



RE-OPENING THE WORLD

LIFE AFTER COVID-19

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Life After COVID-19

Introduction

The COVID-19 pandemic has paralysed the world. But, by the autumn of 2021, it is highly likely that safe, low-cost and effective vaccines for the virus will have been produced in bulk and widely administered. Only then, can the world start to fully re-open, confident that the risk of subsequent waves of the pandemic can be avoided.

But, even when vaccines have been delivered in quantity and daily life starts to resume, it is almost certain that it will not be business as usual. A new way of living will emerge, and the world will be very different to that we have known pre-COVID.

This pandemic is a turning point in history, a profound inflection point as epoch-changing as a world war, and although social life and economic activity will eventually thrive and flourish once more, life will take on new patterns and forms as society reassesses

its desires and changes its priorities following the trauma of the global pandemic.

It is too soon to be able to see the detail of the new social and economic landscapes – these will take a decade or more to come into sharp focus – but it is possible to discern some early patterns of change which are likely to shape our new world.

This short “overview” report on how the post-COVID world may look has been commissioned by Allianz Partners and it will focus on the social and business sectors that are of importance to the group’s main business lines.

Life after COVID-19...

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In the Home

For millions, home life has been transformed by the pandemic. Most office workers have been forced to work from home and many others who provide services in the community have been inspired to find new online methods to reach their customers. In Western Europe it is estimated that almost one third of the entire workforce has been working from home.

During the government-ordered lockdown, many office staff made extensive and effective use of email, file sharing and, of particular relevance, video conferencing technology. The recently improved collaborative technology now seen in software such as Zoom, Skype, FaceTime, Slack, Teams and WebEx has made remote collaboration and project management possible like never before.

Another important development which has enabled home working has been the development of secure “work clouds” which protect sensitive data and ensure end-to-end encryption for all communications. And today team leaders also have tools on each employees’ computer which, if required, can be used to monitor productivity.

Suddenly, many CEOs have realized that they may no longer need to pay for huge skyscrapers to house their office staff. The bank UBS has announced it is likely to cut office floorspace substantially in the future. “The notion of putting 7,000 people in a building may be a thing of the past,” said Barclays Group CEO, Jes Staley.

German Labour Minister Hubertus Heil is now considering making the option of working from home a legal right for some workers. Other governments around the world may follow suit.



For many staff members, both senior and junior, the home office will now become a part-time or full-time place of work, but it’s likely that most employees will attend the office once a week or so to meet their teams and to maintain staff morale.

A considerable number of non-office workers also lost access to their normal place of work and many have found creative ways to work from home to provide their services by online delivery. These include psychotherapists, broadcasters, dancing teachers, piano and guitar teachers, barristers, gardening and landscaping advisors, make-up consultants, speech writers, creative writing tutors, travel agents, real estate agents, educational tutors, portrait painters and job recruitment consultants.



As well as becoming a workplace, the home has also been changed in other ways. The closure of gyms prompted many fitness enthusiasts to install gym equipment in their homes. The closure of schools meant that many children had to be taught by parents or remote teachers with the aid of laptops, tablets and on-line lessons. And, in the longer term, college and university students may pursue courses which are delivered partly online. This will mean that many young adults will remain home for longer, becoming “boomerang” offspring who spend some semesters at university and some studying from home.

Homes also became medical consulting rooms as family doctors provided guidance, diagnoses and counselling via phone and video link. At-risk individuals at home also used diagnostic equipment including thermometers, blood-oxygen meters and smartphone apps to check their health.

In the long-term, some families may now choose to create space in the home for the care of an elderly family member. The pandemic revealed the poor health-safety record in the care homes of many nations and, as a result, those families with the money and space to do so may equip part of their home to become a care facility.

This space will be equipped with health monitoring and video connections to allow vulnerable family members to be looked after remotely by health professionals while in the comfort of their own home.

If a successful vaccine does not emerge quickly and global eradication of the COVID-19 virus proves to be a very long process, many homes are also likely to become anti-viral fortresses. Electronic sensors that will be able to detect SARS particles in the air are now in the early stages of development and, if subsequent outbreaks of SARS viruses emerge, these are likely to be put into mass production and made available commercially. (COVID-19 belongs to a family of viruses known as “SARS” which cause Severe Acute Respiratory Syndrome.)

Homes will be fitted with SARS detectors by the front doorbell. Sterilizing stations in which clothes can be disinfected with UV light or chlorine disinfectant will be used to disinfect suspect items of outdoor clothing.

If viral outbreaks persist it is likely that every room within homes will be fitted with electronic, web-connected SARS detectors. The home will become a sterile sanctuary and similar connected sensors will also be fitted to car interiors.





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These profound changes in home usage may also affect where people choose to live. If an office commute is necessary only once a week, the option of living further out of a city becomes possible and this might allow families to afford accommodation for extra family members (as well as dedicated office space).

Home insurance and tech infrastructure – data security, WiFi networks, broadband, secure courier drop points, etc. – would all need to be upgraded to ensure office, educational, medical and entertainment equipment was adequately covered and secured.

Home workers should also be able to gain tax relief to recognize their investments in home office equipment as well as their increased energy consumption.

From an environmental perspective, if this crisis were to result in even 20 per cent of office staff working from home for four days a week, the impact would be enormous. Rush hour crowding on the roads and on public transport would be significantly reduced – as would air pollution and carbon emissions. Additionally, those freed from the daily commute would benefit from saved travel costs and would enjoy a better work/life balance and a considerably enhanced lifestyle.

Personal Mobility

Even if some office workers are given the freedom to continue to work from home, many people with office and non-office jobs will still have to travel across cities in the rush hours.

Crowded buses, trams and underground trains have been shown to be powerful spreaders of the COVID-19 virus as it is very difficult to organize and enforce full social distancing on public transport. The best suggestion in the short term for those forced to use public transport is to wear a facemask and gloves at all times and to wash hands frequently.

Soon passengers will be able to wear a “smart” face mask that produces a fluorescent signal when a person who has COVID-19 coughs or sneezes in their vicinity. These masks are now under development at MIT and Harvard University in the USA. It is also likely that, in time, internet-connected electronic sensors which can detect SARS-family viruses in the air in crowded spaces will be fitted to buses, trams and underground trains. Such sensors are now in development at Zurich University Hospital.

In cities, traditional and newer forms of micro-mobility (bikes, e-scooters, e-skateboards, etc.) will also play their part in getting people from A to B in ways that avoid using public transport. Micro-mobility also eases traffic congestion and reduces air pollution.

London mayor, Sadiq Khan, recently unveiled one of the most ambitious walking and cycling schemes of any city in the world, closing off large parts of central London to cars and vans to allow people to walk and use micro-mobility forms of transport safely as the lockdown is eased. And London is not alone. In the past few weeks, thousands of miles of new bike lanes have been built in cities from Milan to Mexico City while huge swathes of residential streets in places as far apart as New York and Bogotá are being closed to traffic to promote and facilitate micro-mobility.

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Bicycles, electric bicycles, e-skateboards and e-scooters (shared and owned) will all provide local mobility with minimal environmental cost. The authorities will have to provide charging points and regulate usage to ensure riders have insurance, observe speed limits, wear helmets and dock shared mobility items responsibly. Micro-mobility providers should also distribute sufficient hygiene rules and safety tips for riders.

As there is no difficulty in maintaining social distancing within private vehicles, road travel will begin to recover as lockdown restrictions are eased. When vaccines are widely available road traffic is likely to return to almost its pre-COVID level, but the cleaner air that the world has enjoyed during the shut-down is likely to boost voter demands to ban fossil-fuel vehicles from cities and to accelerate the switch to cleaner fuels.

Another factor likely to affect future road usage is that employees who find themselves freed from the daily commute will also find that their average annual mileage will be significantly reduced. This is likely to accelerate the trend towards short-term car rental rather than full car ownership and is likely to add to the number of those using car sharing schemes.

The school run will resume as schools re-open. Unlike adult remote working, the pandemic will not usher in a new wave of home schooling and distance-learning for younger children. Physical school attendance will remain the norm for children up until their middle teenage years because they also require the socialisation and discipline of mixing with teachers and peer groups and society also needs the child-care services that schools provide.



As a result, the “school run” will still continue, leading to traffic congestion at peak periods.

The demand for rail travel will also recover quickly; although if social distancing is enforced, there will be greatly reduced passenger volumes which may lead to much higher fares. Social distancing is a concept generally incompatible with mass transit forms of transportation.

In some nations such as the UK the travel ban during lockdown led to railway services being temporarily nationalized or re-nationalized. But, however the services are delivered, passenger demand will return rapidly, even if far fewer seats are available. As many train services were overcrowded before the pandemic spread, it is not yet clear how governments and rail operators will resolve this issue.

Travel

Air Travel & Cruises

Few sectors have been disrupted as much as air travel. For most people, all long-distance travel stopped abruptly when the pandemic struck. The question is: when and in what form will air travel return? One US poll suggests that one-third of Americans surveyed indicated they would start to fly again within three months of travel restrictions being lifted.

Although some passengers may feel nervous about boarding a crowded aircraft, for many flying is a necessity not a choice. Several decades of low-cost air travel and globalization have led to families being widely dispersed, workers commuting by air and the use of holiday homes, boats, etc. that are in distant locations and overseas territories.

Airlines and airports will face similar problems to rail operators in meeting social distancing requirements. In addition, this sector will be re-opening at a time of deep recession, and passenger numbers are unlikely to return to "normal" for some time. As the boss of Rolls Royce Aerospace predicts, the public will not be "flying at scale for three to five years".

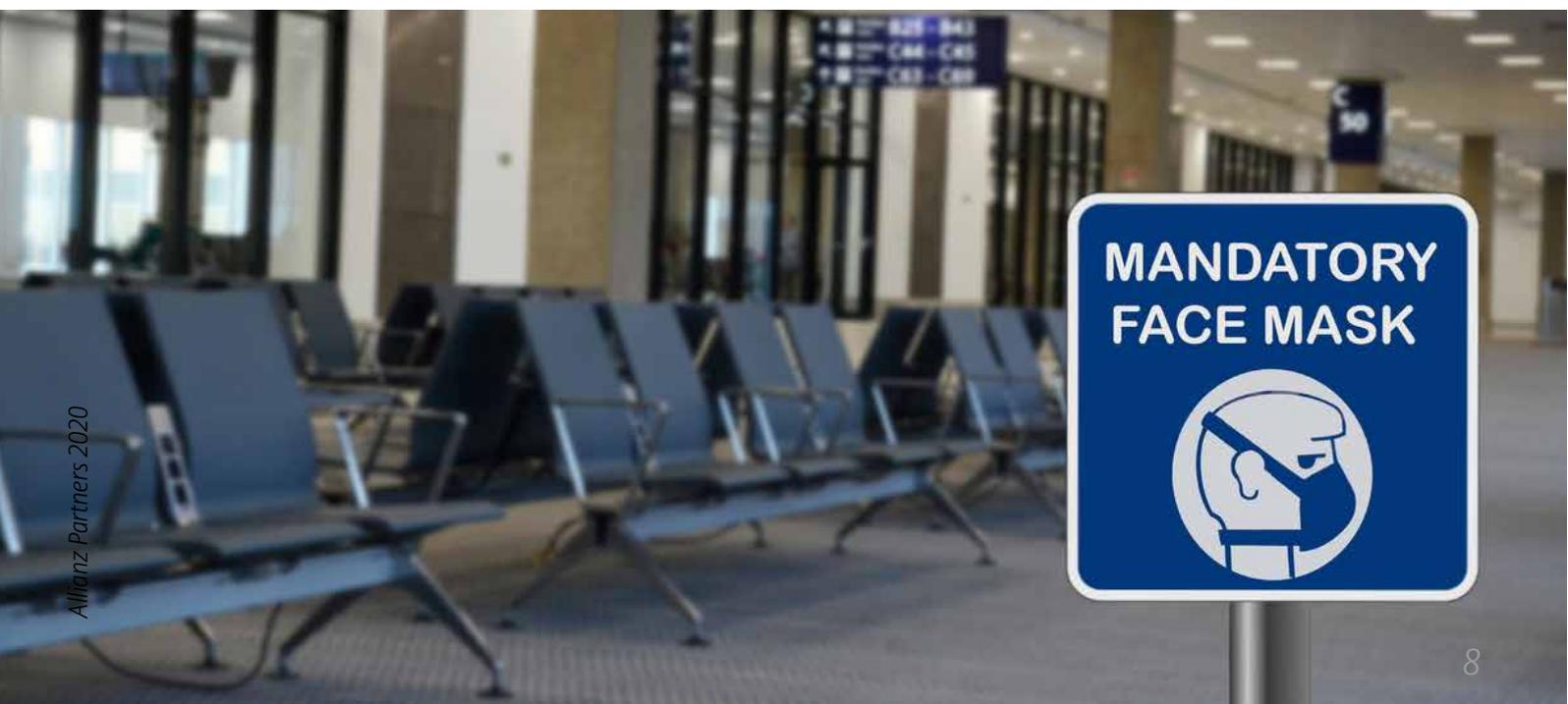
Short-haul and domestic air travel will begin to recover first as commuter, business and leisure travel resumes, but there are likely to be fewer airlines operating and fewer airports served.

The European Union Aviation Safety Agency (EASA) has just published 28 pages of guidelines for airports and airlines that are likely to be adopted as standard for all EU air travel.

Air travellers will have to wear face masks throughout all stages of their journey and passengers will need to say goodbye to loved ones outside the airport. With few exceptions, nobody who is not travelling or working in the terminal will be allowed inside.

Physical distancing is defined by EASA as 1.5m. As in many shops and offices, there will be floor markings to show people where to stand in queues.

However, physical distancing is unlikely to be feasible in many airports and the EASA guidelines state that if the 1.5m rule is not possible, the airport should implement additional measures such as hand hygiene.



Airport staff will also need to wear face masks and hand them out to passengers who have not brought their own. EASA also recommends airlines cut down on cabin bags to speed up boarding and reduce contamination risk.

In some cases, jet bridges to planes will be used as a final “disinfectant tunnel” and they may even be fitted with electronic sensors (in development by Airbus) that can “smell” the COVID-19 virus. Passengers who set off such alarms would be required to undergo further health checks. (If the outbreak persists and no effective vaccine is found it likely that plane interiors will eventually be fitted with electronic sensors to detect SARS viruses.)

The EU guidelines require that all aircraft should be thoroughly disinfected between flights, which will wreck the fast-turnaround business model on which low-cost airlines have built their operations. In addition, EASA has asked airlines to install better air filters on their planes to clean the air in the cabin.

Airlines have toyed with the idea of blocking off the middle seat to keep passengers further apart but whether this is mandatory will depend on the destination. Currently Europe and the US do not require it, but Malaysia and Indonesia do.

Using the toilet on board will be more difficult, with airlines advised to reserve one for cabin crew and to prevent passengers queuing in the aisles where possible. EASA has recommended “reduced” food and drink services and no duty-free sales onboard.



Long-haul air travel will experience an even more difficult re-start. There will be fewer long-haul carriers when restrictions are eased and, as with short-haul flights, long-haul airlines may at first have to observe social distancing procedures for boarding and on arrival.

Another consideration is that, in the aftermath of the pandemic, passengers may be hesitant to board long-haul flights in which they will be cooped up in close proximity with many others for long periods. The psychological element of this may mean reduced passenger numbers due to fear.



Leisure travellers may also shun long-haul travel because of the fear of being stranded abroad in case a new viral threat emerges. For the first time, air passengers have experienced the significant security and health-risks of foreign travel and it may take many years without further pandemic outbreaks before high-volume long-haul air tourism returns.

Despite these difficulties, many people are still going to have the desire to travel. Although there has been a massive surge in online communication use, most people will still want to travel physically, rather than replace the experience with virtual reality (VR) simulations. Despite recent advances in the capabilities of VR systems, they are not an acceptable alternative to actual visits.

It's impossible to sample local cuisine remotely with VR, virtual travellers can't meet the locals and wander off the beaten track. VR is a useful tool for researching destinations, but it is no substitute for the real thing.

Business air travel is also likely to be depressed following the pandemic. Many executives have been delighted by the efficiency and cost-saving of managing global projects via videoconferencing without leaving their desks (or, more likely, their home offices).

As in other sectors, the uptake of virtual technologies for business meetings has been greatly accelerated by the restrictions imposed because of the pandemic. It's impossible to know by what percentage business air travel will be reduced as a result but informal polling of senior executives suggests that perhaps a third of business trips will no longer be deemed necessary.

Large meetings such as international conferences, expos and trade shows – formerly powerful drivers of air travel – were rapidly cancelled or postponed following the outbreak of COVID-19. When effective vaccines have been widely administered around the globe, large-scale academic, professional and trade meetings will resume and will eventually be well attended again.

Large international sporting events will also resume and these are another major driver of air travel. The same is true of large entertainment events such as festivals and concerts. But in the short term such events make take place in stadia and concert halls that are almost empty.

Perhaps the most worrying long-term damage done by the pandemic to the travel sector will be to the cruise industry. This is because all cruise travel is discretionary – it's an option people choose in which the journey itself is the destination. In contrast, many air and rail journeys are considered to be absolutely necessary.

Early pandemic footage of cruise ships incubating the virus have not helped the industry's image. But will additional hygiene regimes instituted by cruise lines be enough to allay worries? There will be rigorous passenger screening protocols and enhanced sanitation measures. The traditional all-you-can-eat buffet is likely to disappear, and ships will be disinfected from bow to stern each night. In the long-term electronic virus detectors may also be installed.

It is certain that some cruise fans will return, but in the midst of a deep recession and the psychological aftershocks of the pandemic will their numbers be sufficient to allow the industry to resume normal operations? Another factor that will influence bookings is that cruise ships, in general, attract older tourists and it is this age group that has proved most vulnerable to the COVID-19 virus. The immediate outlook for the ocean-going cruise industry is not promising.





Tourism and Hospitality

When global travel resumes it is likely that tourists' tastes and preferences will have changed. In the short term there will probably be an increase in car-based domestic tourism at the expense of international travel.

Nervous travellers will choose to explore their home nations knowing they can return home easily if another viral outbreak occurs. Governments including those of France, Italy, Spain, Norway and the UK are reinforcing this trend by calling on their citizens to take vacations in their home nations.

The options on offer at tourist destinations – both domestic and international – will also have changed because the local services on which tourism and business travel depends have been very badly affected by the viral outbreak.

Hotels have been shuttered during the lockdown and AirBnB and similar short-stay lettings services suffered an immediate 90 per cent cancellation rate at the outbreak of the pandemic. Visitor attractions, museums, historic sites, monuments, restaurants, cafes, bars and clubs all around the world were forced to close and their staff were laid off.

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As the world begins to re-open, how many of these businesses and tourist services will be able to resume trading? Hotels may have been able to partially re-open during the social distancing period but as tourism returns will business travellers and holidaymakers prefer to stay in private apartments in which they can ensure hygiene standards while controlling who enters the property? Short-let holiday accommodation may well benefit at the expense of hotels.

At tourist destinations, many hospitality services popular with tourists – restaurants, cafes, pubs, bars, clubs, etc. – may not have reopened following the lockdown. And for those that do, social distancing requirements will inevitably alter the atmosphere. In the past, the crowds themselves were part of the experience.

All-inclusive hotel packages are likely to be redesigned to remove buffet-style food and drink delivery and to ensure guests receive service at their individual, socially-distanced tables. Local excursions are likely to be provided exclusively for individual parties and will inevitably be more expensive.

As they return to business, restaurants are likely to reopen with shorter hours, far fewer tables and a greatly streamlined menu. Customers will pick-up their own single-use menus and sterile-wrapped condiment containers. Orders will be placed via smartphone apps, and food and drinks will be delivered under plastic covers to another nearby table where the customers can help themselves to avoid direct contact with waiting staff. Waiters are likely to wear facemasks and gloves – which is hardly conducive to a relaxed dining experience – and staff will have to disinfect door handles and bathrooms after each customer use.

In addition, until the vaccines have been proved effective globally, restaurants and even cafes may be required to check customers' temperatures at the door – as newly re-opened restaurants in Hong Kong are now doing. Restauranters may also have to keep attendance logs (with the name and address of all customers) so that if there is an unexpected outbreak of COVID-19 contacts can be traced quickly.

Exploring local shops has always been an important part of the cultural experience for tourists, but the retail industry was shut down entirely by the pandemic. Those shops specifically designed to sell tourist goods, e.g. souvenirs, local art, etc., are likely to reopen but mainstream retail shops selling clothing, household goods and other "discretionary" items may not reopen or may reopen in changed form.

Travel and tourism will certainly re-start but, for the next few years, it may be a hesitant resumption. Leisure travellers will be worried about a possible return of COVID-19 or a new type of viral outbreak and they will certainly seek the peace of mind offered by comprehensive travel insurance.





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Healthcare

In many developed nations the pandemic crisis has prompted wide and deep consideration about the various methods by which public healthcare and social care are delivered. The crisis has revealed severe failings in many nations’ health services and care delivery systems and public attitudes to the funding of public health have abruptly changed – probably forever.

The public has now made it clear to many governments that they care just as much about high quality, widely accessible health and social care as they do about low taxation and constantly improving standards of living. As the World Health Organization recently pointed out: “Health is a driver of the economy – what we see now is that without health, there is no economy. Without health, there is no national security.”

Healthcare workers have become national heroes, and in many nations voters are likely to demand properly funded, accessible-to-all, health delivery systems to protect against COVID-19 resurgences and future viral pandemics (which, sadly, are all too possible).

Speaking about possible second wave outbreaks of COVID-19, Dr Andrea Ammon, director of the European Centre for Disease Prevention and Control (ECDC) recently told the media “The question is when and how big”.

One unexpected benefit of this crisis may be that national health services have been “hardened” and better resourced ready to deal with public health problems of the future. In particular, many nations are planning to invest more in epidemiology research, vaccine research and general disease preparedness.

It is already clear that medical supply chains will be shortened and made more robust and local so that health services do not again have to compete to buy crucial supplies on the international market. Many nations now intend to reduce their reliance on foreign-made medical supplies. In 2018, China alone supplied about 42 per cent of the world's exports of medical personal protective equipment (masks, gloves, etc.). Almost three-quarters of Italy's imported blood thinners came from China as did 60 per cent of the ingredients for antibiotics that were imported by Japan.

Many governments will also seek to bring home the manufacture of active ingredients for pharmaceuticals, a change which will allow crucial drugs to be produced locally and at short notice. At the same time new vaccine manufacturing facilities are likely to be built closer to where they are needed. The availability of key medical supplies is now seen as a matter of national security.

Almost overnight, the crisis has radically changed the way medicine itself is practised. The social distancing that was necessary to slow the spread of the pandemic forced many senior citizens to use internet and digital technology for the first time – to connect with their families, to order food, to do their banking and to consult with their doctors. The crisis also forced unwitting luddites and technophobes to take a crash course in digital communication technologies. Accordingly, a decade's worth of progress in technological uptake was compressed into just a few weeks.



Even when the world is fully reopened, it is likely that family doctors and hospital consultants will continue to provide many routine consultations online (“tele-health”) – a change that will almost certainly be encouraged by governments.

This switch to remote medicine will also prompt a rapid adoption of wearable digital health monitoring to allow doctors to assess patients' physical wellness remotely. As more young people strap on fitness monitors for enjoyment and to motivate their training sessions, so vulnerable and elderly patients will start to wear body monitors to measure heart rate, blood pressure, blood oxygen level, body temperature, etc.



This will allow patients to be assessed while self-isolating and, in the longer term, will provide a blueprint for health-monitoring of the elderly and vulnerable in their own homes.

Mental-health professionals have also been making considerable use of remote counselling. The arrival of the pandemic and the subsequent lockdown produced a sharp spike in patients reporting mental health issues such as grief, increased anxiety, depression and worry. One large-scale consumer survey even suggested that people in lockdown were more worried about their mental wellbeing than their general health. Just under two-thirds of 16- to 69-year-olds surveyed were most affected by boredom, stress and anxiety, and the inability to make plans.

The lockdown also prevented many people visiting hospitals to see their loved ones in their final days. It then prevented relatives and friends attending funerals and the associated family gatherings which help to start the grieving process. For many, the inability to attend religious ceremonies during the lockdown greatly exacerbated this problem.

These traumatic experiences are likely to produce PTSD-like symptoms in some people which will require help from mental help professionals.

In addition, the fear of future viral outbreaks and the general uncertainty and financial worry which will linger after the pandemic passes is likely to cause a deterioration in the mental health of the general population. Writing in the medical journal *The Lancet*, an expert panel of mental-health professionals warned: "Mental health consequences are likely to be present for longer and peak later than the actual pandemic."

Thankfully, remote counselling has proved unexpectedly effective with almost 80 per cent of mental health patients happy to talk to their nurse, therapist, psychologist or psychiatrist online. It is very likely that mental health professionals will continue to use video consultations in their mix of treatment methods in the future.

The switch to virtual consulting means that many elements of healthcare will become distributed into the community and, in part, away from doctors' offices and hospitals. Remote monitoring and virtual consulting will ease many of today's burdens on health services whilst improving the delivery of services. One positive long-term legacy of the pandemic will be increasingly digital and online healthcare delivery systems.



Conclusion

Globally, governments have so far announced \$10.6 trillion dollars' worth of economic stimulus to support national economies. At today's dollar value that's a sum eight times larger than the Marshall Plan stimulus which was used to re-build Europe following WWII. Before the crisis is over the rich world may have taken on as much as \$66 trillion of public debt. That will be 122 per cent of world GDP.

But governments are right to take on this huge debt now – it is the only way to avoid total economic collapse. In this ultra-low interest rate era the world is awash with savings looking for a home and there is little risk of lending shortages.

Amongst all the economic gloom there is some cause for cautious optimism. All pandemics, COVID-19 included, follow a standard life cycle that consists of set phases. Starting with the initial outbreak, pandemics can be tracked through their acceleration phase, inflection point, deceleration phase and ultimate quiescence.

Data scientists at Singapore's University of Technology and Design have utilised artificial intelligence to create data-driven predictions of the trajectories of COVID-19 in different countries, ultimately predicting when the current outbreak of COVID-19 will burn itself out.



At the end of April 2020, the Singapore model predicted an end to the pandemic on the worldwide scale by around December 4th, 2020. The date differs for specific countries, with Singapore predicted to be 100 per cent free of virus cases around June 28th, Italy to be entirely free by August 12th, the UK to be completely free around August 27th and the USA to be 100 per cent free around September 20th. The data scientists caution that these dates are projections and that interventions by governments could alter the points at which this iteration of the virus finally becomes dormant. It's also important to point out that the data scientists' prediction of specific "virus free" dates refers to no new cases appearing. Viruses themselves don't disappear, they simply run out of susceptible hosts to infect.

But if this model proves even reasonably accurate, social life and economic activity will cautiously resume later this year as the pandemic subsides into quiescence. But fresh outbreaks remain likely.

The new societies that will emerge from the pandemic of 2020 will be wiser and far better prepared to deal with any new risk to public health.

For this reason, the world will not be able to relax social-distancing measures fully until effective vaccines have been found which can protect people against the reappearance of COVID-19 and related SARS viruses.

The new societies that will emerge from the pandemic of 2020 will be wiser and far better prepared to deal with any new risk to public health. It is also to be hoped that the new opportunities to live and work in more environmentally-sustainable ways that have been revealed during the crisis will become widely adopted.

These positive changes include working from home which, for many, will lead to a reevaluation of where to live and whether to own a car and what type of car to use. Fewer commuters mean that fossil-fuel consumption will be reduced, and air quality will improve.

The way major cities the world over are reorganising road layouts to encourage the use of micro-mobility for city travel also offers huge potential gains in reducing greenhouse gas emissions and improving urban air quality.



Online shopping for food and other necessities is also likely to remain at close to the record levels seen during the lockdown. During that period online shopping doubled and this method of ordering, whether for delivery or for collection, will reshape food distribution in many nations. The Chairman of Marks and Spencer has described the progress made in online shopping during the lockdown as compressing “three years into one”. As with home working, increased online shopping will mean that fossil-fuel consumption will be reduced, and air quality will improve.

Online healthcare delivery proved particularly useful during the lockdown and many doctors and patients are likely to stay with this form of interaction for routine consultations. Once again as fewer patients travel to see their doctors, fossil-fuel consumption will be reduced, and air quality will improve.

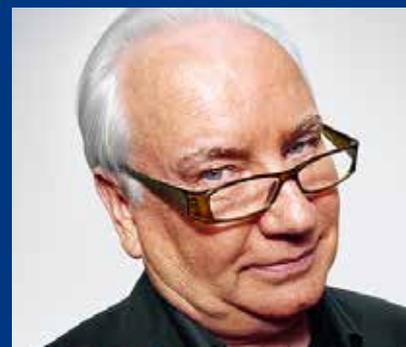
Another post-pandemic change that will benefit the environment will be the reduction in business air travel. Although leisure air travel is likely to return to pre-COVID levels after a few years, the improvements in video conferencing and online project management are highly-likely to reduce the demand for business air travel with its related greenhouse gas emissions.

Every crisis presents opportunities. Society has discovered that it doesn't need so many giant office buildings and humans don't all need to commute to work at the same time or on the same days. It has also shown us the importance of properly funded and well prepared health services and the vital importance of robust, short medical supply chains and local manufacturing capabilities. These are valuable lessons.



About the Author

Ray Hammond has been researching, writing and speaking about future trends and developments for almost 40 years. He is the author of 14 books on the future and he has written, consulted and lectured for the world's great corporations, for governments and for many universities in Europe, the USA and in Asia. He is a regular broadcaster on both national and international radio and TV channels.



Author's Note

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