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COVID-19: Reopening the Economy

Prepared for

CEO Coaching International

April 17, 2020

Select Slides

Reopening the Economy



**When And Where
It Will Begin**



**What It Will Look
Like**



**What Employers
Need To Do**



**What Are The
Risks**



**How Long Will It
Take To Get Back
to The “Old
Normal”**



PRIVATE HEALTH

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It is Far More Complex to Release Interventions Than to Implement Them

Key considerations include:

- **Numbers of newly diagnosed cases** for the relevant geography must decline to and stay at a very low level for local and state governments to approve reopening
- **The health care system** must have restored capacity to serve and have adequate supplies of protective equipment, ICUs and ventilators, and medications
- **Scarcity of testing** makes this more challenging
 - As testing become more available, there likely will be an increase in *reported* cases (surveillance bias). It will be important but challenging to distinguish the *true* level from the *reported* level.
 - **Testing will identify:**
 - Who has developed immunity, which will enable those persons to begin working and shopping safely
 - Who is infectious so that they can be quarantined and have contact tracing
- **Complex macro factors must be considered**, including depressed demand, inability to travel, supply chain disruptions, social unrest, unprecedented unemployment, fundamental consumer behavior shifts, etc.



What Employers Need to Do

Activate supply chain

Categorize and prioritize regions

Test to determine who can come back to work

Reduce risk of infection at work and at home

Retrain workforce

Ensure Liquidity

Obtain maximum governmental support

Communicate consistently with all stakeholders

Act true to your values

Assist employees and dependents who have COVID-19

Learn about testing



Based on Experiences of Other Viral Outbreaks and Other Countries With COVID-19, There Will Be:

- **Significant geographic variation** as to when nonessential businesses will be permitted to reopen
- **Interventions changing over time** if the number of infections in a region begins to increase
- Potential for
 - Summer burn off
 - Fall acceleration
 - Virus mutation(s) that could make it more or less dangerous



When and What to Expect in a Partial Restart

- Thoughtful and measured restoration of businesses will begin to become safe in California and certain parts of the country in the late May/Early June timeframe, with the rest of the country following within two to four months
- Rigorously implementing interventions aligned to different types of work sites would enable most businesses to continue to function without significantly increasing the risk of additional infections, morbidity and mortality
- Although some interventions have short-term awkwardness, expense and dislocation, if they are not used:
 - Businesses may need to close a second time and
 - There will be an unnecessary risk of a second wave



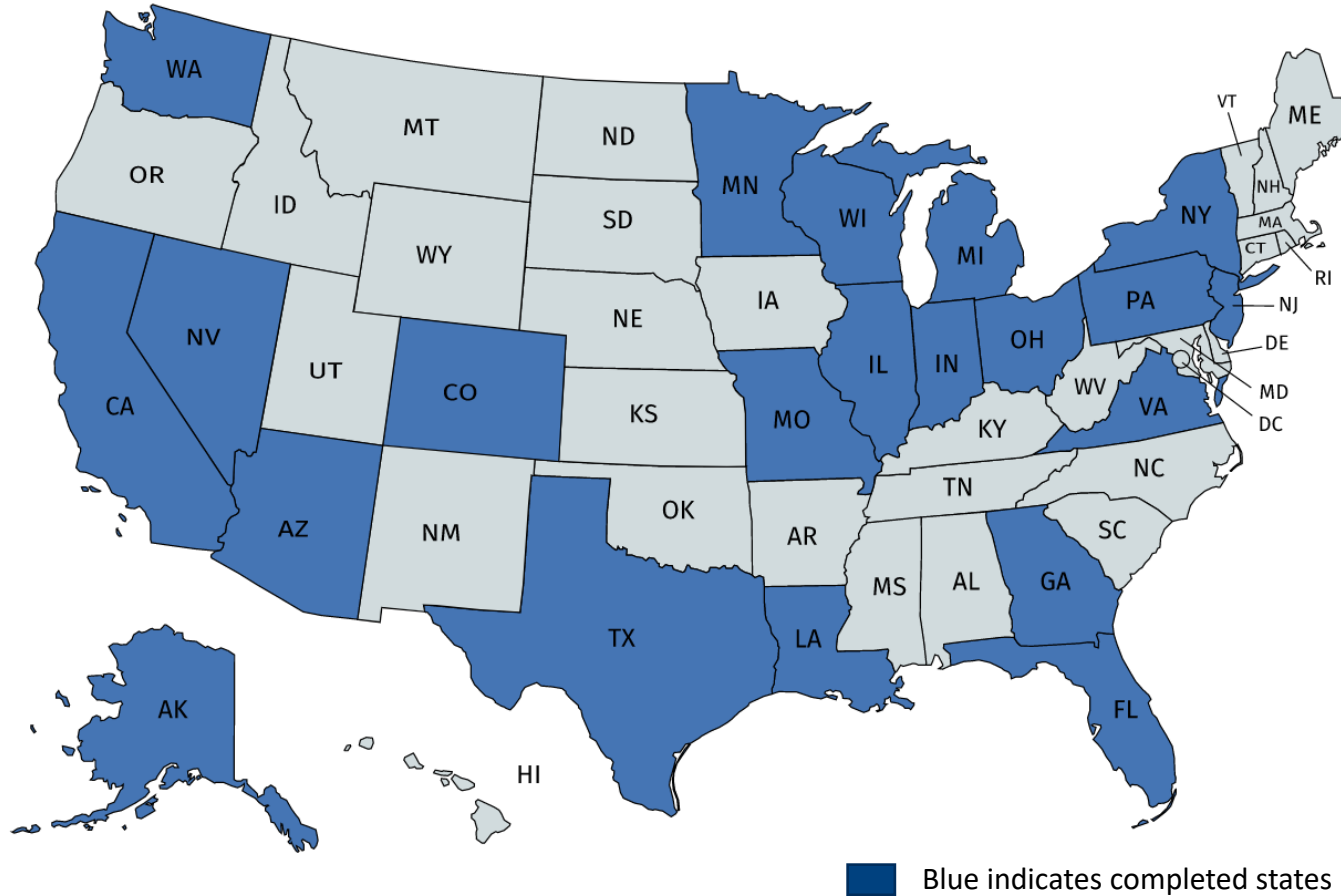
PHMC19 Intervention Model

- Uses machine learning and a sophisticated Susceptible-Exposed-Infection-Recovered (SEIR) disease dynamics model to predict infections, mortality, and morbidity in a workforce across locations and at different phases of the recovery roadmap
- Provides business, political and community leaders the information, analytic tools and confidence they need to select, prioritize, and time the interventions to implement and release
- Power and flexibility to create customized predictions based on:
 - Worker demographics (which predict the comorbidities that result in morbidity)
 - Worksite type
 - Location
 - Different intervention strategies
 - Different timing of interventions
- Updated on a regular basis to account for a rapidly-expanding collection of COVID-19 data reported by governments, emerging clinical studies, adjustments to policy interventions, advancements in testing and the development of therapeutic drugs and vaccinations
- Proven to generate highly accurate predictions



PHMC19 Intervention Model Completed States

Currently covers 73% of U.S. population as of April 15, 2020



#	State	Population	%
1	Alaska	734,002	0.22%
2	Arizona	7,378,494	2.21%
3	California	39,937,489	11.94%
4	Colorado	5,845,526	1.75%
5	Florida	21,992,985	6.58%
6	Georgia	10,736,059	3.21%
7	Illinois	12,659,682	3.79%
8	Indiana	6,745,354	2.02%
9	Louisiana	4,645,184	1.39%
10	Michigan	10,045,029	3.00%
11	Minnesota	5,700,671	1.70%
12	Missouri	6,169,270	1.85%
13	Nevada	3,139,658	0.94%
14	New Jersey	8,936,574	2.67%
15	New York	19,440,469	5.81%
16	Ohio	11,747,694	3.51%
17	Oregon	4,301,089	1.29%
18	Pennsylvania	12,820,878	3.83%
19	Texas	29,472,295	8.81%
20	Virginia	8,626,207	2.58%
21	Washington	7,797,095	2.33%
22	Wisconsin	5,851,754	1.75%
TOTAL		244,723,458	73.18%

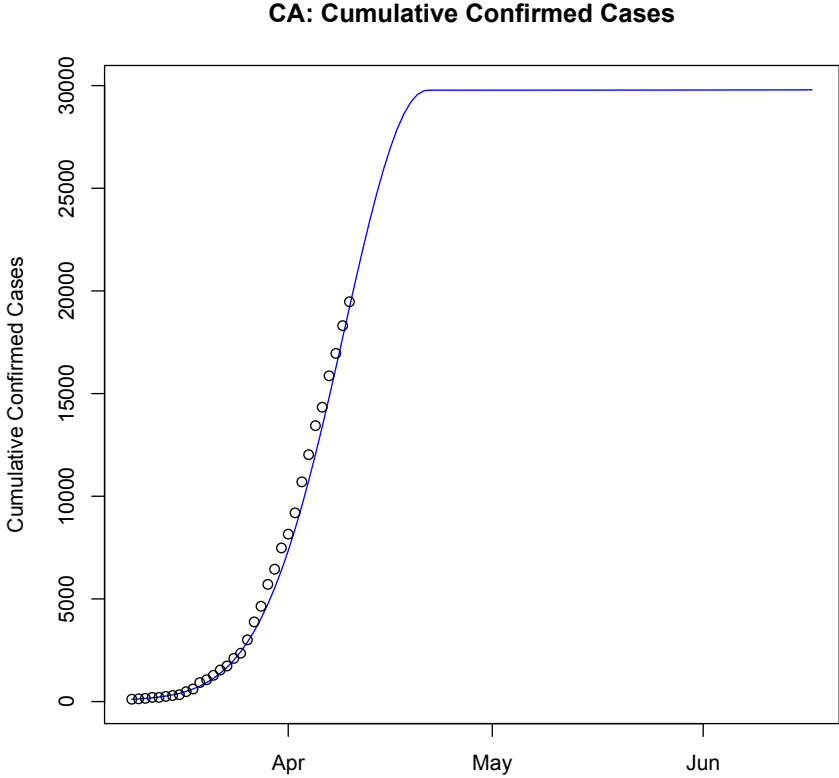
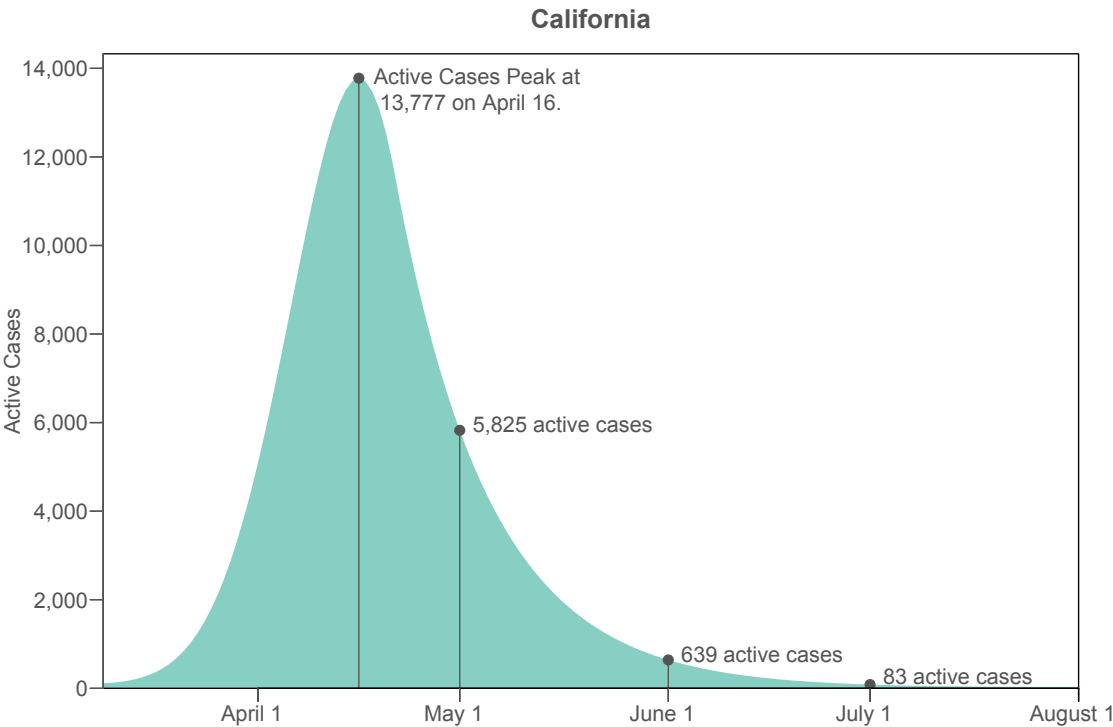
Source: <https://worldpopulationreview.com/states/>



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Location-Specific Data Analytics California



Workplace Interventions: Adjustable Parameters

No Intervention

Intervention 1

- Hand Sanitizers
- Surface Disinfection
- No handshakes/contact

Intervention 2

- Face Masks

Intervention 3

- Electrostatic Spraying
- Social Distancing

Intervention 4

- Close all public areas

Intervention 5

- Limit contact between public and employees (remote work)

CLOSED

Closed office

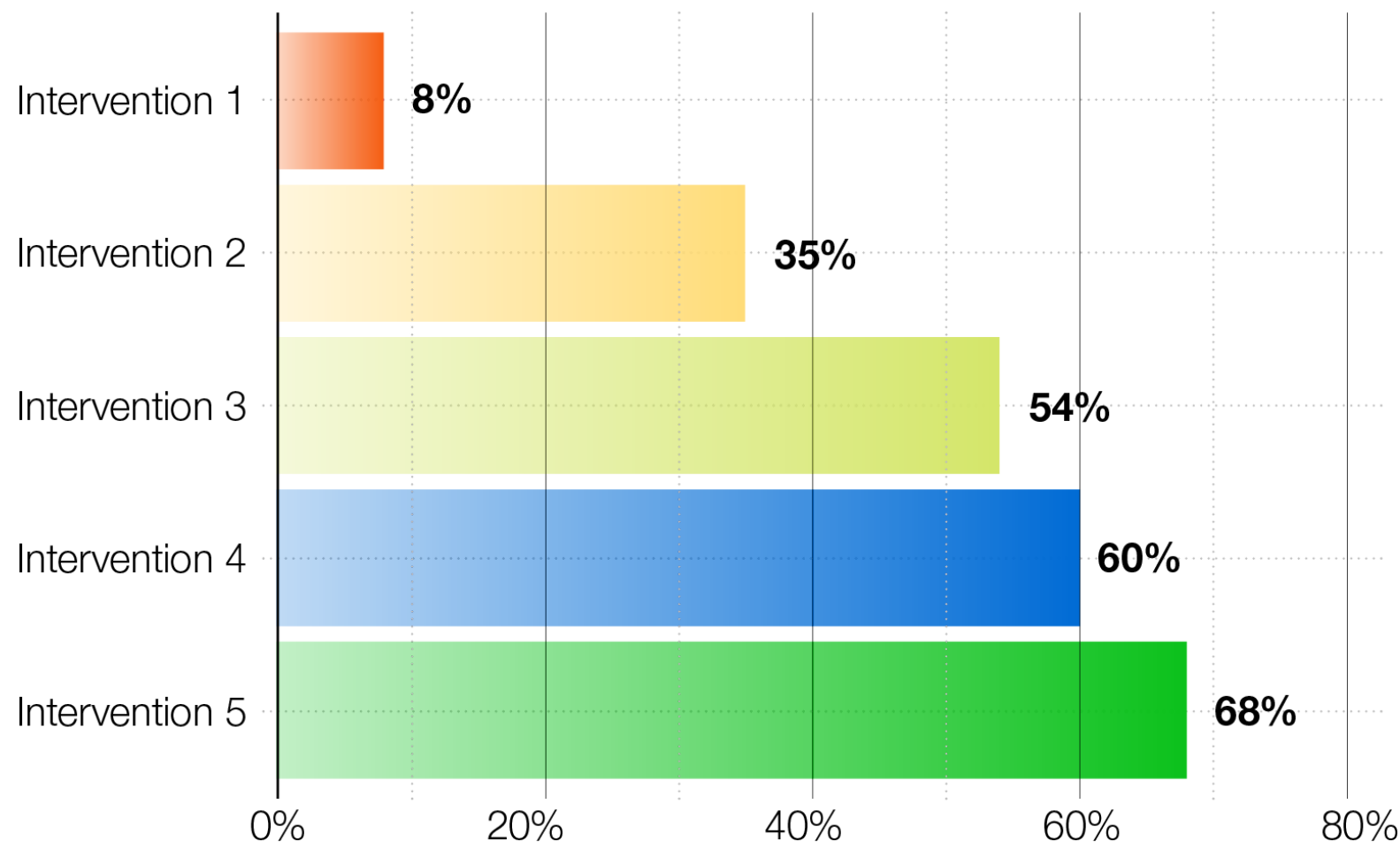
Open office

Manufacturing

Retail



Interventions Drive Step Function Reductions



Risk Quantification

- Here is an illustrative example of how a workforce would evolve across various intervention levels from April to July under relatively static conditions
- Key Assumptions:
 - All schools closed and large gatherings still banned
 - Slow opening of economy

		Worksites open April 11, 2020 Cases through August 31, 2020			Worksites open July 1, 2020 Cases through August 31, 2020		
Summary Interventions	Interventions	Infections	Hospitalizations	Deaths	Infections	Hospitalizations	Deaths
0: None	0	3200	430	41	13	7	1
1: Hand sanitizers, surface disinfection, no handshakes/contact	1	2643	407	38	11	5	1
2: Face masks	2	1196	301	29	9	4	0
3: Electrostatic spraying, social distancing	3	1447	220	21	6	2	0
4: Close all public areas	4	1311	203	16	4	1	0
5: Limit contact between public and employees	5	1001	166	11	2	1	0



How Masks Reduce COVID-19 Infections

Face Masks Against COVID-19: An Evidence Review

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The science around the use of masks by the general public to impede COVID-19 transmission is advancing rapidly. Policymakers need guidance on how masks should be used by the general population to combat the COVID-19 pandemic. Here, we synthesize the relevant literature to inform multiple areas: 1) transmission characteristics of

pirators and surgical masks for use in hospitals. Simple cloth masks present a pragmatic solution for use by the public. This has been supported by the United States and European Centres for Disease Control. We present a literature review on the role of simple cloth masks and policies in reducing COVID-19



How Masks Reduce COVID-19 Infections

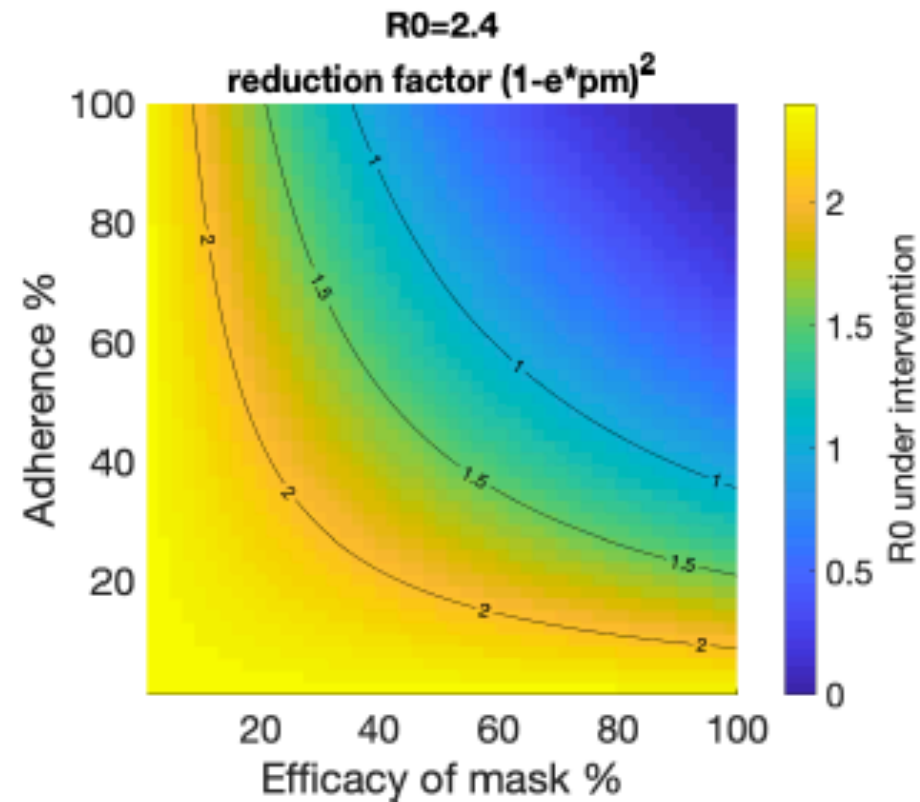


Fig. 1. Impact of public mask wearing under the full range of mask adherence and efficacy scenarios. The color indicates the resulting reproduction number R_0 from an initial R_0 of 2.4 (7).



What We Should be Doing vs. What We Are Doing



Hong Kong
February 5, 2020



Miami Beach
March 16, 2020



Business Leadership is Essential to Mitigating Impacts and Restoring a Fully Functioning Economy and Society

- We will not be entirely safe from COVID-19 for at least 12 to 18 months
- Even then, the new reality may be very different than the old reality
- Set priorities carefully, but be prepared to change rapidly
- Commit yourself and your team to mastering new areas of expertise
- Create specific implementation plans and be prepared to change often
- Communicate candidly, consistently and continuously with all stakeholders
- Remain committed to your core values



Thank You

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