

2005 Life Convention
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A04

Early Warning Signals from Critical Illness Claims Data

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Agenda

Objective
Big Picture
Current Process
Experience Analysis System
Results
Feedback into control cycle
Conclusion

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Objective

Provide useful Management Information....

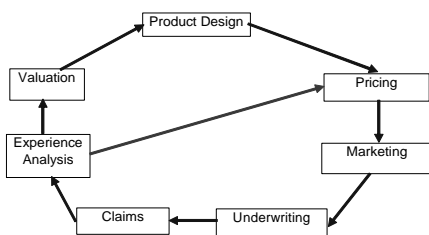
- Improve product design
- Improve accuracy of pricing
- Improve underwriting process
- Improve claims Management process
- Improve selection process

For example, proposal form

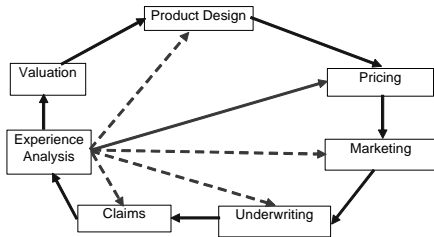
Spot anti-selection

Identify suspicious claims

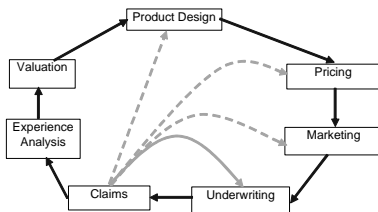
Objective – Actuarial Control Cycle – Post-Experience analysis



Objective – Actuarial Control Cycle – Post-Experience analysis



Objective – Actuarial Control Cycle - Current Process



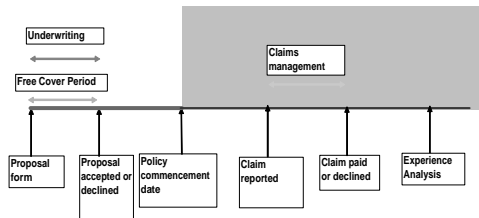
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Big Picture

Life cycle of a claim
CMI experience

Big Picture – life cycle of a claim



Big Picture – CMI investigation, Critical Illness selection pattern

Critical Illness

MNS has a strong Dn 0 discount, smaller for Dn 1

FNS has a lower selection discount Dn 0 and nil for Dn 1

Accelerated business, all ages, all years, lives

		Dn 0	Dn 1	Dn 2+
Male	NS	76%	90%	100%
	SM	90%	96%	100%
Female	NS	89%	100%	100%
	SM	74%	98%	100%

Big Picture – CMI investigation, Mortality selection pattern

Temporary Assurance

Stronger selection effect compared to CI

Is anti-selection higher for CI compared to Temporary?

Temporary Assurance business, all ages, 1999 to 2002, lives

		Dn 0	Dn 1	Dn 2	Dn 3	Dn 4	Dn 5+
Male	NS	30%	46%	55%	67%	77%	100%
	SM	22%	35%	55%	51%	83%	100%
Female	NS	24%	37%	48%	62%	77%	100%
	SM	18%	32%	43%	51%	78%	100%

Big Picture – CMI investigation, Critical illness by amounts

CMI experience by amounts

Some evidence of an amounts discount for accelerated

Stand alone – no discount, evidence of anti-selection

Aggregate results, all ages, all durations
(as a percentage of CIB93)

		Accelerated	Stand-Alone
Male	Lives	44%	48%
	Amounts	41%	49%
Female	Lives	47%	52%
	Amounts	45%	56%

source: CMI

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Current Process

Early claims are investigated as being suspicious

- Anti-selection
 - Weaknesses in proposal form

- Non-disclosure
 - Smoking habit
 - Family history
 - Visits to the GP
 - Recent medical treatment

- Errors
 - underwriting

Current Process

Outcome of investigation

- Claim may be genuine
- Claim may be declined
- Claim may be paid as can't prove non-disclosure
- Claims may be paid due to weaknesses in underwriting or claims management stage

Process may identify flaws in:

- Product design
 - Free cover period
 - Policy wording
- Underwriting process
 - Weak proposal form questions

Agenda

- Objective
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Experience Analysis System

How will this add value?

Data issues

Our system

results

Experience Analysis System – how will this add value?

Weaknesses in claims management process

Independent check of claims management

Weaknesses in underwriting process

Independent check of underwriting

Weaknesses in Product Design

Analysis is at a higher level

Easier to detect patterns in the experience by cause

Independent

Experience Analysis System – Data Issues

Ideal data criteria

High quality data

Credible amount of data

Need a system to analyse data quality and to clean up your data

Missing or inconsistent dates

Missing causes of claim

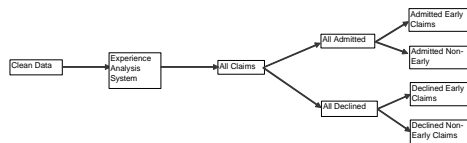
Other errors on records

Experience Analysis System

We have developed our own in-house system
Traditional A/E analysis
Early Claims analysis
Identifying anti-selection
claims in first 90 days
Split by Core CI event: Cancer, Heart, Stroke, other
Split Cancer by cancer site

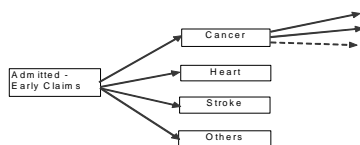
Experience Analysis System – early claims analysis

Split claims into admitted, admitted early claims and declined



Experience Analysis System – an example

Split the Early Admitted claims by cause claim



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Experience Analysis System – results

Proportion of claims declined
Early Claims by cause Analysis
Heart
Stroke
Other
Cancer

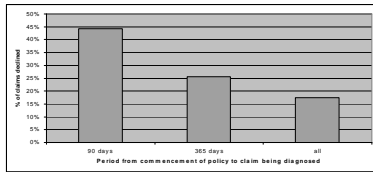
Experience Analysis System – results

Proportion of claims declined
Early Claims by cause Analysis
Heart
Stroke
Other
Cancer

Experience Analysis System – results

Proportion of claims declined

This pattern suggests some claimants may be trying to anti-select



Experience Analysis System – results

Proportion of claims declined

Early Claims by cause Analysis

Heart
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Other
Cancer

Experience Analysis System – results

Proportion of claims declined

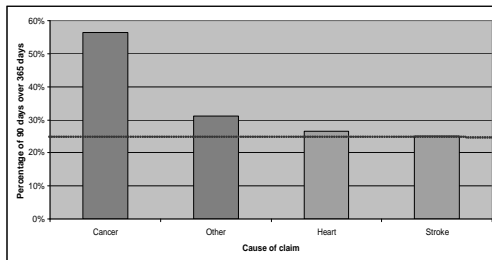
Early Claims by cause Analysis

Heart
Stroke
Other
Cancer

Experience Analysis System – results – Paid Claims



Experience Analysis System – results – Declined claims



Experience Analysis System – results

This is how claim admitted within 90 days breakdown:

Admitted 90 day early claims by cause:

Cause	%
Cancer	55%
Heart disease	21%
Stroke	9%
Other	15%

Source: UK Revios book early CI claims with 90 days

Experience Analysis System – results

Proportion of claims declined
Early Critical Illness Analysis
Heart
Stroke
Other
Cancer

Experience Analysis System – results

Heart looks reasonable
CABG is included
Sample cases:
Anti-selection could occur if person has angina type
symptoms and proposal form did not ask the question
No Family history questions on proposal form
Non-disclosure of relevant risk factors

Source: UK Revisos book early CI claims with 90 days

Experience Analysis System – results

Proportion of claims declined
Early Critical Illness Analysis
Heart
Stroke
Other
Cancer

Experience Analysis System – results

Indicates that Stroke could be anti-selective
Sample of cases reveals:
Complex
Occupation - GP/Nurses is a common theme

Source: UK Revis book early CI claims with 90 days

Experience Analysis System – results

Proportion of claims declined
Early Critical Illness Analysis
Heart
Stroke
Other
Cancer

Experience Analysis System – results

“Other” category broken down gives
Injury and accident (mostly RTA)
MS
Rheumatoid Arthritis
Parkinson's disease
Motor Neurone disease

Experience Analysis System – results

MS claims

ABI definitions states:

"A definite diagnosis by a Consultant Neurologist of Multiple Sclerosis which satisfies:

- ...persisted for a continuous period of at least six months ..."

New and existing ABI definitions

Is pricing in line with your claims management philosophies?

Experience Analysis System – results

Rheumatoid Arthritis

NO ABI definition. An example of wording below:

Confirmation by a consultant rheumatologist of a definite diagnosis of rheumatoid arthritis, which satisfies all of the following criteria.

- there must be morning stiffness in the affected joints of at least one hour's duration
- there must be arthritis of at least three joint groups with soft tissue swelling of fluid observed by a physician
- the arthritis must involve at least one of the following sites:
 - wrists or ankles
 - hands and fingers
 - feet and toes
- there must be symmetrical arthritis
- there must be subcutaneous nodules
- there must be radiographic changes typical of rheumatoid arthritis

Non-disclosure likely as this condition could develop suddenly before policy commences and then seek medical help when policy in-force

Experience Analysis System – results

Parkinson's

Current ABI definition:

"Confirmation by a Consultant Neurologist of a definite diagnosis of Parkinson's disease [before age x]. Parkinson's disease secondary to alcohol or drug misuse is not covered"

New ABI definition is much stricter

Early claims from this cause are likely to be anti-selective

Experience Analysis System – results

Motor Neurone disease [before age x]

Current ABI definition:

"Confirmation by a Consultant Neurologist of a definite diagnosis of motor neurone disease [before age x].

New ABI definition:

Stricter definition

Future proofing to guard against possibility of diagnosis being made before symptoms have manifested

Early claims from this cause are likely to be anti-selective

Experience Analysis System – results

Proportion of claims declined

Early Critical Illness Analysis

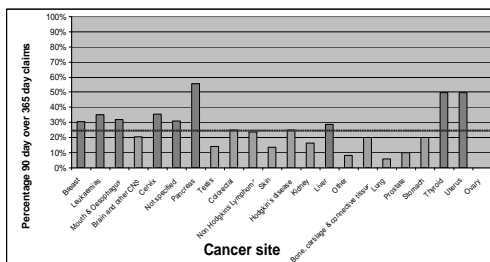
Heart

Stroke

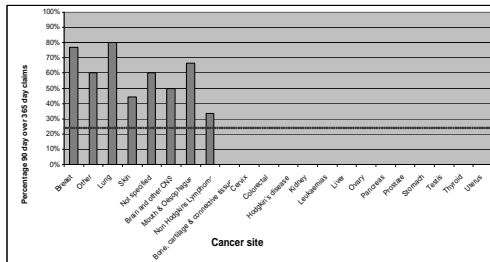
Other

Cancer

Experience Analysis System – results – Paid Claims



Experience Analysis System – results – Declined claims



Experience Analysis System – results

Cancer paid claims overall looks reasonable
Breakdown by site reveals the following are higher than anticipated:

- Breast cancer
- Leukaemias
- Mouth & Oesophagus
- Cervix cancer
- Pancreas

Experience Analysis System – results

Breast cancer
Applicant takes out a policy in the knowledge of a self diagnosed lump

Cervix cancer
Difficult to self diagnose
But medically aware policyholders could anti-select (doctor/nurse)
Public more medically aware of this condition

Experience Analysis System – results

Purpose of new stricter ABI definition
Clarity
Future proofing
New ABI definition is much stricter:
Excluding Clark level 1 skin cancer
Excluding Chronic lymphocytic leukaemia

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Feedback into the control cycle

Product design:
Many claims occur in free cover period
Is this a sensible product feature?
Should some diseases be excluded
i.e. Rheumatoid Arthritis?
Should surgical procedures be covered
Angioplasty or CABG?
Is the Policy Wording Appropriate?

Feedback into the control cycle

Product design:

Should we re-think the Moratorium period
1996 report recommended that the moratorium approach to underwriting should be abandoned
1998 report OFT agreed with the ABI that moratorium is acceptable if information to consumer adequate
.....what is the situation now?

Feedback into the control cycle

Underwriting:

Is the way we underwrite critical illness appropriate?
Tighten up policy wording
Proposed new ABI definitions could limit anti-selection
Improve the quality of the underwriting process
Can non-disclosure be reduced:
Evidence that Tele-Underwriting helps
Stricter controls – void claims where reckless non-disclosure has occurred

Feedback into the control cycle

Underwriting:

Tighter controls over multiple policies
.....
Appropriate procedures are followed
Declaration of health sent out if a delay between policy application stage and commencement of policy

Feedback into the control cycle

Pricing

- Is pricing in line with claims management philosophy?
- Is pricing in line with underwriting philosophy?
- Are free cover claims priced appropriately?

Conclusion

- Good data and Experience Analysis systems can add value to current processes
- Investigation of early critical illness claims can provide useful Management Information....
- Spot anti-selection at an early stage
- Identify suspicious claims at an early stage

Conclusion

Questions?
