MILLIMAN RESEARCH REPORT

# Impact of COVID-19 on risk equalisation schemes

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# Introduction

The onset of the COVID-19 pandemic has had numerous impacts on health systems worldwide, with extra support needed globally to address the healthcare needs associated with the pandemic. One of the impacts of the pandemic has been a reduction in non-COVID healthcare activity, particularly due to restrictions on movement, or "lock-downs", introduced to varying degrees worldwide in an effort to reduce the spread of the virus. In many markets, this has resulted in reduced levels of health insurance claims relative to a more "normal" year, as both elective healthcare services have been suspended and patients are generally reluctant to seek healthcare[1]. In addition, changes to supply-side capacity have had an impact on claims; for example, in Ireland private hospital capacity has been used by national healthcare services to help meet the demand for healthcare resources by COVID-19 virus patients. All these factors have introduced challenges for health insurers in terms of predicting future health insurance claims and therefore challenges for governments and national agencies responsible for the operation of risk equalisation schemes that are common features of many health insurance markets.

In this report we look at the impact of COVID-19 on risk equalisation schemes in several countries and consider, what, if any, retrospective adjustments are available to address any related challenges arising from the pandemic. This report focuses on the risk equalisation and risk adjustors in the Irish, Dutch, Swiss, Australian and United States health insurance markets and looks primarily at the impact over 2020, and updates for 2021 where these have already been published.

This paper has been authored by Sinéad Clarke and Kevin Manning, both health insurance actuaries working in Milliman's Dublin office. The authors are indebted to the support and insights provided by colleagues throughout Milliman who provided deeper expertise on the risk equalisation schemes in their markets, in addition to insight and advice received from contacts in government departments and regulators. We would also like to thank Joanne Buckle for her support in peer reviewing this paper.

In carrying out our analysis, we have focused on public information and the theory behind the risk equalisation schemes considered. We have not reviewed any specific data associated with the risk equalisation schemes considered in this report or the insurers impacted by these schemes, and, as a result, any conclusions set out in this report may not reflect the specific circumstances of individual insurers or schemes. Detailed data analysis would need to be carried out to fully assess the impact of COVID-19 on the transfers associated with any specific risk equalisation scheme or insurer in 2020. In some territories, the risk equalisation calculations for 2020 have not yet been finalised and implications of the pandemic are still emerging, so it may be too early to fully assess the true impact. This report reflects information available to us up to 31 March 2021.

[1] https://www.nytimes.com/2020/04/06/well/live/coronavirus-doctors-hospitals-emergency-care-heart-attack-stroke.html

# Overview of Risk Equalisation

Risk equalisation schemes are generally intended to facilitate a redistribution of resources among insurers to reflect differences in underlying risk profiles of the populations insured. Commonly they involve payments into a central fund by insurers with lower risk populations and payments from the central fund to insurers with higher risk populations, but the actual payment mechanics can vary. For example, under the Irish scheme, all insurers receive payments from the central fund based on their membership profile, with payments being made in respect of older or sicker insured lives. These payments are funded by contributions all insurers make to the central fund, in respect of all lives on their books. Insurers with older and sicker lives would expect to receive more from the fund than they pay in, but all insurers make payments to the scheme and receive payments from the scheme. By contrast, under the Australian scheme, the mechanism involves net payments, with some insurers paying into the scheme and others receiving payments from the scheme.

Risk equalisation schemes can be prospective or retrospective. In many of the examples considered below, a prospective approach is used, where the parameters underlying the scheme are based on past experience. In some cases, the schemes do not incorporate mechanisms that allow for those prospectively determined payments to be adjusted, even where the actual outcomes are quite different from expectations. This means that for 2020, risk equalisation payments to insurers under many schemes may reflect the expected claims experience for 2020, calculated based on 2019 data, with the expected claims typically being higher than the actual (reduced) claims experience in 2020 as a result of COVID-19.

Furthermore, the impact of COVID-19 on 2020 claims data can cause issues for prospective risk equalisation schemes in terms of calculating the parameters for the 2021 scheme. Prospective schemes are unlikely to reflect the possibility of higher claims costs in 2021 due to “catch-up” care or a rebound in utilisation post pandemic, reflecting a form of pent-up demand due to deferred care from 2020. In addition, the prospective parameters may not reflect increases in claims costs over the medium term reflecting the potentially higher acuity of services due to missed primary care and routine care for chronic conditions in 2020 or increases in unit costs due to providers implementing COVID-safe protocols. However, some adjustments have been made in risk equalisation schemes in a number of jurisdictions to reflect these challenges.

Retrospective schemes are usually calibrated based on actual experience, and therefore may not face the same challenges as a result of COVID-19 as outlined above in respect prospective schemes.

Many risk equalisation schemes are based on calculations that are generally written into a law via legislation or regulation. As a result, it can be difficult to enact quick or reactive changes to the risk equalisation schemes when a specific one-off or unexpected event occurs.

# Impact of COVID-19 on risk equalisation schemes

In this section of the report we consider the impact of COVID-19 on a number of risk equalisation schemes, this includes risk equalisation schemes underlying health insurance markets in the Netherlands, Ireland, Switzerland, Austria and the United States. This represents a sub-section of risk equalisation schemes worldwide. The markets analysed in this report have been chosen based on ease of access to publically available information and expertise in specific markets.

## The Netherlands

In the Netherlands, a prospective risk equalisation scheme is in place as part of the community-rated, compulsory health insurance market for basic healthcare (as defined under the Health Insurance Act, Zorgverzekeringswet (Zvw) in the Netherlands). The current system is based on a complex model that allows separately for somatic care (primary care, hospital care and pharmaceuticals), mental healthcare and out-of-pocket payments due to mandatory deductibles. Health insurers are compensated under the scheme based on age, gender and health status through Diagnostic Related Groups (DRGs), Pharmaceutical-based Cost Groups (PCGs) and other parameters such as geographical region and socioeconomic status. In the past, the risk adjustment included a retrospective High-Cost Compensation for the majority of healthcare costs, but this has since been removed for all but the highest mental health claims.

The Minister for Health, Welfare and Sport has noted that it is not legally possible to make any retrospective adjustments in respect of the 2020 risk equalisation scheme to reflect the impact of COVID-19; however, some changes have been proposed for the 2021 scheme. In September 2020, the Minister wrote to the parliament setting out the design of the risk equalisation model for 2021[2]. The calculations underpinning the risk adjustment for 2021 were carried out in the summer of 2020, allowing for some improvements to the risk adjustment model.

The Minister stated that the improvements to the risk adjustment model announced earlier in the year would remain in place for 2021. As part of these improvements, the 2021 risk-adjustment calculation made some allowances for the impact of COVID-19, such as increase in healthcare costs, the potential for “catch-up” care post-pandemic and the potential long-term impact of the postponement of healthcare during periods of lockdown. However, the Minister noted that the higher degree of uncertainty associated with the pandemic increases the chance of differences between the actual and expected healthcare costs underlying the risk adjustment calculation, and, as a result, a number of ex-post adjustments were introduced for 2021 to compensate for these uncertainties. The ex-post adjustments to the calculations included three different levers:

- Firstly, a catastrophe scheme has been introduced to limit individual health insurers’ exposures to very high healthcare costs relating to treatment for COVID-19, with the aim of minimising health insurance premium increases. This mechanism was triggered when the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic on the basis of Article 33 of the Health Insurance Act (Zvw). This means that an insurer can receive an extra contribution from the health insurance fund for catastrophic costs in 2020 and 2021 resulting from the pandemic, (with catastrophic costs defined in regulation[3] as costs between 4% and 20% higher than expected healthcare costs). This includes healthcare costs associated with direct care to COVID-19 patients and additional costs caused by COVID-19.
- A macroeconomic retrospective adjustment has been re-introduced for 2021 to allow for the uncertainty associated with the level of regular care due to the potential for a rebound in utilisation post-lockdown, the postponement of regular care and the extra costs for COVID care, as in the event of future waves of the pandemic. This is effectively an adjustment aimed at pooling risks between insurers. As the impact of these uncertainties is very difficult to estimate in advance, the Minister proposed a retrospective adjustment based on 85% of the actual realised costs of all health insurers in 2021 for variable healthcare costs, mental healthcare costs and deductibles. The Minister stated that this adjustment will apply regardless of whether actual costs are higher or lower than those assumed in calculating the risk adjustors for 2021. For example, if there are lower regular healthcare claims in 2021 than expected (e.g., more waves of the virus and additional restrictions) health insurers must repay 85% of the excess amount received, preventing health insurers from benefiting from a drop in demand.

[2] https://www.rijksoverheid.nl/documenten/kamerstukken/2020/09/21/kamerbrief-over-definitief-risicovereveningsmodel-2021
[3] https://zoek.officielebekendmakingen.nl/stcrt-2015-41997.html

- Finally, the Minister has made a specific adjustment (the "bandwidth regulation") in respect of mental healthcare claims. This is to reduce the uncertainty associated with upcoming changes to mental healthcare funding in 2022, which are expected to result in a discontinuance of some mental healthcare products currently on offer in the Dutch health insurance market. These changes were announced before the pandemic, but the "bandwidth regulation" is being enacted to ease the transition to the new changes, in light of the additional uncertainty associated with the pandemic.

In addition, some adjustments were made to the factors underlying the calculations of the 2021 risk adjustments allowing for the reduced healthcare utilisation in 2020. For example, 2019 data was used instead of 2020 data when determining the contribution per insurer for somatic care for the 2021 risk adjustments. However, in the premium estimate for 2021, it has been assumed that the use of reserves is in line with previous years, on the basis that insurers have a social responsibility to assume some of the costs associated with the pandemic.[4] The Ministry has also noted that it will conduct research into the effects of the pandemic on the risk equalisation model, but no further detail on this has been provided.

Dutch health insurers have also mutually agreed to take part in a "solidarity scheme" in respect of additional costs arising in 2020 due to the pandemic, under which these costs will be pooled across all insurers. While the measures introduced by the Ministry apply at a national level, insurers recognised that there are many regional variations due to differences in the incidence rates of the virus. Without the solidarity scheme, a small number of insurers would be disproportionately impacted by additional COVID-19 related costs. The Minister welcomed this co-operation at an insurer level in his letter. It is expected that the scheme will also operate in 2021 alongside the proposals outlined by the Ministry. The details are currently being discussed by the insurers.

## Ireland

In Ireland risk equalisation is used as part of a community-rated, voluntary private health insurance market. Each insurer is charged a stamp duty in respect of each insured life and the stamp duties are paid into a central fund. Risk equalisation transfers are made from the fund (via the tax system) in respect of insured lives based on age, sex and product type ('age-related credits') and utilisation of some healthcare services ('hospital-utilisation credits'). The private health insurance market sits alongside a public health system, which provides almost universal coverage in a network of public hospitals. Individuals with private health insurance can supplement their coverage under the public system with access to a wider range of private hospitals. The vast majority of direct costs arising from the COVID-19 pandemic were borne by the public health system. In addition, during the first wave of the COVID-19 pandemic, the Irish Government entered an agreement with the private hospitals to effectively nationalise those hospitals to provide additional capacity in the public system in the event of a very large surge in COVID-19 related hospitalisations[5]. This resulted in a significant reduction in the number of elective procedures over 2020 compared to previous years, in addition to a general reduction in non-COVID healthcare utilisation due to restrictions on movement and patients' reluctance to seek care. Overall, there was a reduction in healthcare claims in 2020 compared to previous years as evidenced by the Health Insurance Authority's (HIA) report to the Minister for Health in October 2020[6] (the "HIA report").

The Irish Risk Equalisation scheme is calibrated prospectively (with parameters determined based on past data for membership, health insurance claims and utilisation) with the aim of the having a net-zero position in the risk equalisation fund, allowing for any previous surplus or deficit. The risk equalisation scheme runs from 1 April to 31 March each year. The risk equalisation scheme for 1 April 2020 to 31 March 2021 was calibrated in October 2019 based on data from 1 July 2018 to 30 June 2019. The risk equalisation scheme in Ireland does not currently have any mechanism to make a retrospective adjustment based on actual claims experience. This means that over 2020, insurers received age-related credits as normal for their members depending on age, sex and product type which were calibrated based on pre-COVID claims experience from 2019. Hospital utilisation credits are based on actual utilisation rates over the risk equalisation period so this credit will naturally reflect the reduced utilisation as a result of the pandemic, although we note that the hospital utilisation credits are a less material component of the scheme than the age credits. The figures provided in the HIA report show that claims costs were €970m for the first half of 2020 compared to €1,113m for the first half of 2019, a reduction of over 12% primarily due to lower claim payments for treatments in private hospitals and consultants visits (as shown in the

[4] https://www.rijksoverheid.nl/documenten/kamerstukken/2020/09/21/kamerbrief-over-definitief-risicovereveningsmodel-2021
[5] http://privatehospitals.ie/media-statement-private-hospitals-association/
[6] https://www.gov.ie/en/publication/e2e7f-report-to-the-minister-for-health-on-an-evaluation-and-analysis-of-returns-for-1-july-2019-to-30-june-2020-including-advice-on-risk-equalisation-credits-redacted/

HIA report). The result is that the parameters for the scheme from 1 April 2020 to 31 March 2021 were set prospectively based on a pre-COVID world, assuming higher levels of claims than were actually experienced.

In addition, the pandemic raises challenges for the year commencing 1 April 2021. Under normal circumstances, the risk equalisation scheme for 1 April 2021 to 31 March 2022 would have been calibrated based on data provided from the health insurers from 1 July 2019 to 30 June 2020, projected to reflect the estimated position during the risk equalisation period. Because the data from 1 Jan 2020 to 30 June 2020 was distorted due to COVID-19, the HIA decided to exclude this from the analysis for 2021. Instead, similar to the approach taken in the Netherlands, data from 1 January 2019 to 31 December 2019 has been used to project expected claim costs and utilisation for the 2021 risk equalisation scheme.

As a result of the pandemic, the HIA are projecting that there will be an increase in the surplus in the risk equalisation fund reflecting reduced utilisation over 2020. This surplus has been taken into account when setting stamp duties and credits for the 2021 risk equalisation scheme, with the aim of having a balance of zero in the fund as set out in the HIA report. There are no other levers within the Irish risk equalisation scheme currently to allow for any retrospective adjustments as a result of the pandemic, given the prospective nature of the scheme.

## Switzerland

In Switzerland, compulsory health insurance is offered by not-for-profit insurance companies (called "Krankenkassen", "caisses maladie" or "casse malati"). The risk equalisation scheme underpinning the Swiss compulsory health insurance market takes account of age, sex, utilisation (stays in hospital or a nursing home during the previous year), Pharmaceutical-based Cost Groups (PCGs) and geographic region (or "canton"). Each member is assigned to a risk group based on this information, and a single net levy (paid in by an insurer) or compensation (paid out to an insurer) is calculated for each risk group, with additional compensation for PCGs.

The scheme is prospective with the risk equalisation parameters for a specific year being based on the claim costs in the previous year. Therefore, the risk compensation for 2020 will be based on the pre-COVID claim costs from 2019 in addition to hospital stays and PCGs indicators from 2019. The scheme is set up such that the net fund is zero (i.e., the sum of payments into the scheme equals the sum of payments out of the scheme). While the parameters underlying the scheme are prospective in nature, the actual calculations of the risk equalisation transfers occur after the year in question. The Gemeinsame Einrichtung KVG, which is responsible for the calculation of the taxes and credits, notified insurers that the calculation of the 2020 scheme will be available in June 2021[7]. The Gemeinsame Einrichtung KVG has not issued any guidance or advice on how the 2020 risk compensation will allow for the COVID-19 pandemic but has stated that the costs of the COVID-19 tests will be borne by the federal government and will not be taken into account in the data used to calculate the risk equalisation payments.

Outside of the risk equalisation scheme, one of the main impacts to date of COVID-19 in the Swiss health insurance market is that premium increases have been lower in 2020 than previous years, which may be due to reduced claims payments over 2020 following a ban on non-urgent treatment during the first wave of the pandemic[8]. Health insurers also have reserves set aside for extraordinary events (insurers are not allowed profit from the sale of compulsory health insurance and instead surpluses must be used to accumulate reserves). However, recently the Bundesamt für Gesundheit (the Federal Office for Public Health in Switzerland) approved a reserve release to cover any additional costs associated with treating COVID-19 patients to reduce the risk of additional premium increases.

## Australia

In Australia, the Australian risk equalisation scheme includes an Age-Based Pool (ABP) that shares higher-than-average claims costs of older individuals and a High-Cost Claimants Pool (HCCP) for the claimants with the highest costs. The Age-Based Pool is the main component of the risk equalisation scheme while the HCCP is a secondary component, accounting for a much lower percentage of claims.

The risk transfers are calculated retrospectively based on actual claim costs for both the ABP and the HCCP. The transfers for the risk equalisation period ending 30 June 2020 have recently been published[9]. No adjustments were made to the calculations in respect of COVID-19 as reductions in claim costs would have been reflected automatically in the calculations due to the retrospective nature. The total amount of funds transferred was c.

[7] https://www.kvg.org/api/rm/2748Q6J39ZXU5S2
[8] https://www.bernerzeitung.ch/trotz-corona-faellt-der-praemienschub-aus-662385028433
[9] https://www.apra.gov.au/private-health-insurance-risk-equalisation-statistics

6.5% less than the previous year; however, the risk equalisation fund has been subject to variations of this size (and higher) over the past 10 years.

## The US

In the US, risk adjustment is used in the commercial individual and small employer group markets. Risk adjustment is also used in government-funded programs with insurance company intermediaries, like Medicare Advantage (MA) and Medicaid managed care to pay private insurers on a risk-adjusted basis. The risk adjustment mechanism is different for the commercial market and MA so we have looked at each separately.

**Commercial individual and small employer group market**

In the commercial individual and small employer group markets in the US, funds are transferred among plans on a retrospective basis using a concurrent risk adjustment model. Risk scores are calculated for the benefit year using claims data through to April of the year following the benefit year, and transfers are announced in June and paid in September. Given the retrospective nature of the scheme, payments in respect of 2020 will naturally reflect any reductions in utilisation over the year due to the impact of the pandemic, and the risk adjustment should capture this. Not every insurer will be equally affected by the impact of COVID-19 and the natural correction to risk transfers arising from the retrospective nature of the scheme may benefit some more than others. However, from a regulatory perspective there may be little incentive to amend the scheme to address this, as the overall scheme is a zero-sum game with no financial impact at an overall level.

**Medicare**

For Medicare Advantage and Part D (which covers pharmaceutical costs), the risk adjustment models are calculated prospectively. This means that risk scores are based on medical claims, more specifically diagnoses from face-to-face visits, from the year prior to the year in which the risk score drives revenue. In addition, unlike the commercial individual and small employer group market described above, the MA model is not a zero-sum game, meaning that any impact of the pandemic on risk scores can have material financial consequences for the scheme as a whole.

For 2021 MA payments, the risk scores will be based on 2020 diagnoses. To the extent that members delayed or avoided care over 2020, there would have been fewer face-to-face encounters with providers to record diagnoses to apply towards 2021 risk scores. This would result in a drop in revenue transfers to the MA organisations from government. This may be exacerbated if the actual healthcare costs in 2021 are higher than normal due to potential catch-up care or a rebound in utilisation. Milliman carried out some analysis in 2020[10] to estimate the impact of this based on a range of scenarios that estimate a drop in risk scores of between 1% and 9%, with a c. 3% reduction being most plausible.

The Centers for Medicare and Medicaid Services (CMS) announced additional flexibilities to mitigate the impact of reduced numbers of face to face medical appointments by including video-based telehealth-based diagnoses in risk score calculations[11]. However, a significant reduction in overall services is still likely to result in a material reduction in both MA and PD risk scores in 2021, with the impact being reduced revenue to MA organisations. Communication from CMS to date has been consistent in that they are not planning to make any further changes to address this issue; however, some industry groups are lobbying for the inclusion of telehealth-based diagnoses to include telephone appointments in addition to video-based appointments.

While the reduced provider visits in 2020 may have implications for 2021 risk-scoring and compensation of MA organisations in 2021, the 2020 compensation levels for MA organisations was based on 2019 risk scores and as a result, the risk scores used for the 2020 risk adjustments may not have been fully reflective of the actual healthcare costs incurred in 2020 for some members (due to reduced utilisation). However, there were some additional costs to insurers in 2020 due to increased costs associated with COVID-19, additional benefits added to plans and extra payments made to providers to help with liquidity issues[12]. As a result of these factors, and the variation in COVID-19 experience by region, it may be difficult to understand the potential variance in risk scores and actual claims costs over 2020.

[10] https://www.milliman.com/en/insight/how-far-will-medicare-advantage-2021-revenue-and-risk-scores-drop
[11] https://www.cms.gov/files/document/applicability-diagnoses-telehealth-services-risk-adjustment-4102020.pdf
[12] https://www.startribune.com/unitedhealth-accelerates-2-billion-in-health-care-support/569475282/

# Summary

In summary, there have been no changes introduced to the 2020 risk equalisation schemes considered in this report to reflect the impacts of COVID-19 on healthcare utilisation. The potential impact of reduced utilisation in 2020 on risk transfers is linked to the methodology underlying the risk equalisation scheme and in particular whether the scheme is prospective or retrospective in nature.

For retrospective or concurrent schemes, such as the Australian scheme, the reduced utilisation over 2020 should not result in a material disconnect between risk equalisation transfers and actual claims costs as the transfers will naturally reflect the claims experience over 2020.

For some prospective schemes, the potential for variation is higher as the risk equalisation transfers are set based on historical claims data. The approach will differ depending on the exact calibration of the scheme, when the calculations take place and also the sophistication of the risk equalisation model. Prospective schemes, where the risk equalisation credits or risk adjustors are calculated prior to the risk equalisation period have the potential for the widest variation in actual claims experience and risk equalisation transfers. However, in theory, this should be reduced if there is a high correlation between risk equalisation transfers and risk status.

Prospective schemes where the risk equalisation credits are calculated after the risk equalisation period still have the potential for some variation. However, this can be reduced if the calibration allows for actual experience over 2020.

Some prospective schemes such as in Ireland and the Netherlands, have made adjustments to the calculations underlying the 2021 risk equalisation schemes to effectively exclude 2020 claims experience from the analysis and instead base the 2021 risk equalisation transfers on adjusted 2019 claims data. The Netherlands has also made a number of other adjustments to its risk equalisation scheme for 2021 as a result of the pandemic but we are not aware of any changes introduced to any of the other schemes. It remains to be seen exactly how the 2021 claims experience will compare to 2020 and there is still a lot of uncertainty in this area due further waves of the pandemic across Europe and globally in early 2021 and associated lock-downs, uncertainty around vaccine roll-out, and uncertainty associated with the potential for catch-up or rebounds in claims due to deferred care.

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