

# Covid-19 – Will health insurers be the unlikely winners?

By Adrian Baskir for

*Covid-19 Actuaries Response Group – Learn. Share. Educate. Influence.*

## Summary

Covid-19 presents a significant disruption to the healthcare supply chain with unprecedented consequences to the health insurance sector. Health insurance typically affords its customers access to quicker and in some cases, perceived better quality of care. But public healthcare has become the only option for Covid-19 treatment in some of these countries. In the UK, independent hospitals are currently re-provisioned to the NHS, so access for non-urgent non-Covid-19 treatment is temporarily reduced. In other countries, lockdown measures, rather than re-provisioning, would reduce access to non-Covid-19 treatment.

Health insurers are expected to see significant fall in claims during the Covid-19 disruption period followed by a prolonged claims “rebound” after that. On balance, net gains are expected over time and many are exploring mechanisms to ensure that customers are not disadvantaged in the process.

## Background

Much of the media and public attention is focused on the progression of Covid-19 in terms of cumulative and daily number of cases, deaths and recoveries. However, for health actuaries, our key interest is in infection rates and the number of cases, the percentage requiring critical care in ICU, the treatment pathway and the severity of that pathway. This bulletin focuses on the metrics particularly interesting to health actuaries (especially those working for private insurers), the likely overall insurance claims experience and what should actuaries do in the public interest.

## What is Covered?

Health insurers need to consider the financial implications of Covid-19 on claims experience. In the first instance this requires a review of policy conditions to establish whether epidemics and pandemics are covered within their policy conditions and, if so, the nature of such coverage. In the UK and many other countries, the NHS or equivalent national public health system have exclusively taken over Covid-19 diagnostic and treatment related care and this has consequences for private healthcare. If one can access treatment for Covid-19 privately, the policy conditions are relevant (e.g. is there a pandemic exclusion clause). If not, it therefore becomes a question of continuing to deliver customer value through access to other services. We have seen health insurers in the UK and elsewhere respond in various ways including:

- Rapid acceleration in provision of telemedicine apps (phone or video) eg GP and physiotherapy support.
- Daily cash payments if hospitalised in public facilities.
- On-line mental health and wellbeing support (with everyone in lockdown one can expect a surge in various mental health conditions).
- Consideration of waivers in respect of excesses or co-payments.
- Arrange medicine home deliveries.

In the UK, the private medical insurance (PMI) value proposition has typically included quicker access to private treatment than would often be the case within the NHS. It is unlikely that PMI customers

would be treated any differently in the context of Covid-19 tests for antibodies and antigens, access to face masks (if recommended) and vaccines. Once testing and vaccines become available, will it also be only provided by the NHS or will these be available commercially too? If so, how will insurers facilitate their customers getting these?

The familiar sight of shoppers queueing (2 metres apart) outside supermarkets or in virtual queues to get online shopping slots suggests that anything related to Covid-19 will be subject to different criteria with governments determining the priority for access rather than private insurers funding and delivering testing, vaccination etc. to their customers.

### **Health Modelling and Returning to Normality**

Health actuaries will need to model the morbidity trajectory amongst their policyholders. Whilst a plethora of data continues to emerge about cases, deaths and (increasingly) profiles of patients admitted to receiving ICU, there is virtually no data available yet on Covid-19 within insured (as opposed) to general populations. What is of interest here is to understand the Covid-19 related claims (if covered in full or cash per day basis). ICU admission data is getting published on age, gender, ethnicity (in future), co-morbidities and length of stays which is helpful. However, we have yet to understand the profile of Covid-19 cases in terms of multiple factors of interest such as smoker status, blue collar/white collar workforces and within family units (we expect higher transmission rates).

The other key modelling challenge for actuaries is to understand the likely implications of any government policy on both private and public healthcare systems. Understanding the modelling that informs government policy (e.g. the Report No. 9 from the Imperial College Covid-19 Response Team<sup>1</sup> in the UK) is important in order to form a view on the scale and length of time that “normal” healthcare delivery systems will be disrupted. As this Report highlighted, different strategies pursued (Mitigation, Suppression, Rolling Suppression, Other) will have differing degrees of disruption in the healthcare supply chain. Many other models exist (as highlighted in our other Bulletins), showing varying results in terms of incidence rates, managing to supply-side capacity, “flattening the curve” etc. However, there is very little published on the scale and duration of the “return to normality” (RTN) phase or phases following such disruption. The challenge is to suppress surge demand such that it does not exceed supply (ICU beds, ventilators) and any RTN phases will face a corresponding supply challenge.

“Exit Strategies” (who, how and when do we get out of lockdown) require careful consideration in terms of facilitating an orderly RTN. Apart from pent-up demand for elective and less serious acute treatment, the period of RTN will need to be met by exhausted medical personnel in both public and private healthcare sectors. It is worth noting that, in the UK, prior to Covid-19, the NHS was already under strain with long waiting times and well documented funding shortages. This is an area where actuarial modelling skills could be applied usefully as whilst epidemiological modelling is well developed, getting countries (and the world) out of such an extensive lockdown is unprecedented. Countries seem to be trying different strategies in this regard.

### **Impact on the Healthcare Supply Chain – Claims Experience**

It has been evident from recent pandemics that these events can create significant disruption in the healthcare provision value chain<sup>2</sup>.

---

<sup>1</sup> Neil M Ferguson, Daniel Laydon, Gemma Nedjati-Gilani et al. Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand. Imperial College London (16-03-2020), doi: <https://doi.org/10.25561/77482>.

<sup>2</sup> This was not necessarily evident in the case for HIV/AIDS

Access to private healthcare: In the UK, the UK Government announced on 25 March 2020 that it had struck a deal with the independent hospital sector to re-provision all hospital resources to the NHS in order to extend its capacity for (at least) 3 months although, presumably, this could go on for longer if needed. This means that non-urgent insurance customers effectively need to delay their access to private hospitals. In any event, all countries typically experience severe disruption in access due to:

- Capacity being utilised to treat pandemic victims (privately or through re-provisioning).
- Medical personnel are themselves unwell.
- Behavioural changes – avoiding places providing medical care whilst a virus outbreak prevails.

Pandemic and Post-pandemic costs: During pandemics, insurers typically see a severe reduction in non-pandemic related claims costs. However, the insurer *may* be liable for claims arising from the pandemic itself. As indicated previously, the costs of treating Covid-19 are largely being borne by the public healthcare system although this may not always occur in every country and there is the potential for the public healthcare authorities to subrogate these claims to the private sector. In certain countries (outside UK) privately insured customers are currently able to access Covid-19 private treatment.

Furthermore, depending on the severity and duration of the pandemic, many of the non-pandemic related claims arise subsequently as the (public and) private healthcare systems RTN although the “claims rebound” effect is typically not as large as the claims avoided during the disruption. An illustrative example here is a hip replacement operation – this would simply be deferred to a later date<sup>3</sup> rather than avoided through recovery. However other diagnostics and treatments may be avoided.

Insurance actuaries will be able to look at past events such as SARS and MERS to see such a rebound and should examine their past claims experience around such events. Whilst this will be useful data points, it must be noted that these events were of much smaller magnitude as highlighted in the Table<sup>4</sup> below and so caution is advised in simple extrapolation:

<b>Epidemic</b>	<b>Number of Countries Reporting Cases</b>	<b>Estimated Deaths</b>	<b>Estimated Contracted Cases</b>	<b>Case Fatality Rate</b>
SARS (2002-2003)	29	774	8,098	9.6%
MERS (2012-2014)	27	858	2,494	34.4%
Covid-19 (2019-date)	210	164,943	2,399,954	3-4%

There is no recent precedent for a prolonged disruption and one as extensive as is likely for Covid-19. The longer the period of disruption, the longer it will take for the rebound as private healthcare systems also operate with capacity constraints. It is also believed that longer disruptions will lead to a non-linear reduction in the value of the claims rebound.

Other drivers of claims experience post-pandemic: There are other factors which make the estimation of the claims post-pandemic difficult. These are:

- Lapses – where customers lapse post-pandemic (eg because they can no longer afford cover in the subsequent economic conditions; the employer sponsor has failed; or they are

<sup>3</sup> This deferral is subject to survival of the patient.

<sup>4</sup> Source: Society of Actuaries Research Brief Covid-19 by Hale et al for SARS & MERS; worldometers.info for Covid-19.

disappointed that they were temporarily unable to utilise their policy) this leads to lower insurance claims and a consequent increased burden on public healthcare.

- Mortality – higher mortality rates will result in more health-related claims avoided. Covid-19 is proving more fatal for the elderly and those with pre-existing medical conditions. These typically experience more expensive treatment pathways which are then curtailed.
- Health deterioration – untreated conditions may deteriorate due to an inability to provide treatment during the pandemic and where early intervention would have been cost effective.
- Burden of Illness – where people are working from home and in virtual lockdown, their exposure to risk of other sources of illness / accident is potentially less during the disruption. However, offsetting such changes will be other unintended negative health consequences (mental health, lack of exercise etc).

### **Quantifying the Financial Impact of Covid-19 on the Insurer**

In most cases, given the disruption, we would expect health insurers to see a net positive impact on their claims line. At a high level this can be considered using the following Financial Impact Formula:

$[A]$  (Pandemic-related Treatment Costs) –  $[B]$  (Claims Avoided during the Pandemic) +  $[C]$  (Claims Arising Post Pandemic)

All insurers will incur (at least) C above and benefit from B and the net effect would be  $[-B+C]$  only. It can be assumed that  $[-B+C]$  will, in all cases be negative (the insurer gains). However, it is uncertain whether the same holds true for  $[A-B+C]$  in situations where the insurer is liable for some or all Covid-19 related costs. In the UK context, it is expected that  $[A-B+C]$  will be negative.

Consideration of the financial impact should also look at the “top line”. Covid-19 is causing significant disruption to all workplaces and most businesses and many companies are taking unprecedented steps to mitigate this through furloughing staff, taking advantage of government relief packages or temporarily downsizing. As a result, employer-sponsored private health insurance can be expected to come under scrutiny through cost-cutting exercises. Many industries will be hard hit by Covid-19 (hospitality & entertainment, airlines, tourism, oil & gas etc).

Individual customers too, may reconsider their need to continue with private insurance due to affordability issues or if the private system too, is having to deal with backlogs during a prolonged RTN phase although this may be offset by even longer backlogs within public sectors.

Covid-19 has led insurers to explore ways to ensure that customers don't experience long-term disadvantage. The designers of these should consider not only claims gains (whether  $[-B+C]$  or  $[A-B+C]$ ) but also the overall impact on the insurer as customers lapse. Responses vary - mechanisms being seen include payment holidays, suppressing annual premium increases, coverage pauses, retrospective dividends, benefit enhancements (for non-Covid-19 benefits). These mechanisms require deep consideration by actuaries and decision-makers to ensure that they treat all customers fairly whilst satisfying regulators and shareholders.

For those actuaries involved in setting reserves for health insurers, with so many uncertainties, this will involve some very different challenges too.

19 April 2020