

# How to Use Predictive Modeling to Investigate Claims

Roosevelt C. Mosley, Jr., FCAS, MAAA  
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Las Vegas, NV



## Discussion Topics

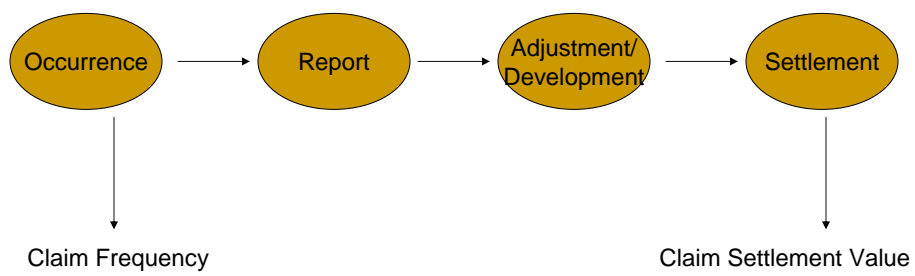
- Background
- Claims Applications of Predictive Modeling
  - Occurrence
  - Report
  - Adjustment/Development
  - Settlement
- Opportunities & Challenges



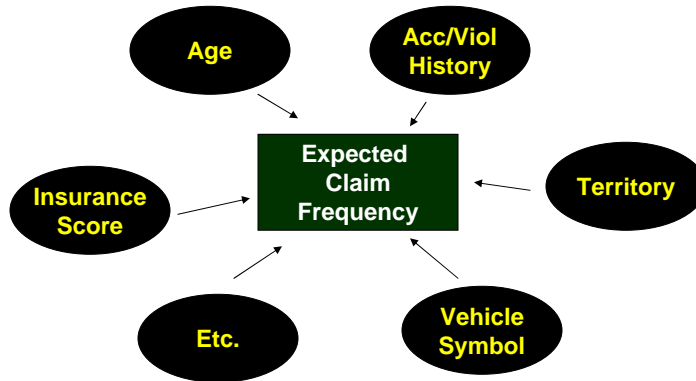
# Background



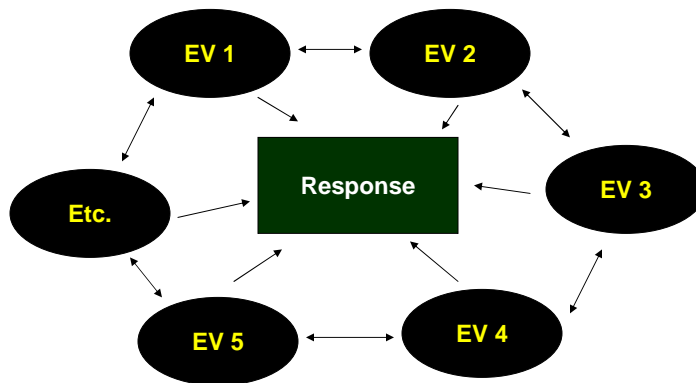
# Claims Process



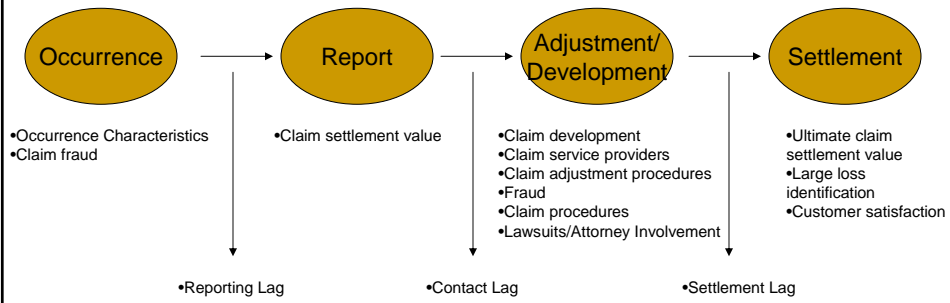
## Claim Frequency Modeling



## Why Stop There?



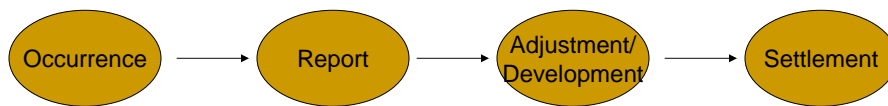
## Predictive Modeling Opportunities for Claims



## Claims Applications of Predictive Modeling

## Claims Applications of Predictive Modeling

- Occurrence
- Report
- Adjustment/Development
- Settlement

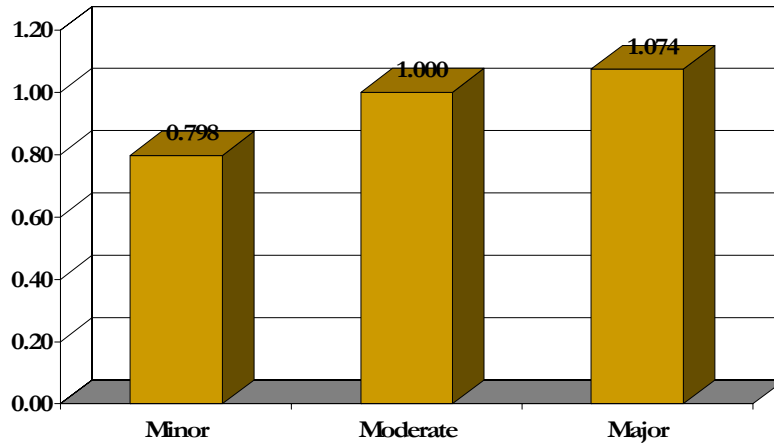


## Occurrence

Occurrence

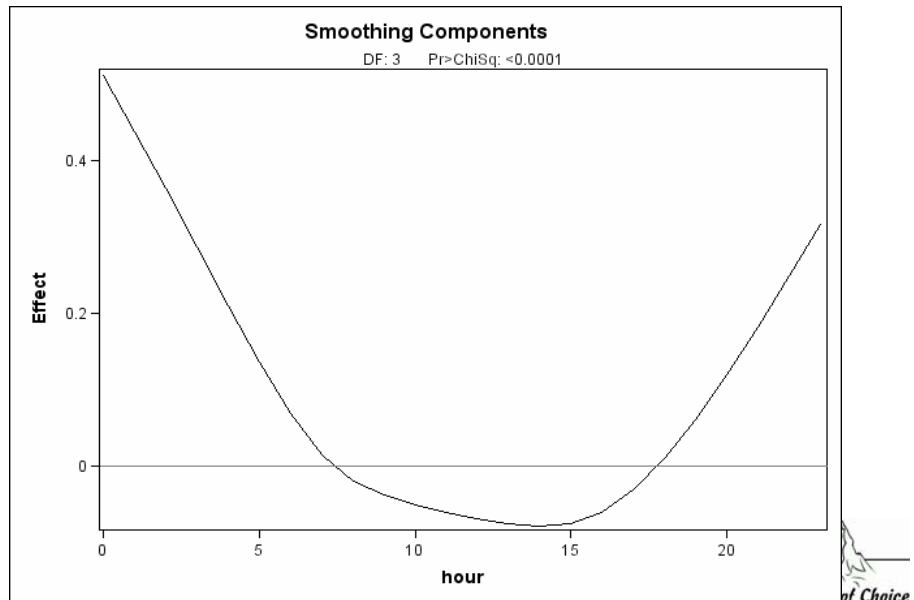
- Auto
  - Time of accident
  - Day of the week
  - Location (rural/suburban/urban)
  - Number of vehicles involved in accident
  - Police report
  - Severity of impact
- Homeowners
  - Time of loss
  - Day of the week
  - Storm involved?
  - Seasonality

## Impact Severity



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## Hour of the Accident

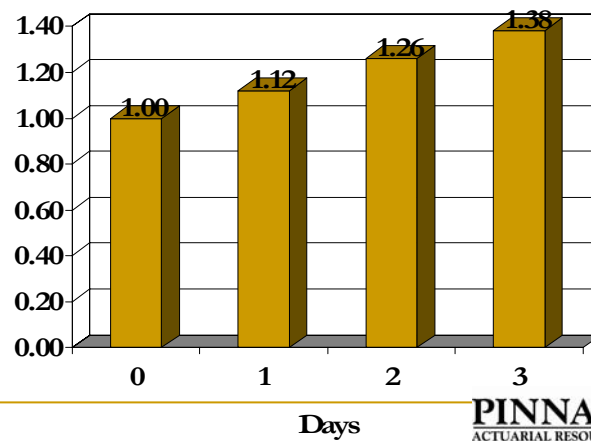
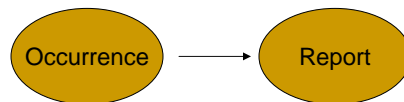


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## Application – Occurrence Modeling

- Consumer education
  - e.g.: Graduated licensing
- Working with government
  - Location analysis

## Report Lag



## Report Lag Applications

- Accident report incentives
- Ease of claim reporting
  - Internet
  - Phone
  - Email
  - Text message?



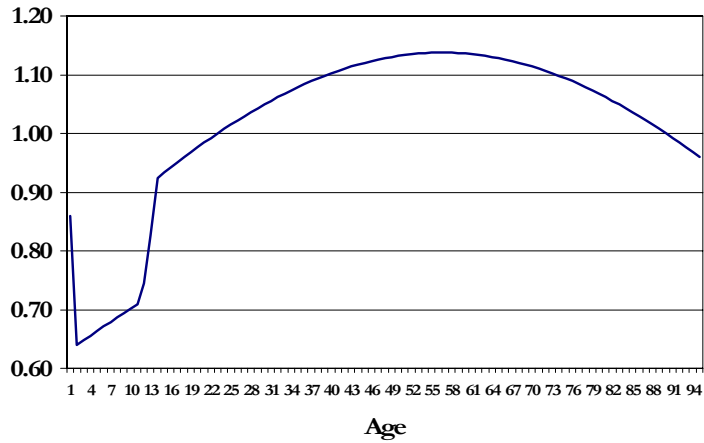
## Report

- Claim settlement value based on characteristics at time of report
  - Attorney involvement
  - "In-Network" Medical or Auto Repair
  - Property damage
  - Coverages involved
  - Injuries
  - Claimant characteristics
  - Etc.



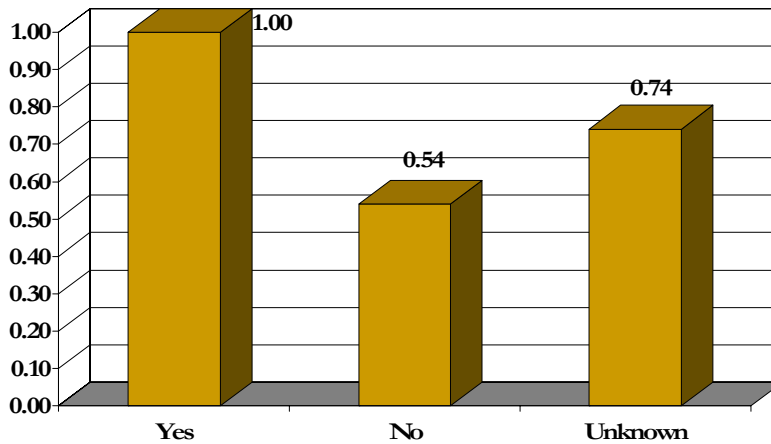


## Claim Settlement Value by Age



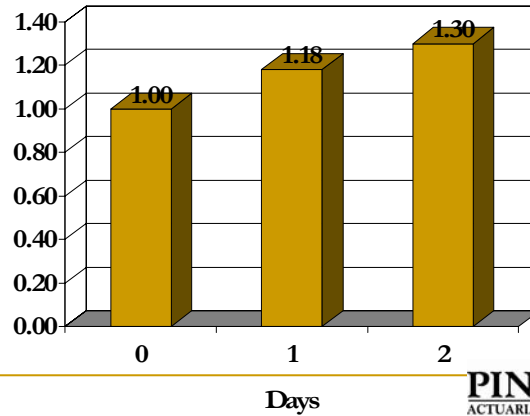
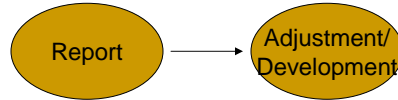
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## Limited Claim Settlement Value Modeling – Attorney Involvement



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## Contact Lag



## Contact Lag Applications

- Contact plans
  - Maximum time
  - Accident scene
- Multiple modes of contact
- Staffing?

## Adjustment Development

Adjustment/  
Development

- Claim development – amounts and characteristics
- Claim service providers – value added/detracted
- Claim settlement procedures – injury treatments, repair procedures, etc.
- Fraud – soft fraud, claim padding
- Claim handling procedures: reviews, updates, additional investigation, estimates, inspections, etc.
- Lawsuits/Attorney Involvement – potential for development of lawsuits

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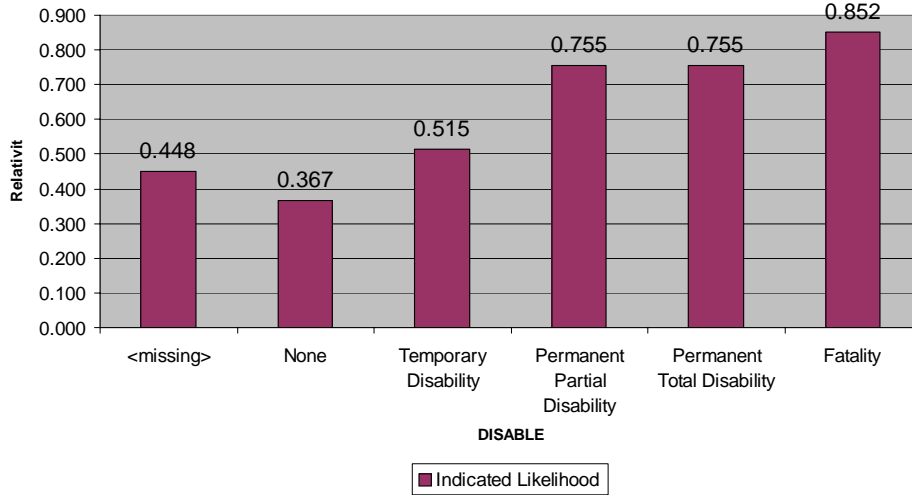
## Early Warning Signs

- Large claims
- Exceptional claims
- Delayed recovery
- Exceptional number of medical treatments
- Lawsuit development
- Coverage development

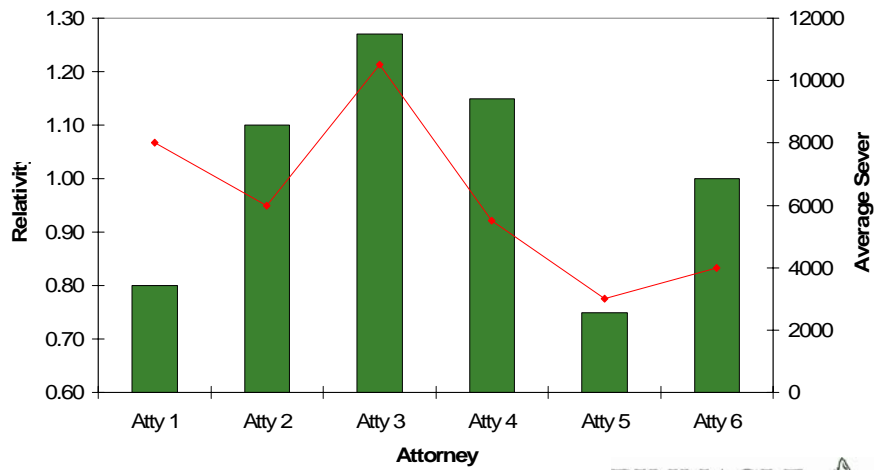
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## Likelihood of Development of BI Claims

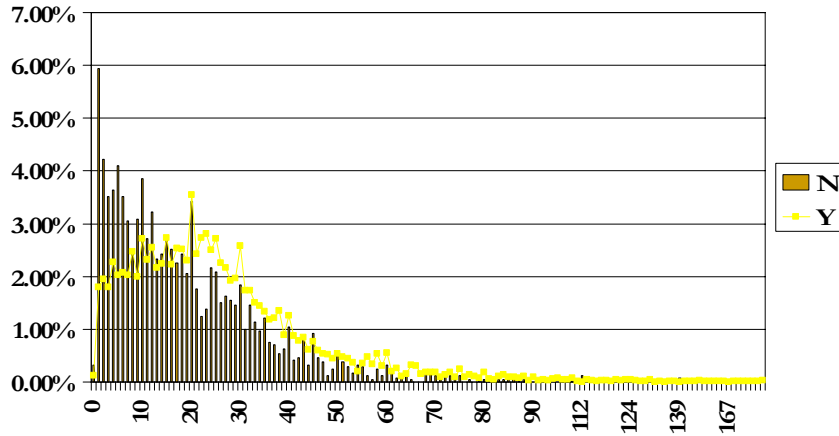
### Florida PIP Analysis with Loss



## Attorney Relativities

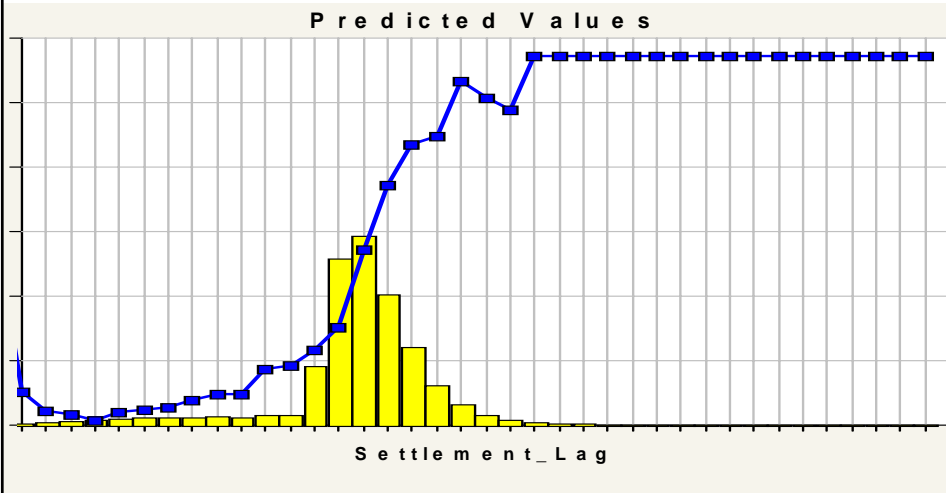
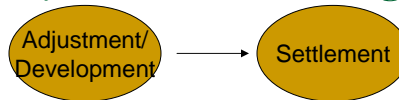


## Frequency of Chiropractor Visits by Presence of Back Injury



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## Severities by Settlement Lag



## Settlement Lag Applications

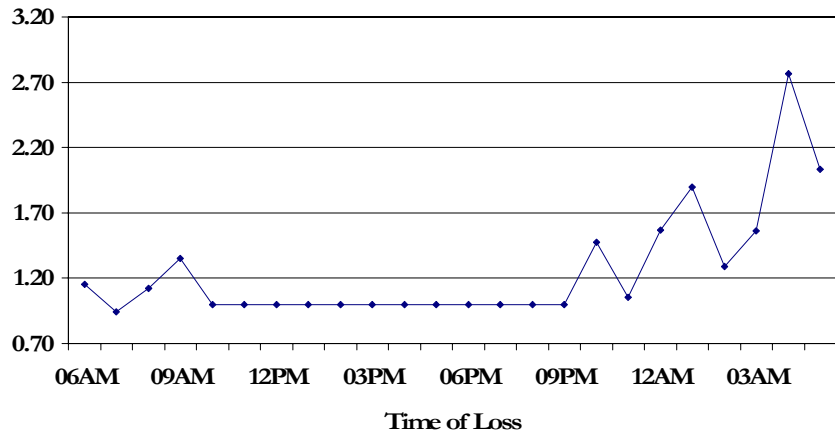
- Assignment of claims
- More focused/active management of older claims
- Claim staffing/cost allocations
- More communication during claims process

## Settlement

Settlement

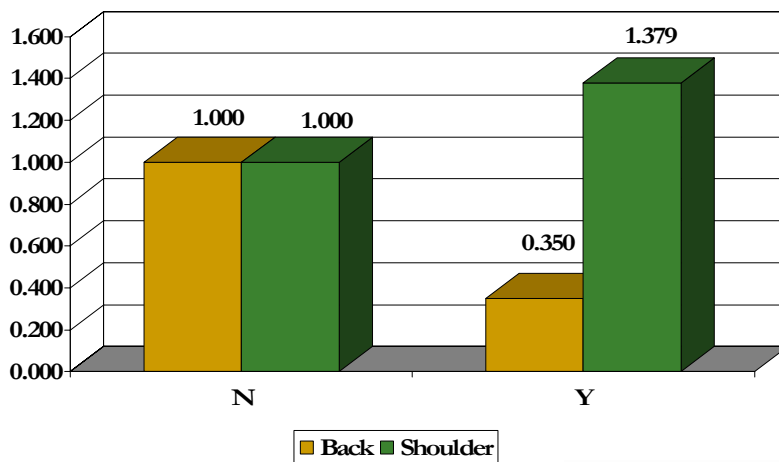
- Ultimate claim settlement value
- Large loss identification
- Customer satisfaction

## Large Loss Likelihood – Time of Loss



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## Large Loss Likelihood – Type of Injury



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## Customer Satisfaction

- JD Power: 75% of the customers that shop because they are unsatisfied with insurer switch
- By tying together claims and retention, can identify customers more likely to leave as a result of claims process



## Settlement Applications

- Claim assignment – large losses
- Further refinement of ultimate severity
- Improved customer focus in claims process





## Opportunities & Opportunities in Disguise

- Opportunities
  - Enhanced estimate of needed case reserves
  - Improved assignment of claim to claim handlers
    - Cross training adjusters with superior skills in a given claim
  - Better assignment of claims to service providers
  - Large/exceptional claim early warning system
  - Early warning of significant claim “development”
  - Real dollar savings
  - Better fraud detection
- Opportunities in disguise
  - Data
  - Expertise – partnering vs. taking over
  - Existing products