

Underwriting Around the World

Wisconsin Association of Health and Life Underwriters

April 27, 2017



Presented by:
Al Klein, FSA, MAAA
Principal and Consulting Actuary

Agenda

- Background
- Goals of research
- Findings
- Concluding thoughts
- Questions

Background of the Project

- Project came from the International Actuarial Association (IAA) Mortality Working Group (MWG)
- Sent original questionnaire June 2012
 - Countries responded through 2013
- Follow up request for corrections and new country responses sent December 2014
 - Responses received through 2015

Goals of the Study

- Three intended outcomes:
 - Provide a centralized source of information on underwriting practices that may encourage countries to consider methods of underwriting not previously used or contemplated
 - Provide a centralized source of underwriting terminology to enhance communication between practitioners in different regions and between actuaries and underwriters
 - Enable actuaries to better understand and assess the life insurance underwriting risk evaluation process and tools as they relate to mortality
- Was not to influence or standardize ratings or loadings for particular medical conditions

Original Subcommittee Members

- Al Klein, Chair (US) – Actuary, MWG
- Michael Eves (Switzerland) – Actuary, MWG
- Cynthia French-Poteet (US) – Underwriter
- Dieter Gaubatz (US) – Actuary, MWG
- Paul Lewis (South Africa) – Actuary, MWG
- James Louw (Australia) – Actuary
- Val Munchez-van-der Wagt (US) – Underwriter
- Brian Ridsdale (UK) – Actuary, MWG
- Rafael Shabetai (US) – Underwriter

Caveats

- Not all countries responded to all questions
- Data from some countries doesn't fit precisely into our pre-defined categories
- Because of language differences, there was probably some misunderstanding on what we were looking for or we may have misunderstood the response received
- Some countries may have inadvertently overlooked a basic item because of the volume of information requested
- Followed up with all countries from original survey to make sure we did not misinterpret their responses, but did not hear back from all
- As latest results were from 2014/2015, some may be outdated
- New additions have not yet been verified – therefore, please consider these preliminary results

19 Countries Participated

Participating Countries		
Australia	Italy	Spain
Canada	Japan	Sweden
China	Latin America / Caribbean	Switzerland
Croatia	Mexico	United Kingdom (UK)
India	Norway	United States (US)
Ireland	Russia	
Israel	South Africa	

Findings

- Underwriting types
- Underwriting tools
- Market limits
- Regulatory issues
- Potential new approaches
- Impact of underwriting on mortality
- Underwriting as a profession
- Terminology

Underwriting Types

Underwriting Types

- Focus was on three types of underwriting:
 - Fully underwritten:
 - Medical or paramedical exam
 - Medical questions
 - Simplified issue (SI):
 - No medical or paramedical exam
 - Medical questions
 - Guaranteed issue (GI):
 - No medical or paramedical exam
 - No medical questions, but typically a couple of qualifying questions

Underwriting Types – Fully Underwritten (16)

Country	Percentage	Country	Percentage
South Africa	89%	Japan	40%
India	80%	Australia	35%
Canada	74%	Ireland	28%
Latin America / Caribbean	74%	Italy	20%
United States (US)	74%	Mexico	15%
Switzerland	70%	Russia	13%
China	60%	United Kingdom (UK)	5%
Sweden	50%	Croatia	3%

Underwriting Types – Simplified Issue (16)

Country	Percentage	Country	Percentage
Croatia	97%	Sweden	50%
Russia	87%	China	38%
Israel	85%	Switzerland	30%
Mexico	85%	Australia	25%
Italy	80%	Canada	20%
United Kingdom (UK)	80%	India	20%
Ireland	70%	Latin America / Caribbean	20%
Japan	60%	United States (US)	20%

Underwriting Types – Guaranteed Issue (8)

Country	Percentage
Australia	40%
United Kingdom (UK)	15%
Canada	6%
Latin America / Caribbean	6%
Mexico	6%
United States (US)	6%
China	2%
Ireland	2%

Underwriting Types

(Wide range of usage)

- Fully underwritten ranged from 3% in Croatia and 5% in the UK to 89% in South Africa and 80% in India
- Simplified issue ranged from 11% in South Africa to 97% in Croatia and 87% in Russia
- Guaranteed issue was offered by eight countries, with the percentages ranging from 2% in China and Ireland to 40% of all underwritten business in Australia

A Few Interesting Practices

- Some countries limit the first year death benefit to natural causes on SI and/or GI underwriting
- Australia on GI and South Africa on SI have a pre-existing conditions exclusion
- India uses nonmedical underwriting for cases that get kicked out of an automated rule-based engine
- Sweden can deny coverage on a nonmedical basis if the rating is greater than 150%

Underwriting Tools

Most Frequently Used Underwriting Tools (18 of 19)

- Blood test (not Norway)
- Urine test (not Norway)
- Electrocardiogram and/or Exercise Stress Test (not Norway)
- Financial verification (not Norway)
- Statement from an attending physician (not India)

Least Frequently Used Underwriting Tools (1-3 of 19)

- Age verification using electoral database records (India)
- Passport copy, visa type, and entry stamp (Latin America/Caribbean)
- Questions for politically exposed persons who may have a threat of kidnapping or assassination (LA/C)
- Serum cotinine test for nonsmokers (Israel, South Africa)
- Pharmacy profiles (US and LA/C for customers in US market)
- Motor Vehicle Record (MVR) – (Canada, US)
- Oral fluid (Canada, US)
- Ultrasound scan (China, Croatia, Italy)

Most Frequent Underwriting Questions Used (13+ of 15)

- Name (15)
- Full medical history (15)
- Height (15)
- Weight (15)
- Address (not Japan)
- Date of birth (not Sweden)
- Occupational details (not Norway)
- Gender (not Ireland, Sweden)
- Smoking and alcohol consumption habits (not Italy, Japan)
- Pastimes/hazardous pursuits (not Japan, Norway)
- Signature (not Japan and the UK)
- Family history (not Japan, Spain)

Least Frequent Underwriting Questions Used (1-2 of 15)

- Average distance traveled per year (South Africa)
- Banking details (Australia, South Africa)
- Language (South Africa, Switzerland)
- Highest educational qualifications (Norway, South Africa)
- Drivers license number (Canada, US)

Countries with most and least Underwriting Questions

Top 3

- South Africa (44 of 49)
- Australia (40)
- Israel (35)

Bottom 3

- Japan (11)
- Norway (15)
- Italy (19)

A Few Interesting Practices

- Mexico – OII (Oficina Informadora de Impedimentos)
 - Similar to MIB, Mexican companies can request health-related information on applicants, however this is somewhat controversial
- Norway – NEMNDA
 - Committee for health assessment provides guidelines on how different health conditions affect mortality and future disability and disease risk to ensure equality in treatment of insurance applicants
- South Africa – ASISA (Association of Savings and Investments South Africa) and Astute
 - Two industry registers
 - ASISA keeps track of previous insurance loadings
 - Astute keeps track of previous insurance

Least Frequently Used Testing (1-2 countries)

- Inspection report (Criminal activity)
 - USA
- ESR (Erythrocyte Sedimentation Rate)
 - Detects inflammation from infection, cancer, autoimmune disease
 - Ireland
- eGFR (Estimated Glomerular Filtration Rate)
 - Detects early kidney damage
 - Australia, South Africa

Challenges with Underwriting Tools

- Compliance with EU unisex requirements
- Laboratory services vary widely from tight quality controlled state of the art environments to questionable handwritten reports
- Uneven quality of data
 - India doesn't seek medical records
 - There is no APS retrieval service for any LA/Caribbean countries
- Telephone application success varies
 - Huge success for some, however, for others applicants can be reluctant to share personal, medical, and financial data with a person on the phone for fear of future personal risk of extortion or kidnapping

Market Limits

Market Limits on BMI

Obesity Class	Current (WHO)	Proposed Asian (IAI)
Underweight	< 18.5	< 18.5
Normal	18.5 – 24.9	18.5 – 22.9
Overweight	25 – 29.9	23 – 24.9
Obesity Class:		
I	30 – 34.9	25 – 29.9
II	35 – 39.9	≥ 30
III (Morbid Obesity)	≥ 40	

Rank of Geographical Areas by BMI

Rank	Countries
5 (Lightest)	East Asia, including Southeast Asia
4	Indian subcontinent
3	Switzerland, Europe (low risk), Middle East, Rest of Africa
2	United Kingdom, Canada, Ireland, North & Eastern Europe, Australia, New Zealand, Rest of the Americas, South Africa (females)
1 (Heaviest)	USA (males and females), South Africa (males)

▪ Source: Swiss Re

Insurance Findings Related to BMI

- Mortality is higher with the highest BMIs, except at the older ages where both mortality and morbidity are highest with the lowest BMIs
- Disability is higher at all ages with overweight and obese people

Regulatory Issues

Recent and Potential Regulatory Issues

- Canada – Genetic testing prohibited
 - Effective March 2017
 - Controversial as Trudeau opposed – Thought this was subject to Provincial law
- Israel – Potential legislation regarding equal opportunities for disabled applicants

Genetic Testing

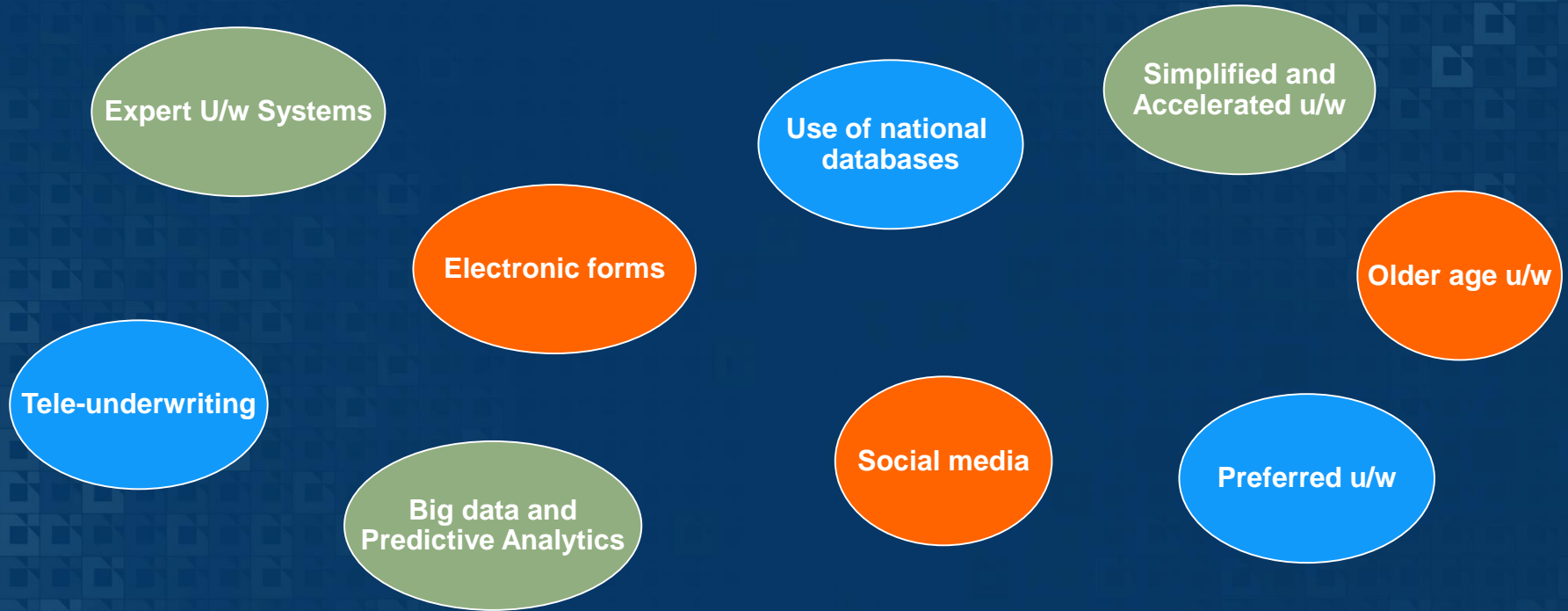
- Prohibited – Canada (as of March 2017), Ireland, Israel, Mexico, Spain
 - Strict rules in Ireland: From Disability Act 2005, requirement to inform GP when sending other info, not to include any genetic info. If genetic info gets in file, must be ignored and deleted and if it can't be deleted, a note must be included in file indicating it was ignored
- Prohibited unless applicant provides – Italy
- Cannot require genetic test, but if applicant has taken one it can be requested
 - Australia (unless genetic test done for research purposes)
 - Sweden and Switzerland (only above certain sum insured limits)
 - UK (only above certain sum insured limits or if Huntington's disease found)
- Not used, but not prohibited
 - China, Japan, Latin America/Caribbean, Russia, USA

Genetic Testing – USA Details

- Prohibited for health, but not life, long-term care or disability
- 22 state variations for life
- ACLI Genetic Testing Task Force charges:
 - Review and catalogue information on genetics and insurance
 - Identify knowledge gaps and research opportunities
 - Review foreign activities and outcomes, which arguments work and don't work
 - Provide periodic updates to ACLI
 - Examine and assess current state of consumer projections

Potential New Approaches to Life Underwriting

Potential New Approaches – Life Underwriting



Measuring the Impact of Underwriting on Mortality Experience

Measuring the Impact of Underwriting on Mortality Experience

- Protective Value Studies - Can study value of specific underwriting tool
 - Considerations include:
 - Comparison of cost and benefit
 - Determination of cost and benefit are not necessarily straight forward (e.g., cost is more than just the cost of the test)
 - Most studies are proprietary and not published
 - Example: Cost/benefit analysis on new medical markers completed for the SOA
 - Link to the study: <https://www.soa.org/research/research-projects/life-insurance/research-medical-markers.aspx>
 - Report contains explanation on how to do a protective value study and develop the cost and benefit

Measuring the Impact of Underwriting on Mortality Experience (cont'd)

- Broad mortality experience studies – Study mortality differentials in items such as:
 - Fully underwritten vs. SI business
 - Experience by age, gender, risk class, policy size, etc.
 - Potentially value of underwriting tools (if have enough data with and without tool)
 - Potentially deeper dive into what is driving mortality/lapse

How often are country-level mortality studies completed?

Fairly Frequently	Less Frequently	
Canada	Australia	Norway
Japan	China	South Africa
Mexico	Ireland	Sweden
UK	Israel	Switzerland
US	Italy	

Underwriting as a Profession

Countries that have a Formal Profession

Country	Name of Profession
Australia	The Australian Life Underwriters and Claims Association (ALUCA)
Canada	The Canadian Institute of Underwriters (CIU)
China	Name not provided
India	The Association of Insurance Underwriters (AIU)
Ireland	Assurance Underwriting Medical Society (AMUS)
Mexico	Asociacion de Seleccionadores de Riegos en el Segura de Personas A.C.
UK	Chartered Insurance Institute (offers a diploma in insurance) Section P61 covers life, critical illness and DI insurance
US	The Association of Home Office Underwriters (AHOU)

Designations and Training

- Some countries provide formal training and designations
 - Canada
 - Ireland
 - Israel (training only)
 - UK
 - USA (FALU designation is available to any underwriter, but training material and exams are only in English)
- Some countries provide continuing education
 - Australia (requirements for 2 of 3 levels within ALUCA)
 - USA (ALU provides webinars, but no formal training)

Terminology

Some Unique Terminology

- Australia
 - MBA20 blood test – Multiple Biochemical Analysis is for lipids, liver enzymes, glucose, and kidney function
 - Medi Lite – 15 minute health check
 - MSU – Mid-Stream urinalysis
 - Dip stick – Dip stick test of a sample of urine
- Canada
 - Oral fluid – Screen for cotinine, cocaine, HIV, Hepatitis
 - Guaranteed-to-issue – Cannot be turned down for coverage, but can be rated

Some Unique Terminology (cont'd)

- Croatia
 - Ultrasound scan – External scan allows doctor to look more closely at organs (e.g., heart, womb) to detect problems
- India
 - Questionnaires – Specific questionnaires are given to assess any medical, financial, avocational, or occupational risk issue
 - Online verification of applicant's age – Done with an electoral database available for each state in India
 - Financial Surrogates – Getting tax returns for self-employed is difficult, so can use bank statements, vehicle insurance details, property papers, mutual fund and fixed deposit receipts as a substitute

Some Unique Terminology (cont'd)

- Italy
 - Abdominal ultrasound – Examines internal organs of the abdomen
- Norway
 - Workability underwriting – One question determines whether case is workable (i.e., able to be underwritten) or not
 - ROFF – National register that keeps track of denials, ratings, limited coverage, for 10 years. Can call other company for details.
 - NEMNDA – Committee for health assessment sets guidelines, on how health conditions affect mortality, morbidity, and disability. Based on medical statistics in Norway so all insurance applicants treated fairly.

Some Unique Terminology (cont'd)

- South Africa
 - Business overhead projector – Short-term disability contract
- United Kingdom
 - General Practitioners Report (GPR) – Generally provides underwriter with additional information needed to make a medical underwriting decision on the proposed insured, but generally takes at least 20-30 days to receive
 - Subject Access Request (SAR) – Alternative to GPR. Data Protection legislation used to request and get full copy of medical records faster than GPR, but use is controversial

Some Unique Terminology (cont'd)

- United States
 - Medical Information Bureau (MIB) – Keeps track of rating/decline decisions of proposed insureds from member companies for seven years. Member companies can access this information for further investigation if it was not disclosed on the application or other forms. MIB formed to prevent fraud.
 - Motor Vehicle Records (MVR) – Each state keeps track of driving information (e.g., moving violations, driving under the influence, reckless driving, suspension of or special licenses)
 - Oral fluid – Screen for cotinine, cocaine, HIV
 - Pharmaceutical profiles – Provides Rx histories on applicant
 - Preferred underwriting – Multiple risk classes determined based on proposed insured's personal medical history, family history, blood pressure, build, cholesterol, and several other factors

Medical Report from Doctor has Many Names

- Australia – Personal Medical Attendant’s Report (1) - 2
- Canada – Attending Physician Statement (2) - 4
- Croatia – Internist examination (3) - 1
- India – Attending Physician Statement
- Ireland – Private Medical Attendant’s Report (4) - 1
- Israel – Personal Medical Attendant’s Report
- Switzerland – Attending Physician Statement
- United Kingdom
 - General Practitioners Report (5) - 1
 - Subject Access Request (6) - 1
- United States – Attending Physician Statement

Concluding Thoughts

Concluding Thoughts

- Practices between countries are both similar and different, with there being some substantial differences
- What works in one country may not necessarily work in others due to different practices, culture, regulations, etc.
- Caution needs to be used when studying results
 - Probably some misunderstandings due to differences in terminology, language differences, etc.
 - Some specific items just don't fit cleanly in our pre-defined categories
 - Results are still preliminary and may change
- Although not perfect (for the reasons given above), I believe there is a lot of valuable information in the report and that there is much to learn from each other

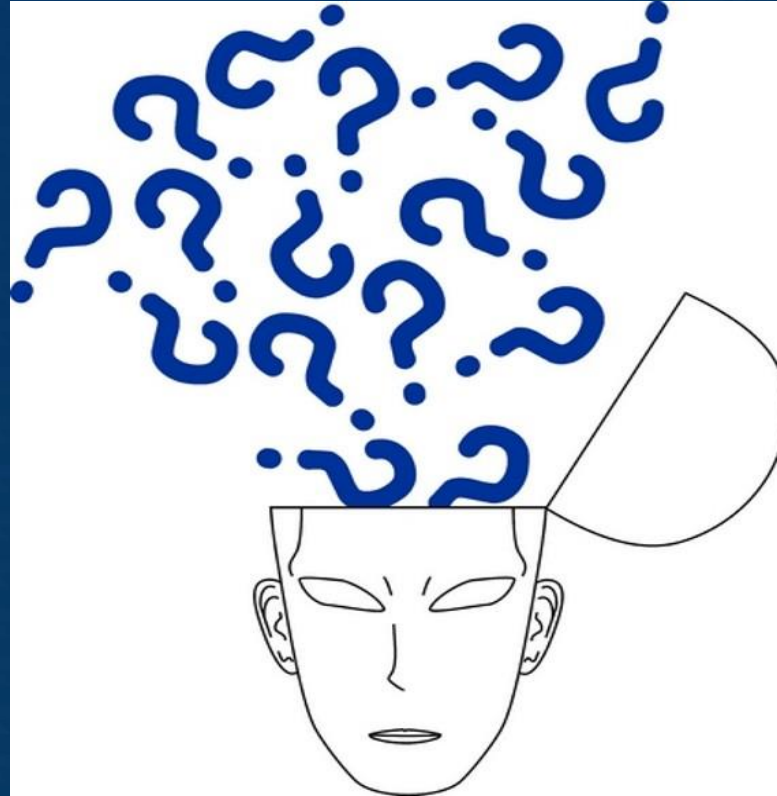
Concluding Thoughts (cont'd)

- Three desires:
 - This information will help actuaries and underwriters work better together
 - Some individuals and countries will be able to utilize the learnings to improve their practices
 - This is a living document and that it will periodically be updated with new developments and new countries

Link to Report

- Link to original report:
 - http://www.actuaries.org/CTTEES_TFM/Documents/MWG_Underwriting%20around%20the%20world_Report_2014-03-13.pdf
- New paper not yet published
- Link to Underwriting webpage of IAA MWG:
 - http://www.actuaries.org/index.cfm?lang=EN&DSP=CTTEES_TFM&ACT=IB_underwriting

Questions



Bio – Al Klein

- Al is a principal and consulting actuary with Milliman's Buffalo Grove / Chicago office. He joined the firm in 2009.
- Al's primary responsibilities include industry experience studies and helping clients with mortality, longevity, and underwriting related issues. Al's expertise on mortality and underwriting includes traditional products, simplified issue, final expense, older age, and preferred.
- Prior to joining Milliman, Al worked for a large stock life insurance company where he was responsible for experience studies across all lines of business. He has also worked for other life insurance companies, a reinsurer and consultant, where he has been responsible for strategic planning, product development and traditional reinsurance.
- Al is a frequent speaker and currently involved with a number of industry activities, including:
 - Society of Actuaries (SOA) representative and Co-Vice Chair for the Mortality Working Group (MWG) of the International Actuarial Association
 - MWG Chair of projects on: Underwriting Around the World, Future Drivers of Mortality, Older Age Mortality
 - SOA Longevity Advisory Group
 - Chair of SOA Underwriting Issues and Innovation Seminar Planning Committee
 - SOA Mortality and Underwriting Survey Committee, Chair of survey on Predictive Analytics and Accelerated and Enhanced Underwriting
 - SOA Project Oversight Groups: US Population Mortality (and paper on the top 15 causes of death by region), 1900 Birth Year Cohort Project, Human Mortality Database Project, IFoA (Institute and Faculty of Actuaries, UK) Mortality Modeling Review
 - Joint American Academy of Actuaries (AAA) / SOA Preferred Mortality Oversight Group
 - 2015 SOA Valuation Basic Table Development Team
 - Longer Life Foundation Advisory Board
- Al received a Bachelor of Science degree in Actuarial Science and Finance from the U. of Illinois, Urbana
- Contact information: (312) 499-5731, al.klein@milliman.com