

The Why and What of Accelerated Underwriting

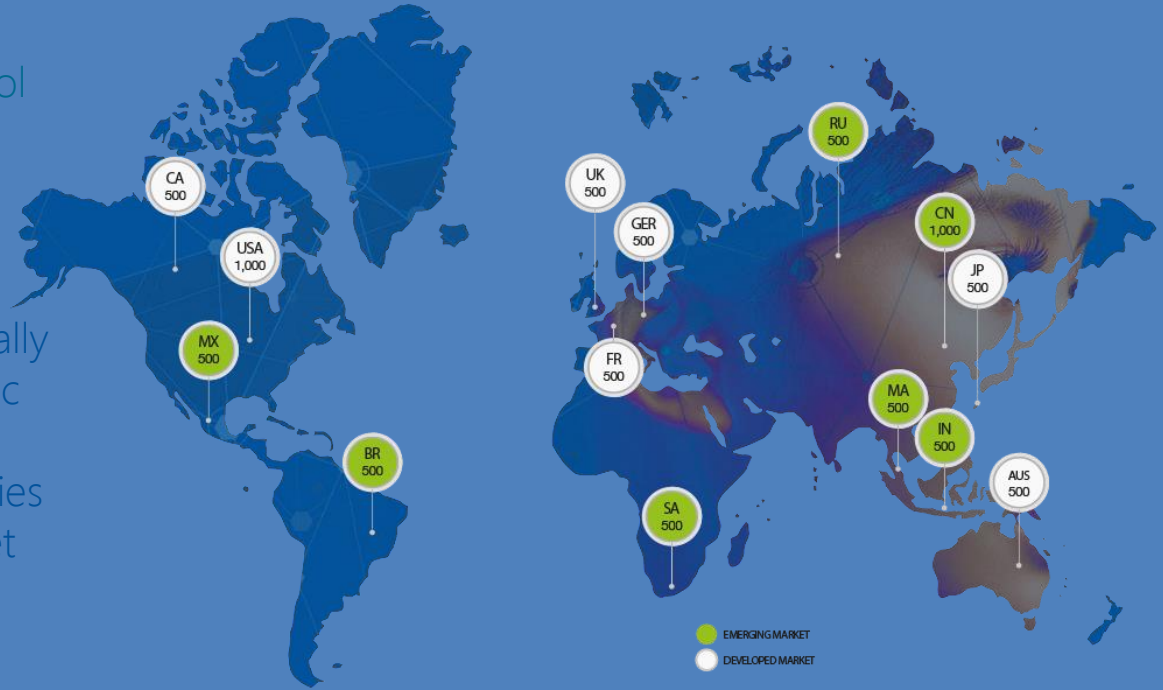
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- 01 The Why and How of Accelerated Underwriting (AUW)
- 02 The What of AUW - Data Sources and Programs
- 03 Where Do We Go From Here?

The Why: ReMark* Annual Global Consumer Study

- Insights from Cass Business School
- Online interviews with 8,000 insurance consumers per year
- 14 key Life markets
- Fieldwork conducted with nationally representative set of demographic and economic parameters
- Sample and methodology complies with best practice for each market



* Part of SCOR Global Distribution Solutions

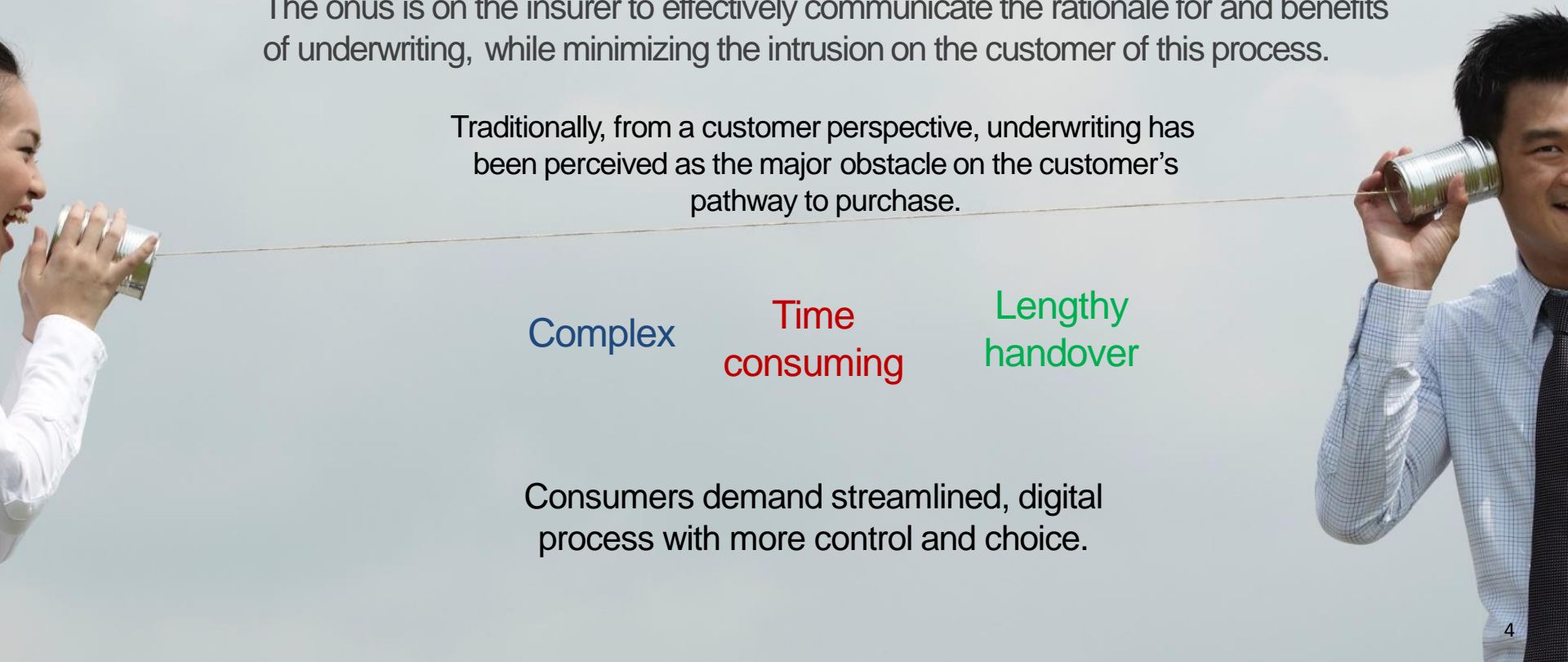
The Why: Underwriting plays a critical role in the application process and customers view of life insurance

The onus is on the insurer to effectively communicate the rationale for and benefits of underwriting, while minimizing the intrusion on the customer of this process.

Traditionally, from a customer perspective, underwriting has been perceived as the major obstacle on the customer's pathway to purchase.

Complex Time consuming Lengthy handover

Consumers demand streamlined, digital process with more control and choice.



The Why: Different customers have different underwriting concerns

Customers cite 4 key concerns that could prevent them from completing the process.



Data
Privacy
(58%)



Completion
Time
(27%)



Price
Rises
(26%)



Insufficient
Knowledge
(18%)

The Why: Customers don't understand the purpose of underwriting

■ Unknown or Incorrect Definition:

More than half (55%) of customers were unable to provide a correct or almost correct answer

■ Risk Assessment:

A mere 14% of customers correctly identified underwriting as the process of assessing an applicant's risk to determine the appropriate price

■ Medical Assessment:

Only 3% of customers defined underwriting as the process for submitting medical information to the life insurer. This answer is correct but emphasizes the process rather than rationale for underwriting

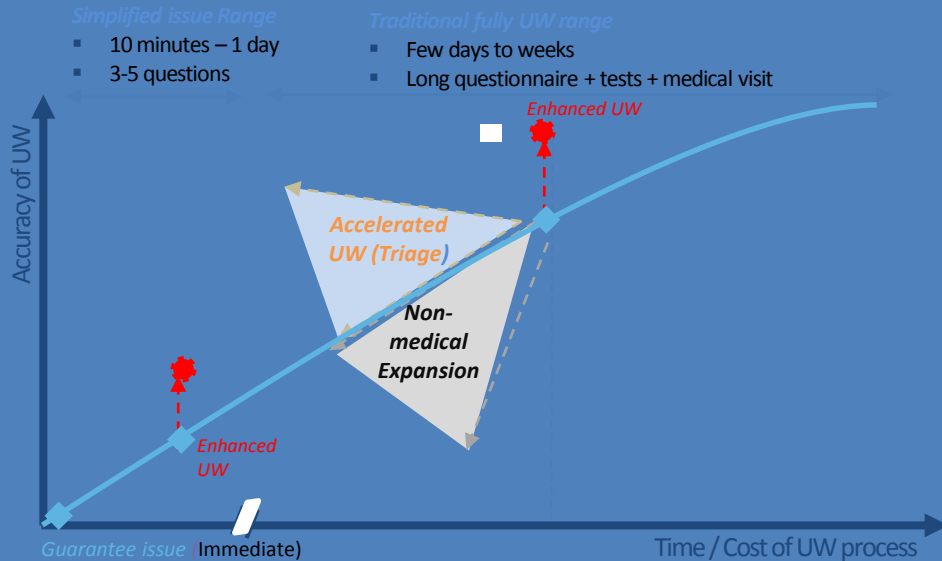
■ Application Process:

28% of customers identified underwriting as a point in the application process



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There are mainly 3 types of underwriting changes with a time vs accuracy tradeoff



Non-medical Expansion:

Expansion of non-medical limits (age and/or face amounts) with no new data sources.

Accelerated UW (AUW):

The use of new data sources to “categorically” or “selectively” waive fluids and other costly UW requirements; “selective” waiving is referred to as “Speed Channel”.

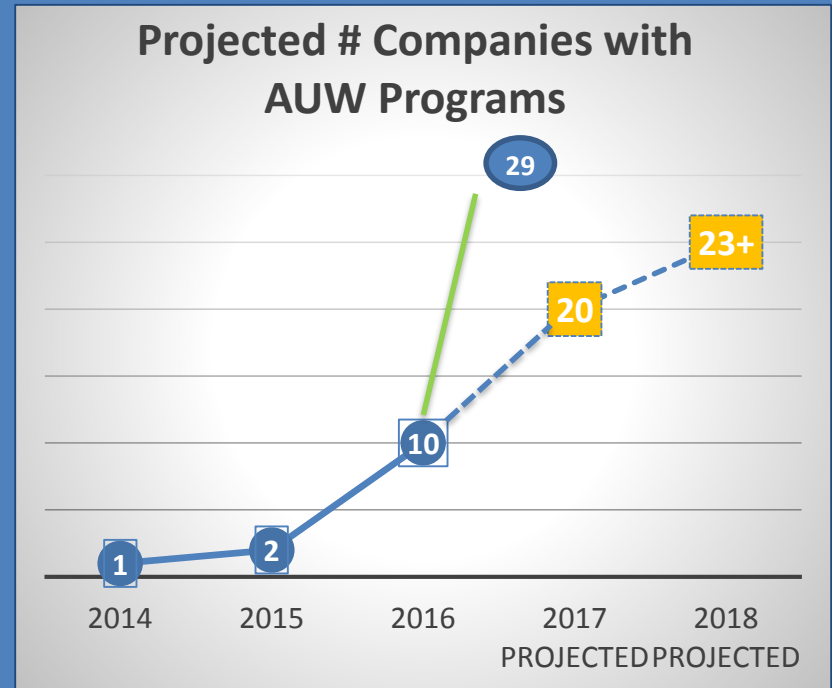
Enhanced UW (EnhUW):

The addition of new data sources to existing underwriting requirements

The value of AUW and EnhUW vs. traditional underwriting approaches is the trade-off between accuracy in projecting the mortality risk and time to underwriting and issue.

The number of companies with AUW programs is increasing at a rapid rate

- | In 2014, one major plan introduced AUW for fully underwritten products
- | In 2016 and 2017, significant increase in the number of companies with AUW programs
- | SOA survey conducted in 2016 on AUW. Of 27 respondents, 10 had implemented AUW in some form; 10 were in the process of implementing and 3 were still evaluating evaluating
- | By year-end 2017, at least 29 companies had AUW in some form, with more to come in 2018



Motivations for change and approaches to AUW vary and often drive the structure of the program

- | Attract new customers
- | Aging underwriter workforce
- | Aging distribution network
- | Reduce expenses
- | Improve the customer experience
- | Improve risk selection and add consistency
- | Defensive

Actual throughput of program
dependent on many levers, all of
which are important in the resulting
impact of change

- | Target factor and distribution
method continue to remain key
drivers in the mortality

- | Price

- | Claims adjudication

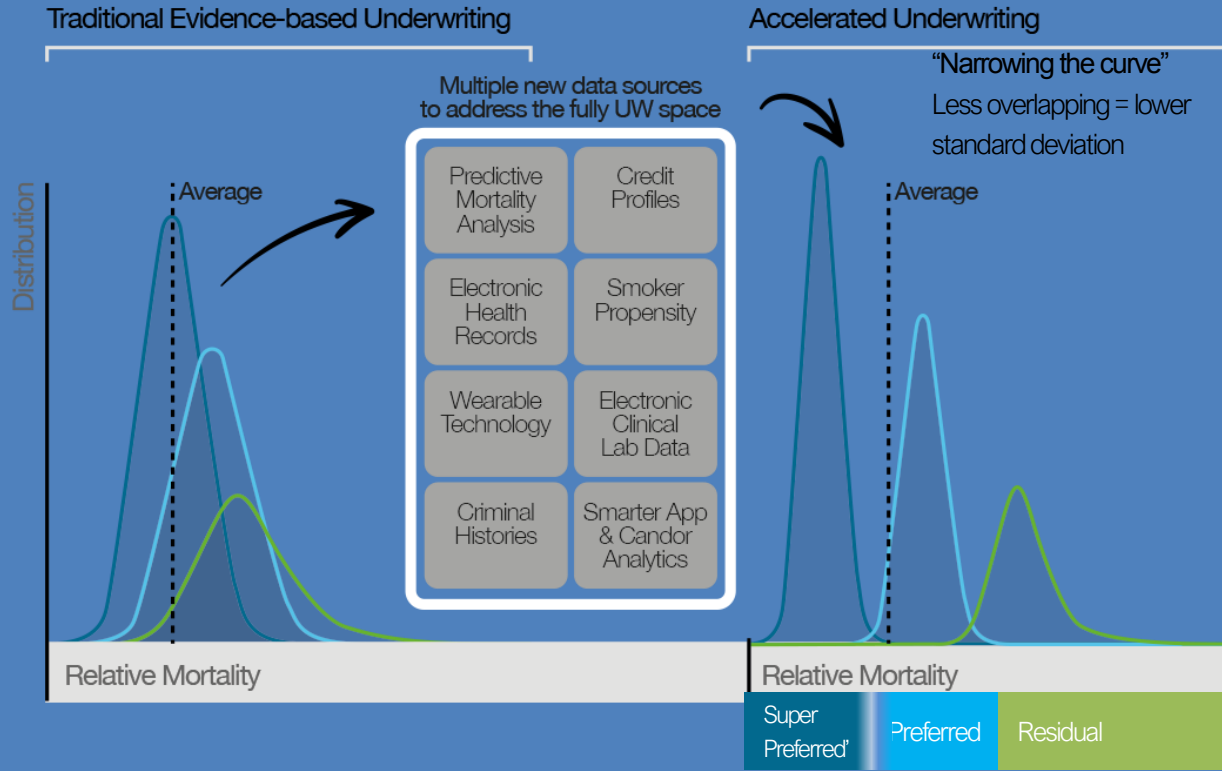
- | Individual selection

- | Program management

- | “Me too” or copycat approach, without
careful consideration of the various
levers and their impact can leave
management disappointed with the
results (or improperly enthusiastic)

- | For these reasons, two seemingly
similar programs will not necessarily
result in a similar mortality outcome

There is a false presumption we always had it right



Accelerated underwriting with new data sources and removal of fluids/exams can cause movement between risk classes of existing insured/applicant pool.

Mortality impact varies from minimal to up to 10%+, depending on several carrier dependent factors

In some cases, mortality impact can be better than fully underwritten

Today, many applicants through age 55 or 60 can be fully underwritten towards “standard mortality”, including preferred, without exam/fluids.

This can be achieved by:

- | Using combinations of alternate information sources, smarter applications and tele-interviews
- | Carefully stratifying applicants suitable for ‘no fluid’ selection by using other favorable parameters that can be obtained non-intrusively (MIB, MVR, credit profiles, enhanced application, detailed questioning, etc.)



Computational tools to analyze and develop sophisticated predictive models



Steady increase in availability and usefulness of instantly accessible data sources

What are we testing for with blood, urine and vitals?

- Diabetes
- Kidney Function test
- Liver function test
- Proteins
- Lipids
- HIV
- Cotinine
- Cocaine
- BP
- BMI

Of these, certain lipid values, cotinine and vitals such as BP and BMI used to differentiate preferred risks

Key questions:

- How often are these tests abnormal?
- How often do the abnormal results impact the final underwriting decision?
- Can we obtain this information from a different source?

Further study of fluids suggests removing the paramedical exam/fluids from the selection process has less impact than often assumed

Medical concern	Cut-off values	% that would be substandard or decline *
Diabetes	A1c>7.0	0.9%*
Kidney Function	eGFR < 45 using MDRD method	0.2%*
Liver function	ALT>120 AST>100 Alk/phos>260 GGTP>170	1.0%*
Proteins	Albumin<2.8	0.04%*
Lipids	Trigs>1000 Chol/hdl>10.0 Chol>400	0.6%*
HIV	Positive	0.04% Serum / 0.07% Urine^
Cocaine	Positive	0.15%^
Cotinine	Positive	10%^

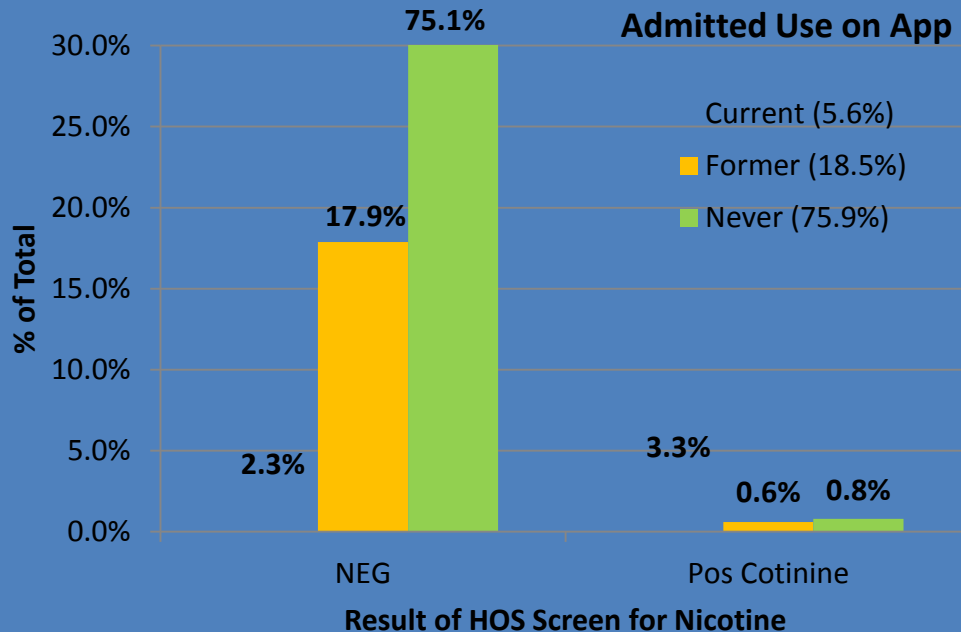


Other than cotinine / tobacco usage, all others can likely be priced for or identified via the Rx check or other means

* After underwriting using app and BMI.

Underwriting for tobacco – how well do we do anyway?

Nicotine screening in insurance applicants

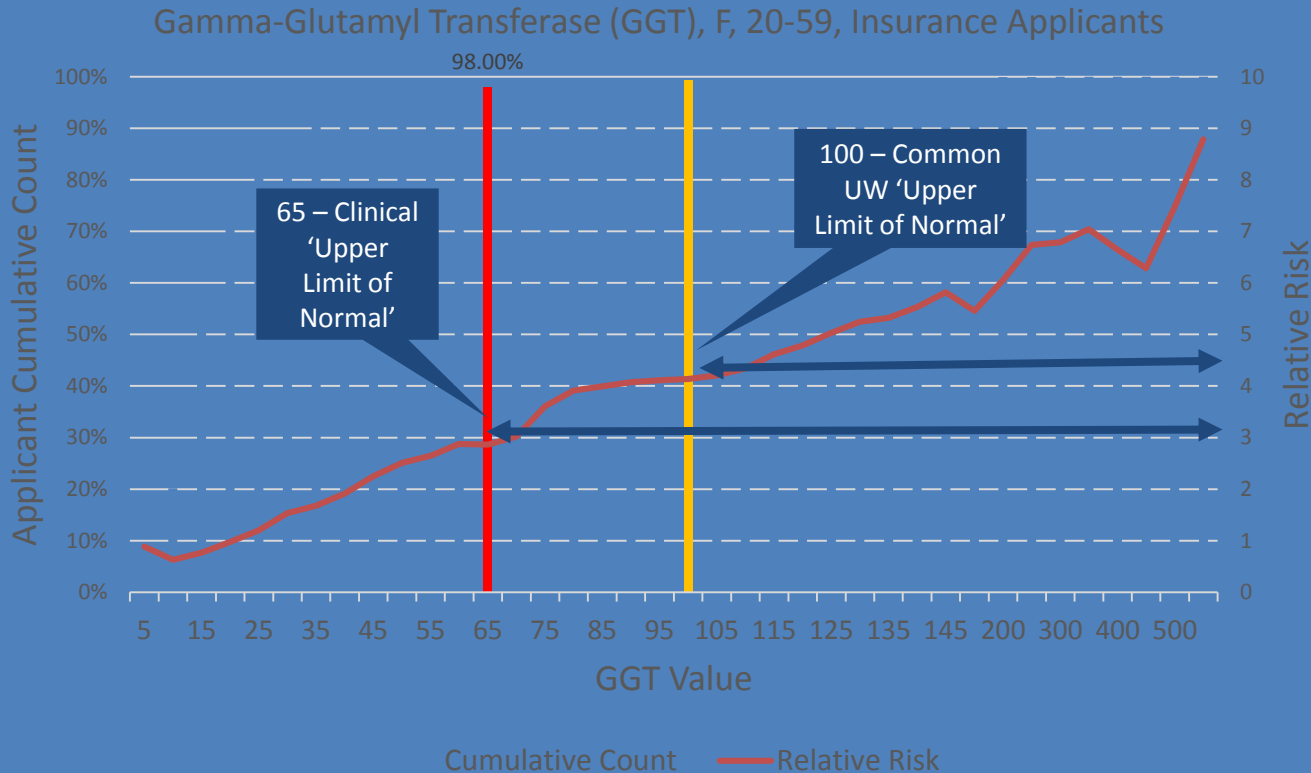


Source: * ExamOne;

- ~ 40% of admitted tobacco users actually screen negative
- ~1.4% of applicants may have misrepresented their tobacco use

Of all 'missing screening protection' tobacco use may result in most significant mortality "cost" and most difficult to quantify the impact absent the sentinel effect

Historically many of the data points collected during exam/fluids testing have been very poorly utilized



Historical ‘fully underwritten’ mortality only reflects the (incomplete) usage of exam/fluids and not the full protective potential inherent in all the data points.

Executing an accelerated and/or automated underwriting strategy is not just about removing fluids. It is about right-sizing the underwriting through the use of data, predictive algorithms and decisioning on when “slow” evidence is really needed

01

**Traditional e-data
(medical)**

App
Rx
MIB

02

**Traditional e-data
(non-medical)**

MVR

03

New e-data

Clinical lab data
Criminal records
Electronic inspections
Credit data

04

Emerging e-data

EHR
Facial Analytics
Etc.

- | All Companies use e-data sources of some sort
- | Data strategies vary significantly
- | Keeping data current and maintaining algorithms require major resource commitment

Acceleration without automation may leave companies falling short of the ultimate potential to change the paradigm

Accelerated Underwriting

The use of tools such as a predictive model to waive requirements such as fluids and a paramedical exam on a fully underwritten product for qualifying applicants without charging a higher premium.

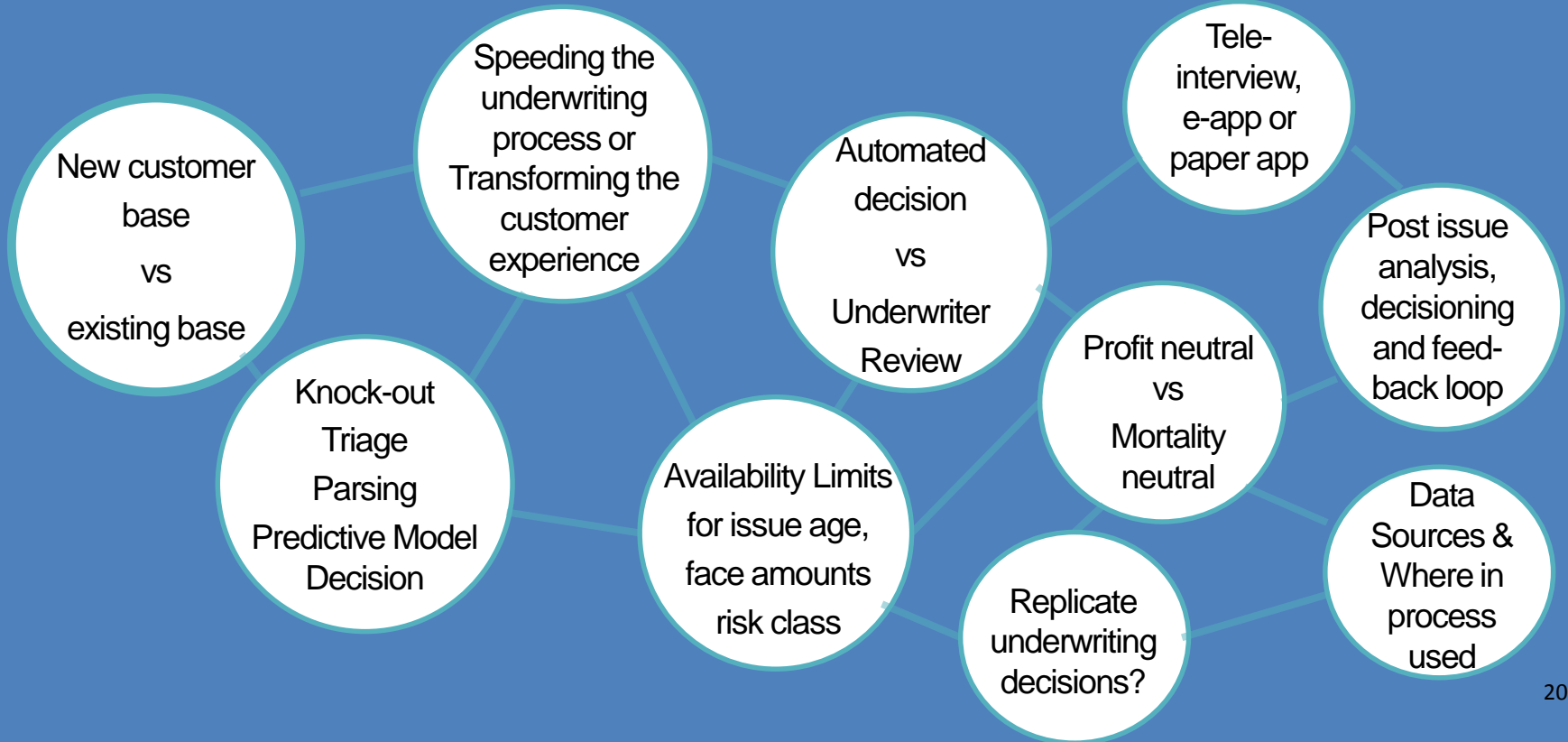
- | Allows underwriter judgment
- | Relatively low percentage of instant offers

Automated Underwriting

The process of arriving at a final underwriting offer without the intervention of a human underwriter.

- | Consistency in decisions
- | Required information in digital format
- | High percentage of instant offers

There is no one size fits all approach to AUW. Often driven by a company's motivation for change, each path or decision point can lead to a very different outcome

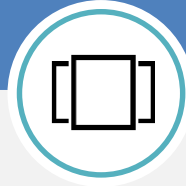


If not well understood and planned for, issues can arise when score based or predictive model-based risk selection is integrated into traditional risk selection approaches.



Speed

- Time, cost, accuracy trade-offs
- PMs* capable of quickly resolving wide range of individual morality risk – can get quite granular
- Legacy UW easy to update to refine process or add new source
- Consistency of decision via automation enables test and learn



Transparency

- Legacy UW is well understood, easier to explain
- Black box models can be difficult to understand and evaluate
- Basis for certain non-medical data sources not always intuitive



Protective Value

- Penetration of data source across population varies by data source
- Lack of historical data of newer data sources to determine protective value (short term vs long term)
- Integration of multiple data sources can be challenging
- Ability to trace experience over time with ever changing decision models and thresholds

Building trust: Warning flags and areas commonly monitored

Misrepresentation

|| **Medical Misrepresentation:**
Compare how often Rx information identifies significant undisclosed conditions.

|| **MVR Misrepresentation:**
Compare how often motor vehicle records identify significant undisclosed violations.

Non-Disclosure

- || **Medical Disclosure:**
Identifies the percent of applicants who have answered “yes” to a medical question on the application.
- || **Non-Nicotine Percentage:**
Identifies the percent of applicants who apply as non-tobacco.
- || **Build Disclosure:**
Identifies the percent of applicants who admit to a ratable build.
- || **Non-Driving Percentage:**
Identifies the percent of applicants in an agent’s portfolio that claim to not have a driver’s license.

To date, the AUW programs have had variable success and acceptance

Successes

- | In many programs, addition of at least one new data source
- | Inclusion of advanced analytics and some level of predictive modeling
- | Approvals at younger ages and preferred risk classes
- | Shortened time to underwriting decision
- | Post issue tracking and analysis

Areas for improvement

- | Integration of data sources
- | Expansion beyond the healthy wealthy
- | Brokerage acceptance
- | Continuous improvement / Test & learn
- | Analytics and quantification to understand true drivers
- | Regulatory acceptance and disclosure
- | Transparency
- | Transforming the customer's experience
- | Embedding rewards and discounts within the insurance and wellness proposition
- | Penetration beyond preferred risks and to other product lines

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Regardless of the technology, we must innovate with data.



Life & wellness sectors are a significant area of focus by world-class technology start-ups. Most of the new, emerging commonly suggested alternative data sources can be used to predict/stratify mortality.



Challenge is to determine what the remaining or incremental value is when combined with other data sources.

Criminal History* can be used in real-time risk evaluation.

|| Has been used by top US insurance carriers in the property & casualty market and some of the largest US driver fleets for 25 years.

|| FCRA-compliant solution which quickly, efficiently and accurately indexes and provides criminal data records using criminal conviction and post-conviction data from court sources, Administrative Offices of the Courts, and Departments of Corrections.

9.5 Million
Convictions per Year

2.7 %
Of US adults were under criminal
supervision in 2015

Credit Mortality Risk Scores are gaining acceptance but important to calibrate to specific target distribution.

|| Credit risk attribute measures are used in various ways by company's

|| AUW eligibility criterion

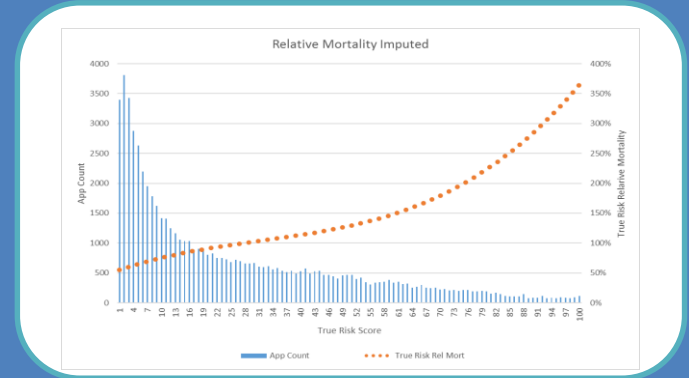
|| Risk classification

|| Post issue underwriting and analysis

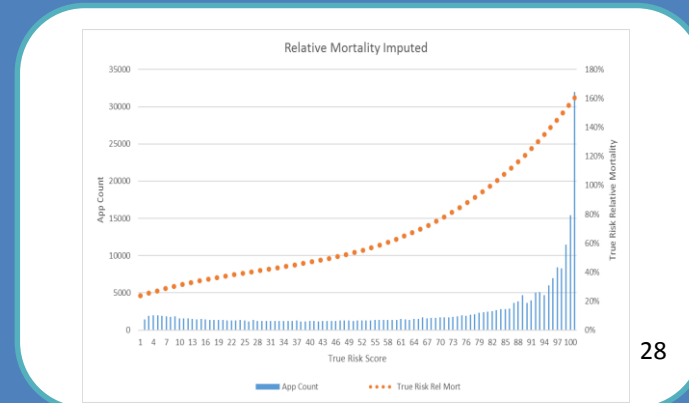
|| Data collection only

|| Enhance existing underwriting

Company A



Company B



Facial analytics is one emerging technology that may be used to verify smoker status, BMI, other diseases and reduce the sentinel effect

Technological advances allow the combining of facial analytics with constantly evolving bio-demographic data to provide insurers with more insight, speed and accuracy than ever before.

While insurance companies have traditionally used chronological age for estimating lifespan, this technology provides a new, scientifically proven method of forecasting mortality based on estimates of the rate at which someone is aging.

As no two people age at the same rate, by taking each user's individual traits into account, facial recognition provides more realistic and reliable results.

Historical clinical lab data is an emerging data source and first step to EHR

- | Tests or examinations derived from the human body, providing information on diagnosis, prognosis, prevention, or treatment of disease (fluids, tissues, cells, etc.)
- | Each test performed is identified as a LOINC (Logical Observation Identifiers, Names and Codes). LOINC is a standardized, universal database of identifying medical laboratory observations initiated in 1994 by the Regenstrief Institute, Inc. Currently there are over 83,000 LOINCs used by 172 countries.

Electronic Health Records (EHRs)

- | Contain patient vitals, doctor's notes, diagnoses and treatment plan; may include medical test images (CT, X-ray, MRI), pathology reports or lab results but sensitive medical information such as psychiatric notes and drug or alcohol histories may not be included
- | There are over 750 vendors supplying EHRs to health care providers; the top 3 have 51% market share
- | Emerging approaches to obtain EHR data for insurers varies (patient portal, medical billing, health insurance provider, direct dataflow)
- | Ownership to data is murky at best
- | Hit rates on EHRs for applicants looking to buy life or disability insurance are increasing as more providers implement platforms, but rates are currently low (~10%)

How will EHRs benefit life and disability insurance carriers?

Benefits:

- | Real-time availability
- | Electronic structured data can be leveraged for automated risk assessment and business analytics in order to increase efficiency
- | Diagnostic codes will be available: these codes document patient history and are used to bill the patient's health insurance plan for services rendered.
 - | The most widely used coding systems include ICD-10, SNOMED, LOINC, NDC and RxNorm.
- | Can be used with both traditional or automated underwriting.
- | Reduce dependency on applicant disclosure and thereby reduce fraud, improve mortality and improve access to relevant data for more complete risk assessment
- | Improve the customer experience.

Health is the new wealth and becoming an asset worth protecting

BEYOND THE HEALTHY WEALTHY

- AUW programs have been successful in targeting the healthy but looking beyond the healthy wealthy to target the less healthy is key to the realization of sustainable value and growth
- Qualitative metrics are necessary for long-term engagement
- Empowering the customer to own and control their own data will foster more positive attitudes to data sharing

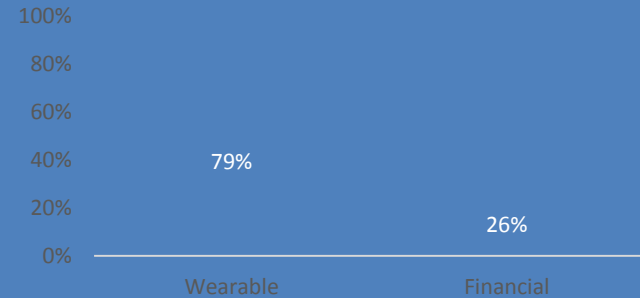


Data is the new currency

Q: Would you be interested in providing financial information if it helped you receive a better rate on your insurance?

Q: Would you be willing to share the information from your device with your life insurer, in order to get a discount on your life insurance premiums?

Willingness to share data for a premium discount



As we move forward, coupling the data currency with the focus on protection of one's health asset provides opportunity for continuing to change the underwriting paradigm and customer journey

ENABLE A BEHAVIOR, AUTOMATE A SOLUTION

Wellness propositions are replete with the potential to influence attitude and change behaviour, but automation of data sharing must align with the customer's actual experience and perceived benefit

Leveraging consumer's buy-in to earning healthy lifestyle incentives and possibly continuous underwriting is aligned with many of the emerging data sources (e.g. adoption of wearable device portals, metrics, lifestyle coaches, disease focused advice) continues to grow among all generations and across all markets)

For insurers to convince the customer of the value of the data exchange, insurers need to create trust and prove to customers that there is an attractive "for me" aspect to be gained through sharing data.



Questions & Answers

Thank you.

For more information please contact: Mary Bahna-Nolan
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