

Appendix 4A: Inpatient Process Indicators (Pharmacological)

The quality indicators that apply to the inpatient hospital setting for pharmacological therapy are shown. The indicators identify an eligible sample for which the indicator applies and a number of exclusionary criteria that will be abstracted from chart review.

Those eligible patients that do not have any exclusionary criteria are considered “ideal” patients (e.g., without contraindication) for the form of a therapy question. The list of exclusions is not intended to be exhaustive and thus does not include very rare exclusionary criteria. The intention was to include sufficient numbers of appropriate exclusions to define a sample of candidates for the particular form of drug therapy on a population-wide scale.

The panel members considered there to be insufficient evidence for the equivalence of angiotensin receptor blockers and ACE inhibitors and therefore did not consider the two forms of therapy to be interchangeable. It was also agreed by panel members that hydralazine/nitrates is an appropriate option only if the patient is ACE-intolerant. The panel adopted a conservative stance, employing it as an exclusion with the caveats described above. The panel members considered beta-blocker prescription at discharge to be an important quality indicator, recognizing that in some patients, it is appropriately started in the outpatient setting.

| ACE INHIBITOR PRESCRIBED AT HOSPITAL DISCHARGE | |
|--|---|
| ELIGIBLE | 1) LV systolic dysfunction (EF < 40% or LV grade > 2/4 or narrative report of moderate or severe dysfunction) |
| | 2) alive at discharge |
| EXCLUSION | 1) Moderate or severe aortic stenosis Definition: mod/severe AS, 3+ or 4+ AS, AVA < 1.0 cm ² |
| | 2) Bilateral renal artery stenosis (physician documentation) |
| | 3) Hyperkalemia Definition: peak or last pre-discharge serum K+ > 5.5 mEq/L* |
| | 4) Systolic BP < 90 mmHg |
| | 5) Severe renal dysfunction Definition: peak or last pre-discharge serum creatinine > 200 µmol/L* |
| | 6) Physician documented reason for non-use of ACEI Examples: symptomatic hypotension, patient refusal |
| | 7) Enrolled in clinical trial testing alternatives to ACEI as first-line HF therapy |
| | 8) Prescribed Angiotensin receptor blocker or hydralazine/nitrates at discharge |
| | 9) Pregnancy |
| | 10) allergy or intolerance to ACEI (angioedema, hives, severe rash) |
| STATISTIC | % of eligible CHF patients receiving ACEI at discharge |

*Indicates peak or last pre-discharge value as dictated by regional or institutional access to laboratory data. Peak laboratory value is preferred and last pre-discharge value is acceptable.

Appendix 4A (continued): Inpatient Process Indicators (Pharmacological)

| BETA-BLOCKER FOR HEART FAILURE AT DISCHARGE | |
|--|---|
| ELIGIBLE | 1) LV systolic dysfunction Definition: EF < 40% or LV grade > 2/4 or narrative report of moderate or severe dysfunction |
| | 2) Clinical evidence of HF |
| | 3) Discharge alive |
| EXCLUSION | 1) Conduction disorder defined as: i. Bifascular block on 12-lead ECG (first or last of hospital stay) ii. PR interval >0.24 sec (first or last of hospital stay) iii. 2 nd or 3 rd degree AV block (first or last of hospital stay) |
| | 2) Bradycardia Definition: HR < 60 bpm during hospital stay while not on beta-blocker |
| | 3) Systolic BP < 90 mmHg |
| | 4) Recent need for intravenous inotropic support (dopamine, dobutamine, milrinone within 4 days) |
| | 5) Asthma (any degree of severity) |
| | 6) "Severe" COPD |
| | 7) Allergy or intolerance to beta-blockers |
| | 8) Physician documentation of reason for non-use of beta-blocker Examples: symptomatic hypotension, symptomatic bradycardia, patient refusal |
| STATISTIC | % of eligible CHF patients receiving beta-blocker at discharge |

| WARFARIN AT HOSPITAL DISCHARGE FOR ATRIAL FIBRILLATION | |
|---|--|
| ELIGIBLE | 1) Atrial fibrillation during the index admission or Definition: electrocardiographic evidence or documented chart |
| | 2) Principal or secondary discharge diagnosis of atrial fibrillation (from ICD-9 or administrative data) |
| | 3) Discharge alive |
| EXCLUSION | 1) Contraindication to warfarin or other documented reason: i. any documented bleeding episode in hospital ii. uncontrolled seizure disorder iii. liver disease with INR ≥ 1.5 off anticoagulants OR documented cirrhosis iv. pregnancy |
| | 2) Physician documentation of reason for non-use of warfarin Example: patient refusal, inability to cooperate with treatment, frequent falls |
| | 3) Allergy or intolerance |
| STATISTIC | % of eligible CHF patients receiving warfarin at discharge |