

Coronavirus (COVID-19)

Primer

March 2020

CONFIDENTIALITY

Our clients' industries are extremely competitive, and the maintenance of confidentiality with respect to our clients' plans and data is critical. Oliver Wyman rigorously applies internal confidentiality practices to protect the confidentiality of all client information.

Similarly, our industry is very competitive. We view our approaches and insights as proprietary and therefore look to our clients to protect our interests in our proposals, presentations, methodologies and analytical techniques. Under no circumstances should this material be shared with any third party without the prior written consent of Oliver Wyman.

© Oliver Wyman

SUMMARY

Context and Purpose

- COVID-19 has infected more than 90K people globally and is taking its toll on individuals, families, and economies as productivity drops and stock markets reflect increased global uncertainty
- This document provides some baseline facts for business leaders and guidance as to critical questions to address in the immediate and near-term to ensure the continuity of their business and the safety, health, and wellbeing of their workforce and customers

What is it?

- COVID-19 is the name for the illness caused by the novel coronavirus that originated in Wuhan, China in December 2019
- It is from the same family of viruses that cause the common cold as well as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS)
- It is considered similar to other respiratory infections such as influenzas; symptoms range from fever, cough, shortness of breath to more severe cases of pneumonia and organ failure

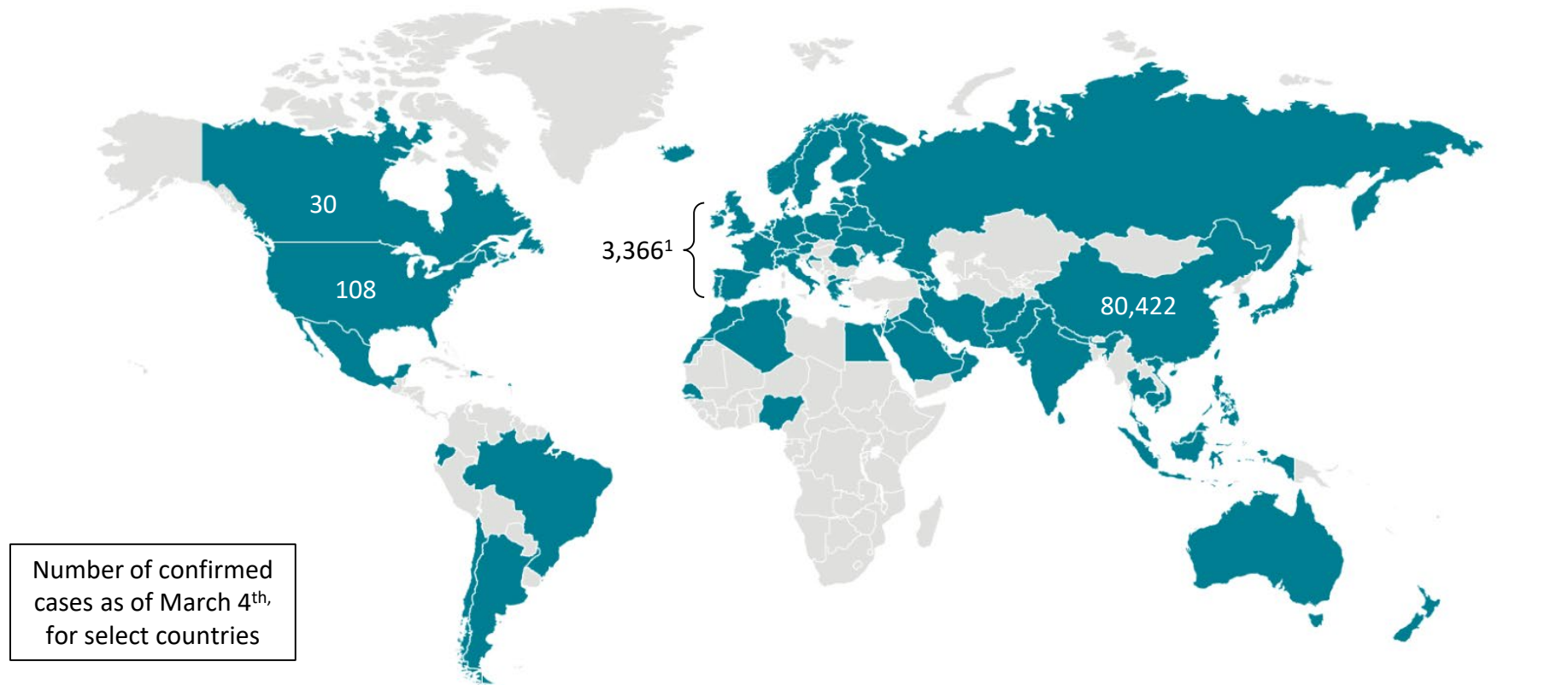
Are we overreacting? Is this just like the flu?

- There's no need to panic, but there are a few characteristics that are important to understand:
 - Early data suggests that COVID-19 may be twice as contagious as the flu and is likely significantly more deadly
 - Approximately 19% of confirmed cases are considered "severe" or "critical"¹
 - The incubation period for COVID-19 appears to be much longer than that of the flu, at 2-14+ days versus 1-4 days²; making COVID-19 more complicated to contain
- We don't yet know if COVID-19 is seasonal like the flu; half of coronaviruses appear to be seasonable, and half do not
- As more data is collected, we may come to understand that COVID's spread and severity are more like the seasonal flu; and there is reason to believe that vaccine and treatment pathways will lead to more effective responses for severe cases

Source: 1. China CDC 2. CDC

COVID-19 WORLD-WIDE COVERAGE

The virus continues to spread



As of March 4th, 2020:

- First reported in Wuhan, China, on **December 31, 2019**
- Declared a public health emergency of international concern by the World Health Organization on **January 30, 2020**
- 93,090 cases reported in 77 countries and territories (could be much higher)
- 3,198 reported deaths

Source: Map from CDC ([link](#)), Numbers from WHO Situation Report -44 ([link](#))

1. Countries included: All Countries in "European Region" Sub-region in WHO Situation Report-44

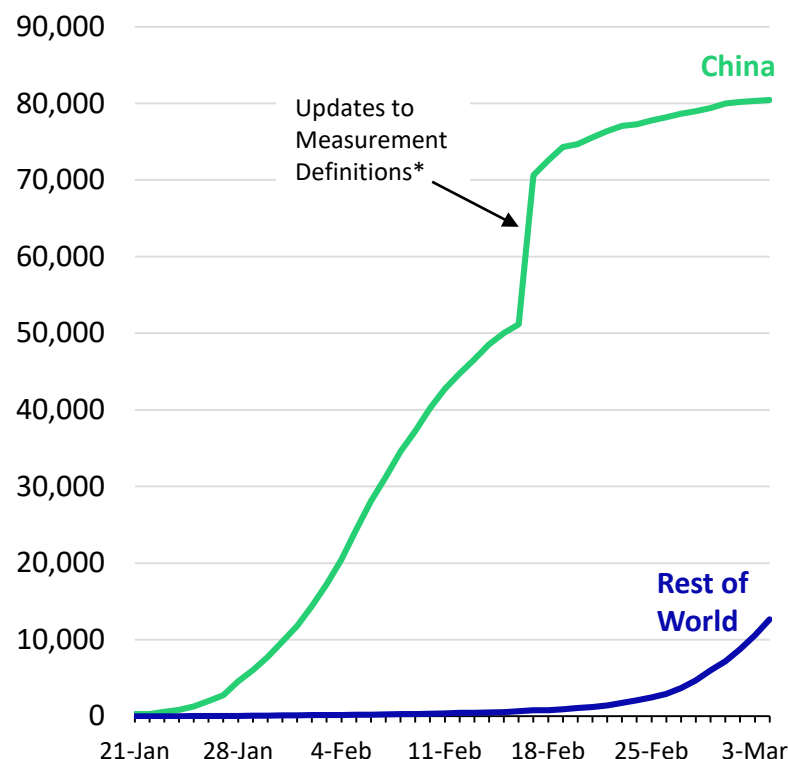
© Oliver Wyman

COVID-19 TRENDS AND SPREAD OF THE DISEASE

The number of new cases in China has slowed – likely due to significant containment measures – as the epidemic spreads to other countries

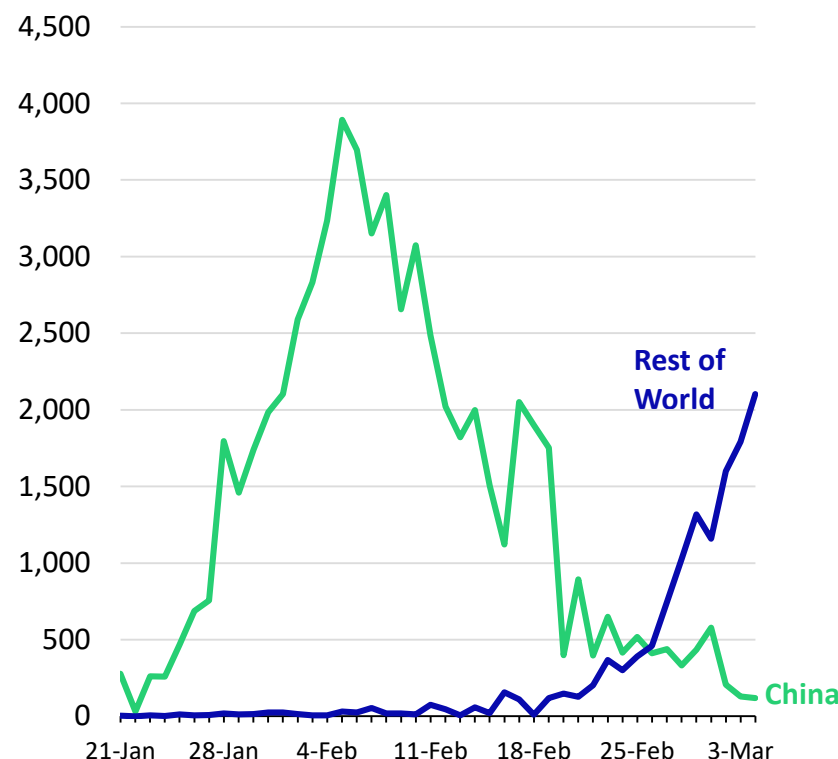
Confirmed Cases of COVID-19

Cumulative Number of Cases as of March 4



New Cases Per Day of COVID-19

New Cases Per Day as of March 4, 2020



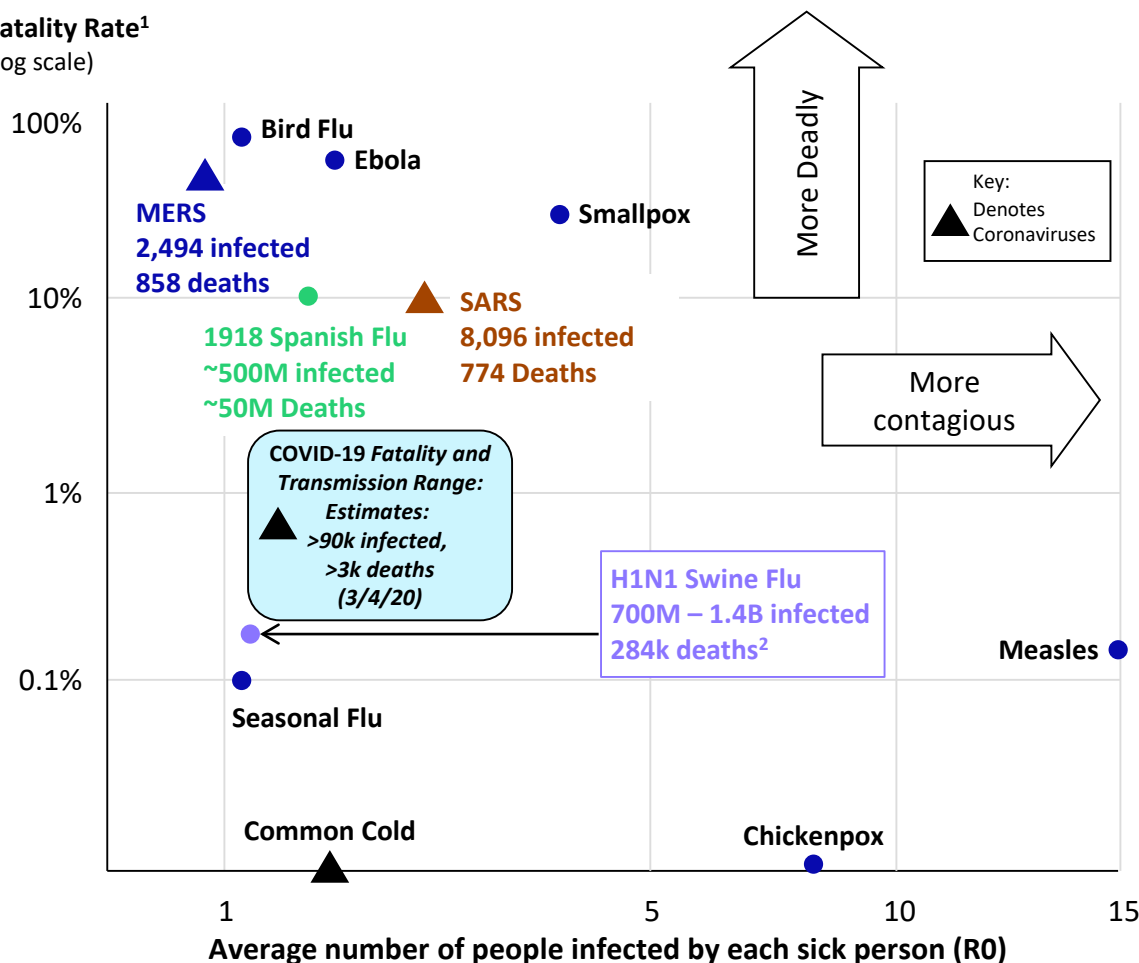
Source: WHO Situation Reports ([link](#)), the first report release date was Jan 21, 2020

Notes: Until February 17, the WHO situation reports included only laboratory confirmed cases causing a spike in total cases. Some sources include this update as of February 13. The jump due to inclusion of non lab confirmed cases is not included in the new cases data in WHO situation reports. From January 21 through January 31, the WHO did not directly report new cases and values shown are extrapolated from totals.

HOW DOES COVID-19 COMPARE TO OTHER EPIDEMICS?

COVID-19 is currently more deadly than the Flu, but the science on transmission and mortality continues to evolve

Fatality Rate¹
(log scale)



Additional Details

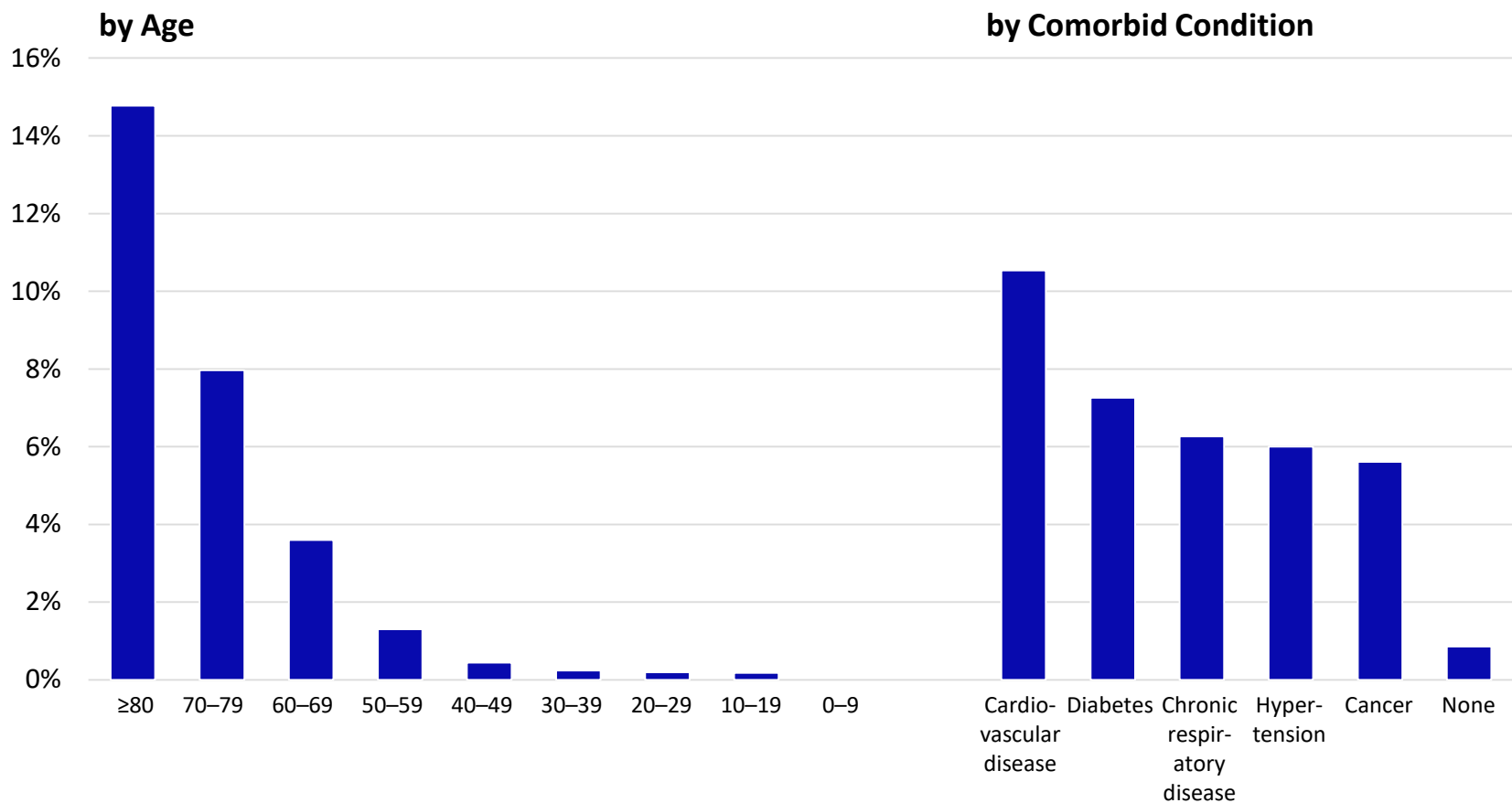
- R-naught (R0) represents the number of cases an infected person will cause. R0 for COVID-19 is currently estimated at between 2 and 3 (with edge of range estimates closer to 1.4 and 3.5), which means each person infects 2-3 others³; R0 for the seasonal flu is around 1.3⁴
- The case fatality rate for confirmed COVID-19 cases is currently 3.4%⁵ according to the WHO versus 0.1% for the seasonal flu
- We expect case fatality rate to fluctuate as testing expands and more cases are identified

CASE FATALITY RATE (CFR) BY PATIENT CHARACTERISTIC

Significantly higher death rates appear to occur among the elderly and those with underlying conditions

Case Fatality Rate by Specific Patient Characteristics

All confirmed cases in China as of February 11, 2020



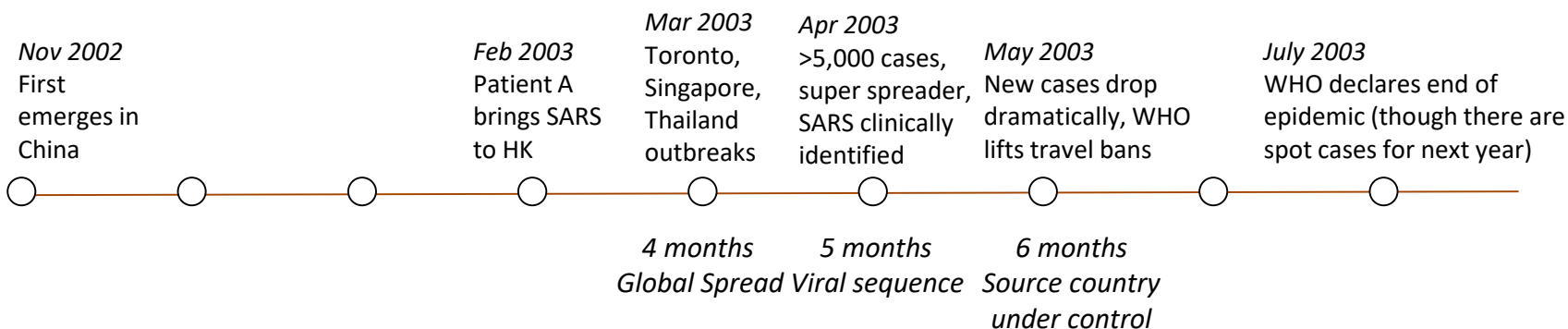
Source: China CDC Weekly. Vital Surveillances: The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19) — China, 2020.
Notes: Data includes 44,672 confirmed cases reported through February 11, 2020.

WHERE ARE WE IN THIS OUTBREAK?

SARS, while smaller and more contained than COVID-19, is one analog to understand how the epidemic could unfold

SARS¹

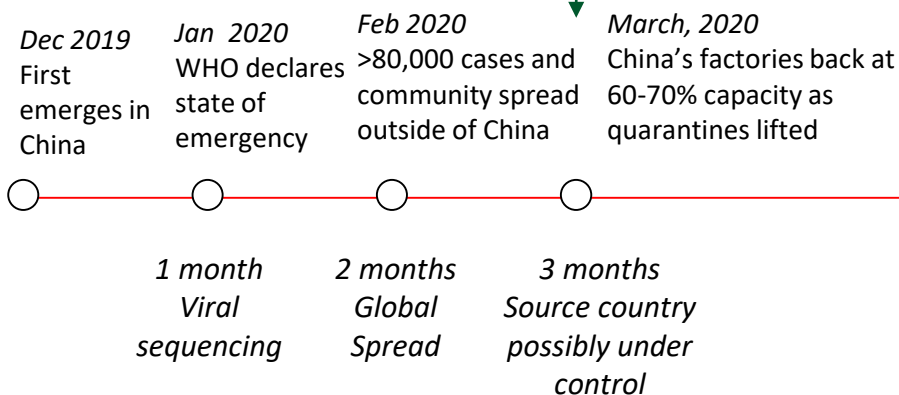
6 months critical
8,096 infected
774 Deaths



COVID-19 Public health response has been faster, but the threat is spreading to new geographies

COVID-19²

3 months & counting
>90,000 infected
>3,000 Deaths



We currently envision three potential scenarios:

- Scenario 1: Worst is over in 2-3 months
- Scenario 2: 6 months to regain control
- Scenario 3: 12+ months; ongoing epidemic

HOW LONG COULD THIS LAST? HOW MIGHT THIS PLAY OUT?

SCENARIO 1: WORST IS OVER IN 2-3 MONTHS

What you'd have to believe

- Public health officials enact aggressive containment and ring-fencing measures to contain localized outbreaks (e.g., Northern Italy, Seattle (USA), New Rochelle (USA)) akin to standards set by China or Singapore
- Population largely complies with public health directives, slows human-to-human transmission
- New case rates spike with initial outbreak in a region and increased testing, but level off within 6-8 weeks; catch a break with seasonality, by late May we see far fewer new cases

What we know so far

- Aggressive containment measures in China (100M under quarantine in February 2020, 59M remain so as of this writing) contained spread within 8 weeks of identification
- New case rates in China have declined; similar compliance would be necessary in rest of world to contain

Anticipated business impacts

- Businesses relax travel restrictions and corporate demand returns to normal
- Supply shock from Chinese manufacturing shutdown tempered by inventories stockpiled in advance of Lunar New Year
- Q1 Earnings dented, but swift recovery allows companies to return to normal in Q2

HOW LONG COULD THIS LAST? HOW MIGHT THIS PLAY OUT?

SCENARIO 2: 6 MONTHS TO REGAIN CONTROL

What you'd have to believe

- Virus proves not to be seasonal
- Uneven compliance with public health directives and containment measures fail to contain spread
- New case rates continue to increase into Q2, but virus becomes less transmissible the more it spreads, eventually “dies out”
- Public begins to calm down as mortality rates decline despite rising new cases (likely Q2)

What we know so far

- While 50% of coronavirus family have proved to be seasonal, no direct evidence yet indicates COVID-19 is seasonal; cases have appeared in Senegal, Saudi Arabia, Mexico, New Zealand, suggesting this may not be seasonal
- Quarantines are more difficult to enforce in many countries (e.g., in the US, a court order is required, and there are already multiple reports of individuals breaking quarantines)
- Impeccable infection control in hospitals is difficult to achieve (e.g., Codogno hospital)
- Many less developed countries lack public health infrastructure and surveillance capabilities to track cases and contain outbreaks at scale
- There is evidence of declining mortality rates in China (increase in total number of cases, discovery of two different strains, the more virulent of which is declining in frequency)

Anticipated business impacts

- Employers reluctant to relax travel and WFH mandates without directive from public health officials
- Vulnerable industries experience a fall-off in demand into Q2 and Q3 and take measures to stabilize balance sheets and ensure liquidity
- Supply chain shocks play out over a six month period, after which momentum starts to stabilize and recover
- Pace of growth slows in impacted countries

HOW LONG COULD THIS LAST? HOW MIGHT THIS PLAY OUT?

SCENARIO 3: 12+ MONTHS; ONGOING EPIDEMIC

What you'd have to believe

- # of new cases rises, drops off for summer but rises again in the fall, suggesting virus is seasonal and endemic
- Public health efforts are unable to contain epidemic; virus spreads widely, affecting ~20-60% of adult population in next 2 years
- Mortality rates do not decline, keeping public in heightened state of anxiety

What we know so far

- Insufficient data to support scenario as of yet
- Anti-viral drug Remdesivir in phase 3 clinical trials with COVID-19 patients
- Multiple vaccines under development but at least 1 year out

Anticipated business impacts

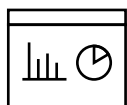
- Drops in demand (consumer confidence, access to supply, part-time/ gig economy workers with less discretionary income) cause growth to slow into Q4
- Companies in particularly vulnerable industries (travel, energy, hospitality) require additional liquidity, trigger a broader corporate debt crisis that central banks struggle to contain
- Government stimulus to bolster consumer sentiment, perhaps on the scale of TARP

WHAT SHOULD COMPANIES BE THINKING ABOUT RIGHT NOW?



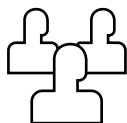
Confirm Business Resiliency

All companies should be revisiting business continuity plans to reassure employees and ensure readiness for **supply chain constraints, demand shocks, and impacts to business partners**, prioritizing critical business activities and creating contingency plans for disruption



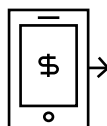
Model Financial scenarios

Companies should be **evaluating their financial outlook, modelling supply and demand** across a number of scenarios, identifying potential interventions and contingency plans for subsequent impacts and/or sustained challenges (e.g. *strategies for managing variable costs, cash flow, liquidity*)



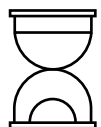
Reassure Customers

Consumer concerns need to be understood, mapped, and incorporated into the business continuity plan such that consumer needs are addressed and trust is maintained



Move to Digitization Rapidly

Some industries are likely to see a **massive acceleration in the use of digital channels**. Retail, Financial Services, and Healthcare companies have experienced 100-900% growth in key digital channels in China during the outbreak. Customers with positive digital experiences are unlikely to return to analog channels



Prepare for Long Haul

Pandemic business continuity plans will get companies through the next 2 – 4 weeks, but strategies may be required to get through 6 – 12 months (or more) of disruption if subsequent demand shocks exist. Companies should consider the nature and required timing associated with more structural changes to their operations



Convene Industry

Companies should consider which industry and government collaborations are necessary to address safety concerns, share best practices, stimulate demand, and rebuild consumer trust

KEY ELEMENTS OF PANDEMIC BUSINESS CONTINUITY PLANS

Every company should have a business resiliency team fully activated and focused on these key elements:

Protect your people first

- ✓ Ensure that your staff understand what to do (personal actions) to protect themselves, and to stop the spread.
- ✓ Ensure your staff know to stay away from work if unwell and seek medical help; promote use of telehealth.
- ✓ Stay up to date on the latest travel advice as it could change quickly.
- ✓ Be conscious that your staff may have caregiving responsibilities for ill family.
- ✓ Listen to and respond to staff concerns – anxiety can be more disruptive than the virus itself.
- ✓ Institute work from home policies if warranted.

Look after your business interests

- ✓ Know which business processes and activities are critical and require protection.
- ✓ Pay special attention to customers; determine how best to protect and assure them.
- ✓ Plan for how to continue operations if you experience significant staff absences.
- ✓ Prepare for reductions (especially consumer confidence) or increases in demand (i.e., cleaning services, e-commerce).
- ✓ Review your relevant insurance policies, coverage, and claims processes.

Secure your supply chain

- ✓ Clients need to develop an end-to-end supply chain x-ray.
- ✓ Identify your critical suppliers and their locations, especially if in heavily impacted areas or with less support resources available.
- ✓ Confirm the status and location of expected deliveries/shipments.
- ✓ Understand what your suppliers' plans are and work together to protect both of your interests, particularly if a smaller business.

Source: Marsh Risk Consulting

COVID-19 RESOURCES



WHO COVID-19 Situation Reports

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>



CDC Resources

<https://www.cdc.gov/coronaviruses/2019-ncov/index.html>



Oliver Wyman Perspectives

<https://www.oliverwyman.com/coronavirus>

QUALIFICATIONS, ASSUMPTIONS AND LIMITING CONDITIONS

This report is for the exclusive use of the Oliver Wyman client named herein. This report is not intended for general circulation or publication, nor is it to be reproduced, quoted or distributed for any purpose without the prior written permission of Oliver Wyman. There are no third party beneficiaries with respect to this report, and Oliver Wyman does not accept any liability to any third party.

Information furnished by others, upon which all or portions of this report are based, is believed to be reliable but has not been independently verified, unless otherwise expressly indicated. Public information and industry and statistical data are from sources we deem to be reliable; however, we make no representation as to the accuracy or completeness of such information. The findings contained in this report may contain predictions based on current data and historical trends. Any such predictions are subject to inherent risks and uncertainties. Oliver Wyman accepts no responsibility for actual results or future events.

The opinions expressed in this report are valid only for the purpose stated herein and as of the date of this report. No obligation is assumed to revise this report to reflect changes, events or conditions, which occur subsequent to the date hereof.

All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the client. This report does not represent investment advice nor does it provide an opinion regarding the fairness of any transaction to any and all parties.