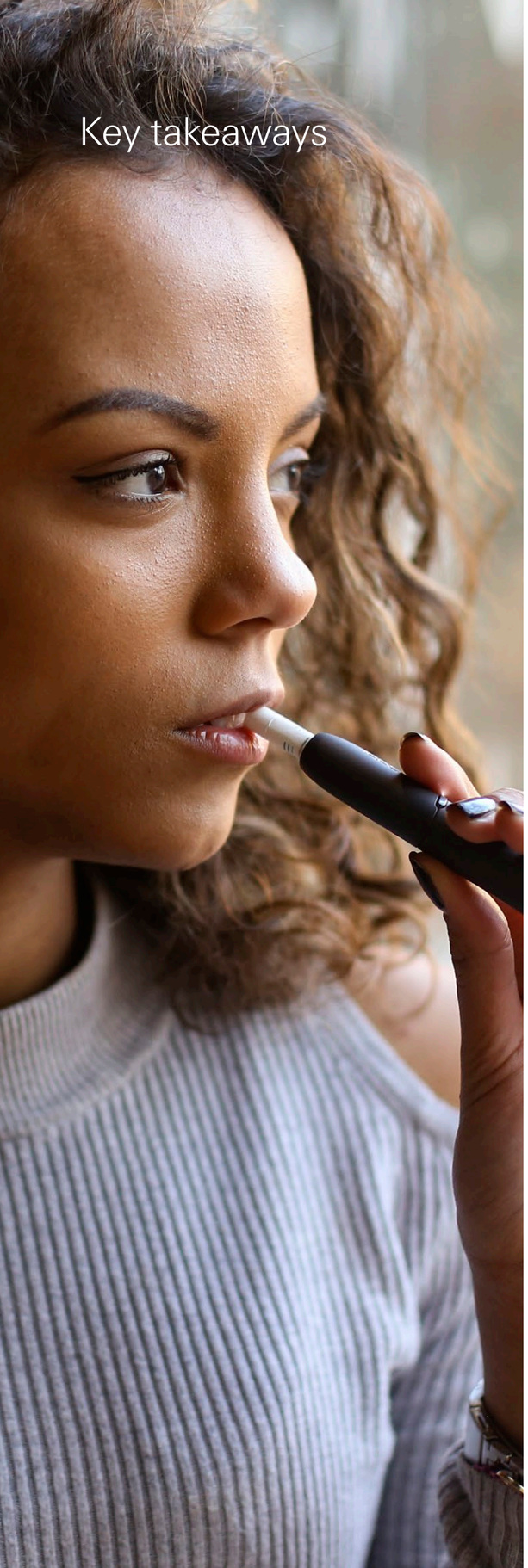
Swiss Re Institute

Substance Use: All or Nothing?

Part 4 of The Big Six Lifestyle Factors research

A L&H Trend Spotlight

Contents



Key takeaways

The report on substance use is part of our series on The Big Six Lifestyle Factors.

From infrequent social consumption to addiction at clinically significant levels, many adults have used one or more substances. Habitual use of substances exposes the consumers to a wide range of health risks – from minor, temporary health effects to significant, long-term impairments.

That's why it's important for insurers to accurately understand and assess where a policyholder falls on the spectrum of risks. Zooming in on the two most commonly rated substance use behaviours in insurance policies – tobacco smoking and alcohol consumption – insurers now have access to personalised, granular risk assessment methods that enable personalised protection offerings. Here, we take a deep dive into our most recent research findings on smoking and drinking, and why they matter for insurers.

We explore the impact of tobacco and alcohol use on other clinical and lifestyle data for assessing lifestyle factors. We also investigate how alternative data sources like electronic health records may complement the current industry practices.

Outside of addiction, substance use – like the other Big Six lifestyle factors – is often behaviourally driven. People can modify their behaviours and choose to consume more or less alcohol at dinner, for example. This opens the door for insurers to play a bigger role in educating their customers about health risks and supporting them to lead healthier lifestyles.

Section 1

Substance use

The two tails of smoking: declining traditional use, but rising use of alternative products

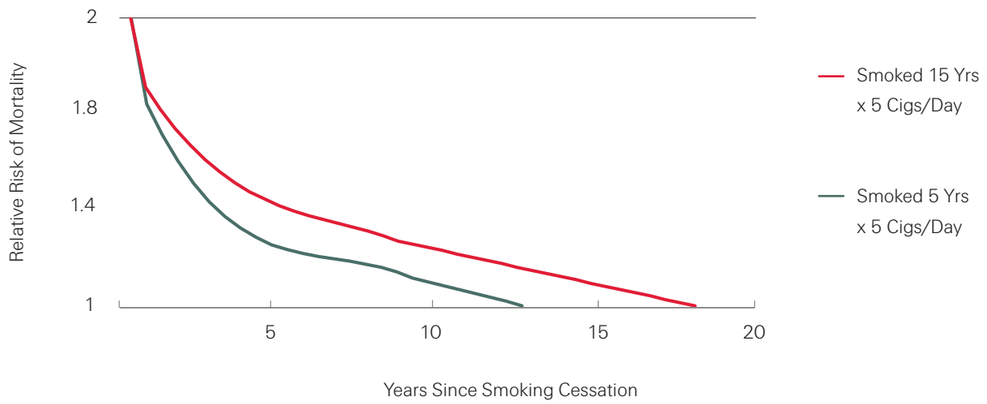
Cigarette smoking was once portrayed as glamourous, independent and alluring in Hollywood movies – think Audrey Hepburn and her iconic cigarette holder. Fast forward to 2021, the global prevalence of tobacco smoking is now estimated to have fallen below 20% of adult populations.[1] In the US, prevalence is down to about 15%, a stark contrast to the 1960's when almost half of all Americans were active smokers.

The downward trend of conventional cigarette smoking is likely to continue but the use of e-cigarette devices ('vaping') has been increasing in popularity, particularly among youth and young adults. The 2020 US National Youth Tobacco Survey found active e-cigarette use in almost 20% of high school students, while only 10% smoked cigarettes or cigars.[2] Although the potential long-term health risks of e-cigarettes are not as well-studied as with cigarettes, e-cigarettes still contain nicotine.

Nicotine is the substance causing addiction, but it is far less toxic than many other chemicals and carcinogens found in tobacco smoke. Many have questioned whether vaping acts as a gateway to smoking tobacco cigarettes. While the potential risk is still unknown, it seems premature to consider vaping as a totally benign alternative to cigarette smoking.[3] And let's not forget cannabis. Cannabis, often smoked for medicinal or recreational purposes, is an even more complex topic that we've previously covered in detail.

Figure 1

For ex-smokers, it can take many years for excess mortality risk to disappear



Do former smokers get a second chance?

Heavier smokers, who quit smoking, but are older in age, may never completely return to normal. That's because aspects like smoking duration, frequency and age further impact overall risk reduction rates (Fig. 1).

For an ex-smoker who smoked 5 cigarettes per day for 5 years, it will take approximately 12 years to return to baseline mortality. For the same consumption amount (5 cigarettes per day) but a longer smoking history (15 years), it will take almost 20 years to return to baseline mortality – nearly twice the amount of time compared to someone who smoked for 5 years only. Much of the decrease in excess risk occurs within the first 5 years of smoking cessation, regardless of smoking amount or duration.

What does this mean for insurers?

- Generally, insurers define a non-smoker as someone who has not smoked cigarettes for at least one year. For some, rates may be varied for the "never smoked" and ex-smoker categories.
- To better align with this evidence and take a more personalised approach to risk assessment, insurers could consider expanding the differentiation of ex-smoker rates to include variables such as: pack-years history, duration of cessation, and age of applicant.
- In practice, this is limited by under-reporting, non-disclosure, and the potential for anti-selection in a competitive market, although this may be somewhat mitigated by routine cotinine testing in some markets. As well, it can prove challenging to verify historical smoking exposure at the claims stage.
- These limitations highlight the importance of continued research into objective medical tests and/or biomarkers that can reflect the duration and amount of smoking exposure, as well as alternative sources of data to independently verify the accuracy of self-reported information.

"According to our research, the excess mortality from smoking cigarettes may take more than a decade to reset to the level of a never smoker."

Clearing the smokescreen with intert-wining lifestyle factors

What is the impact of smoking on one's likelihood to engage in regular physical activities? What about the impact on weight or mental wellbeing?

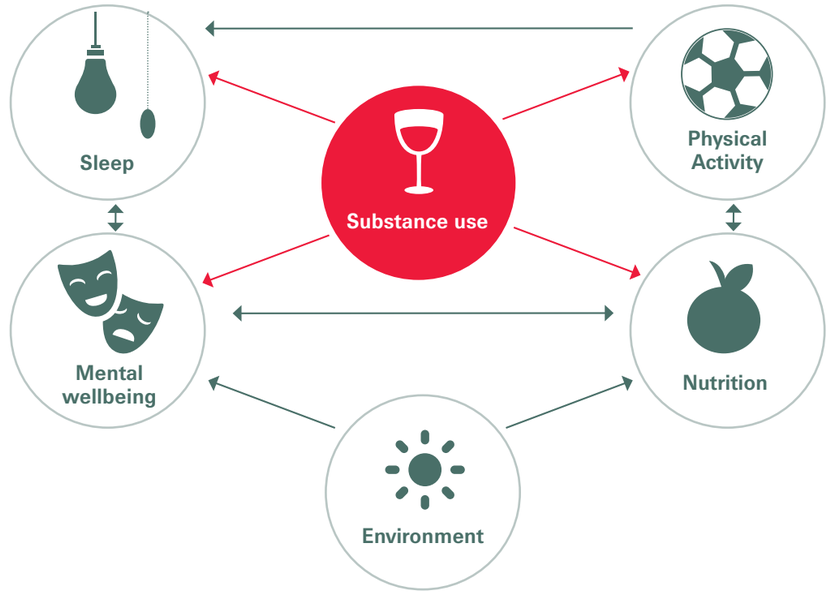
We outline three risk factors correlated with smoking that insurers might look to, in order to share these insights back with their customers to illustrate the complex web of health effects related to smoking:

Physical activity: Numerous studies have reported a negative association between smoking and physical activity. Lower levels of physical activity may be indicative of higher levels of smoking, and vice versa.[4]

Body Mass Index: Smokers tend to have a lower body mass index than non-smokers, as nicotine can reduce food intake and body weight. Smokers often report using tobacco to cope with stress, while non-smokers may tend to eat more when stressed.[5, 6]

Mental wellbeing: Contrary to many smokers' belief that smoking has a positive effect on their mental wellbeing, there is actually a strong association between smoking and poor mental health. Smokers with mental health conditions also tend to be heavier smokers, regardless of age. Longitudinal studies focusing on adolescents suggest that the association between smoking and depression is bidirectional.[7, 8]

Figure 2
Interactions between substance use and lifestyle risk factors



Alcohol: how much is in your drink? Depends on where you are

Alcohol is one of the most universally produced and enjoyed substances throughout history.

Archaeological evidence suggests that rice wine, a popular alcoholic beverage from East Asia, has been around for at least 9 000 years (if not longer).[9] Today, alcohol remains an indispensable part of many social occasions across cultures. According to the Global Burden of Disease Study in 2016, 72% of females and 83% of males in developed economies were current drinkers.[10]

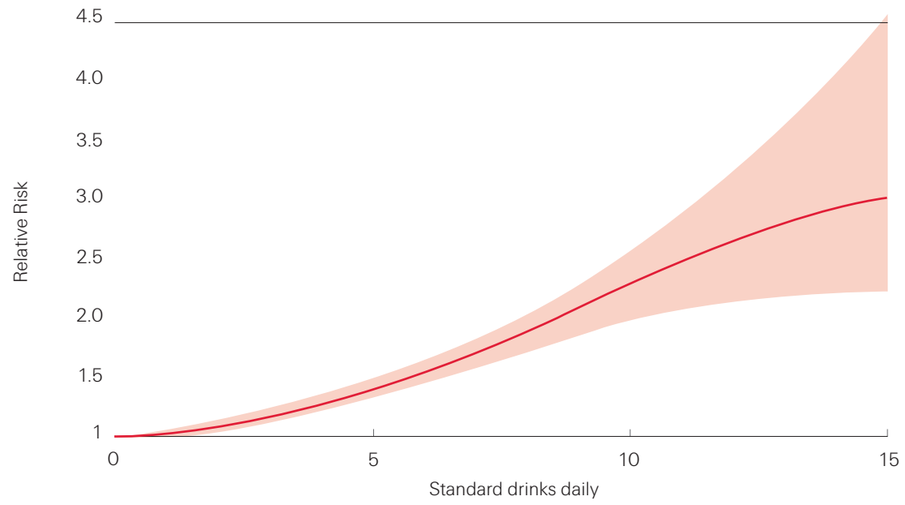
The drinking effects

Many medical studies have shown that alcohol consumption is harmful to health, with some even concluding that no amount is harmless. Interestingly, other studies suggest that individuals who consume 10–20 grams of alcohol (or 1–2 standard drinks) per day appear to have the best mortality risk profile, especially for cardiovascular diseases.[11,12,13]

Those who abstained from alcohol paradoxically had a higher relative risk – this has been partially attributed to the 'sick abstainer' effect, whereby such individuals abstain from alcohol because they already have other medical conditions or unfavourable circumstances. While interesting from a medical standpoint, this pattern of optimal mortality risk with low-dose alcohol consumption is likely to prove extremely challenging to replicate in an insurance environment, due to the challenges of obtaining accurate disclosure and the potential for harmful behavioural messaging.

Figure 3

The risk of premature mortality and disability increases with greater daily alcohol consumption



Source: Alcohol use and burden for 195 countries and territories, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016." Lancet 2018.

A pint, a glass or a shot?

Variations in drinking frequency and binge drinking behaviours complicate risk assessment standards.

Binge drinking is generally quantified as consuming more than 4–5 drinks in a single session. When assessing the risk of a person consuming 4 drinks a day, should we apply the same standard if those 4 drinks were consumed in the UK (8 grams x4 = 32 grams), instead of in Austria (20 grams x4 = 80 grams)?[14]

Our research has led us to fine-tune our guidance in Life Guide, our L&H underwriting guide, to simplify the estimation of alcohol consumption and better quantify the impact of binge drinking.

"Our research has led us to fine-tune our guidance in Life Guide, our L&H underwriting guide."

Figure 4

There is significant variation among worldwide definitions of a standard drink

Source: Comparison of International Alcohol Drinking Guidelines. International Organisation of Vine and Wine. 2019

The value of looking at the whole picture

Insures should be aware of these interconnected dynamics.

Major shifts might serve as early detection signals of significant behaviour change. In the future, it might even trigger a re-assessment of an individual's alcohol consumption or indicate when a customer might need more support.

Here, insurers can play a bigger supporting role by providing services, information or wellness tools to help get customers back on track.

Like smoking, consuming alcohol impacts other aspects of an individual's lifestyle, especially their sleep and nutritional patterns.

Sleep
Alcohol is a central nervous system depressant. Contrary to common belief, alcohol disrupts sleep patterns, quality and duration. Chronic alcohol consumption often leads to worsening sleep quality.[15] As we've covered in our research on sleep, poor sleep can also lead to increased risk of alcohol use disorder.

Nutrition
Chronic alcohol use commonly leads to malnutrition, notably thiamine and vitamin B12 deficiency. The 'empty calories' comprising of higher carbohydrate and lower micronutrient intake make it an unhealthy diet for frequent drinkers.[16]

Mental Wellbeing
The cerebral depressant effects experienced with alcohol use make some drinkers mistaken that for a calming agent. Research shows that alcohol use appears to have little correlation with self-reported measures of stress like the Perceived Stress Scale (PSS). On the flip side, increased daily stress can put one at risk of excessive drinking.[17]

Section 6

Substance use

What does this mean for insurers?

Nowadays, the vast majority of consumers are likely to have experienced substance use at some point in their lives.

From the more frequently consumed substances like alcohol and tobacco to the more controversial categories of prescription medications and illicit drugs, Swiss Re continues to investigate their impact and develop effective assessment tools for insurers to better support their customers. Estimating the total health effects of these substances in aggregate still proves challenging. As our research has shown, diversifying the traditional binary risk categories into more granular sections can help insurers obtain a more accurate picture of the true risks.

Here are some practical considerations for insurers to design more continuous and personalised risk assessment process when it comes to substance use.

1

Expand underwriting applications to better understand an applicant's usage behaviours.

- For smoking, ask usage of conventional cigarettes, cigars, e-cigarette devices, smokeless tobacco, pipe/hookah, E-liquid, oils, and cannabis (where relevant).
- For alcohol, prompt about types and amount of habitual intake – beer, wine, liquors, spirits, homebrew, and binge drinking behaviours.
- Balance the input with bias in self-disclosure, under-reporting, operational constraints, and regulatory considerations in mind.

2

Explore alternative data sources to complement self-reported information.

- Use electronic health record data to cross-reference self-reported substance use.
- Tap into biometric data to uncover potential irregularities associated with substance use. Is it possible for sleep data from a wearable to shine light on alcohol usage and prompt further investigation?

3

Link substance use to lifestyle and health outcomes, and to provide support and engagement tools

- For customers looking for more support, offer benefits like smoking cessation programs.
- Show the diverse impacts of substance use to cultivate better awareness. How does 1 glass of wine impact your sleep? How many minutes does smoking 1 cigarette take off your lifespan? Putting information in relatable terms and using behavioural science can help drive change.

As with our five other Big Six Lifestyle Factors, a better understanding of substance use can have a profound positive impact on long-term health and wellbeing.

As the world begins to emerge from the shadow of the COVID-19 pandemic, public health policies will again focus on the prevention and treatment of non-communicable diseases. Swiss Re's research on lifestyle data, now covering substance use, can empower insurers to offer responsive, customisable solutions by encouraging consumers to achieve their health and wellness goals.

Interested in fortifying your current approach to assessing substance use? Curious about how the other Big Six lifestyle factors work together?

Our Underwriting Propositions Leads are here to help.

Get in touch with us today to unlock the possibilities!

We're smarter together

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