

**Designing your Non-Traditional
Product from Start to Finish:
Matching Underwriting
Experience
Life Perspective
SOA Spring Meeting**

June 15, 2004

Content

- Life Insurance Market Inefficiency
- Underwriting Solution to Reach Gap
- Value Proposition
- Protective Value Studies
- Sample Cases

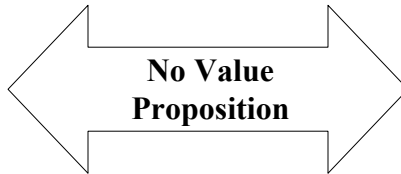
1

Agents Migrating Upscale

Life Agent



•Commission vs Time



Middle Market Consumer

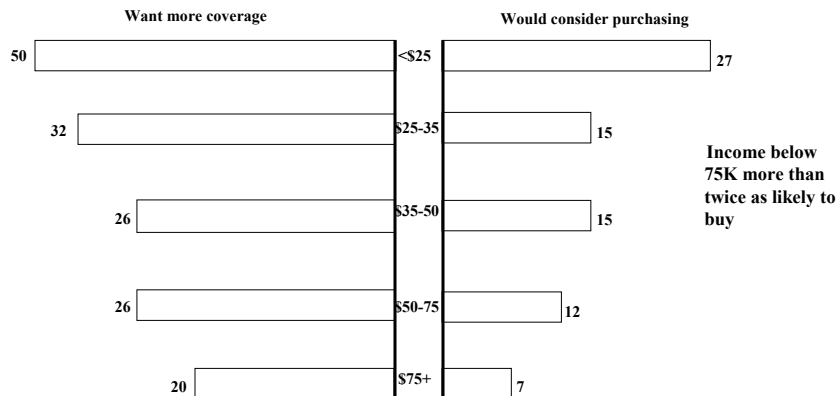


•Price vs Product value

2

Creating an Unfulfilled Demand for Life Insurance

% of household by annual HH income ('000)

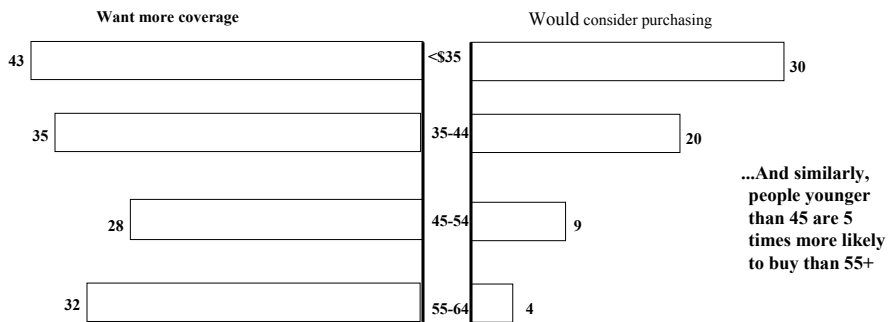


Source Trends in US Life Insurance Ownership, LIMRA International 2000, TARE analysis

3

...Within Middle America

% of household by age of head



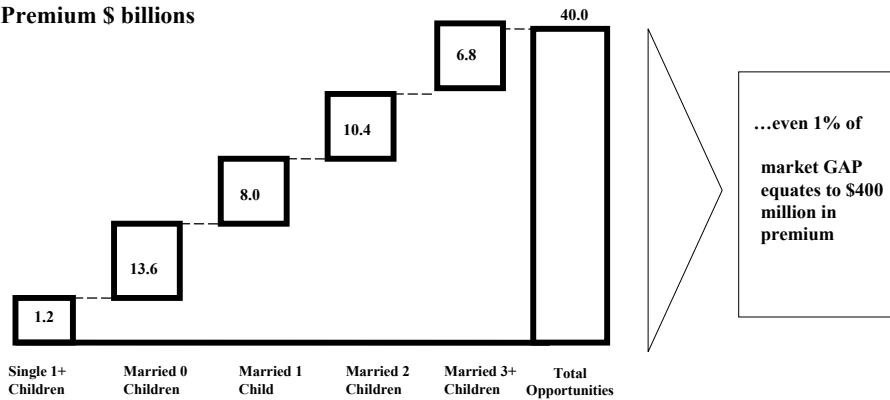
Source Trends in US Life Insurance Ownership, LIMRA International 2000, TARE analysis

4

The Opportunity is Substantial

Market insurance opportunity

Premium \$ billions

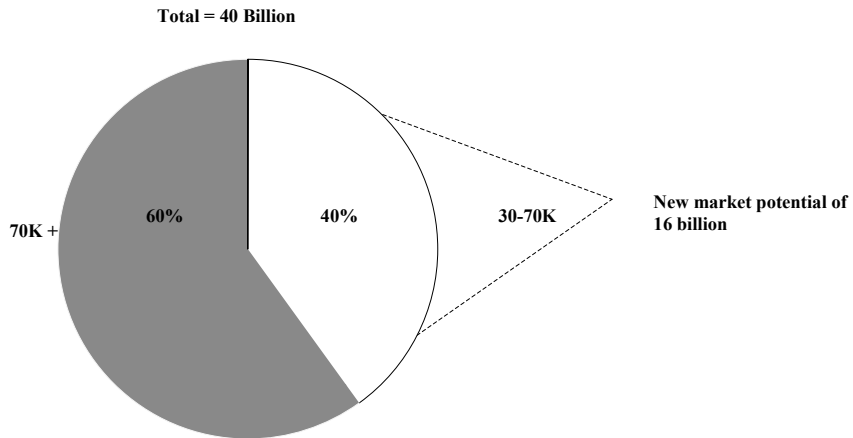


Note: assumed target market: age 25-55, income 30K
Source: 1998 Survey of Consumer Finance, TARE analysis

5

...And Could Expand Market by 150% if Tapped

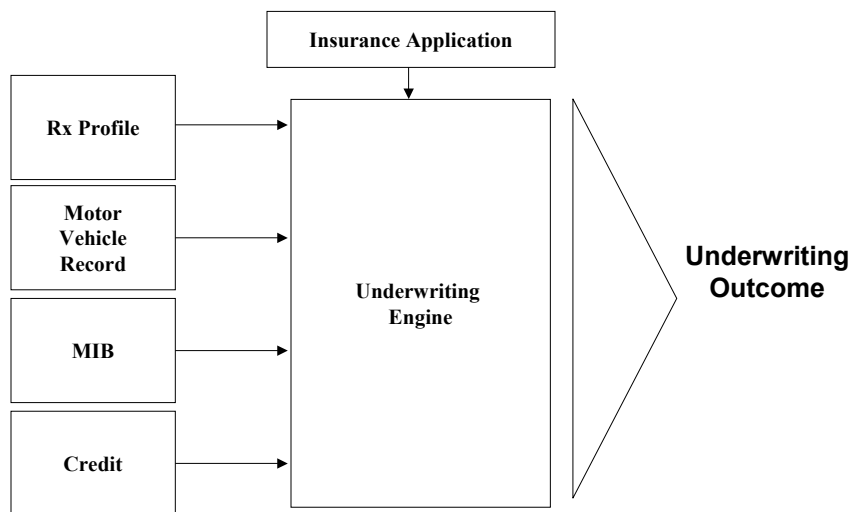
Middle Market Insurance Opportunity



Note: assumed target market: age 25-55
Source: 1998 Survey of Consumer Finance, TARe analysis

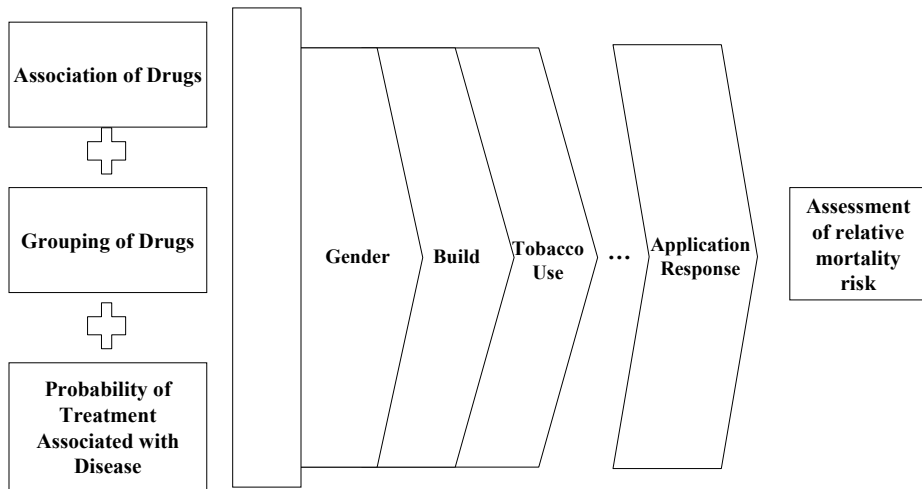
6

Solution is Technology Enabled



7

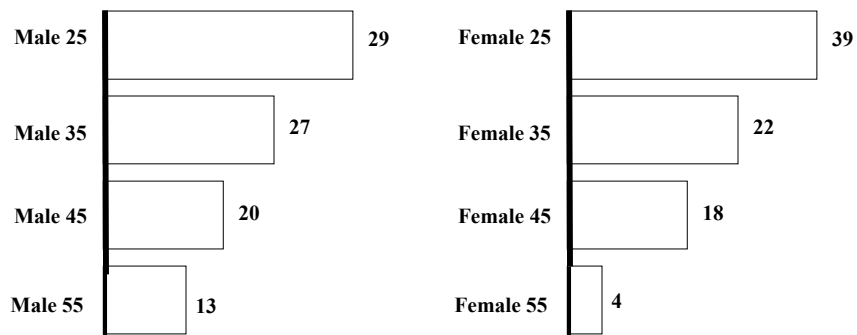
Rx Changes Game



8

Offering Transactional Product with Value

Face amount where mortality gain exceeds additional underwriting cost ('000)

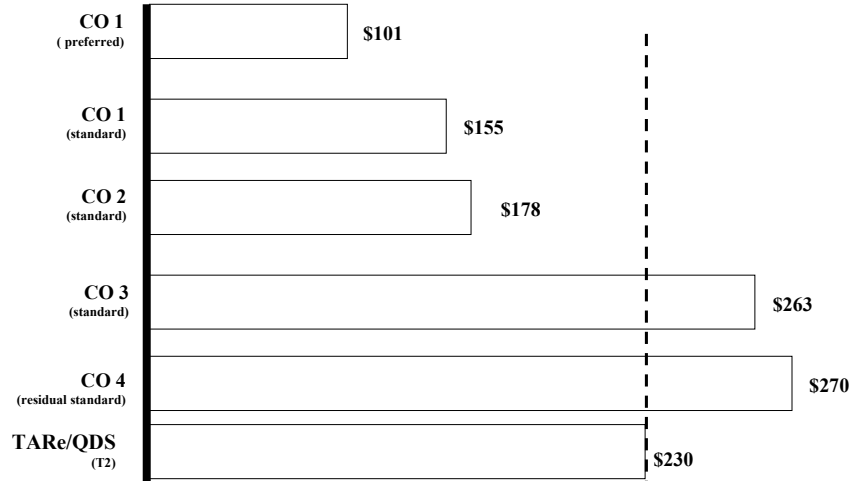


Product assumes: 10 yr term, male non smoker, 10% discount rate, lapse rate: 20% yr 1, 15% yr 2, 10% yr 3-10, 70% Rx coverage 80% not taken rate

9

Price Comparison to Traditional Products

Annual Premium

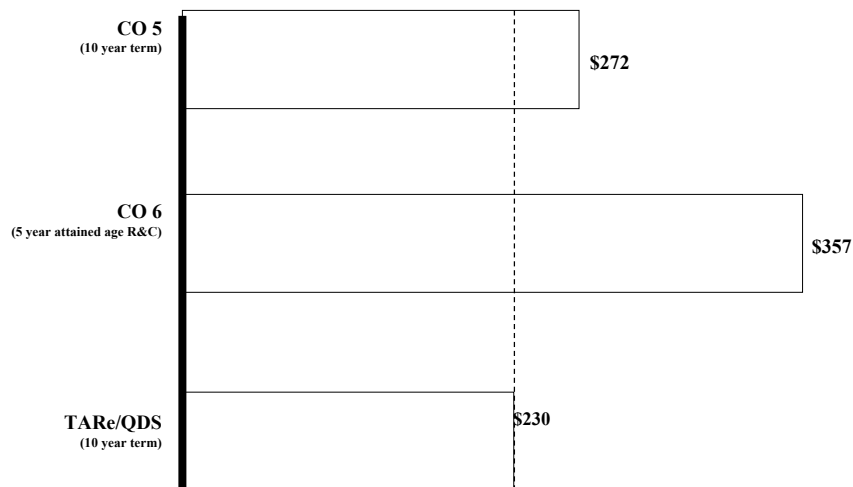


Assumes: male age 40, non smoker, \$100,000 face amount, 10 yr term, 70% coverage

10

Price Comparison to Simplified Issue Products

Annual Premium



Assumes: male age 40, non smoker, \$100,000 face amount, 10 yr term

11

Value Propositions Beyond Price and Underwriting Speed

- Distribution Friendly
- Platform to Support Growth
- Optimize Expense Management
- Consistent Decisions
- Speed to Market

12

Protective Value Studies -Simplified Issue

Background:

- Studied 3,000+ simplified issue applications

Application: 2 yes/no health questions
Face: 25-100K- average 73,000
Age: 25-55- average 42
Gender: 33:67 M:F

13

Protective Value Studies - Simplified Issue

Findings:

- **27% of applicants responded no to the health questions and had non-benign Rx profile**

- **Breast Cancer**
- **Renal Transplant**
- **Rheumatoid Arthritis**
- **Cirrhosis of the liver**
- **Heroin Addiction**
- **Bipolar Disorder**
- **Depression/Anxiety**
- **Psychotic Disorder**
- **Chronic Pain**
- **Seizure Disorder**
- **Ischemic Heart Disease**
- **Hyperlipidemia**
- **Hypertension**
- **Congestive Heart Failure**

14

Protective Value Studies - Traditional Underwriting

Background:

- **Studied 10,000 fully underwritten life insurance applications for Rx decisioning**

Face: 100K-500K- average 312K

Age: 20-59- average 41

Gender: 63:37 M:F

15

Protective Value Studies - Traditional Underwriting

Findings:

- **Rx profiling influenced the underwriting decision in 2.4% of cases**
- **Half of these cases resulted in a minor underwriting change, i.e., preferred to standard**
- **The other half provided evidence of more severe conditions ranging from cancer, diabetes, and heart disease, to mental disorder treatments.**

16

1. Benign Condition

Underwriting Feedback to Home Office

Policy Number:	0009
Name:	Jane Smith
Address:	1234 Maine Street Vista, CA 92009
Date of Birth:	09/02/67
U/W Outcome:	Accept
Coverage Amount:	\$250,000
Monthly Rate:	\$34.00
Decline Code:	N/A

17

1. Benign Condition

Application Details

Sex: Female
Age: 36
Height: 5'5"
Weight: 135 lbs.
Occupation: Financial Planner
Questions: Answered no to all questions

18

1. Benign Condition

Data Score

Rx Data

Dispensed Date	Drug Name	NDC	Quantity	Days
03-01-02	TETRACYCLINE HCL	00115140203	30	10
01-01-03	AMOXIL	00029604712	30	10
10-01-02	VEETIDS 500	00003011650	30	10
11-01-02	ERY-TAB	00074632053	40	10

Primary Indications Layman Indication
Infection Infection

MVR Data

Violation Date	Code	Violation
None		

Credit Score

Credit: Pass

19

1. Benign Condition

Underwriting Details

Smoking Status: Non-Smoker
Build: Preferred
Occupation: No Action
Questionnaire: No Action
Rx Data: Score = 15
MVR Data: No Action



Final Decision:
Preferred

20

2. Anxiety/Depression

Underwriting Feedback to Home Office

Policy Number: 0008
Name: Jane Doe
Address: 1234 Main Street
Colton, CA
92308

Date of Birth: 12/27/1957
U/W Outcome: Accept
Coverage Amount: \$100,000
Monthly Rate: \$26.30
Decline Code: N/A

21

2. Anxiety/Depression

Application Details

Sex: Female
Age: 46
Height: 5'7"
Weight: 110 lbs.
Occupation: Teacher
Questions: Answered no to all questions

22

2. Anxiety/Depression

Data Score

Rx Data

Dispensed Date	Drug Name	NDC	Quantity	Days
05-01-03	WELLBUTRIN SR	00173072200	60	30
03-05-03	NORTRIPTYLINE HCL	00152148800	60	30
03-01-99	PROZAC	00175216800	60	30
03-01-00	PROZAC	00173052200	60	30
03-05-02	NORTRIPTYLINE HCL	00173522200	60	30
05-05-02	TRAZODONE HCL	00175202200	60	30
02-01-02	DIAZEPAM	0012582200	60	30

Primary Indications Layman Indication
Depression Depression
Anxiety Feeling of Distress or Apprehension

MVR Data

Violation Date	Violation Code
None	Code

Credit Data

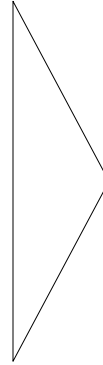
FICO Score: Pass

23

2. Anxiety/Depression

Underwriting Details

Smoking Status: Non-Smoker
Build: Preferred
Occupation: No Action
Questionnaire: No Action
Rx Data: Score = 39
MVR Data: No Action



Final Decision:
Table 2

24

3. Breast Cancer

Underwriting Feedback to Home Office

Policy Number: 0011
Name: Janice Smith
Address: 1234 Main Street
Boulder, CO
88011

Date of Birth: 04/23/1969
U/W Outcome: Reject
Coverage Amount: \$200,000
Rate: N/A
Decline Code: Medical Decline

25

3. Breast Cancer

Application Details

Sex: Female
Age: 34
Height: 5'6"
Weight: 122 lbs.
Occupation: Account executive
Questions: Answered no to all questions.
Details Provided: None.

26

3. Breast Cancer

Data Score

Rx Data

Dispensed Date	Drug Name	NDC	Quantity Days	
05-01-03	TAMOXIFEN CITRATE	00555090401	30	30
11-01-02	TAMOXIFEN CITRATE	00555090401	30	30
05-01-02	TAMOXIFEN CITRATE	00555090401	30	30
11-01-01	TAMOXIFEN CITRATE	00555090401	30	30
05-01-01	TAMOXIFEN CITRATE	00555090401	30	30

Primary Indications Lay Indication
Breast Carcinoma Cancer of Epithelial Tissue in the Breast

MVR Data

Violation Date Code	Violation
Clear	

Credit Data

FICO Score: Pass

27

3. Breast Cancer

Underwriting Details

Smoking Status: Non-Smoker
Build: Preferred
Occupation: No Action
Questionnaire: No Action
Rx Data: Score = 90 Reject
MVR Data: No Action



Final Decision:
Decline

28

4. Stroke

Underwriting Feedback to Home Office

Policy Number: 0001
Name: John Smith
Address: 123 Main Street
Denver, CO
88888

Date of Birth: 08/24/1948
U/W Outcome: Reject
Coverage Amount: \$200,000
Rate: N/A
Decline Code: Medical Dec

29

4. Stroke

Application Details

Sex: Male
Age: 55
Height: 5'9"
Weight: 230 lbs.
Occupation: Lawyer
Questions: Answered no to all questions

30

4. Stroke

Data Score

Rx Data

Dispensed Date	Drug Name	NDC	Quantity	Days Supply
02-05-03	COUMADIN	00056016875	30	30
02-05-03	TOPROL XL	00186109005	30	30

Primary Indications Layman Indication
Thromboembolism Obstruction of a Blood Vessel by a blood clot

MVR Data

Violation Date	Code	Violation
None		

Credit Data

FICO Score:Pass

31

4. Stroke

Underwriting Details

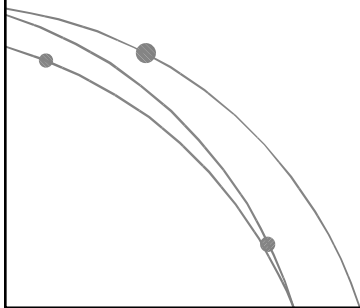
Smoking Status:	Non-Smoker
Build:	Standard
Occupation:	No Action
Questionnaire:	No Action
Rx Data:	Score = 47
MVR Data:	No Action



**Final Decision:
Table 4**

32

Matching Underwriting to Experience



Individual Health Insurance Market

- Purchaser is consumer
- Individual health insurance market performs in a more efficient fashion compared to group
- In most states, individual health allows for rating based on health status and other characteristics
- Market pricing is determinable

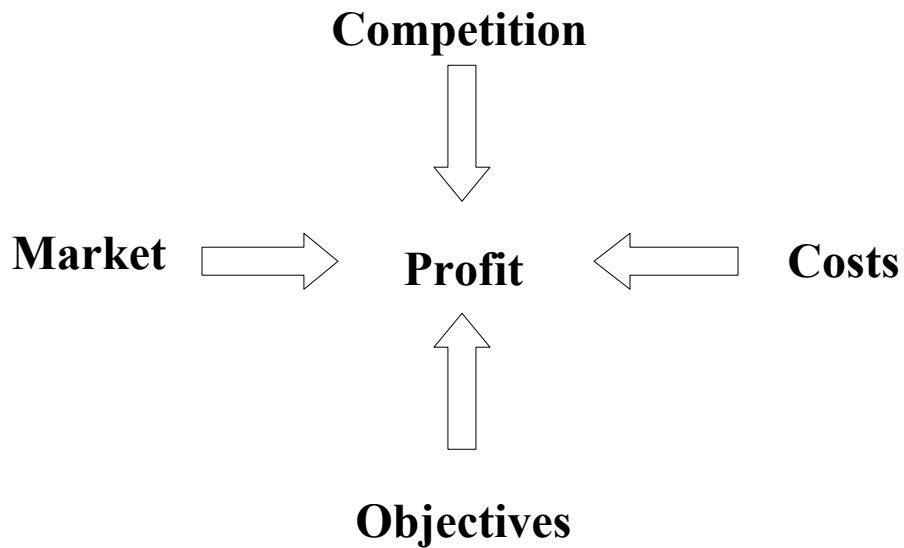
Matching UW to Experience

- UW defined as the process of pricing risk appropriately
- Appropriate defined as matching pricing to risk with the resultant profit consistent with organizational objectives
- Objectives generally relate to profitability and market share

Challenges in Individual Health

- Underwriting can take up to 2 weeks to provide the ultimate customer with a rate
- Individuals know their health status better than the carrier
- Individuals who are sick will stay far longer than individuals who are healthy

Matching Underwriting to Experience



*Market
Age & Sex*

Know Your Costs



Health Status



*Network
Contracts*



*Product
Options*

Know Your Market

- Market segmentation – age and area
- Life events which may lead to individual health insurance purchasing decision
 - Graduation from high school and college
 - Waiting periods when employment starts
 - Starting a business
 - In between jobs
 - Retiring
- Health Status

Know Your Competition

- Who are your competitors?
 - Lead competitor
 - Second leading competitor
 - Niche players
- What is their financial condition?
- What are their objectives?
 - Wall Street
 - Main Street
 - Hospital Street

Know your objectives

- Market Share
 - Large or niche player?
- Profitability
 - High profit or contribution to overhead?
- Brand Objectives
 - Concierge or utilitarian?
 - Economical or expensive?

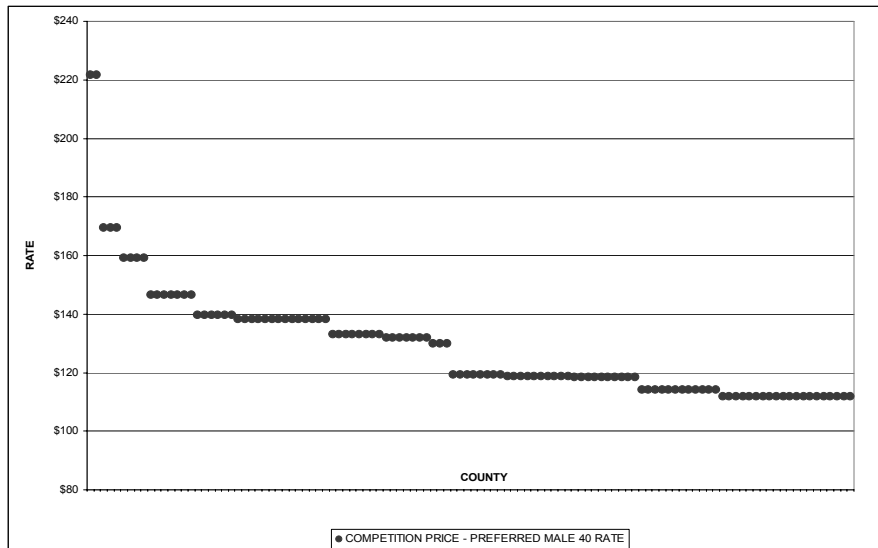
Market Segmentation

- Target markets
 - Young
 - Healthy
 - Transitional life events
- Brand characteristics
 - Simple, easy to understand
 - Rapid issuance

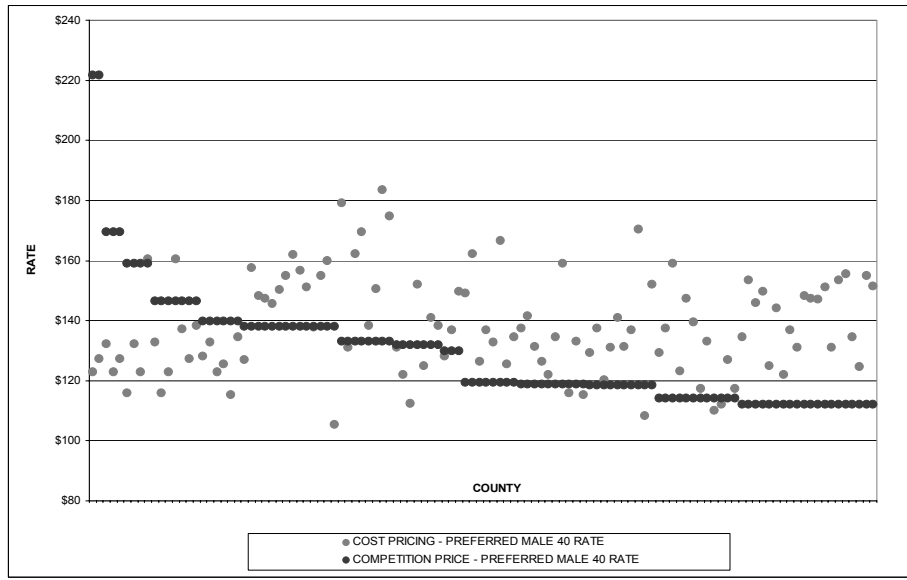
Competitive Research

- Identify market leaders
- Identify key product characteristics of market leaders
- Identify distribution channels used by market leaders
- Understand competitive cost structure
- Understand competitive risk assessment

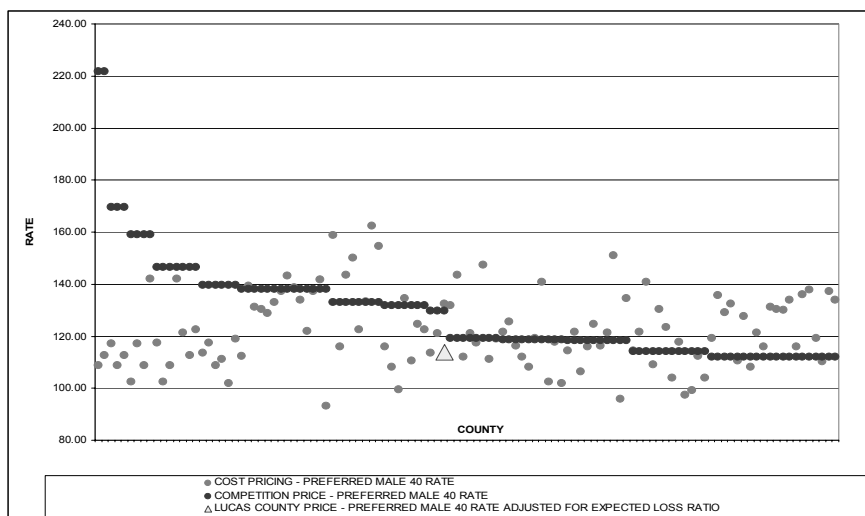
Know Competitive Pricing



Know Costs



Know Your Objectives



Application Process

- Simple process
- Application captures data which enables case to be field underwritten
- Health questionnaire evaluated by writing agent in the field
- Field underwriting means automated consistent evaluation of responses

Underwriting Review

- Review application and query claims history for gross misrepresentation
- Average time from field submission to ID card issuance is 3 days
- Pharmacy database used for compliance when problems noted upfront

Compliance Activity

- Historically, used maintenance medication trigger for audit with high dollar claims screen.
- Resulted in case recision rate of 0.1% and dollar recision rate of 1%
- Labor intensive due to difficulty in obtaining definitive evidence

Pharmacy Database

- Access to online PBM pharmacy database used for dispensing safety
- HIPPA compliant
- Identifies 5 years of drug history including:
 - name, dosage of medication
 - physician name, address, DEA number
 - probable diagnosis profile
 - estimated cost index

Compliance Issues

- In the individual market, the motivation to conceal medical history is strong
- I.E. random sample of 275 approved individual applications
- 57 were revised based on pharmacy database review. This represents 21% conceal rate
- Typical of other vendor studies

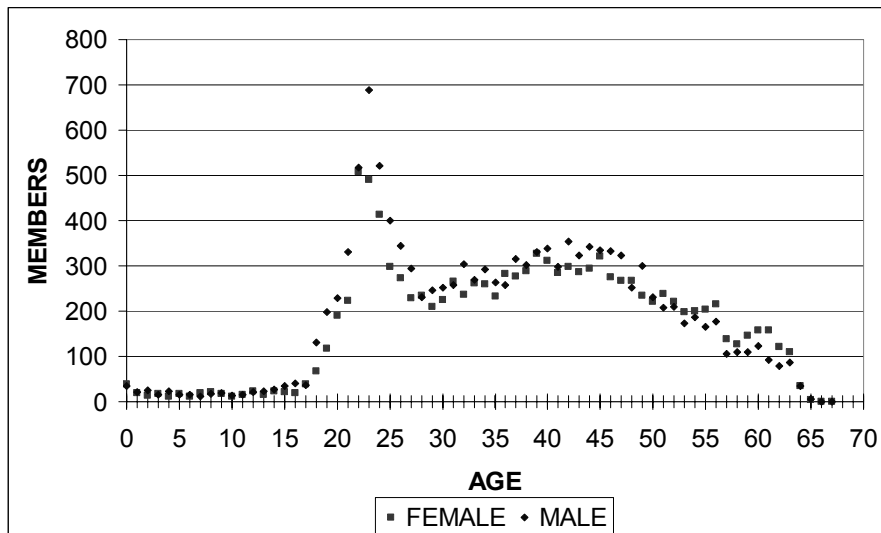
Conceal Rate Implications

- 47 revisions for \$37,678
- 10 recisions for \$13,280
- Total savings of \$50,958
- Compared to estimated cost of \$15 out of pocket review for \$4,125 or greater than 10:1
- Does not consider sentinel impact or avoided savings or total cost of review

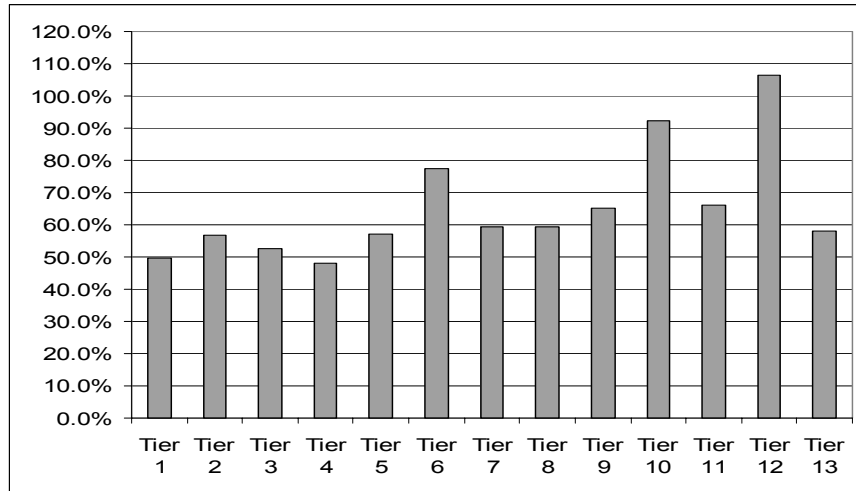
Extensive Product Monitoring

- Monthly review of issues
 - By month
 - By duration
 - By revolving special topics
- Adjustment of price to competitive pricing and cost performance

Monitoring of Avg Age of Sales



Monitoring of Avg Risk Tier Performance



A MILLIMAN GLOBAL FIRM



Milliman USA

Consultants and Actuaries

Matching Underwriting to Experience

SoA Spring Meeting

June 15, 2004

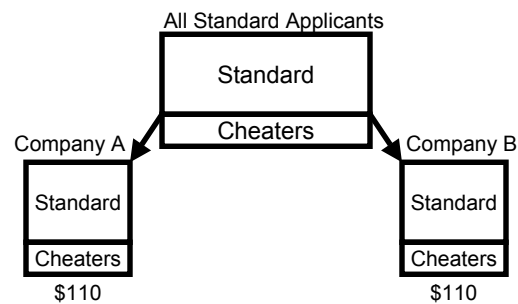
Van Beach, FSA, MAAA

Experience-Based Decision-Making

- Mortality charge for a risk class is based on experience
 - If the parameters of the risk class change, the experience will change and so should the charge
- Profitability can be assessed by monitoring emerging experience
 - If results are not as expected, corrective action can be taken
- The key is capturing, evaluating, and reacting to experience

An Example of the Value of Experience Data Start with a Level Playing Field

- Company A and Company B sell identical products that have identical standard risk class and have the same premium
- The “Standard” risk class consists of true standard risks and “cheaters” (non-standard risks that lied on their applications)
- Each company wins about half the cases.



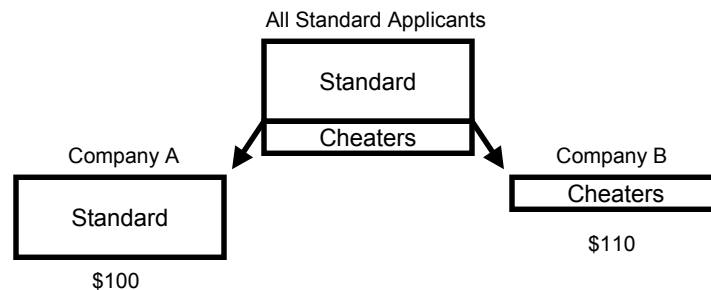
An Example of the Value of Experience Data Company A begins Rx Profiling

- Company A starts using Rx profiling and is now able to identify the cheaters.
- The Standard risk class has changed
- Through protective value studies, Company A decides that the “true” standard risk should be priced at \$100
 - Cheaters consisted of 10% of the old standard risk class and had a risk price of \$200

$$\$100 = (110 - 200 * .1) / .9$$

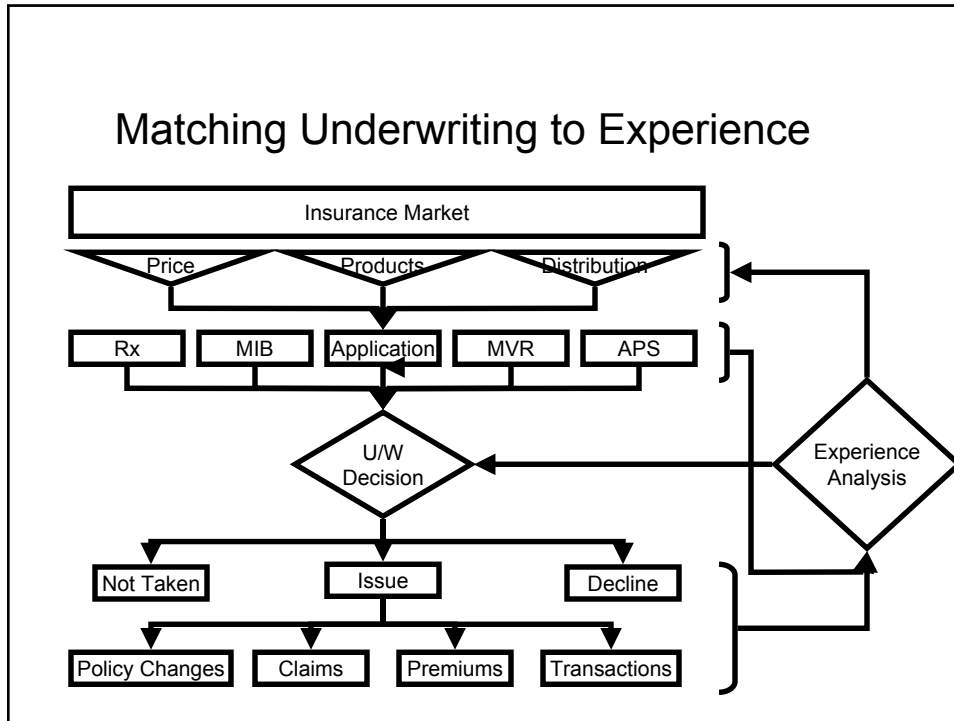
An Example of the Value of Experience Data Rx has Changed Playing Field

- Given an efficient market, all the true standard risks now buy a policy from Company A for \$100 and Company B is left with all the cheaters for \$110



An Example of the Value of Experience Data Recognize and React

- Will Company B recognize the change in their mix of business?
- Suppose the actual “true” Standard risk should have been priced at \$105
 - Will Company A recognize that the risk is mis-priced?
- Successful companies will recognize and react to the emerging experience

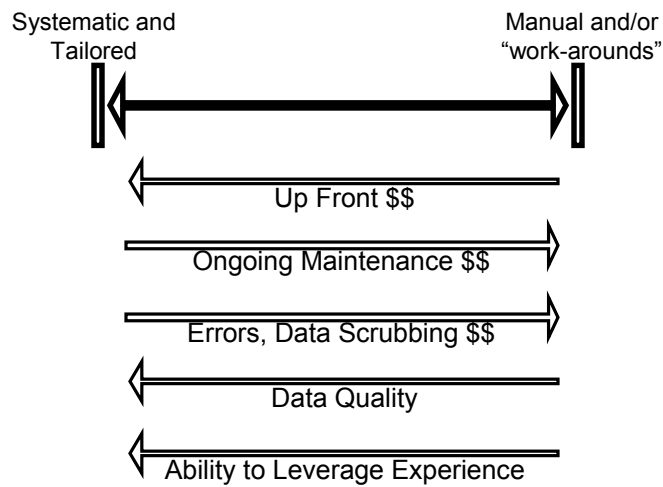


Experience is Defined by Data

- Your company's experience is *defined* by that data you collect
- The potential to use experience to make decisions is reliant on the quality of the data that is collected
 - Complete
 - Consistent

The administration solution that is implemented to support the new product will fundamentally affect the data that is captured and your company's ability to leverage your experience.

The Admin Decision



Value of Proprietary Data

- Value derived from experience data is a key (but often overlooked) driver of ROI in an administration system investment
- Value can be quantified, but it is difficult to do precisely
 - subjective and company-specific
- Value unlocked through experience analysis
 - Management (corrective action)
 - Marketing (increase sales)
 - Customer service (retain clients)

Summary

- The insurance market is continually changing
- Successful companies will be able to identify trends and react
- Administration systems must support this analysis by consistently and completely capturing experience data
- Give actuaries the data needed to “work their magic”