Session 24: Using Claim Data for Business Benefit

Gaining value from the data in the claims we pay every day

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Speakers

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Presentation Topics

Using claim data for business benefit: more than "just paying claims"

- Using analytics and historical claims data to predict future claims activity and potential fraud
- Identifying policy abuse, fraud and recoveries
- Setting the stage for auto-adjudication and straight through processing

Using claim data for business benefit

Using analytics and historical claims data to predict future claims activity and potential fraud

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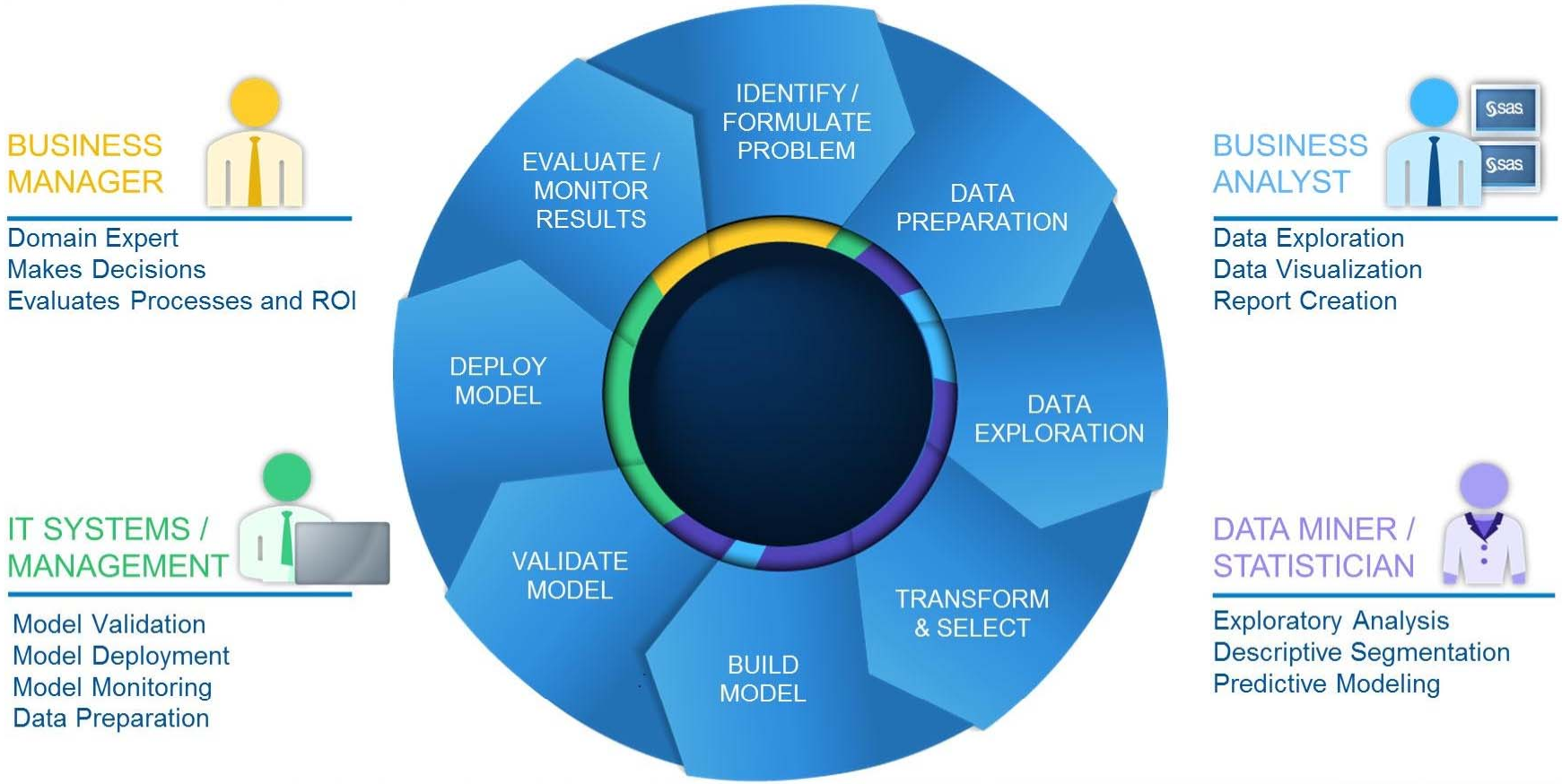
Why Use Historical Data For Claims Analysis?

Historical data allows us to utilize **predictive analytics.**

Predictive analytics offers a collaborative, iterative and science-based approach to understanding future claims activity, as well as allowing proactive instead of defensive measures against claim activity

How Does Predictive Analytics Work?



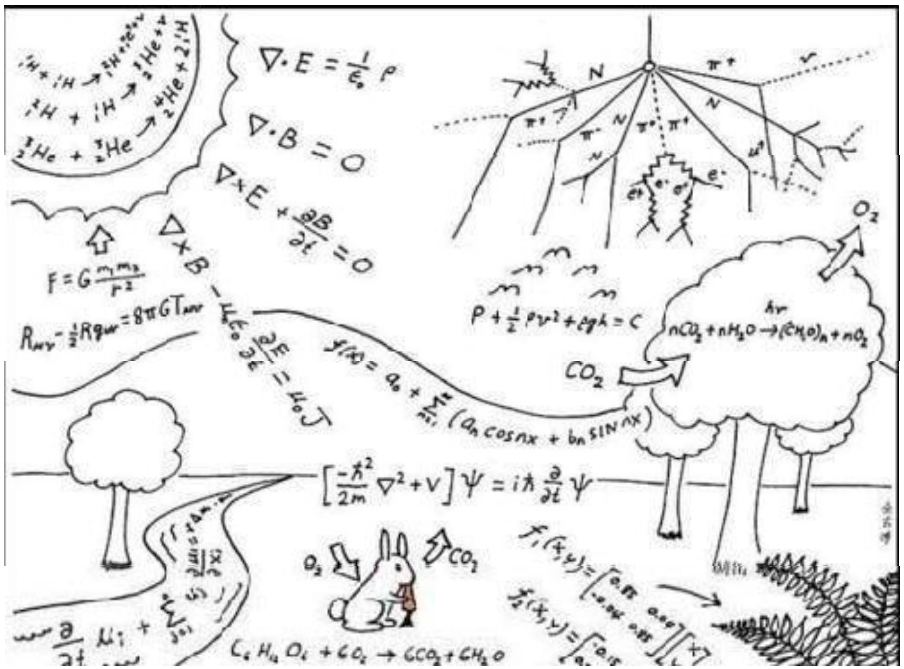
Source: http://blogs.sas.com/content/subconsciousmusings/2013/01/11/why-people-and-process-matter-in-addition-to-great-technology-in-predictive-analytics/

Understanding and Predicting Systems

Predictive models must predict the system

- ✓ The system needs to be clearly defined
- ✓ There must be data that drives the system.

How a mathematician sees the world:



Claims Inventory Example

System

- Operations was looking for a way to predict inventory levels based on past experience.
- Data was Medicare data for the last two years within the company
- The process flow of the claim was provided by operations and generalized for a first run model
  - ✓ Keep initial models simple
  - ✓ Use the process flows to identify gaps in data

Inventory Example - Results

- ✓ The final model provided results ranging from 0.5% to 10% differences with an average of 3% which is quite accurate.
- ✓ The results also lead to other areas that needed to be evaluated, such as a yearly spike in June, which was known at a high level but the model provided much better insight.
- ✓ The final model was an ARIMA model but the model type was not chosen ahead of time.

Inventory Example – Lessons Learned

- ✓ Model names do not determine if a model is successful.
- ✓ Client buy-in to a model is high when the model is needed and can cause the program to be canceled when it is not.
- ✓ Every predictive model is wrong; however errors can be used to determine how to make the model better and identify new variables that affect the system that were not previously expected or known.

Variance and Sensitivity

Since every predictive model is wrong to some degree, variance and sensitivity of the model is examined for improvement.

- Sensitivity Analysis: Used to determine the possible results the predictive model can have and the overall distribution of those results.
- Sensitivity analysis requires an understanding of the distributions of variables in the model as well as any possible covariance, if possible.
- Understanding the distribution of the results can help you understand ROI, when highly correlated variables are missing, and when processes change from the predictive model and a new one is needed.

What is Profiling

- Profiling: Using data to understand how different “subjects” act within the dataset.
- Profiling is an effective way to begin to or further understand your systems, and can help lead to predictive models.
- Profiling is also an effective method to look for data to enhance the dataset in use. *For example, I have seen where profiling has shown a need for economic data and required an economic indicator to be created.*

Profiling LTC Claims

When looking to predict future claims, profile what you may want to know about claims:

- ✓ Claim duration
- ✓ Time from one claim to a new claim
- ✓ Percentage of claims that change from one care type to another (such as HHC to NH or ALF)
- ✓ Receipt time of claims, specifically “shoe box claims”
- ✓ Length of service
- ✓ Propensity to: go on claim, have a long claim duration, lapse due to RINC, take an NFO offer

Profiling and Predicting Claims

- Creating a profile for claims can help create the needed variables for a predictive model. It indicates what can be expected.
- Profiling also helps created the needed distributions that can be used in the sensitivity analysis for different predictive models.

Claims & Underwriting

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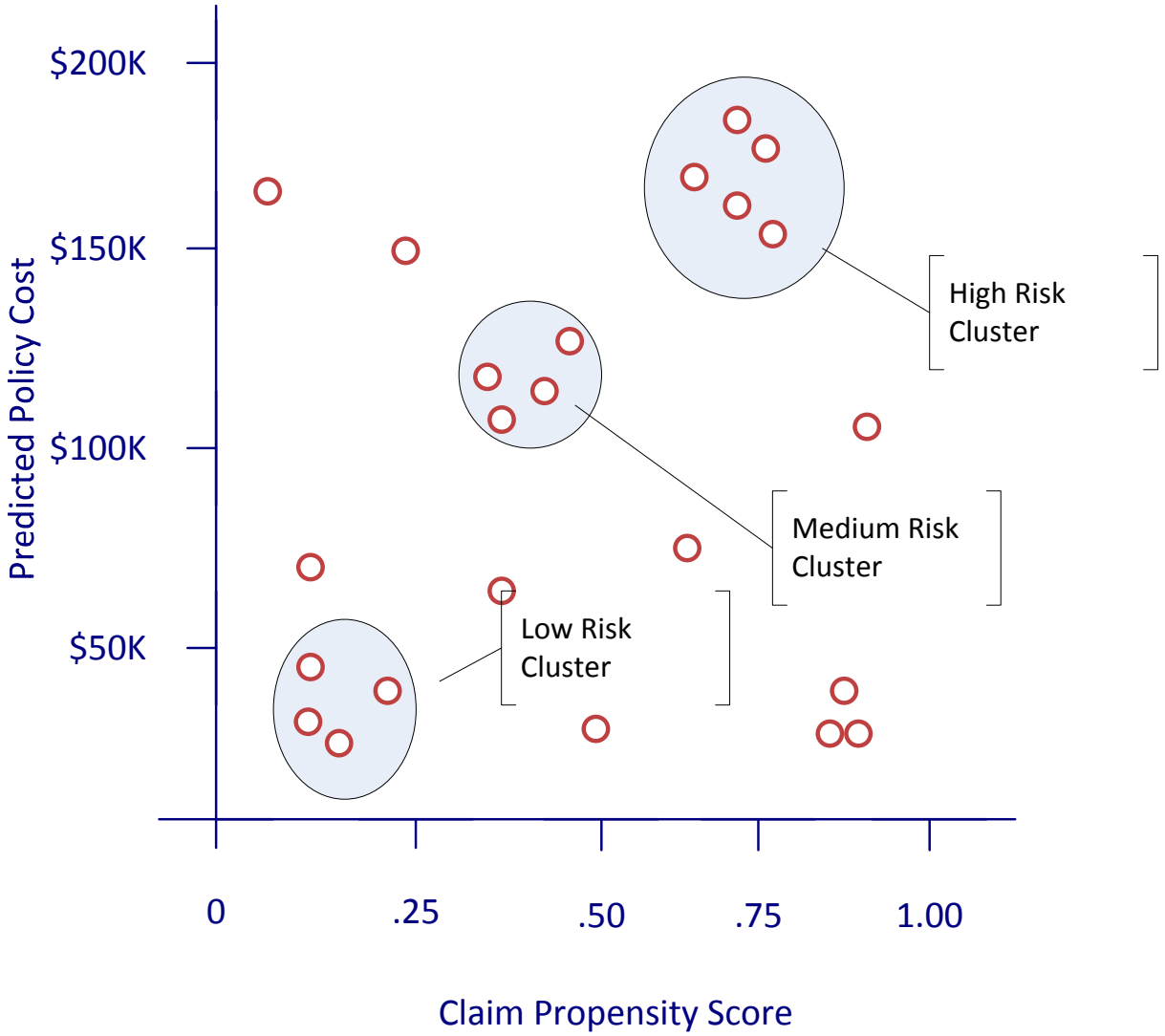
What Can Predictive Modeling Output?

Less Contributive	Variable Name	Most Contributive
CO	Resident State	FL
Married	Marital Status	Unmarried
45 ; 50	Attained Age	85 ; 90
NH Only	Coverage Type	HHC Only
WY	Issue State	FL
Low	Area Population Density	High
High School	Area Education Level	Graduate School
Male	Gender	Female
No Inflation Protection	Inflation Protection	Compound Inflation Protection

Applying Predictive Models

Rank	Policy Holder	Likelihood for Claim Score
1	Smith, Jane	0.70
2	McNeill, Peter	0.69
3	Starr, Alistair	0.68
4	Treloar, Carrie	0.67
5	Bass, Dorothy	0.65
6	Winton, Kent	0.64
7	Jacobson, Linda	0.62
8	Harvey, Henry	0.61
9	Fay, Jackson	0.59
10	Abrahamson, Laura	0.58

What Can Predictive Modeling Output?



Profiling and Fraud

- Claim and Provider profiling can help you detect fraud by examining different variables and what their distributions look like.
- A provider who falls outside the “norm”, such as considerably higher utilization than other providers who provide similar services, may be due to fraud or abuse.

Relatable Profiling Examples

- Profiling in Medicare is used to help determine when ICD-9 codes are up-coded for higher paying services. This is done for office visits that range from 99211 – 99215, where the distribution should be close to normal with mean 99213.
- Profiling is also used to investigate fraud in the excessive use or cost of care, such as providers who perform services beyond what is required, or HHC providers billing excessive amounts compared to other providers.

5 HHC Providers within a 25 mile radius:

Using claim data for business benefit

- Identifying policy abuse, fraud and recoveries
- Setting the stage for auto-adjudication and straight through processing

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Quick Caveat

Presentation is home-care claims-centric, BUT “Tiered Risk Management” concepts are applicable across provider types

Main Topics

- Tiered risk management concepts
- What data is meaningful?
- Scoring methodology
- Setting up a useful reporting process
- Managing risk claims
- Electronic claim receipt
  - Timecard system use
  - Online claim submission

Why a tiered risk management structure?

- Allows rapid, efficient understanding of risk per claim
- Tailors specific responses to specific cases
- Enables efficient use of resources
  - Don’t waste time on low-risk cases
  - Focus efforts on higher-risk cases
- Clearly defines criteria and indicators which lead to subsequent actions
- Enables differential response based on hard data, not conjecture

Risk Assessment: Stratification into Tiers

Tier 1 — No adverse indications to date

- No indicators or patterns present suggesting risk

Tier 2 — Some potential risk indicated

- Few risk indicators present; no adverse pattern of behavior established

Focus on efficiency and data gathering to assess risk

Tier 3 — Moderate risk indicated

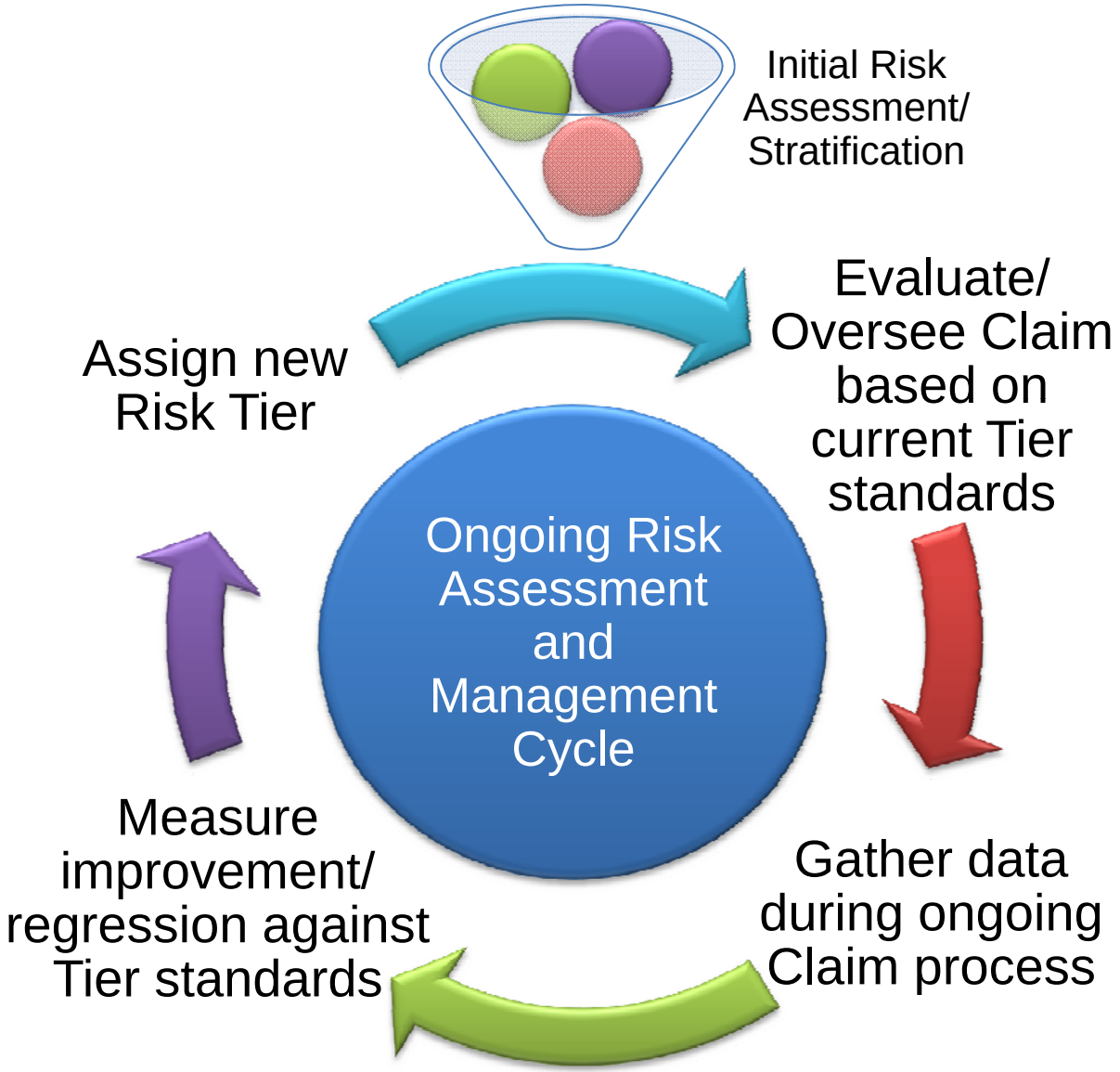
- Several risk indicators present; pattern of behavior established

Tier 4 — High risk indicated / Demonstrated Fraud

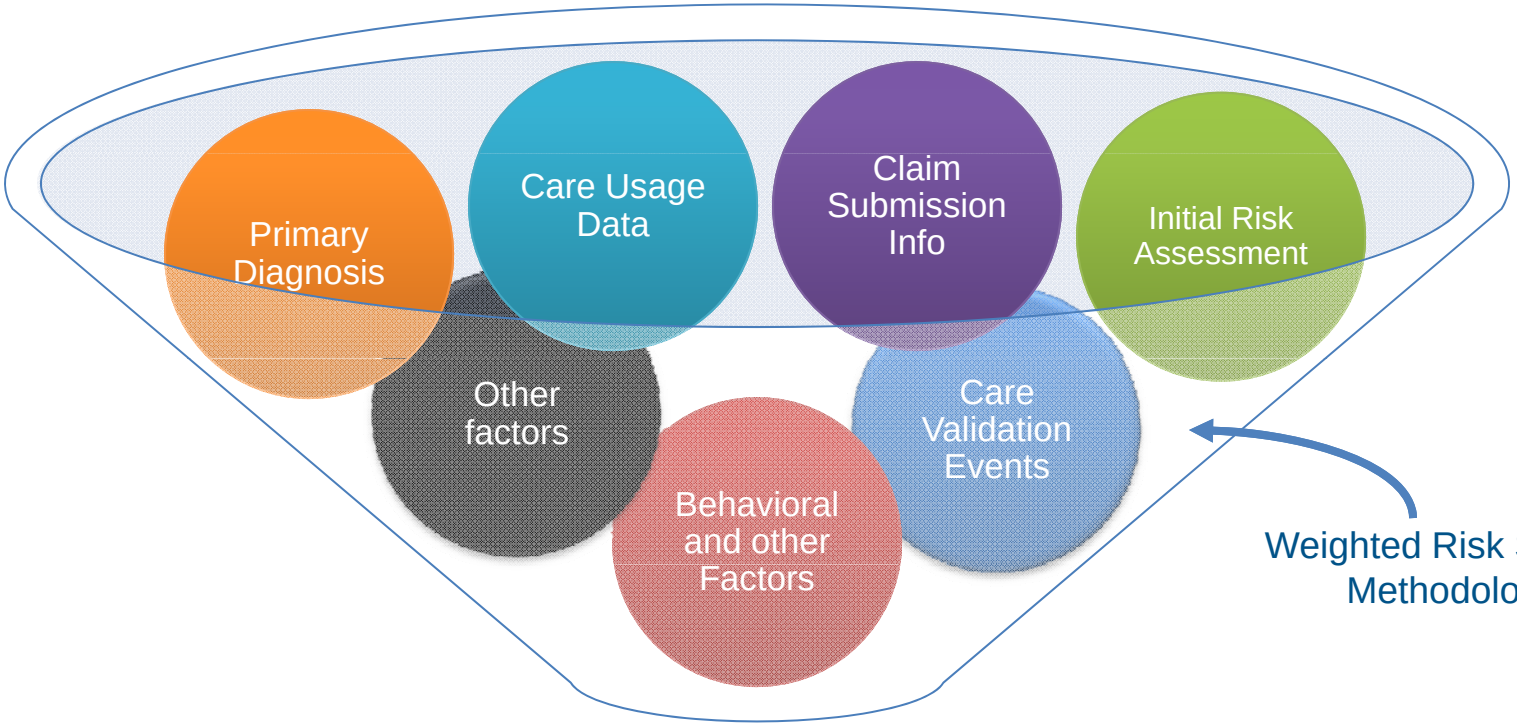
- Many risk indicators present; Multiple demonstrated red flags

Focus on actively managing identified risk

Risk Management Cycle



What Data is Meaningful?



Risk Tier Assignment

(Tier 1 – Tier 4)

Assigning Weight/Value to Risk Factors

- Set up a matrix with risk factors, weights, correlation and risk values/boundaries

Column	Example 1	Example 2	Example 3
Risk Factor	Unlim. Lifetime Benefit	DBA	Bad Care Validation Event
Definition	Does the claimant have an unlimited lifetime benefit?	Claimant's Maximum daily benefit amount	# of instances caregiver not home when called while checked in
Correlation Strength	WEAK	WEAK	STRONG
Calculation	Equal	Greater	Greater
Values or # of Instances (L/M/H)	0/0/1	150/200/250	1/3/6

Risk Scoring Methodology (continued)

- Create a risk score table and tier ranges

Risk Score Table	Threshhold	Low Value	Med Value	High Value
Correlation Strength	X	1	2	4
EXTREME	10	10	20	40
STRONG	3	3	6	12
WEAK	1	1	2	4

RISK SCORE RANGES		
Tier	Risk Score-low	Risk Score-high
1	0	10
2	11	39
3	40	100
4	101	above

- Iterate on correlation strengths and risk score ranges based on actual claims experience

A Note about Structured Data

…it's critical!

- You can only report on what you store as structured data
- Once risk factors identified with strong correlation, ensure that structured data exists to capture values or # of occurrences

Reporting & Risk Management Process

Data Collection

- Via daily operational processes
- Structured data

Periodic Calculation Process

- Algorithm based on defined risk factors
- Generates risk score per claimant

Risk Report

- Summary report
- Identifies recommended tier changes
- Dashboard with key indicators
- Clearly identify escalated risk cases

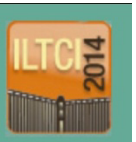
Single claimant drill-down

- Evaluate all indicators/factors for a single claimant
- Execute tier change or other action

Managing Risk Claims: Escalation

Claims oversight and actions:	•	•
	•	•
	•	•
Indicators/data thresholds:	•	•
	•	•
	•	•
Communication/ Escalation points:	•	•
	•	•
	•	•

Managing Risk Claims: Possible Actions by Tier



	Tier 1	Tier 2	Tier 3	Tier 4
	• No adverse indications to date	• Some potential risk indicated	• Moderate risk indicated	• Demonstrated Fraud or High Risk
Assessing Risk	•Pay all shifts represented on invoices	•Verbal/phone call notification to claimant •Pay all shifts represented on invoices	•Potential SIU referral •Written notification to claimant •Possible denial of certain claims/services •Potential to disallow certain providers	•SIU should be involved •Additional written notification to claimant regarding planned non-payment of certain claims/services •Denial of non-conforming claims/services •Disallow providers without additional oversight •Consider claimant surveillance
Assessing Recovery	•No actions	•Opportunity for telephonic POC update	•Substantial disconnect between POC and actual services received •Potential onsite reassessment •Potential medical records check	•Onsite reassessment medical records check to confirm recovery •Recover claimant

Opportunity for Auto-Adjudication and Straight-Through Processing

Focus on efficiency and data gathering to assess risk

Focus on actively managing identified risk

STP – it's not just for Richard Petty!

- Structured Data: the key to STP
- Electronic claim receipt is key
- Two main tools:
  - Timecard system use
  - Online claim submission

Electronic Claim Receipt – Timecard System

- Use of a telephonic Timecard System:
  - Makes claim data available as structured data for use in risk management process
  - Allows provider to enter services (ADLs, etc) with each shift
  - Enables verification of multiple factors

    ✓ Caregiver Identity
    ✓ Care occurring in the home
    ✓ Actual care start time
    ✓ Actual care end time

  - Reduces hours billed by up to 25%
  - Helps identify fraudulent claims

Electronic Claim Receipt – Timecard System

- Online claim submission - sample
- Reduces/eliminates data entry or bad fax/image issues
- Claim received as structured data available for analysis

Presentation Summary

- Several benefits to this approach
  - Tailors specific responses to specific cases
  - Enables efficient use of resources
  - Allows us to focus efforts on higher-risk cases
  - Allows use of hard data to consistently handle red flag cases

- This is a longer-term process, not a short-term fix

Questions & Answers

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Thank you!! Please fill out your feedback forms.

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