Table 5

Use this table to identify risk factors that are most likely to be modifiable. These should help to set patient goals, guide inhospital management, and re-assess integrated risk at discharge. *(Table will continue on the next page)*

Modification of bolded/italicized items decreases risk. Note that the references for risk factors are provided as examples and are not meant to list all sources of validation.

Chronic History Prior to Admission
☐ **Older Age (robust in all models)**
☐ **Number of Previous HF hospitalizations**
☐ **Comorbidities, especially diabetes, COPD, liver disease, cancer, dementia**
☐ **Frailty**
☐ **Known low LVEF in HFrEF**
☐ **RV dysfunction**

Assessment at Admission	Re-Assessment at Discharge
Class IV symptoms	Effective decongestion improves prognosis.
Non-adherence to medications or salt/fluid restriction	Focused education during hospitalization with increased home and community support may improve adherence.
Progressively higher risk with higher admission natriuretic peptide (NP) levels	Larger % reduction (>30-60%) in NP levels associated with better outcomes. Progressively higher risk with higher discharge NP levels.
Renal dysfunction markers: • Elevated serum creatinine or low clearance • Additional risk of high BUN • Low spot urine sodium after first IV diuretic dose • Diuretic resistance with high outpatient doses	 Risk increased, but small increases in creatinine accompanying successful decongestion are associated with better prognosis. High BUN at discharge increases risk. Low total urinary sodium excretion may be a more important marker than total urine output during hospitalization. Diuretic resistance in-hospital associated with longer LOS and worse outcomes. High risk if discharged on high loop diuretic doses.
Degree of congestion at admission not predictive of outcome except longer length of stay with greater excess volume	Residual congestion after treatment confers high risk. • High measured filling pressures • Orthopnea • Edema • Composite congestion scores • Lack of hemoconcentration

Table 5 *(Continued)*

Assessment at Admission	Re-Assessment at Discharge
Hemodynamic profile of "Cold and Wet" at admission	Discharge with either cold or wet profile associated with higher risk.
Low systolic blood pressure	Low systolic blood pressure at discharge also identifies high risk.
Troponin elevation	Risk if elevated at any time during hospitalization.
Hyponatremia	Lower sodium at discharge predicts higher risk.
Increased risk at admission if: ***· No RAS therapy*** ***· No beta blocker therapy***	Discontinuation of ACEI/ARB in hospital for hypotension or kidney dysfunction is associated with poor outcomes. Unknown impact of re-initiation after discontinuation for circulatory and/or renal reasons. Discharge without RAS inhibition or discharge without beta-blocker associated with high risk.
Unexpected In-hospital Events Conferring Additional Risks	
• Resuscitation or Intubation • Intravenous inotropic therapy even if brief	
Integrated Risk at Transition to Discharge = { • Admission Risk • In-hospital Trajectory • Unexpected Events	

ACEI = angiotensin-converting enzyme inhibitor; ARB = angiotensin receptor blocker; BUN = blood urea nitrogen; COPD = chronic obstructive pulmonary disease; eGFR = estimated glomerular filtration rate; HF = heart failure; IV = intravenous; LOS = length of stay; LV = left ventricular; NP = natriuretic peptide; RAS = renin-angiotensin system; RV = right ventricular.