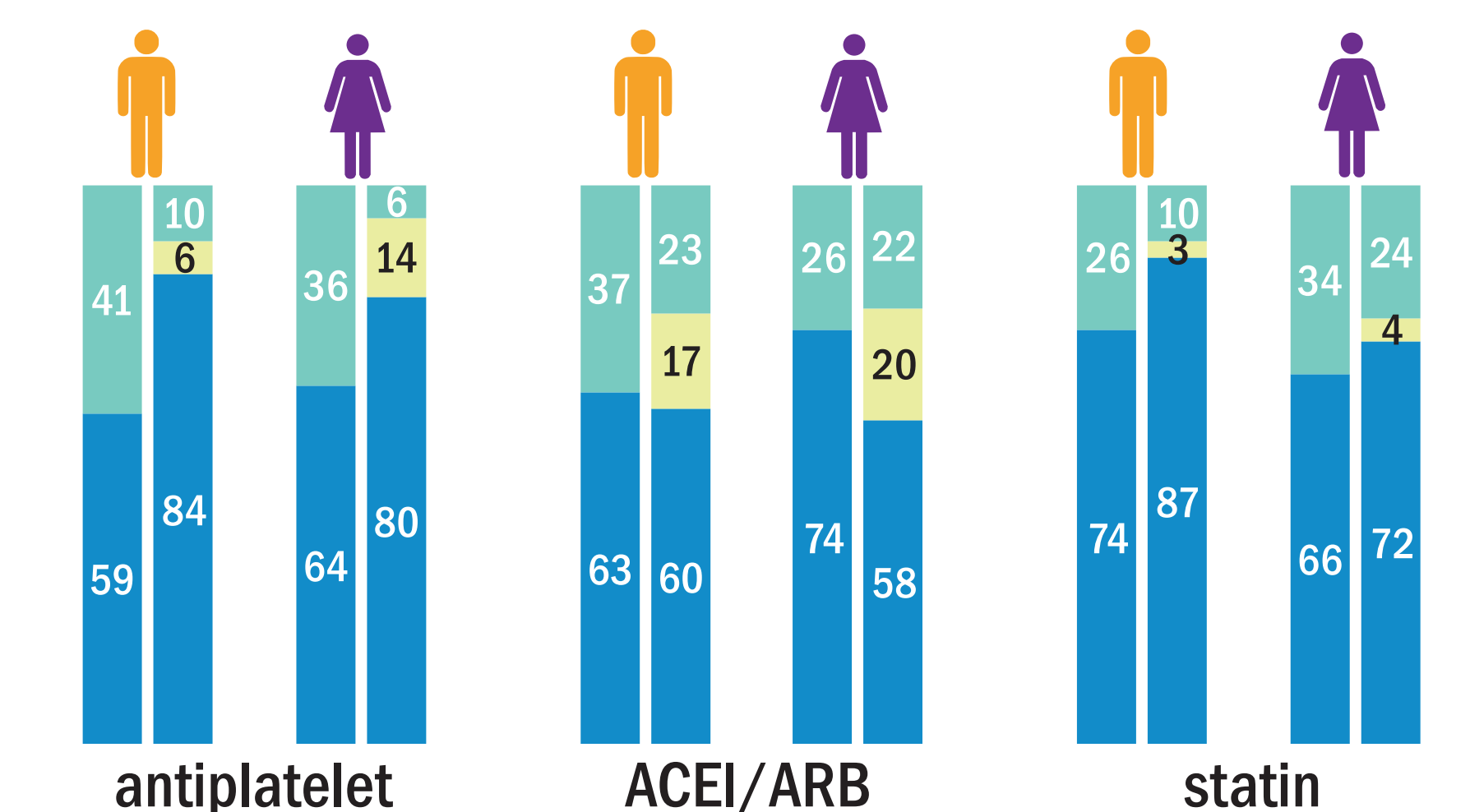
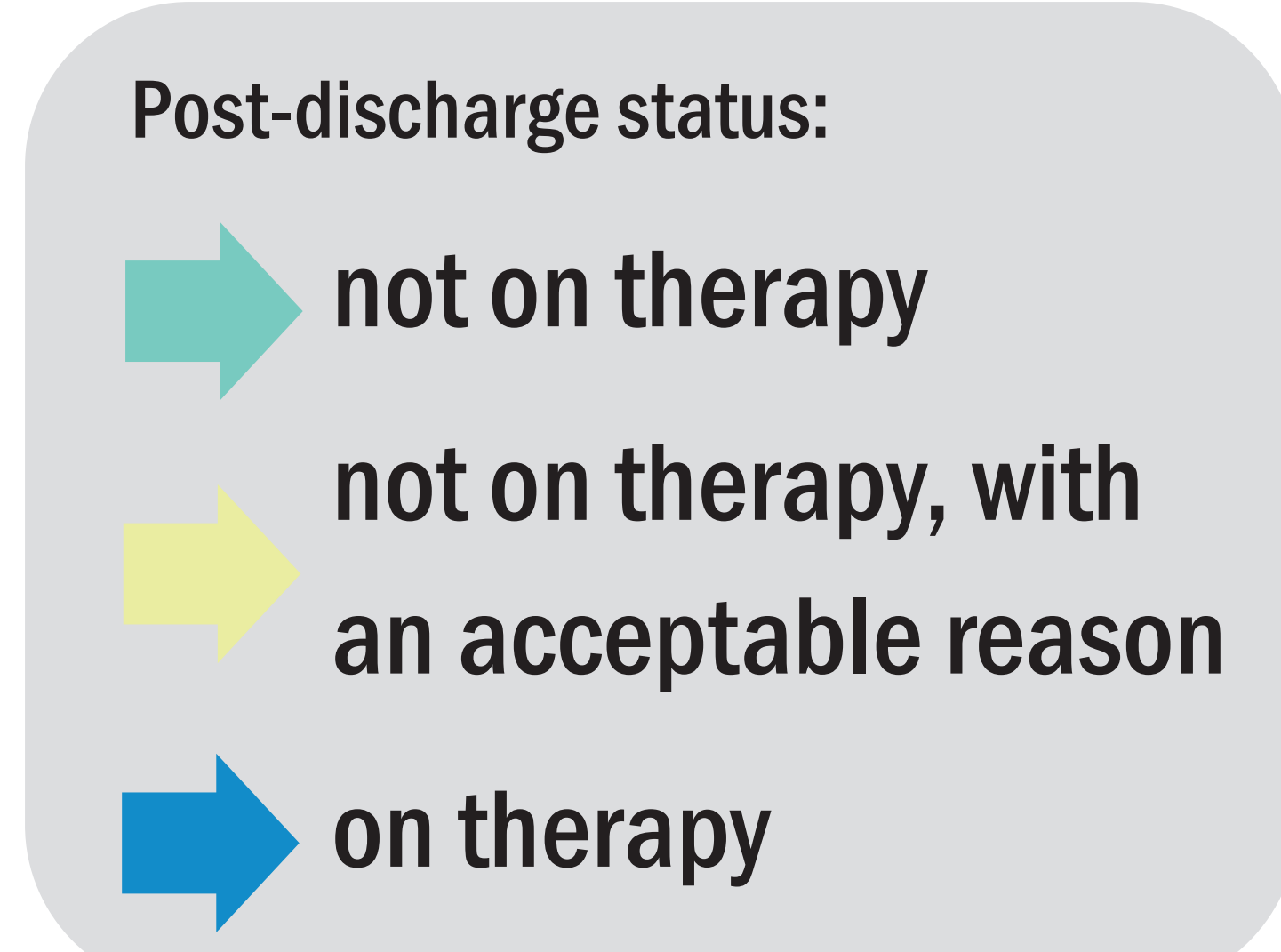


Figure 5: Percentages of patients on therapies pre-admission and at discharge, stratified by sex

CONCLUSIONS

- This study suggests suboptimal prescription of risk reduction therapies in the community – particularly with respect to statins for women, and the emergent population generally.
- Patient admission to our vascular surgery service correlates with substantial improvement. This improvement occurs most dramatically in emergent populations, but is gender neutral.
- Nevertheless, some patients are still not receiving evidence-based treatment at discharge. This warrants consideration of further strategies to improve PAD guideline adherence.

LIMITATIONS

This study is subject to the limitations inherent with retrospective chart review. Patients may not have met inclusion criteria due to lack of documentation. Our list of clinically acceptable reasons for not prescribing was developed specifically for this study and has not been previously validated.

