



NATIONAL PATIENT ACCOUNT SERVICES

More **Margin** for
Your Mission



Garett Jackson, CPA

Segmenting Hospital Accounts Based on Likelihood of Payment Using Predictive Models

- **Understanding hospital accounts receivable**
- **How predictive models were incorporated into the process**
- **Are the variables within the data already obtained from the patient?**
- **Future state of modeling and segmentation**



HCA's Bad Debt Action Plan

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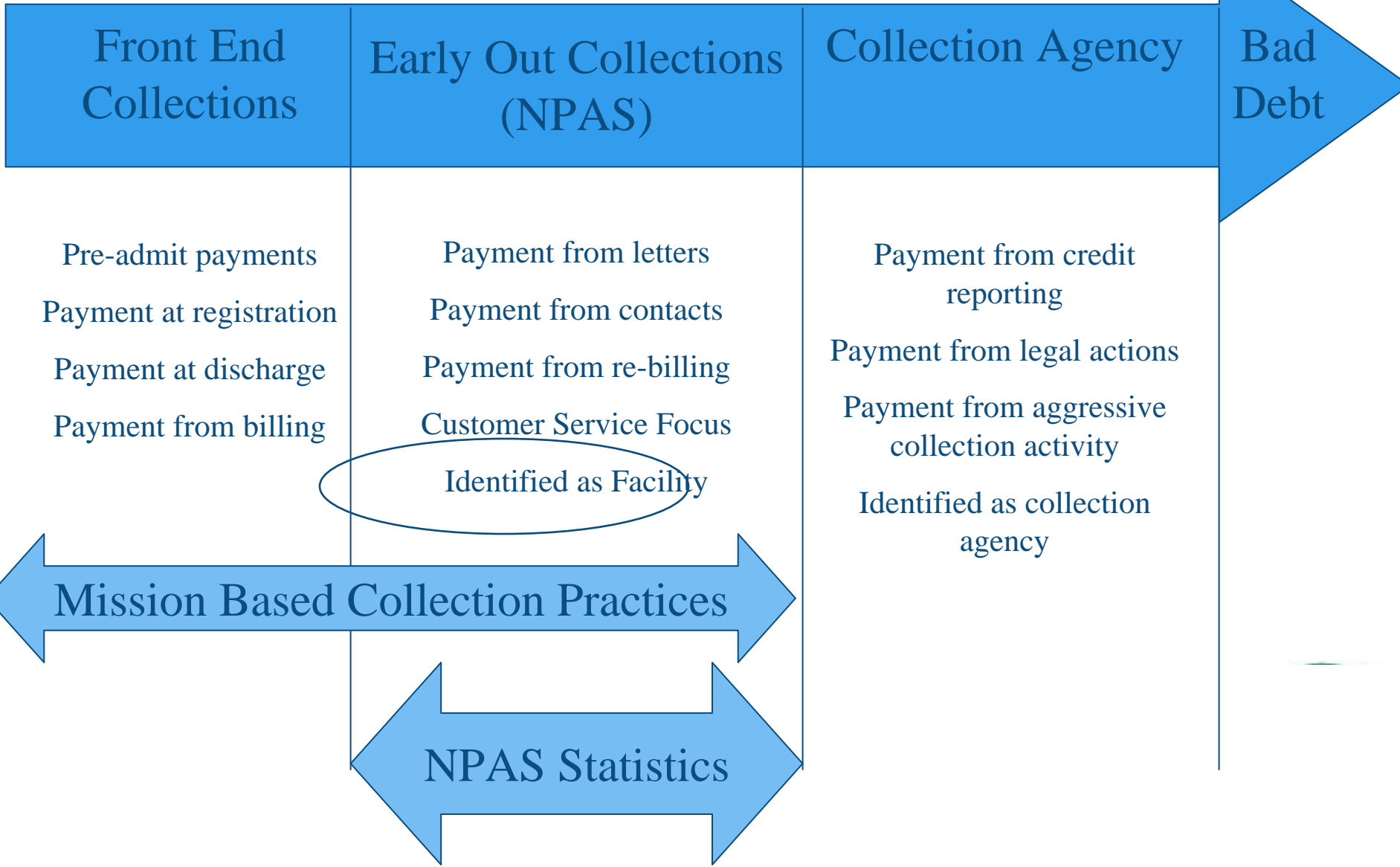
- **HCA started implementing its Bad Debt Action Plan in an effort to understand and attack the issue quickly. NPAS was a key focus of the plan.**
 - What does the healthcare portfolio look like compared to other industries?
 - Is it possible to change the early-out collection strategy to address the portfolio?
 - Which resources (up-front, early-out, primary) are best equipped to handle the inventory?
 - Which key indicators have the largest impact on collections?





Collections Life Cycle

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NPAS Credit Scoring Notes

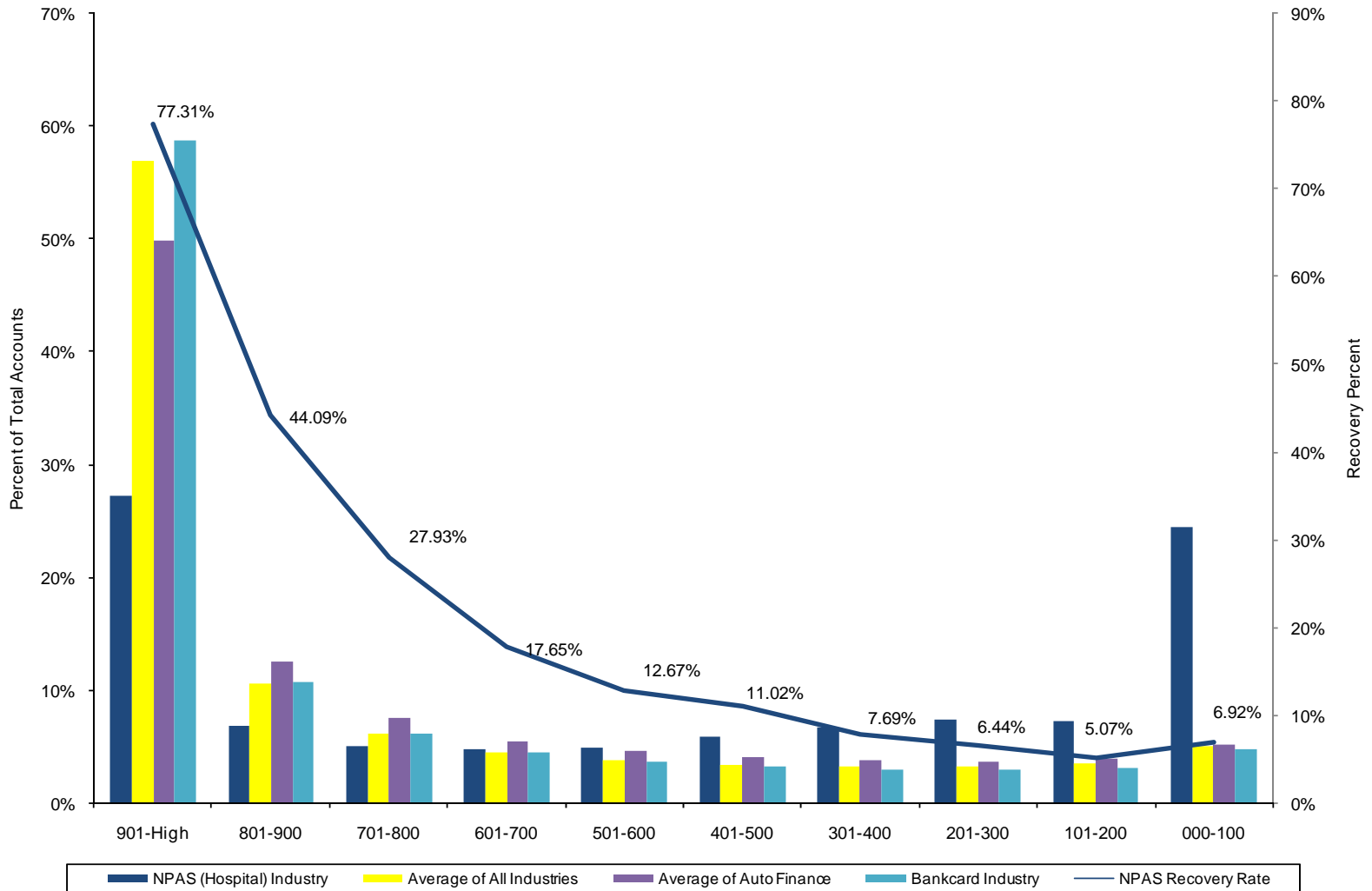
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- **Used the Equifax ERS 3.0 scoring method, which ranges from 1 to 1000**
 - **NPAS grouped number of accounts in scored index ranges of 100**
 - **Scores of 0 mean that no data was available**
 - **Search America provided six industry comparisons done by Equifax**
 - **NPAS compared results against All Industries, Auto Finance, and Bankcard Industries**
 - **Work Effort is defined as Attempts, Contacts and Letters**
- **Self Pay was analyzed for comparative purposes. However, the study compares Copay and Deductible in general.**
 - **Search America provided scores for approximately 241k accounts with a 96% score rate**
 - **Used a random sample of closed accounts from June through August 2004**
 - **Statistical accuracy of sample is 95% +/- 4% as a valid representation of our inventory**

NPAS Inventory

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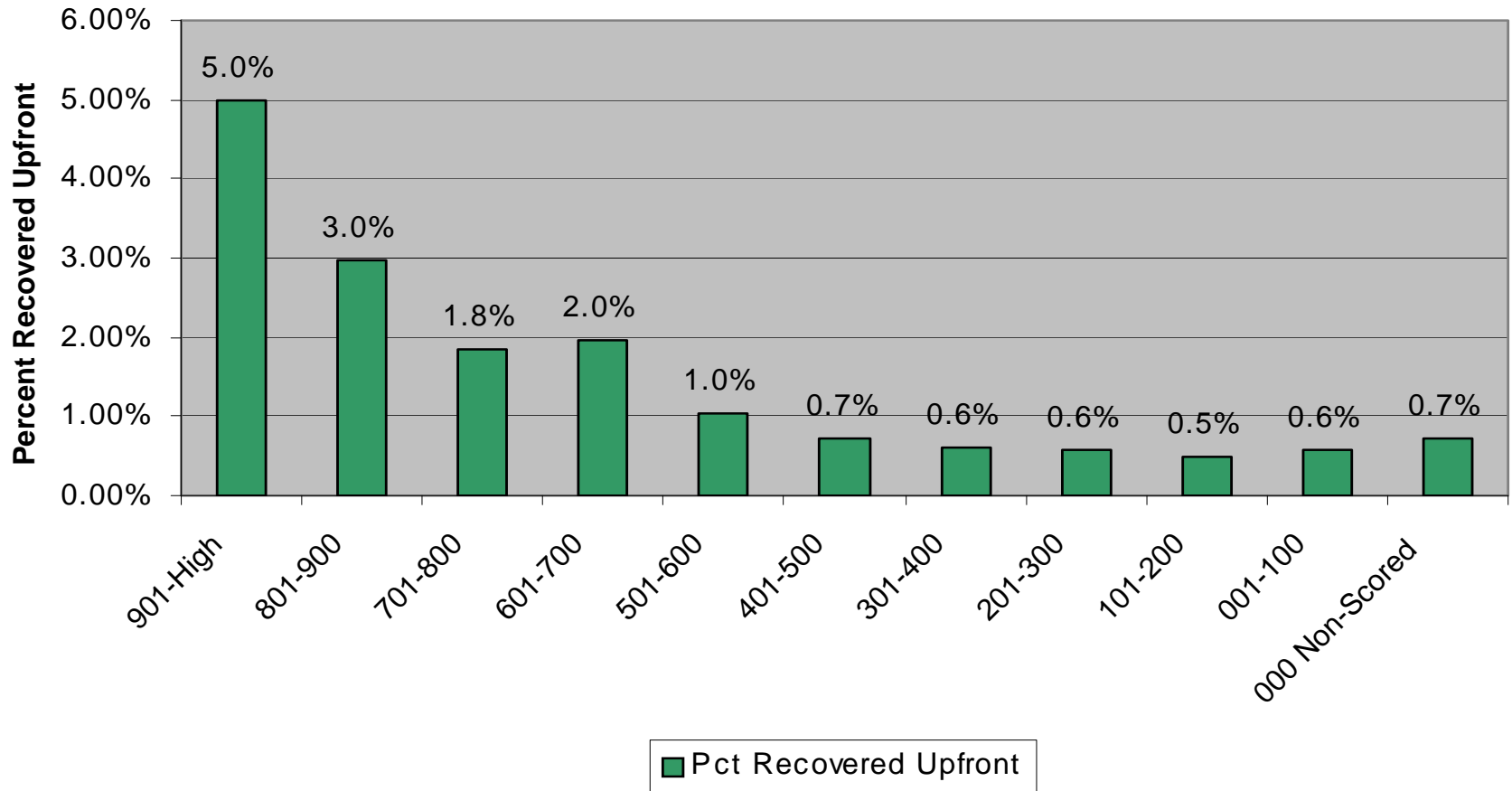
Credit Scoring Index Ranges by Industry Compared to Recovery Rate at NPAS



Upfront Collection Efforts

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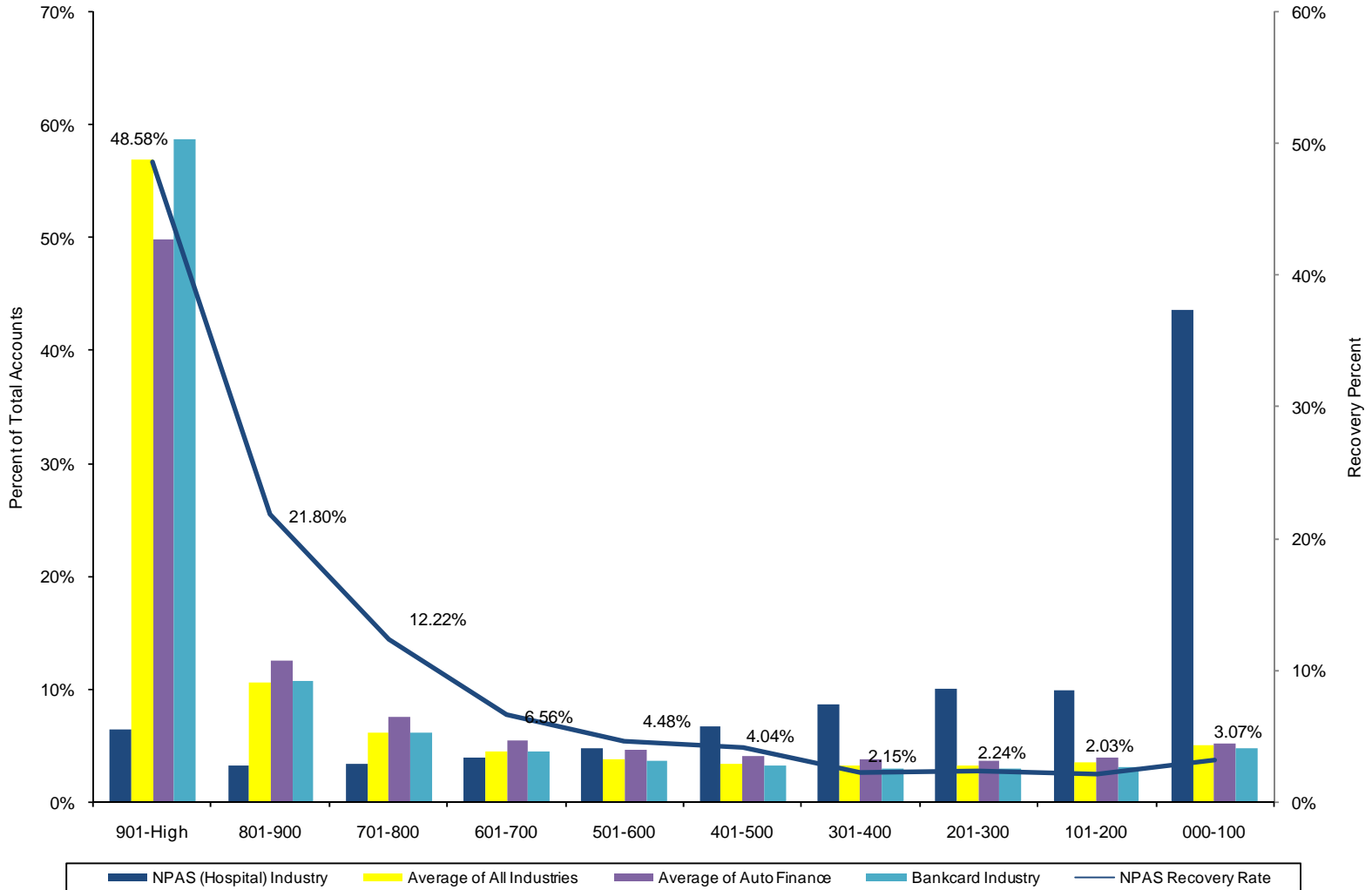
HCA Upfront Collections by Scoring Range



NPAS Self Pay

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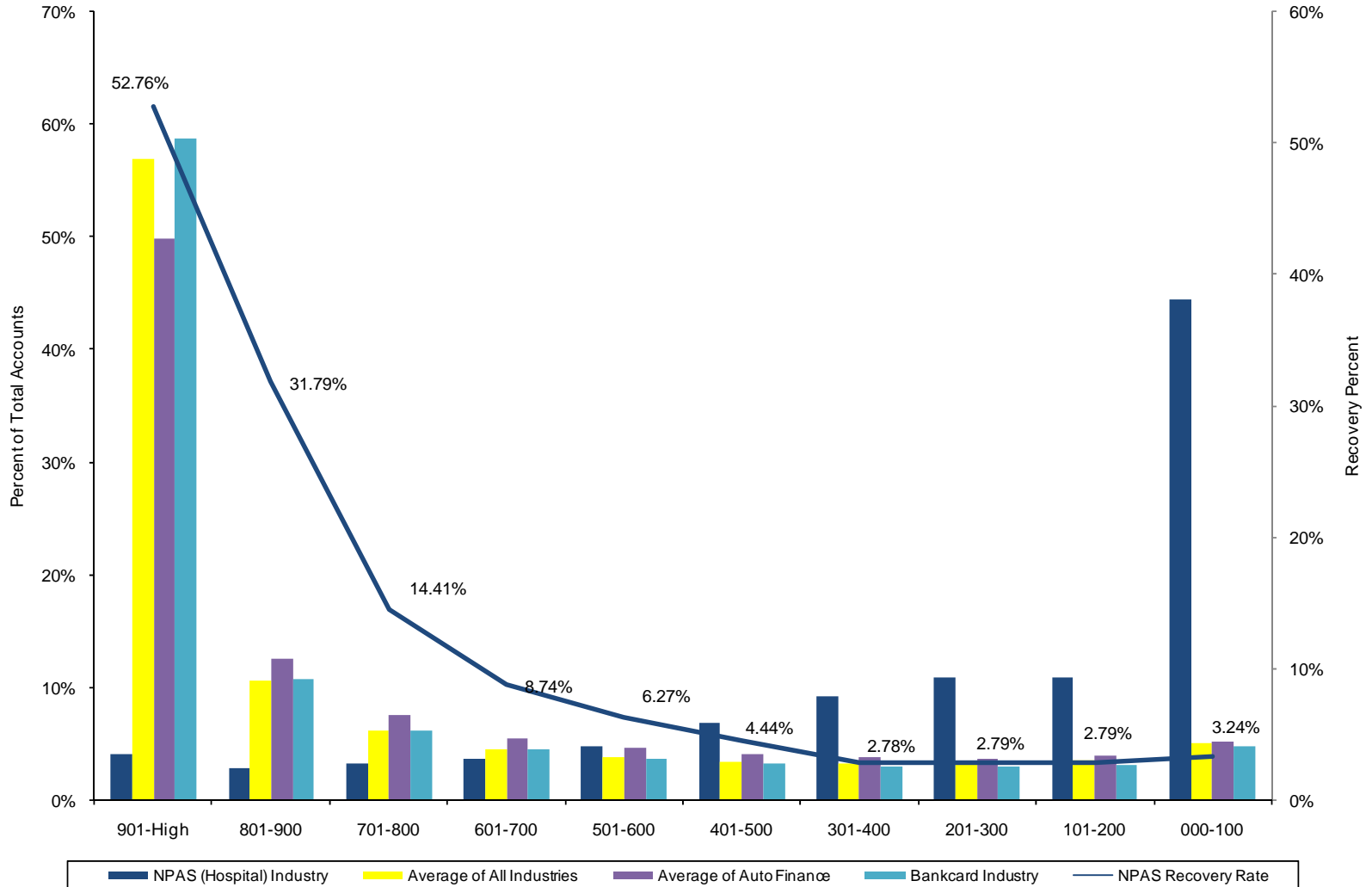
Credit Scoring Index Ranges by Industry Compared to Recovery Rate at NPAS



NPAS Self Pay - Emergency Room

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Credit Scoring Index Ranges by Industry Compared to Recovery Rate at NPAS

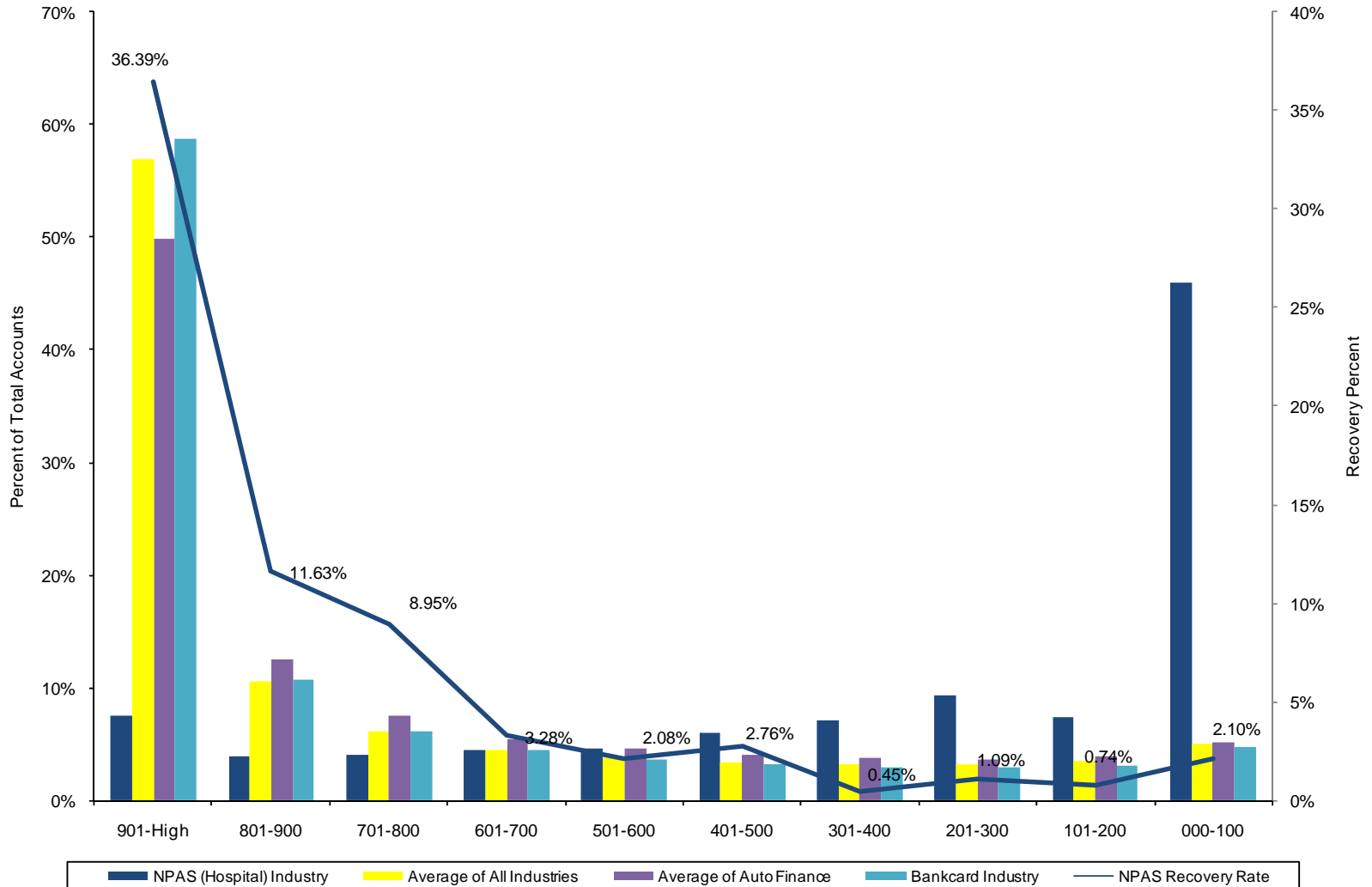




NPAS Self Pay – Inpatient

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Credit Scoring Index Ranges by Industry Compared to Recovery Rate at NPAS

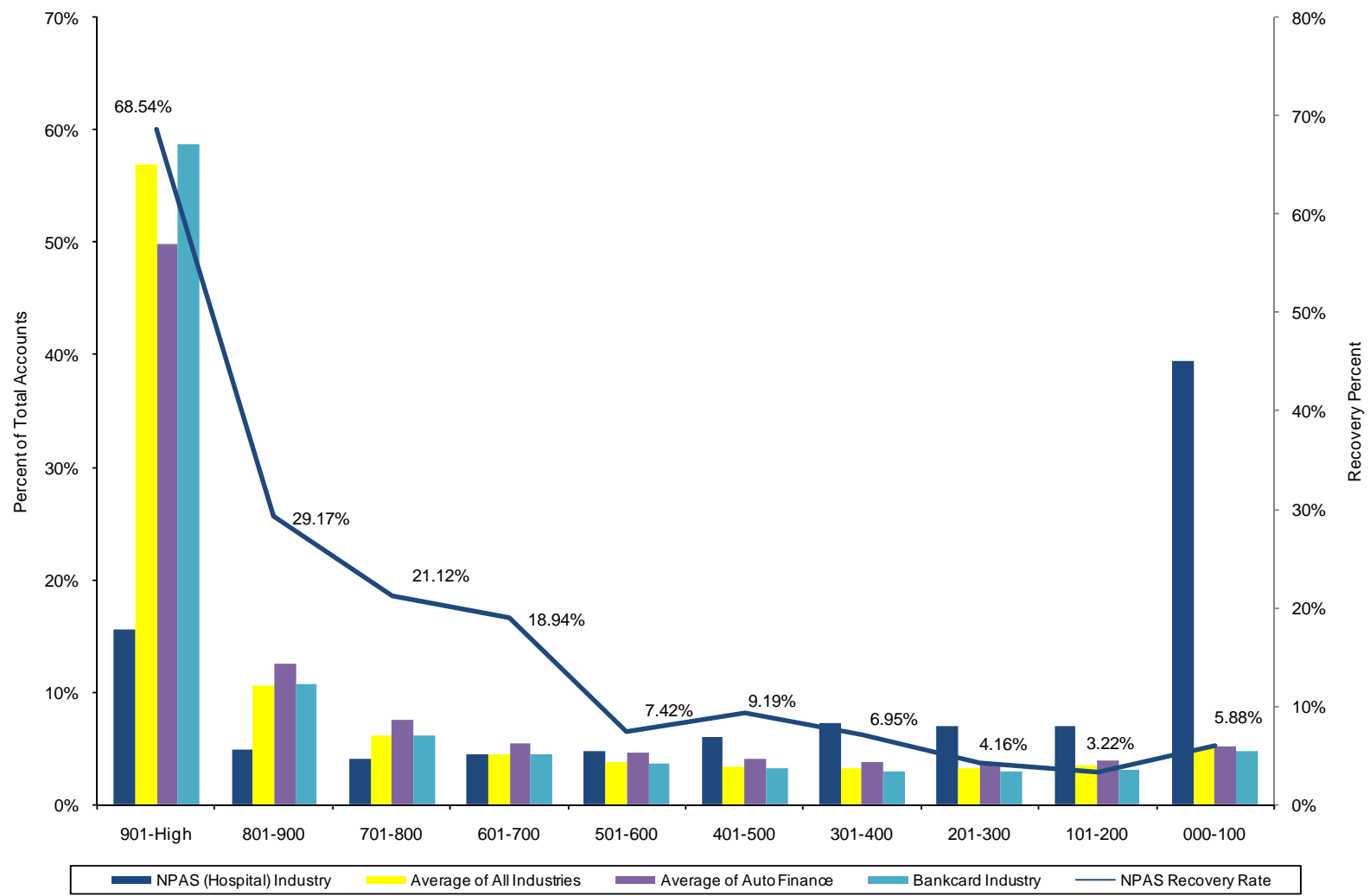




NPAS Self Pay – Outpatient

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Credit Scoring Index Ranges by Industry Compared to Recovery Rate at NPAS

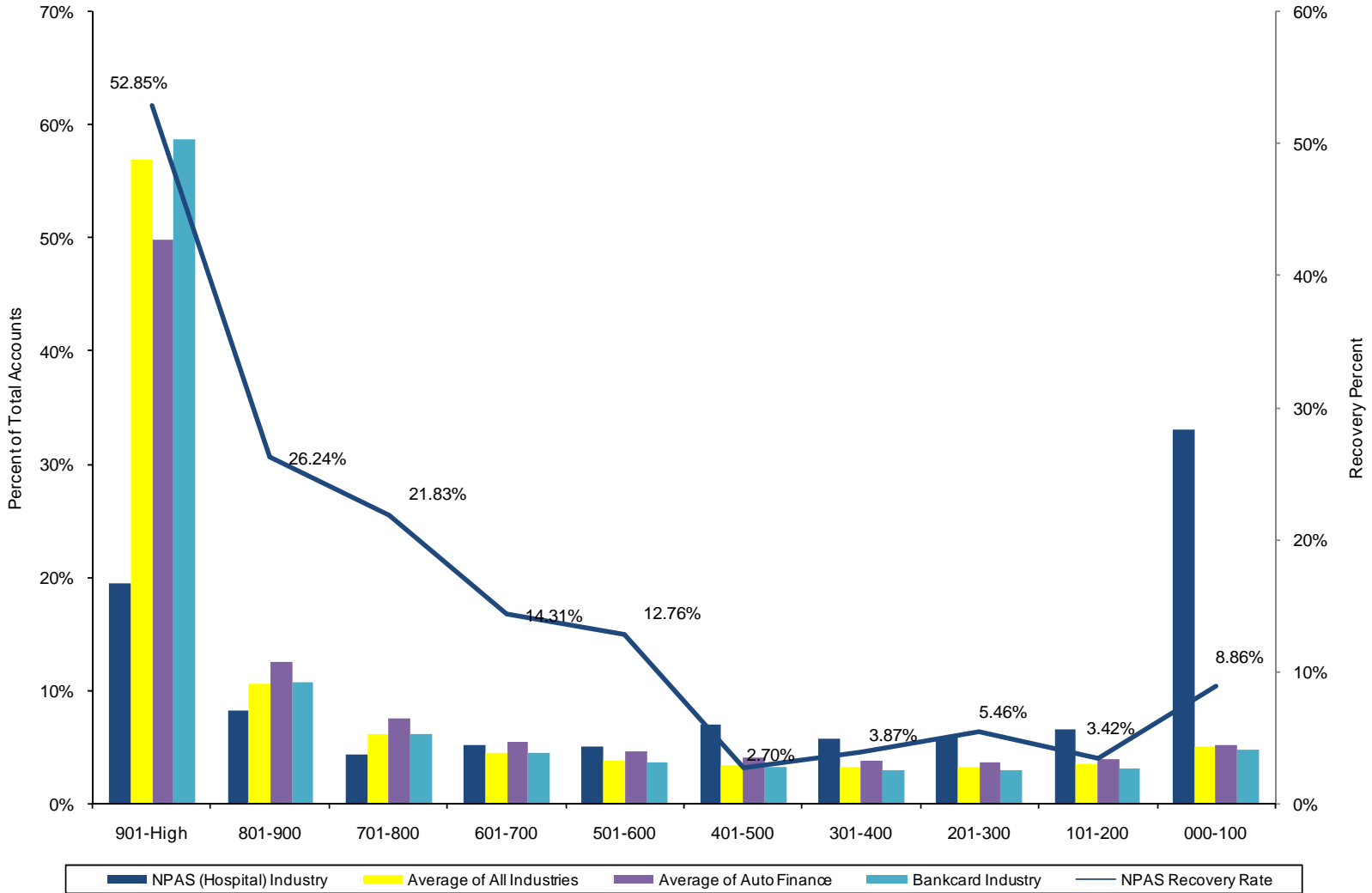




NPAS Self Pay - Surgery

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Credit Scoring Index Ranges by Industry Compared to Recovery Rate at NPAS



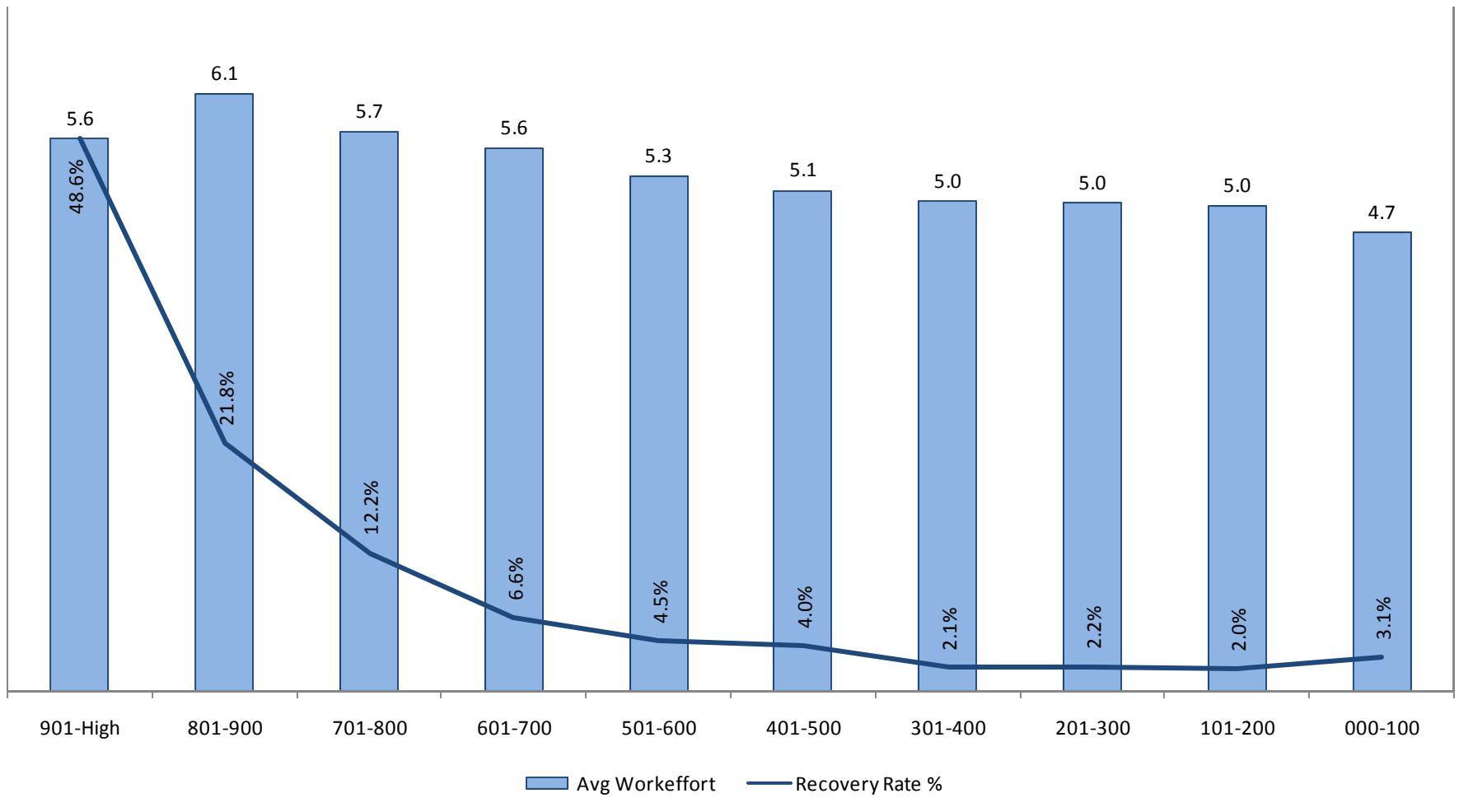


NPAS Self Pay

Work Effort vs. Recovery Rate

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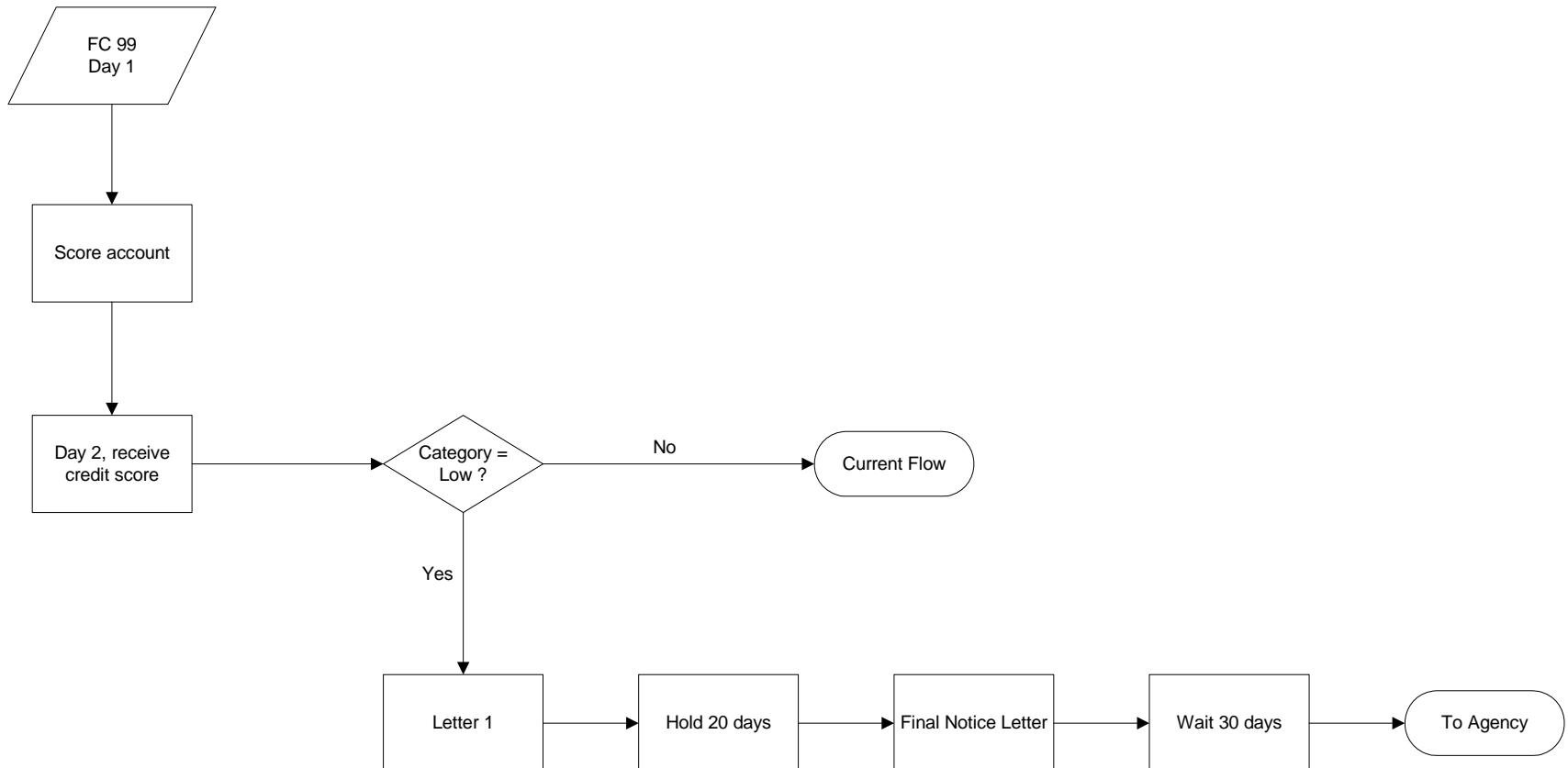
Average Work Effort Versus Recovery Rate by Index Ranges





NPAS Credit Scoring Flow (Self Pay)

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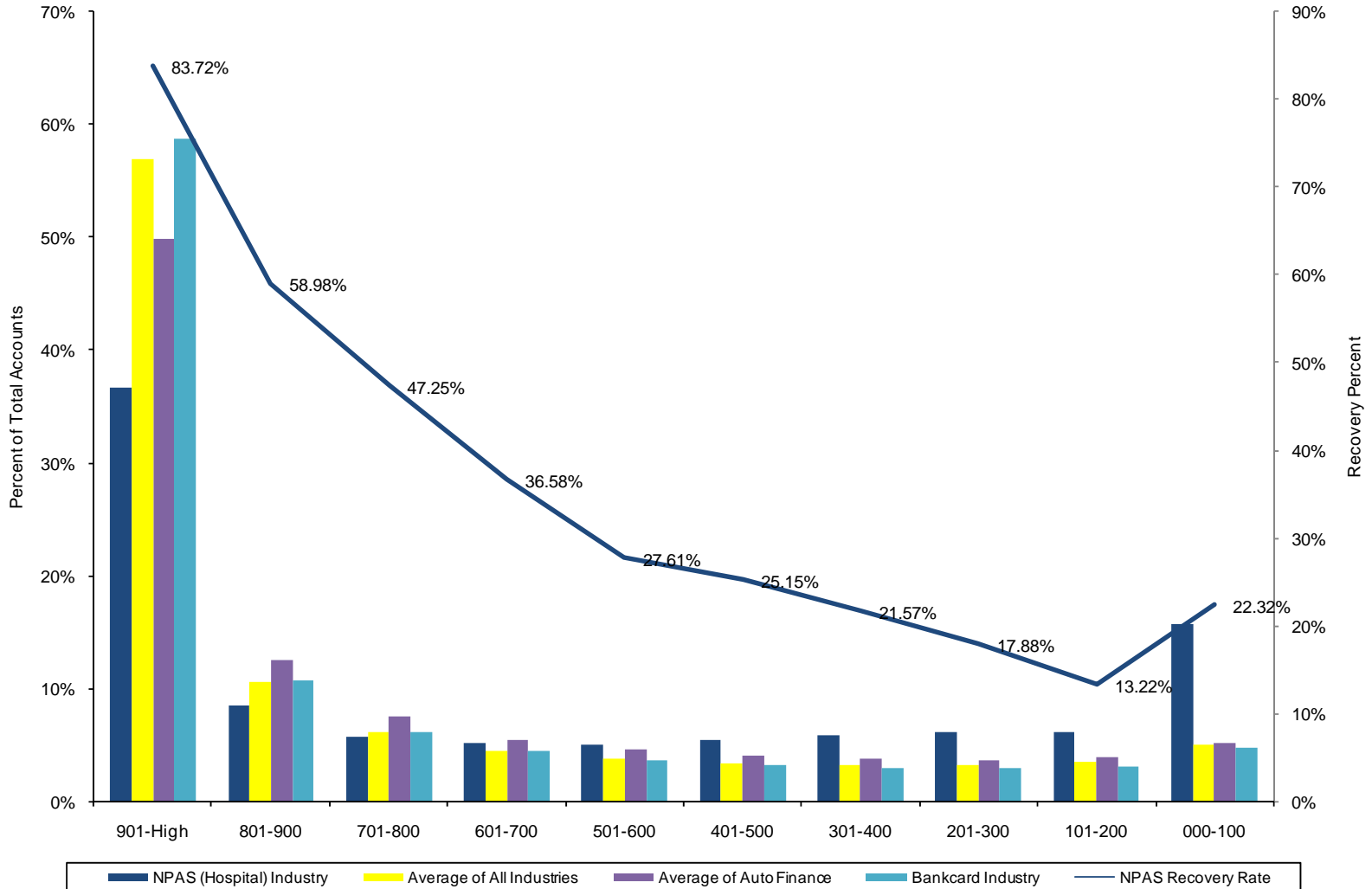
Note:
No match, match no score and typos will follow current flow
Phase II - No match may go into low



NPAS Copay and Deductible

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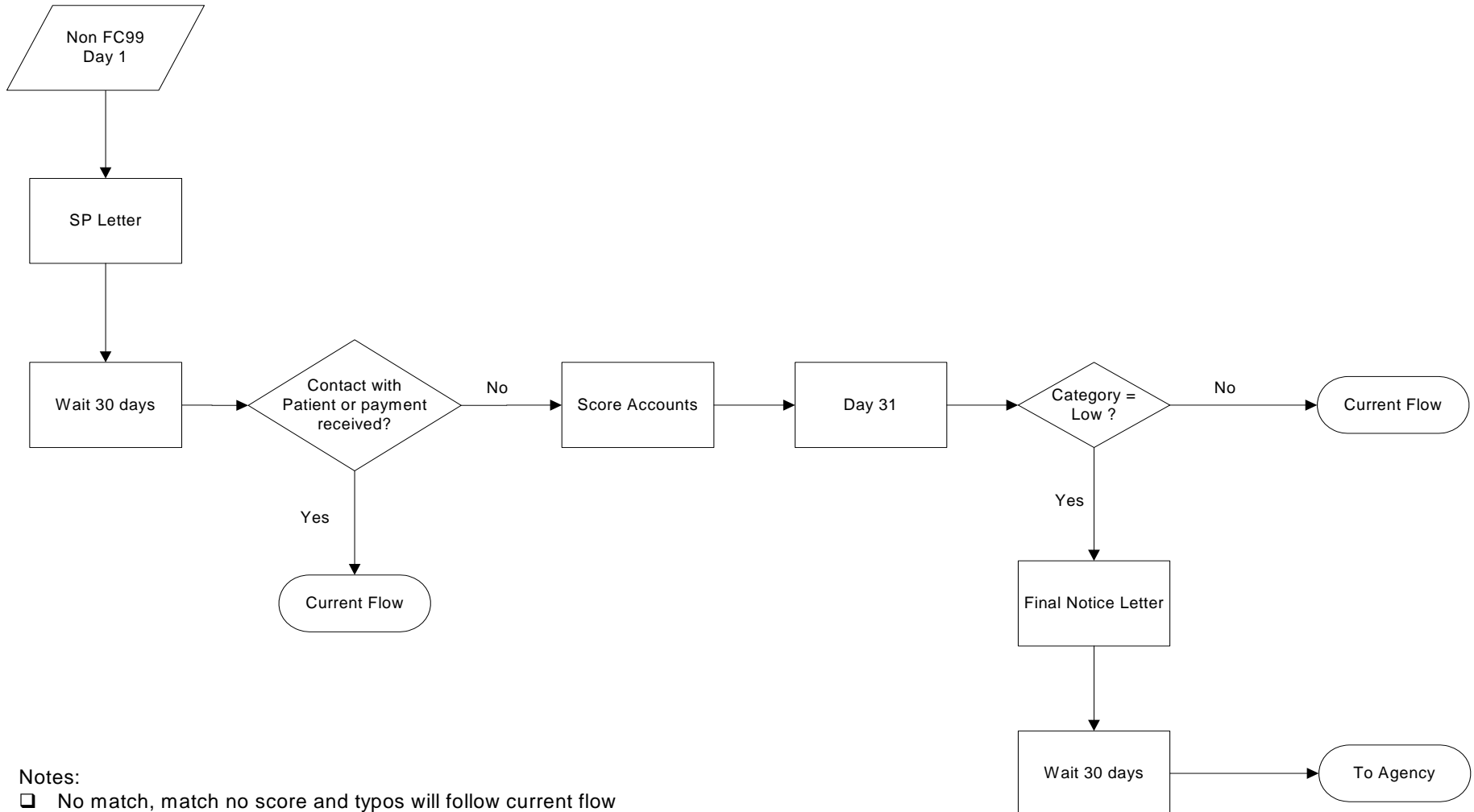
Credit Scoring Index Ranges by Industry Compared to Recovery Rate at NPAS





NPAS Credit Scoring Flow (Copay and Deductible)

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- Notes:
- No match, match no score and typos will follow current flow
 - Phase II - No match may go into low

Results: Credit Scoring Segmentation

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Copay and Deductible -Low Score <\$1,000	% Change
Net back %	+0.47%
Average Attempts	-91.64%
Average Contacts	-65.96%
Average Letters	-30.52%
Age at NPAS	-34.38%

Self Pay -Low Score <\$1,000	% Change
Net back %	1150.0%
Average Attempts	-88.66%
Average Contacts	-65.96%
Average Letters	-4.02%
Age at NPAS	-17.10%



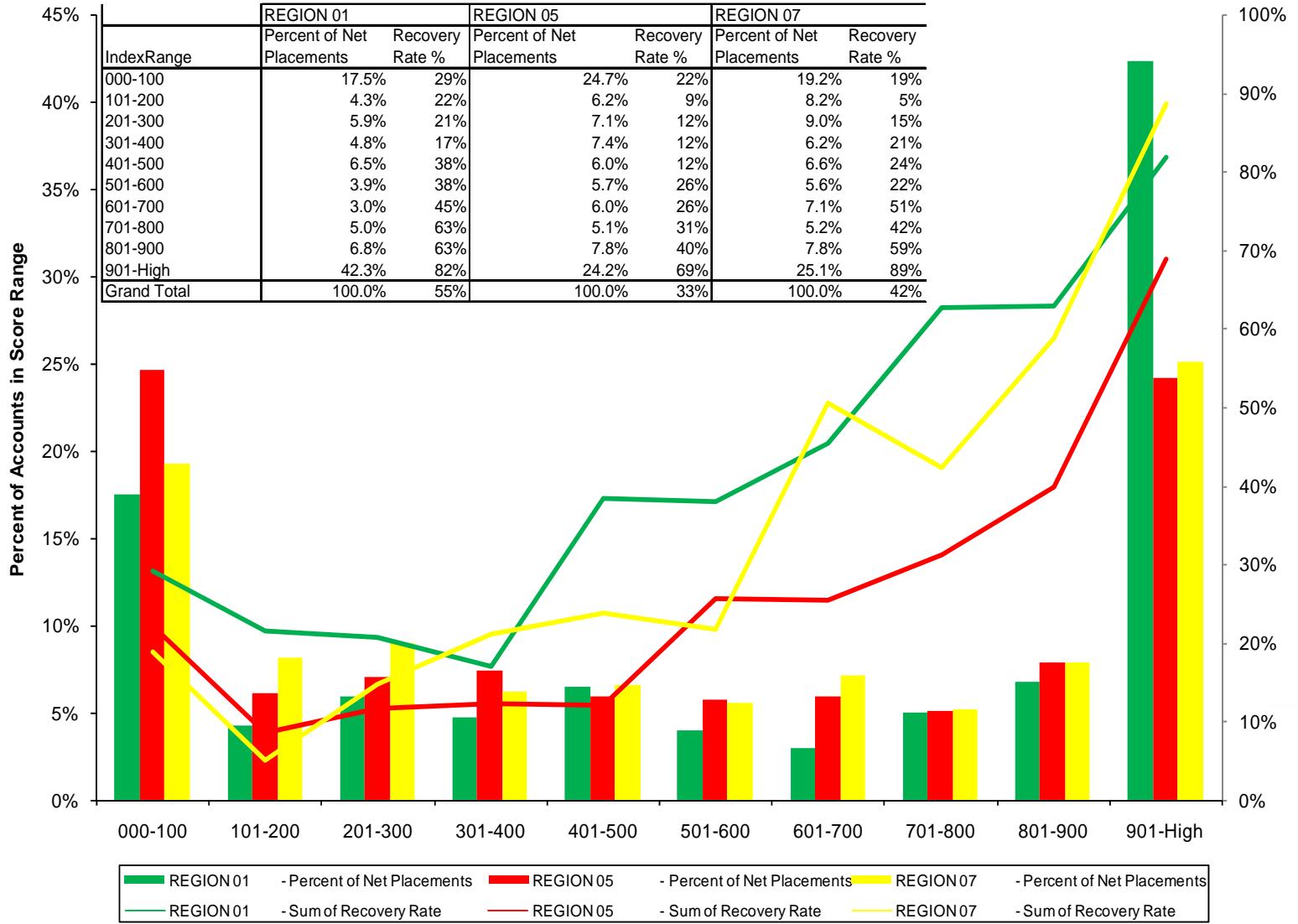


Copay/Deduct – Group Mix

Comparison of Net Placements and Recovery Rate

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Credit Scoring Index Ranges by Region Compared to Recovery Rate at NPAS



Keys to Implementation of Scoring
















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- **Tools:** Do you have the right tools to manage workflow with a score?
- **Workflow:** Determine what will be done with the score ahead of time
- **Segmentation:** What accounts will be scored? Cost can be an issue.
- **ROI:** What will happen to FTEs that might be working these accounts?
- **Risk Tolerance:** There will be accounts that are not correctly predicted
- **Board Acceptance:** Charity and Bad Debt processes require approval



Key Performance Indicators

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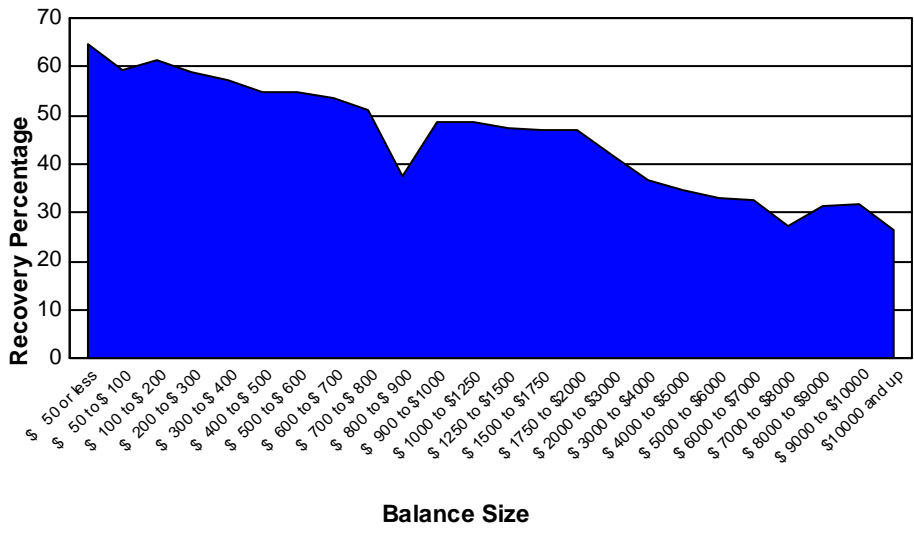
Current Performance and Trend Metric	Insurance		Copay and Deductible		Pure Self Pay	
	KPI	Trend	KPI	Trend	KPI	Trend
Recovery Rate	80.37%		42.68%		4.37%	
Average Balance Size	\$474		\$543		\$2,560	
Percent Bad Addresses	2.67%		4.29%		16.91%	
Percent Bad Phone Numbers	5.48%		9.23%		21.15%	
Average Age Placed	71		77		33	

Each of the above key indicators shows the most current month ended statistic, with a trend indicator designed to be red for negative trends, green for positive trends, and yellow for neutral.

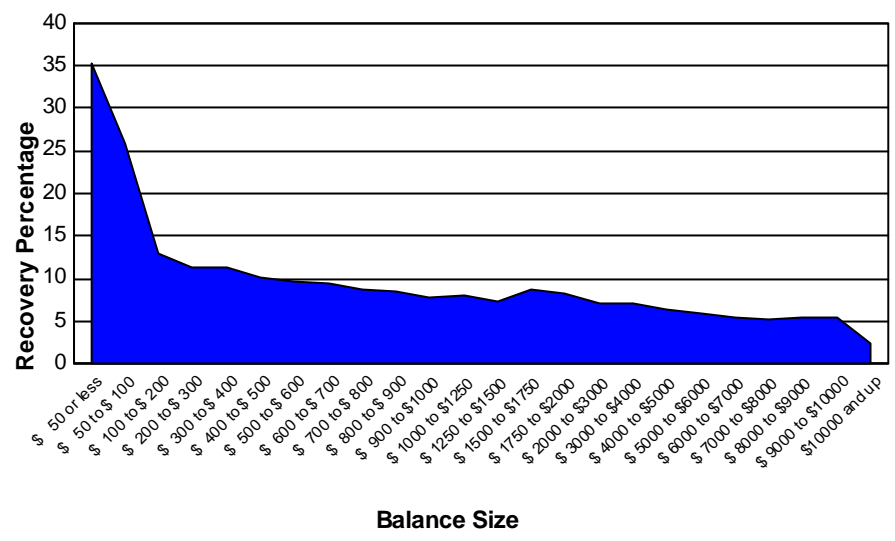


As Balance Size Increases, Recovery Rate Decreases in Private Pay

Relationship of Balance Size and Recovery Rate
For Private Pay - Co-pay and Deductibles



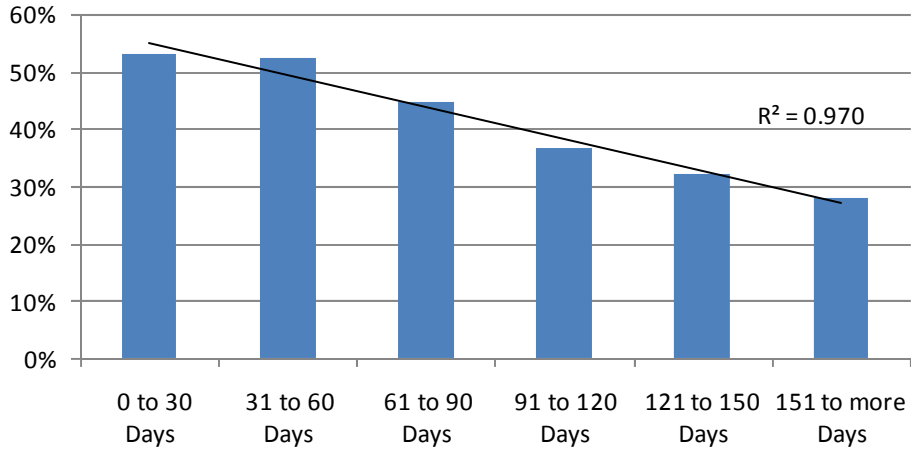
Relationship of Balance Size and Recovery Rate
For Private Pay - Pure Self Pay



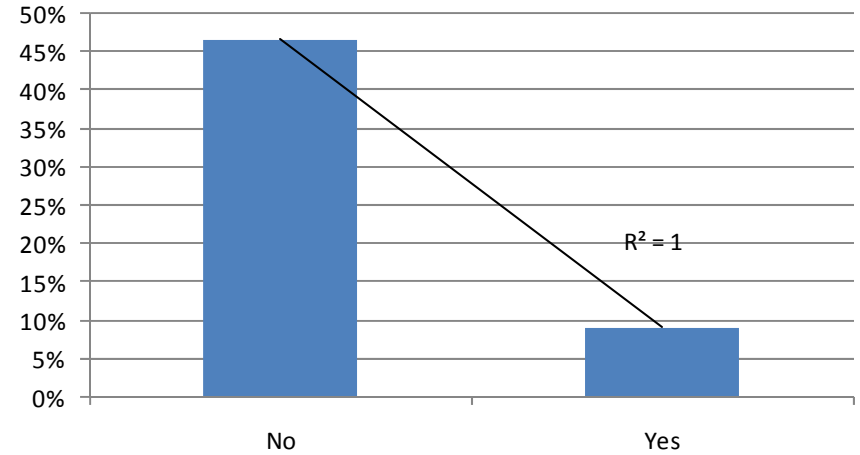
Key Indicators Cont'd

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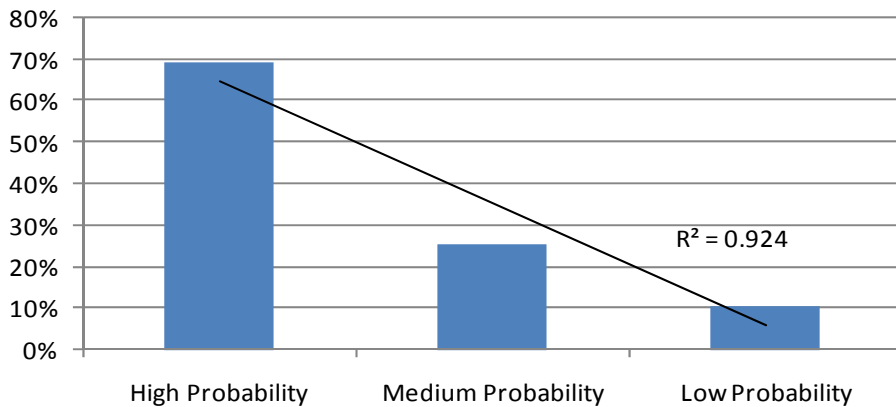
Age Placed Related to Recovery Rate



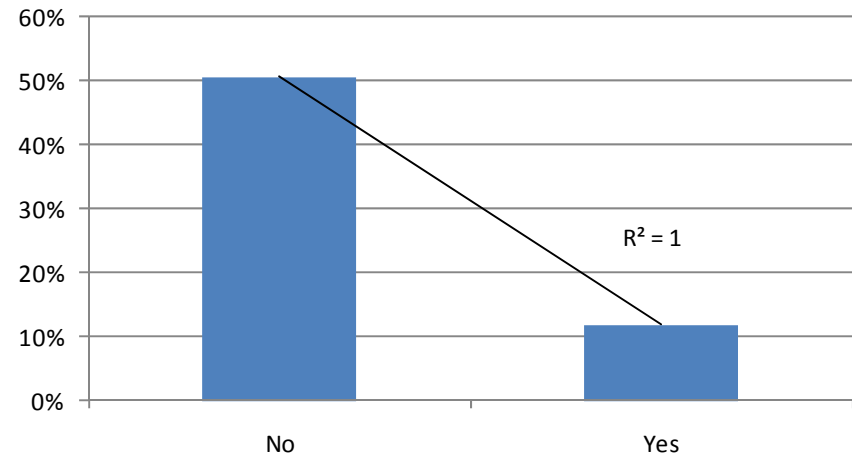
Bad Address Related to Recovery Rate



Low Scoring Accounts Related to Recovery Rate

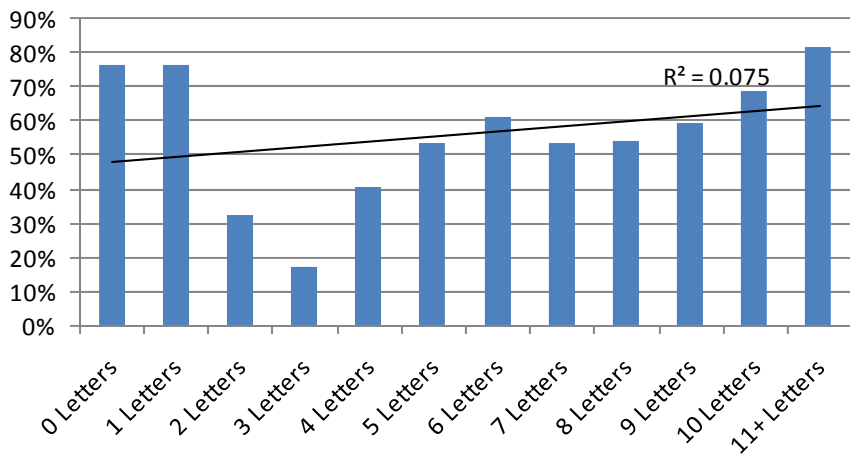


Bad Phones Related to Recovery Rate

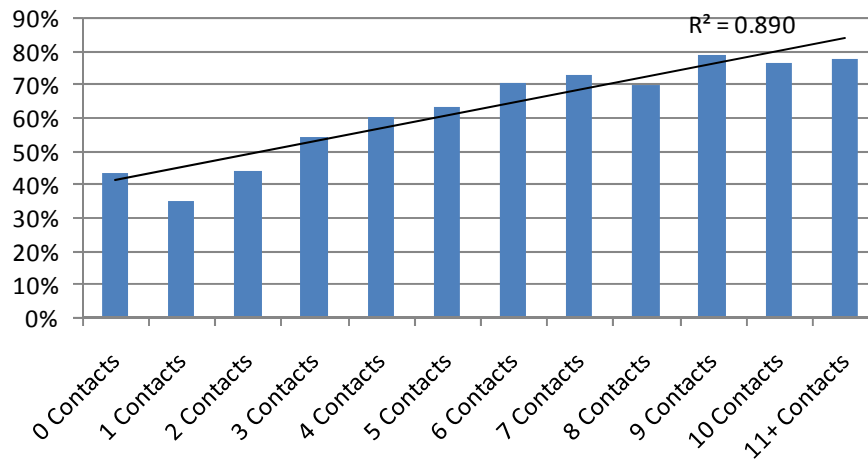


Key Indicators Cont'd

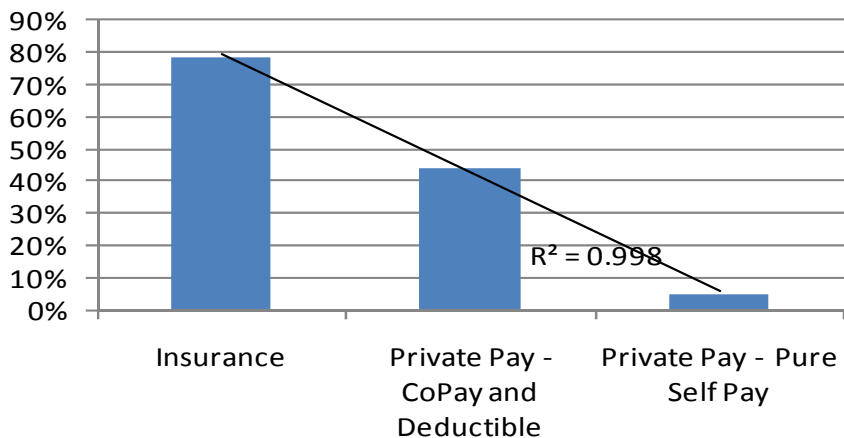
Letters Sent Related to Recovery Rate



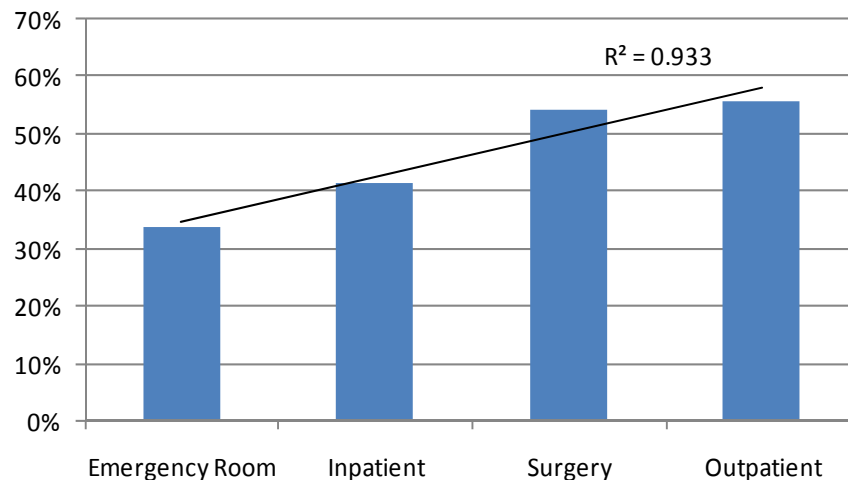
Phone Contacts Related to Recovery Rate



Financial Class Related to Recovery Rate



Patient Type Related to Recovery Rate



Goals of Predictive Modeling

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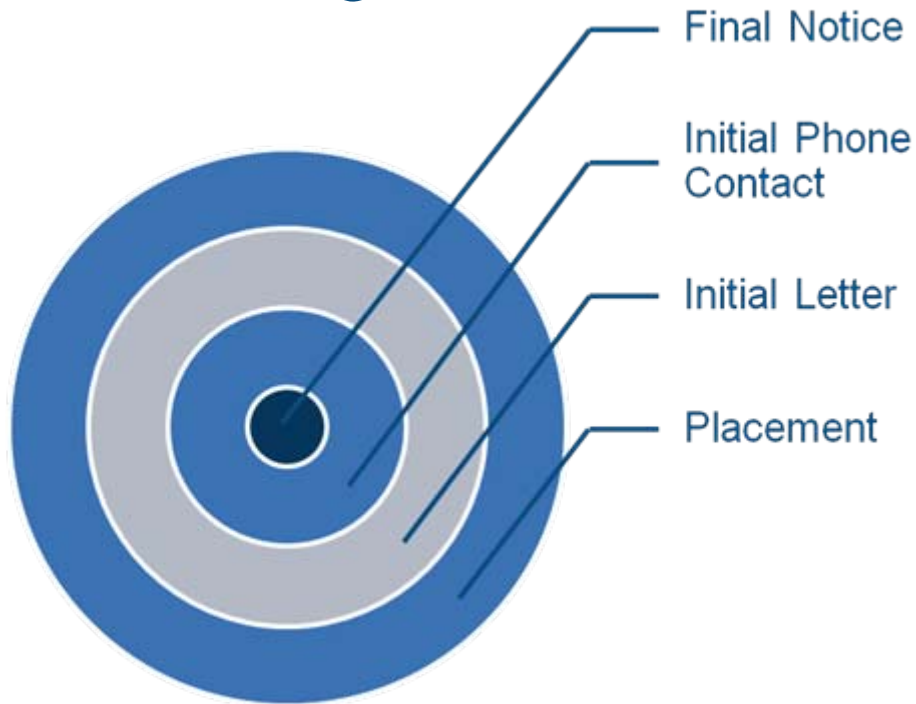
- **Utilize the right resources for working accounts**
- **Minimize the need for external information to determine the best segmentation philosophy**
- **Business Analytics – will a predictive model support a conclusion driven by something other than data?**



Cost-Reliability of Models

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Timing Relevance

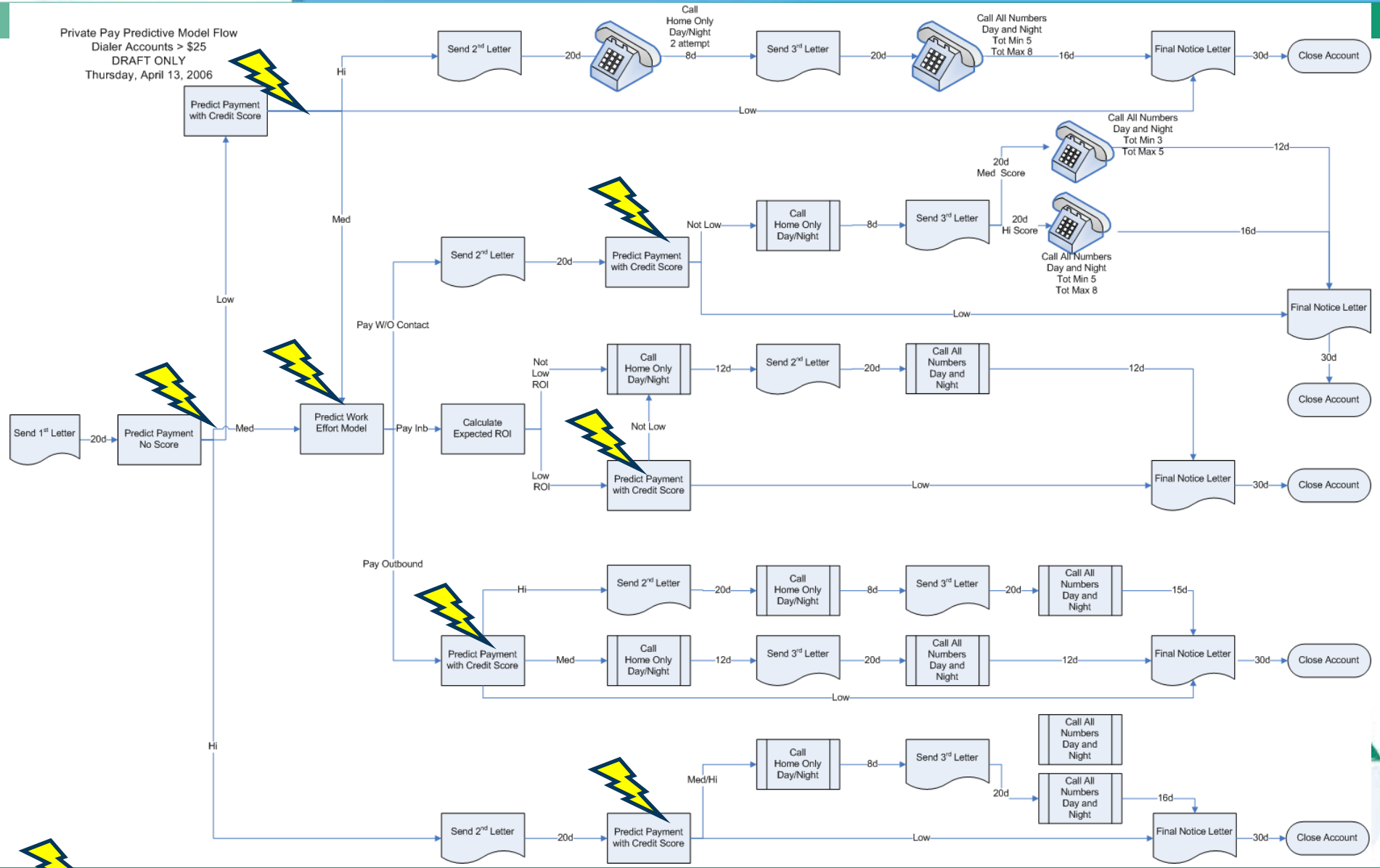


Data Relevance



Ideal Predictive Workflow

Private Pay Predictive Model Flow
 Dialer Accounts > \$25
 DRAFT ONLY
 Thursday, April 13, 2006





Questions?

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