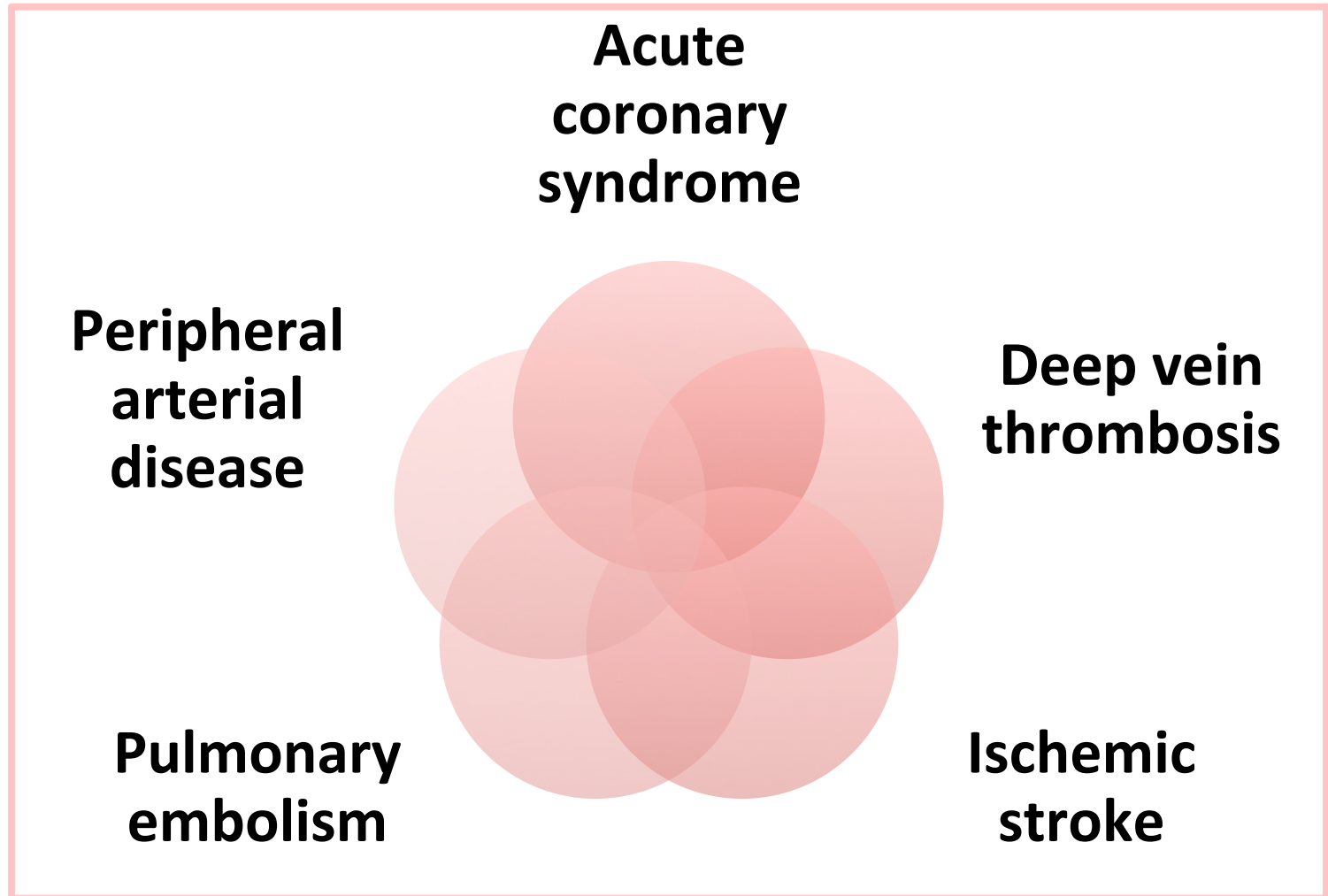


Cardiac Biomarkers and Services

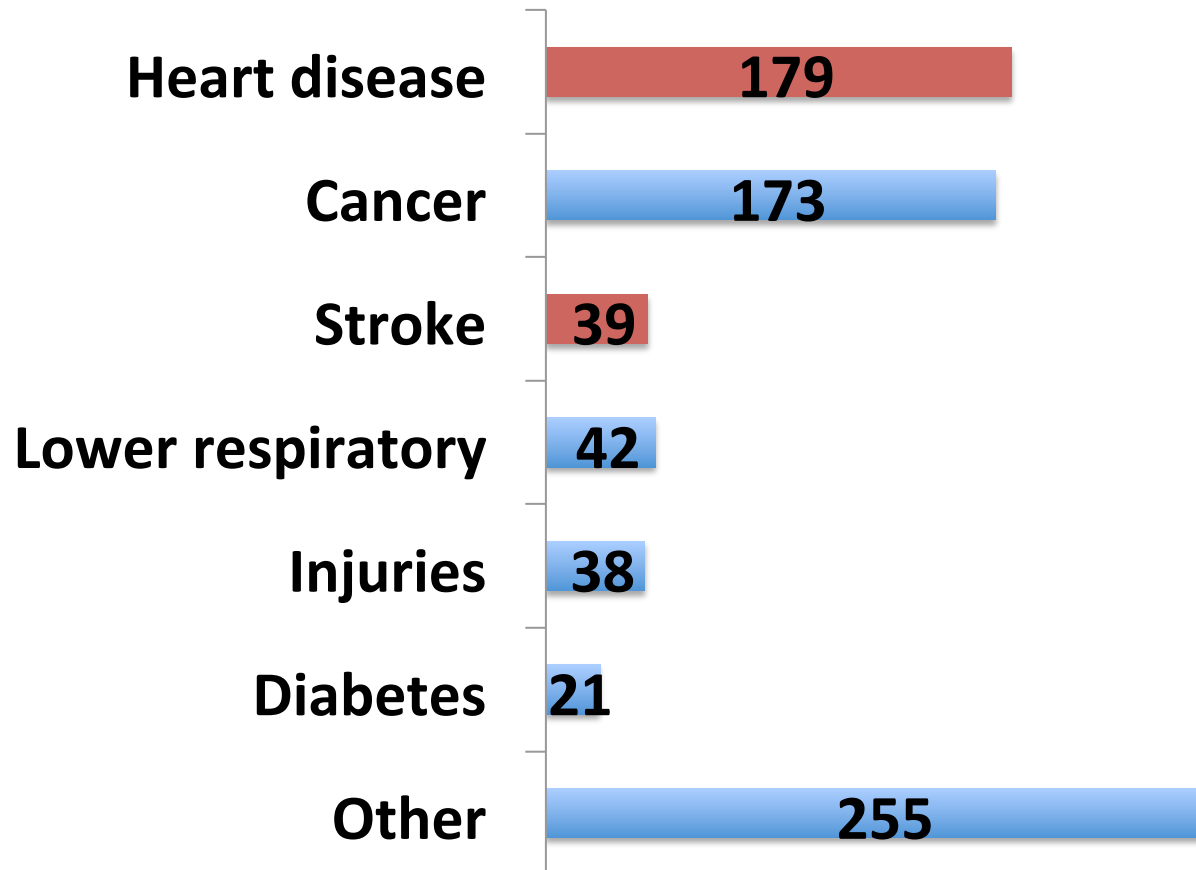
- In the US, there are about 50 million troponin, BNP, and other cardiac assays performed annually. At a price of \$6 to 25 per test, this equates to a current market of \$300 million to \$1.25 billion.
- Moreover, if better biomarkers were available, market research suggests that an additional 6 ½ million acute and 42 million chronic tests could be done for heart failure discharge and monitoring for decompensation and hospital readmission. The resulting potential market would be \$40 million to over \$1 billion.

Ischemic Cluster

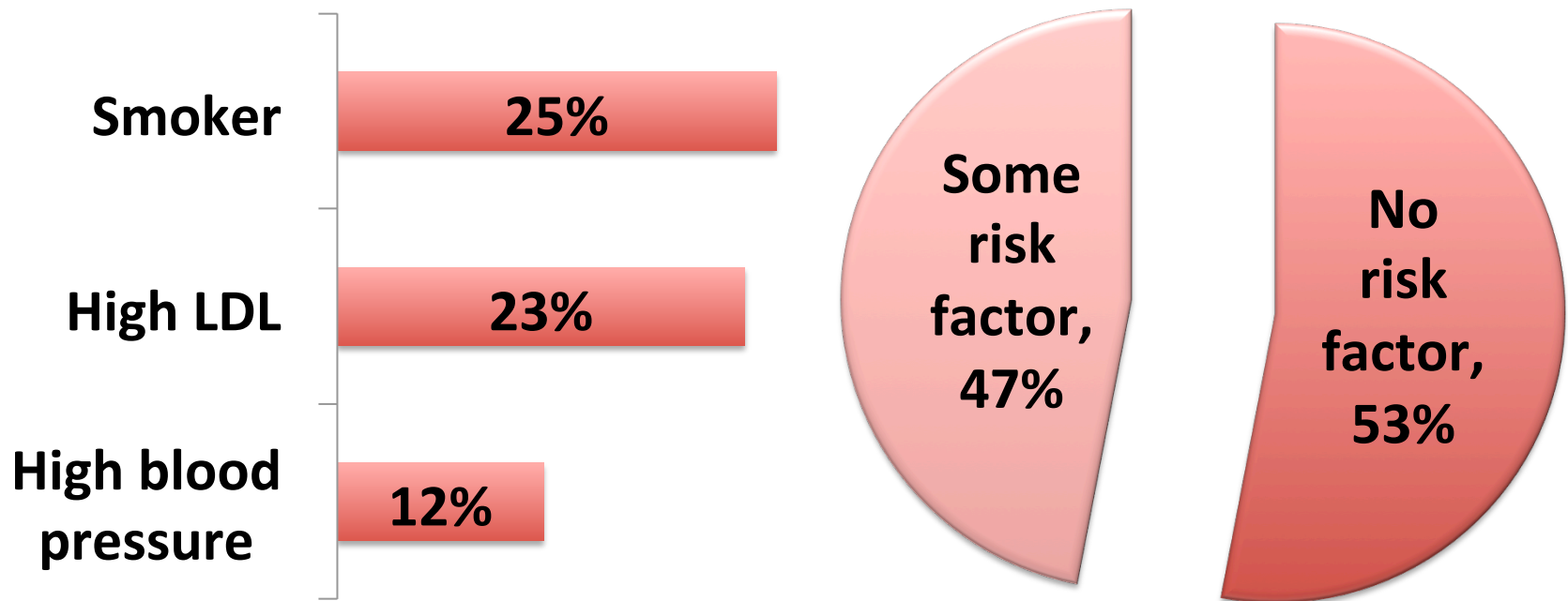


CHD Still to Top Killer

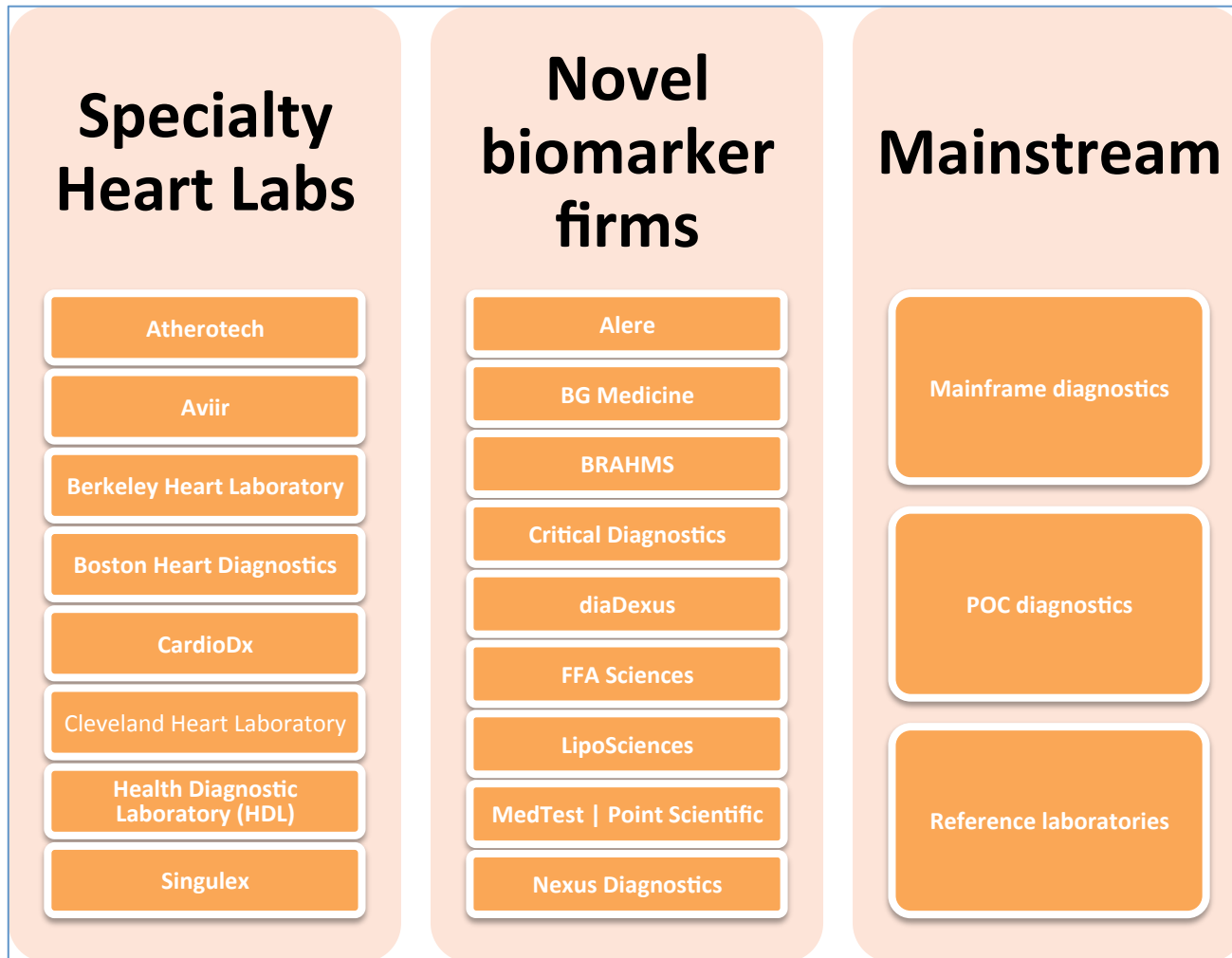
Death rate / 100,000



Much of the General Population has CHD Risk Factors



Many Firms are Involved, including the Burgeoning Specialty Heart Labs



Typical Biomarkers - 1

Extra-cellular matrix remodeling

- **Galectin-3**

Myocyte injury and apoptosis

- **Troponin**

Oxidative stress

- **MPO**
- **oxLDL**

Autoantibodies

- **Anti-oxLDL**
- **Anti-troponin**

Other

- **GlycoMark[®]**

Typical Biomarkers - 2

Extra-cardiac involvement

- Cystatin C
- NGAL
- RDW

Myocyte stress

- (NTpro)BNP
- MR-proANP
- GDF-15
- ST2

Neurohormones

- Copeptin
- ET-1
- MR-proADM
- UCN-1

Inflammation

- Adiponectin
- CRP
- IL-6
- LpPLa2
- PTX3
- TNF-a
- uFFA

Genotyping

Apo E genotype

SLCO1B1 genotype

4q25-AF Risk Genotype

9p21 Genotype

CYP2C19 Genotype

KIF6 Genotype

LPA-Aspirin Genotype

LPA-Intron 25 Genotype

Multi-marker

Gene expression

- **Corus[®] CAD**

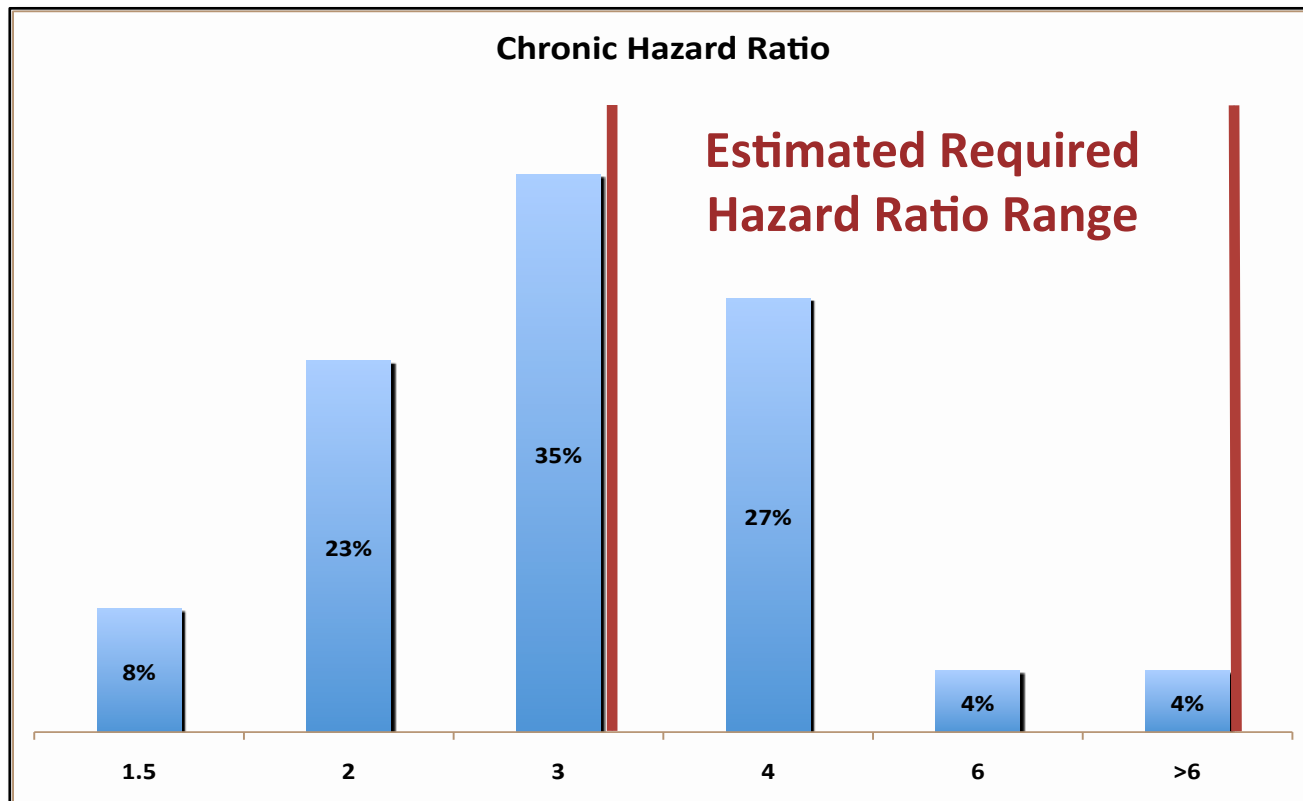
Lipids (cholesterol)

- **VAP[®] Test**
- **HDL Map[™]**
- **Cholesterol Balance[™]**
- **NMR LipoProfile**
- **MIRISK[®]**

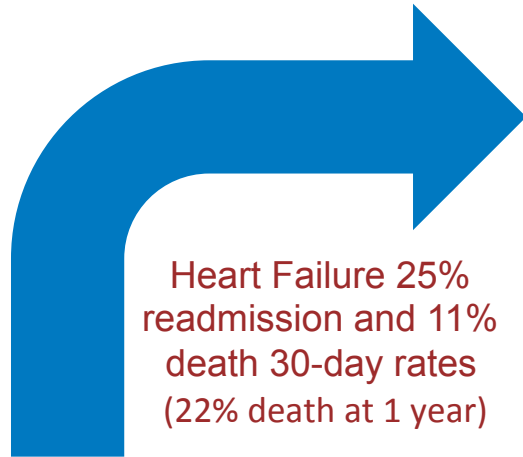
There are still Great Biomarker Opportunities in Heart Failure

- Worst diagnosis for 30-day hospital readmission
- 6 million patients in US have HF
- 650 thousand new HF patients per year
- 6.5 million hospital days annually due primarily to HF
- 14 million office visits per year due to primarily to HF
- 1.3 million hospitalizations per year have HF as a primary diagnosis
- 3 million hospitalizations per year have HF as a primary or secondary diagnosis

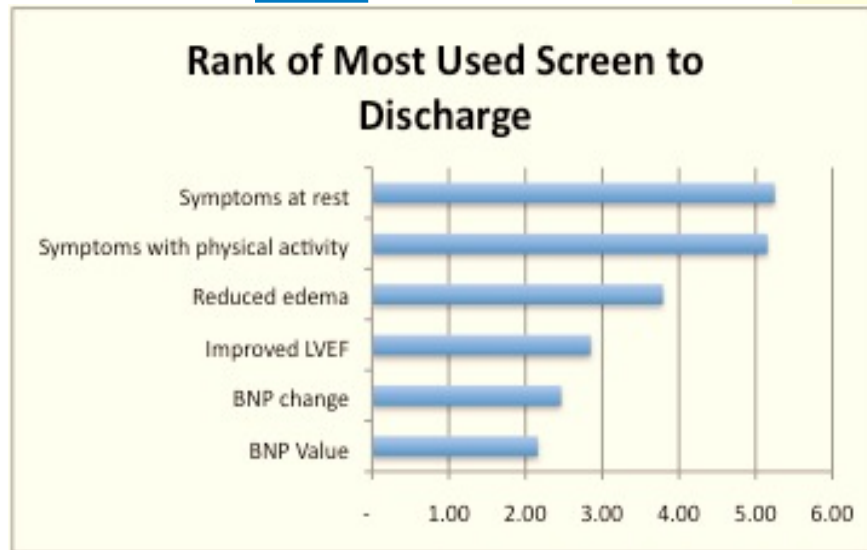
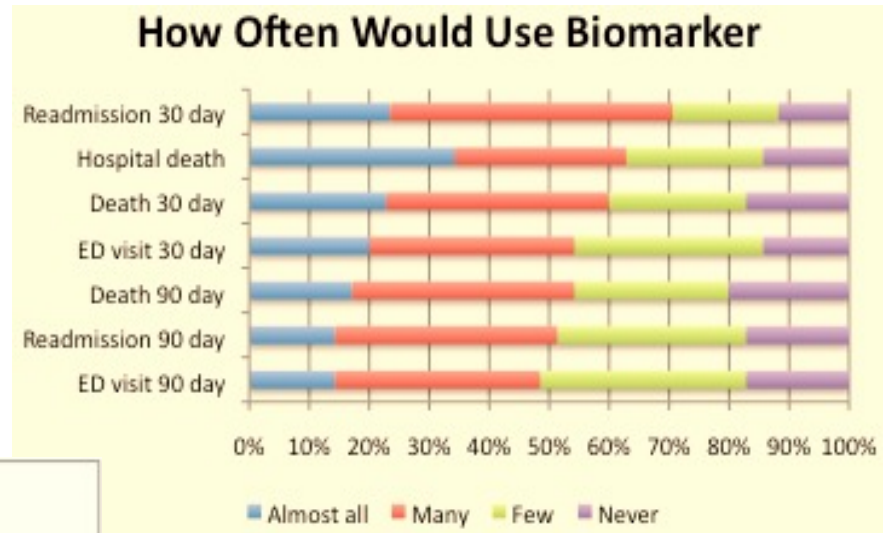
Hazard Ratio of 3 or Greater Required by MDs to Use a Prognostic HF Assay



Need Objective Measurement to Discharge HF. MDs Willing to Move to a Good Biomarker



Heart Failure 25%
readmission and 11%
death 30-day rates
(22% death at 1 year)



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