### Inclusion Criteria

July 1, 2010 — March 31, 2011

- A primary diagnosis of heart failure (ICD-10 code I50.x)
- An "acute exacerbation" of heart failure code (DPC codes: 30101 or 30102)
- NYHA class ≥II
- Age ≥ 20 years on admission

#### Patient Selection Diagram

- **912 hospitals**
  - **n=57,353**
  - **excluded**
  - **n=12,585**

- **Concurrent AMI (ICD-10 codes: I21.x, I22.x)**
  - Possible AHF mimics:
    - Cardiopulmonary arrest (ICD-10 codes: I46.1, I46.9)
    - Acute respiratory distress syndrome (ICD-10 codes: I80)
    - Severe pneumonia (ICD-10 codes: J10.0, J11.0, J12-J18, J69)
    - Pleuritis (ICD-10 codes: A15.6, A16.5, R09.1, J90, J91, J94.x)
    - Severe renal failure (ICD-10 codes: N18.0)
  - Length of stay ≥ mean+3SD
  - Invalid records (i.e., medical code errors)

- **898 hospitals**
  - **n=44,768**
  - **excluded**
  - **n=6,100**

- **Analytical cohort**
  - **546 hospitals**
  - **n=38,668**

Diagram showing patient selection.

ICD-10, International Classification of Disease, 10th version; DPC, Diagnosis Procedure Combination; NYHA, New York Heart Association; AMI, acute myocardial infarction; SD, standard deviation.
A conceptual diagram of clinical practice diffusion.