

Heart Failure - Large Market Opportunities for New Biomarkers

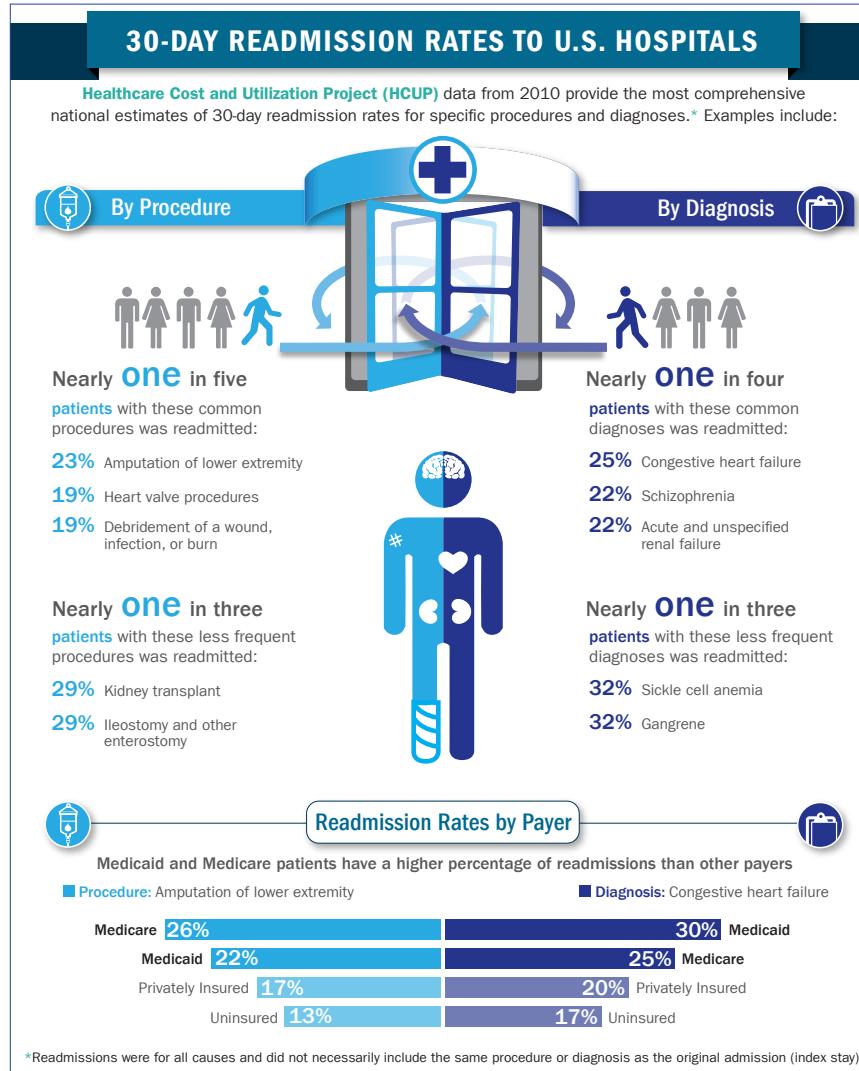
Integration of Market and Clinical
Research

Previously Presented Publicly
Predominantly in 2011

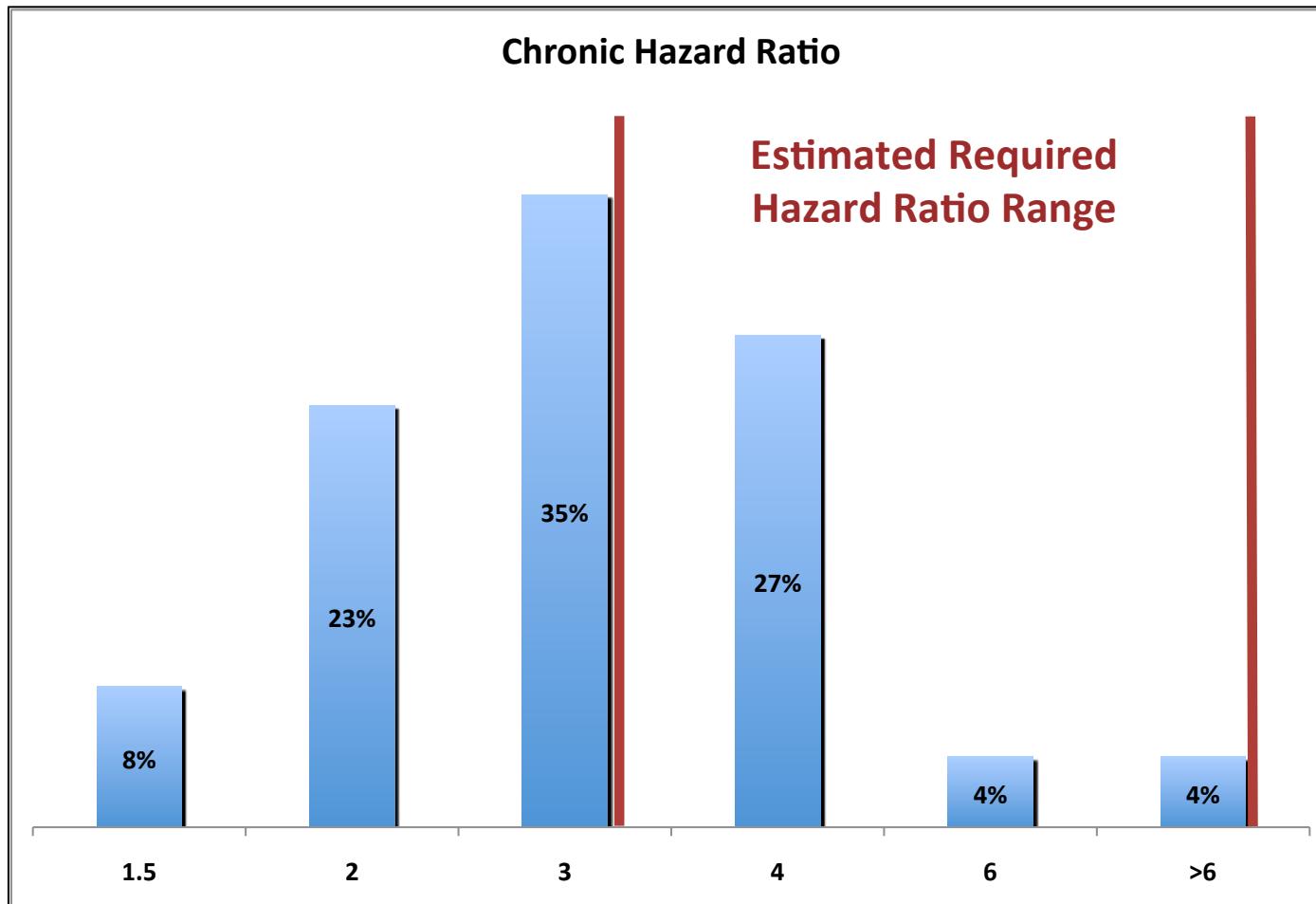
Heart Failure Patient Statistics Show Large Unmet Need

- **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

HF has More Readmissions than Other Major Diagnoses or Procedures



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



Clinical Study Showed a Biomarker Able to Differentiate HF Risk Cohorts

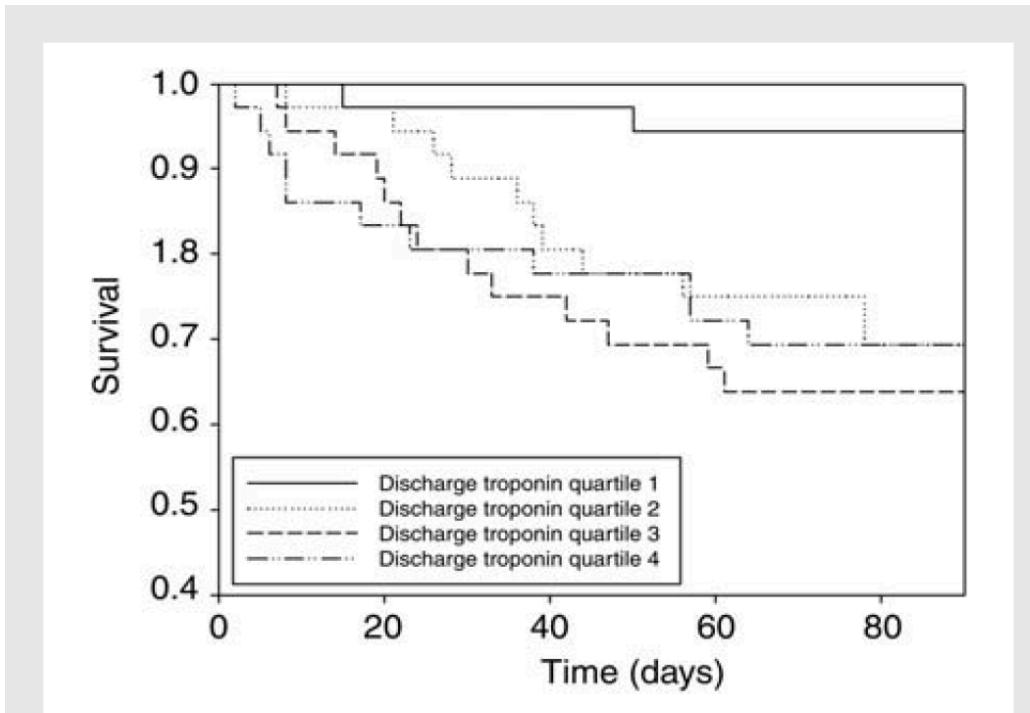
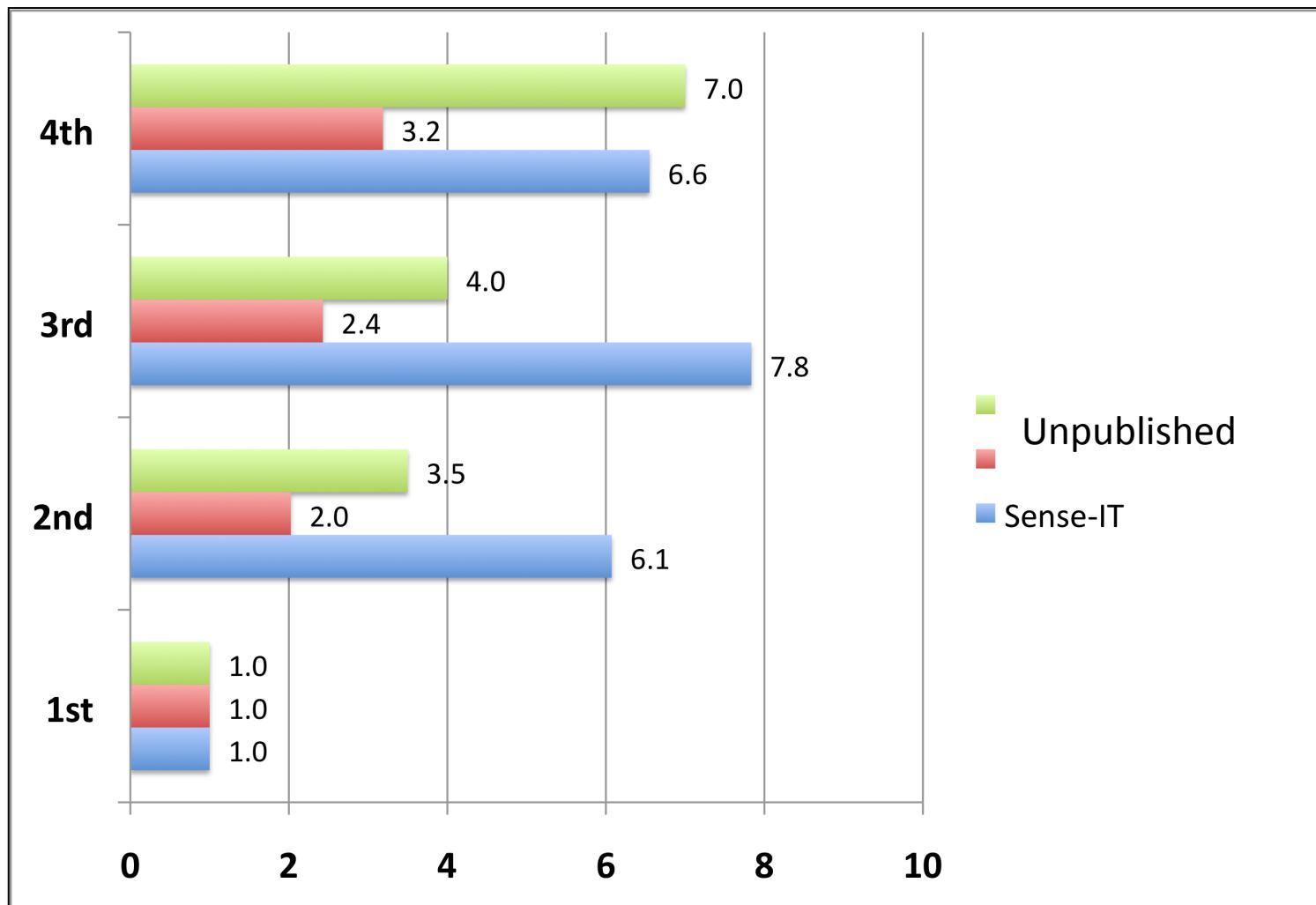
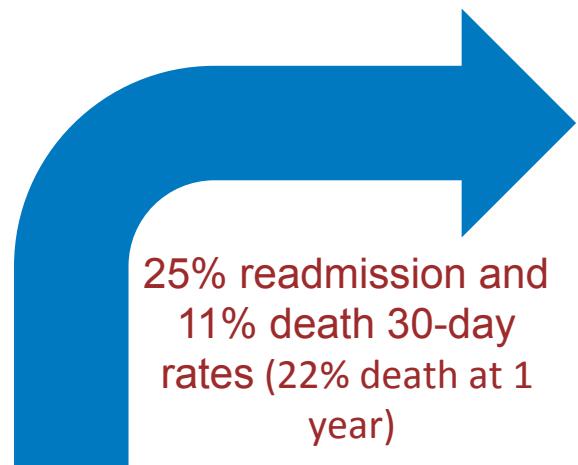


Figure 2 Events by discharge troponin i quartiles. Patients in quartiles 2–4 had significantly increased rate of mortality and heart failure-related readmissions than quartile 1. Quartile 1: 0.7–13.7 ng/L, Quartile 2: 13.7–29.5 ng/L, Quartile 3: 29.5–87.6 ng/L, Quartile 4: 87.6 ng/L \geq 1000 ng/L.

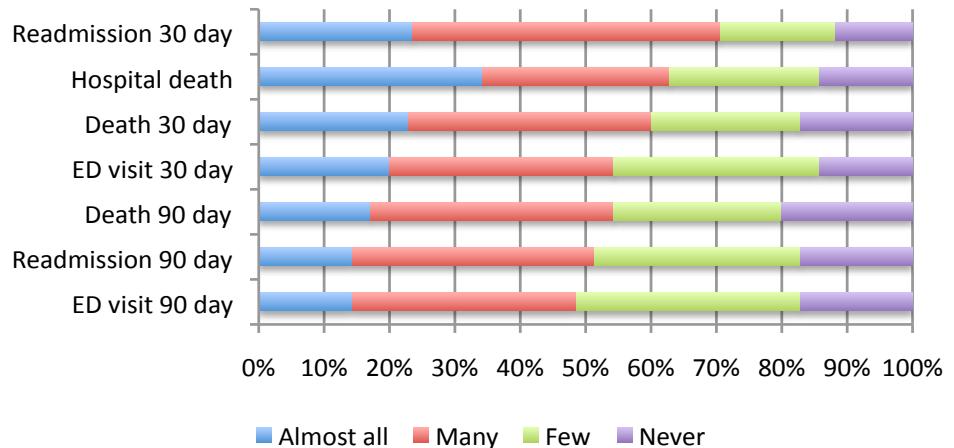
Sufficient Hazard Ratios also Achieved



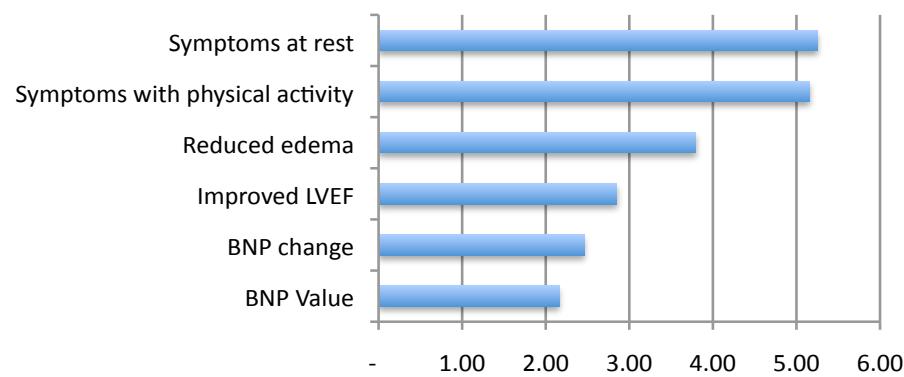
Discharge of HF Needs an Objective Measurement, and MDs seem Willing to Move to a Sufficiently Better Biomarker



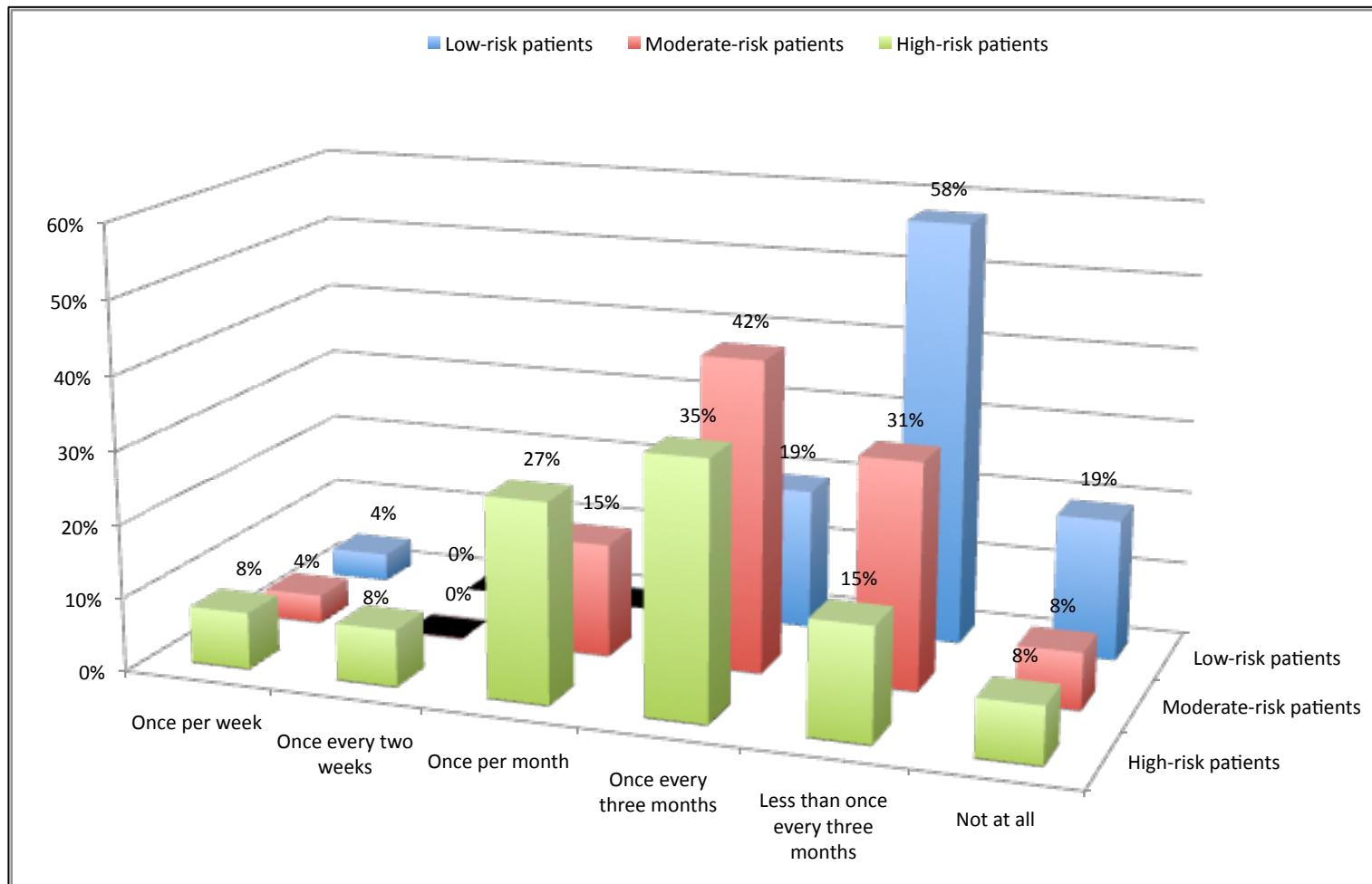
How Often Would Use Biomarker



Rank of Most Used Screen to Discharge



Frequency of Testing High for Biomarkers that MDs Would Use



Given the Patient Statistics, Potential Market for a New Biomarker in HF also Quite High

		Once per week	Once every two weeks	Once per month	Once every three months	Less than once every three months	Not at all	
	Low-risk patients	4%	0%	0%	19%	58%	19%	100%
	Moderate-risk patients	4%	0%	15%	42%	31%	8%	100%
	High-risk patients	8%	8%	27%	35%	15%	8%	100%
		5%	3%	14%	32%	35%	12%	100%
Total patients	6,000,000	307,692	153,846	846,154	1,923,077	2,076,923	692,308	
<i>Out-patient tests</i>		16,000,000	4,000,000	10,153,846	7,692,308	4,153,846	0	42,000,000
<i>In-patient days</i>	6,500,000							
<i>In-patient tests</i>								6,500,000
<i>Total tests</i>								48,500,000
<i>Out-patient visits</i>	14,500,000							
<i>Out-patient tests</i>								14,500,000
<i>Alternative total tests</i>								21,000,000

- LinkedIn
 - <http://www.linkedin.com/in/wintongibbons/>
- Twitter
 - @wingibbons
- Blog
 - <http://www.wingibbons.wordpress.com>