



Road Map to Reopening

April 28, 2020

- Barbie Robinson, Director, Sonoma County, Department of Health Services & Interim Executive Director, Community Development Commission
- Dr. Sundari Mase, Sonoma County Health Officer



sonoma county
DEPARTMENT OF HEALTH SERVICES

Road to Reopening

- Modeling Update
- Shelter in Place (SIP) Update



Sonoma County COVID-19 Response Phase 1 Modeling

Phase 1: Key Questions

1. What will be the impact of Shelter-in-Place in Sonoma county?
2. What might happen after we eventually lift the Shelter-in-Place without additional mitigation measures in place?
3. What is the projected numbers of individuals needing hospitalization?

Epidemiology Assumptions

- Estimate number of likely new infections resulting from one diagnosed case (R_0 between 2 and 3 – also called the reproduction number)
- Three age groups: (Less than 18 years old, 18-64 years old, and 65 years old and older)
- Age group assumptions:
 - The number of people who have COVID19 who require hospitalization
 - Case fatality rate – the proportion of patients who die from COVID19 among the total diagnosed
- Symptomatic infections assumption:
 - Two-thirds of infected patients develop symptoms
 - Symptomatic patients are 50% more infectious than asymptomatic

Demographic and Mitigation Assumptions

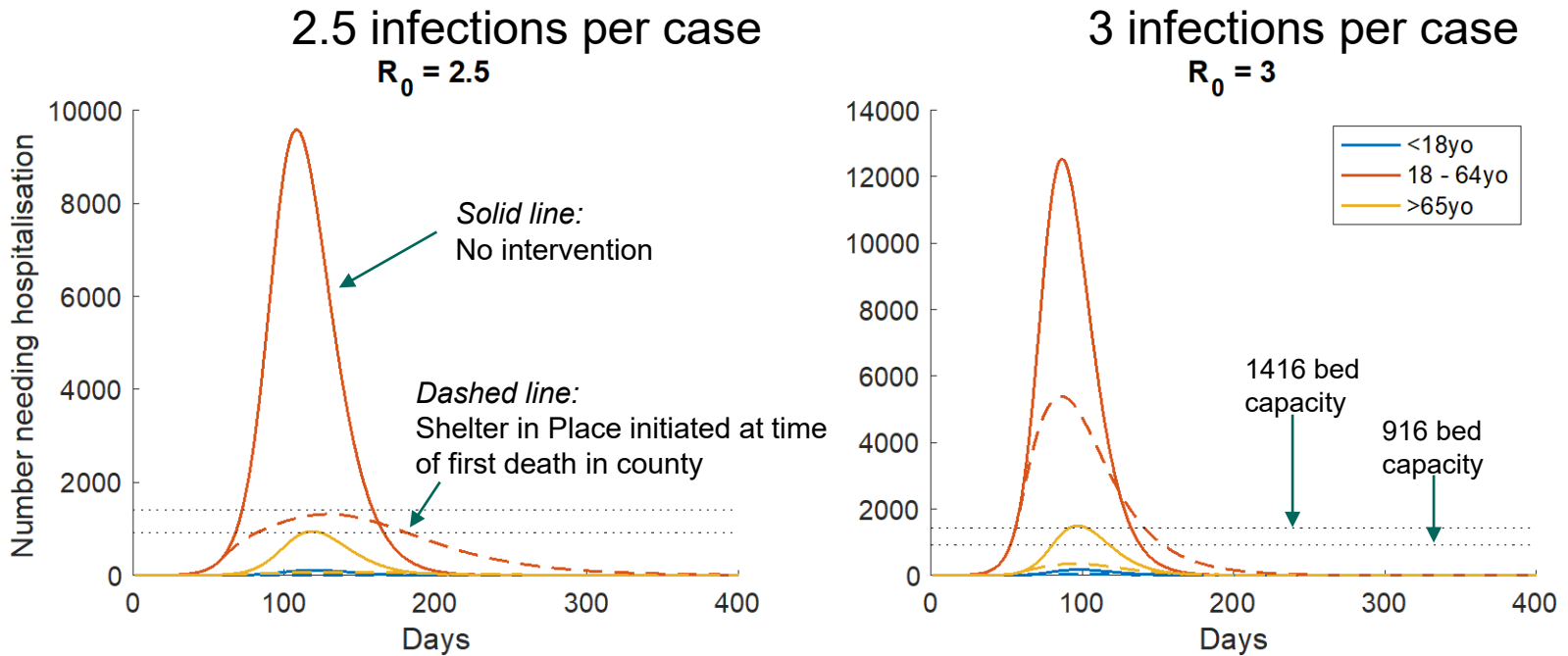
- 70% of county population is urban, remainder rural ¹
- Age distribution is proportionally the same in urban and rural settings
- R_0 in rural settings is three-fourths that of urban settings
- Assume that shelter in place coincides with the first COVID-19 death in Sonoma, and takes 10 days to come into full effect
- Assume the shelter in place succeeds in cutting the R_0 by half. ^{2,3}

¹ <http://sonomacounty.ca.gov/Health/Public-Reports/Health-Need-Assessments/Demographics/>

² Wuhan, e.g. Kucharski et al, Lancet Inf. Dis. 2020

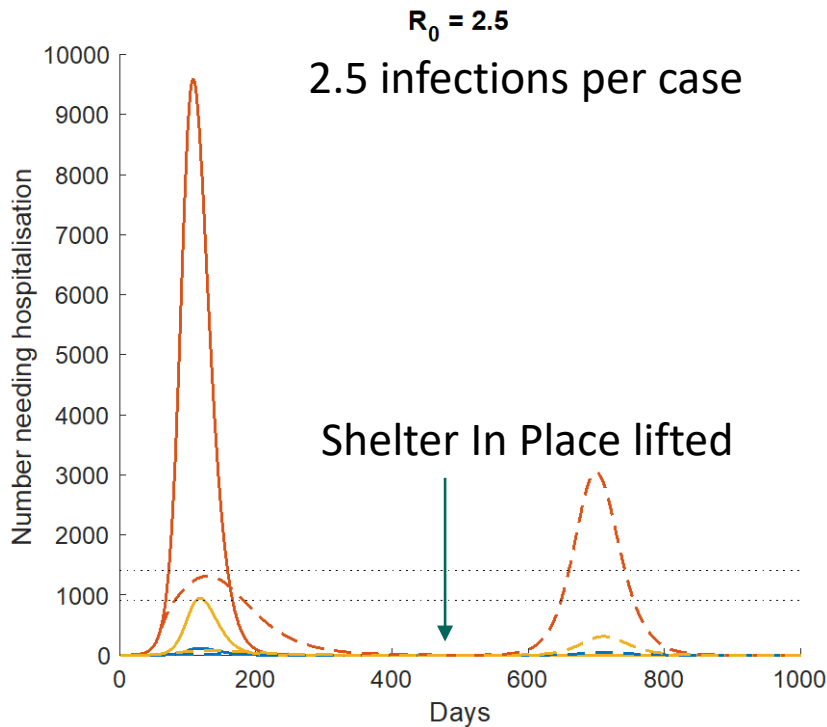
³ <https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-Europe-estimates-and-NPI-impact-30-03-2020.pdf>

What will be the impact of Shelter in Place?



Substantial reductions in hospital load, although a scenario of $R_0 = 3$ will challenge existing capacity

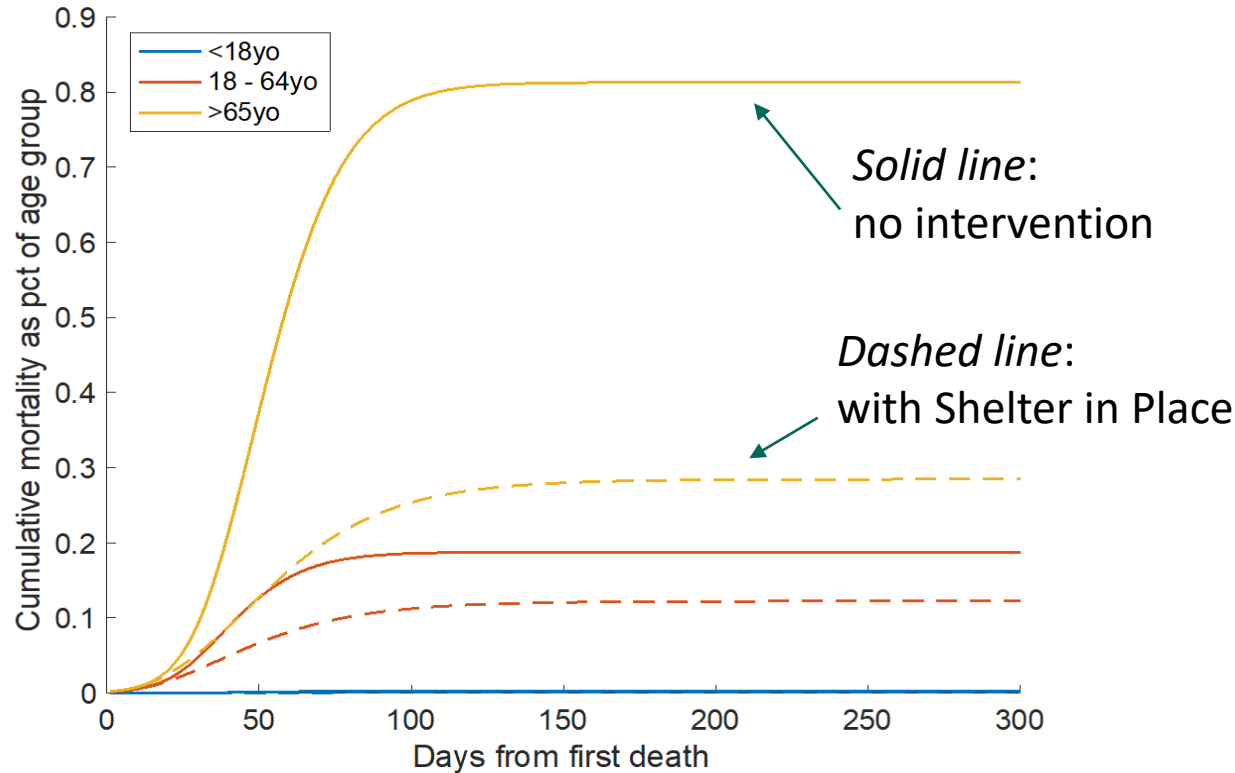
What would be the implications of eventually lifting Shelter in Place without additional mitigation measures in place?



**Assuming no vaccine and no influence of weather or season on transmission*

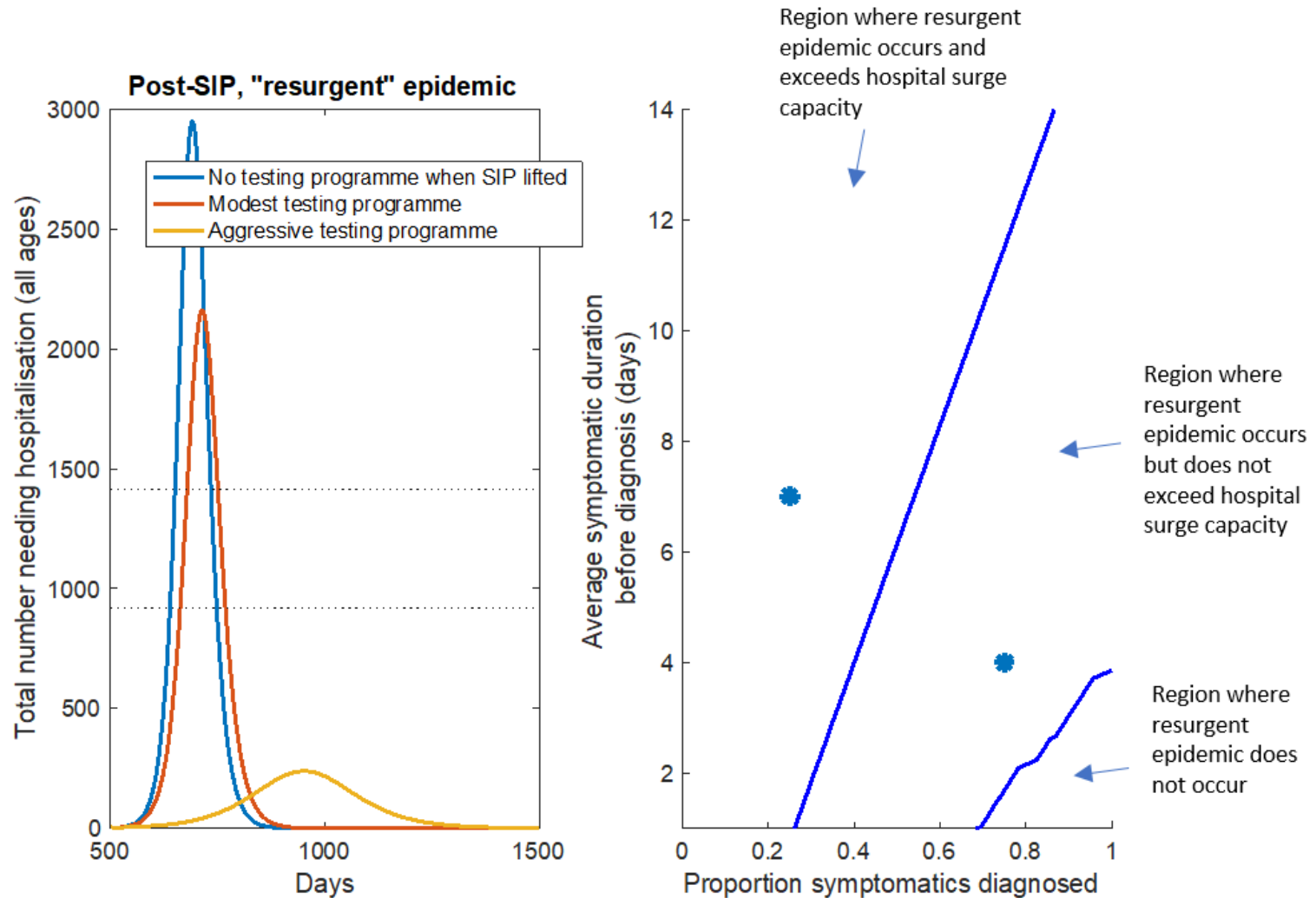
- Secondary wave could again threaten healthcare capacity
- Implication is *not* that we need extended Shelter in Place, rather that additional mitigation measures are also needed

Age-Specific Mortality



The >65s, despite being less prominent than working adults in terms of *absolute* mortality, would still be hardest hit in relation to their population size

Potential Role of Testing with Lifted SIP Order



Conclusions and Next Steps

- Shelter-in-Place is working to flatten the curve.
- We will continue to share information with the community even when it is preliminary
- Sonoma County will model additional mitigation measures to flatten the curve and work toward lifting shelter in place:
 - Increased testing, robust contact tracing, strict isolation and quarantine
 - Masking guidance for general population, health care workers and first responders
 - Staged/gradual lifting of restrictions, starting with some workplaces and ending with schools.

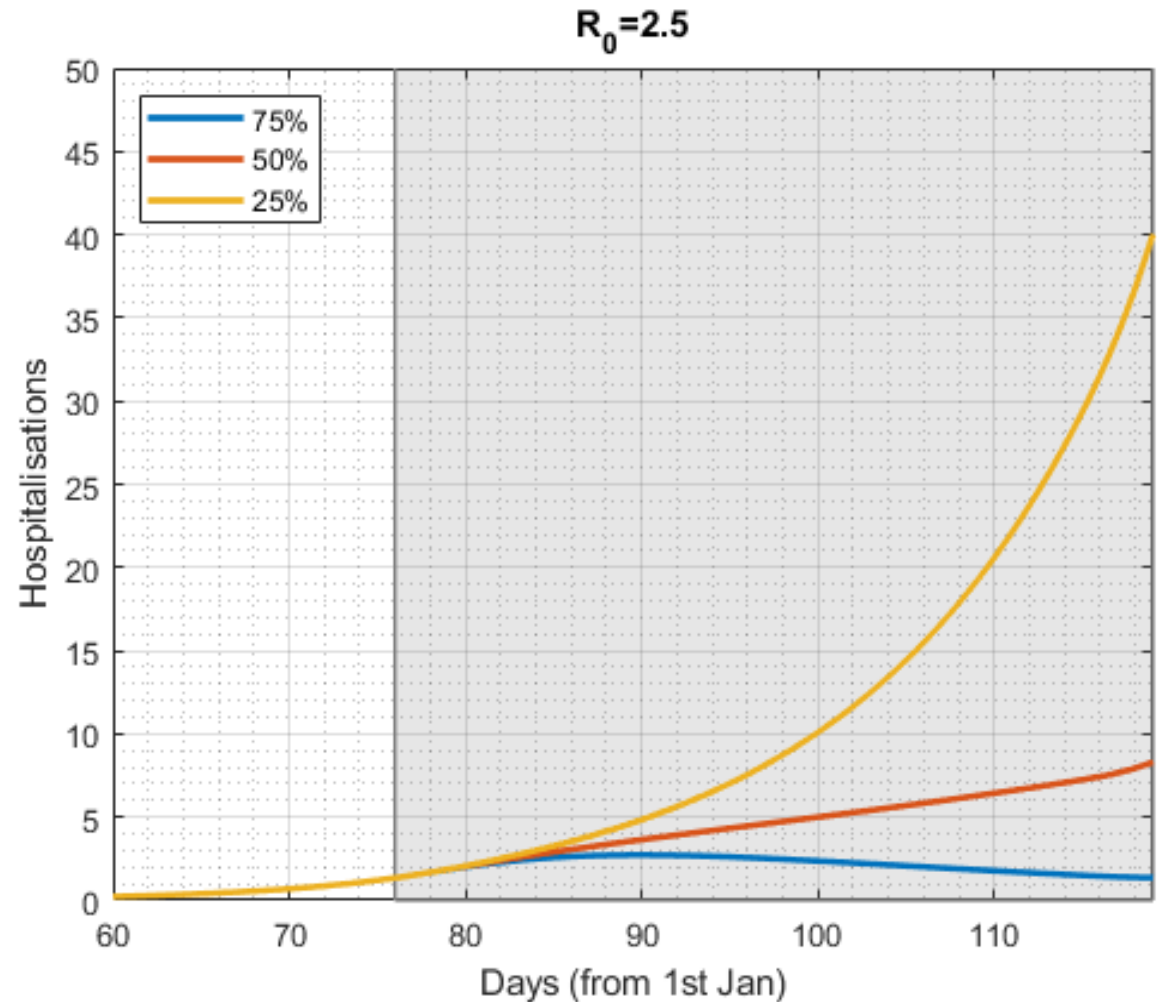
Sonoma County COVID-19 Response Phase 2 Modeling

Sonoma County: testing strategies for lifting SIP

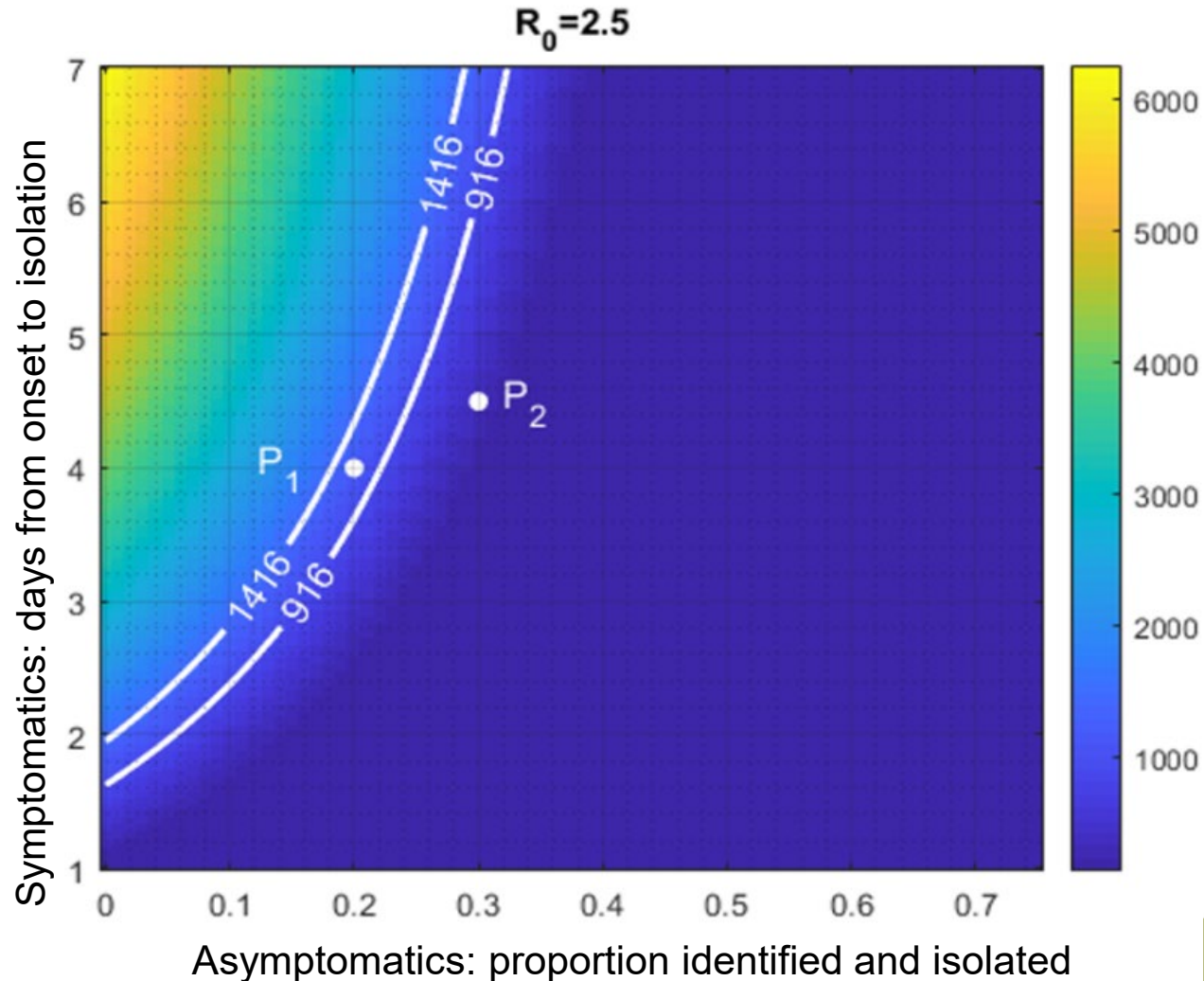
Shelter in Place

=

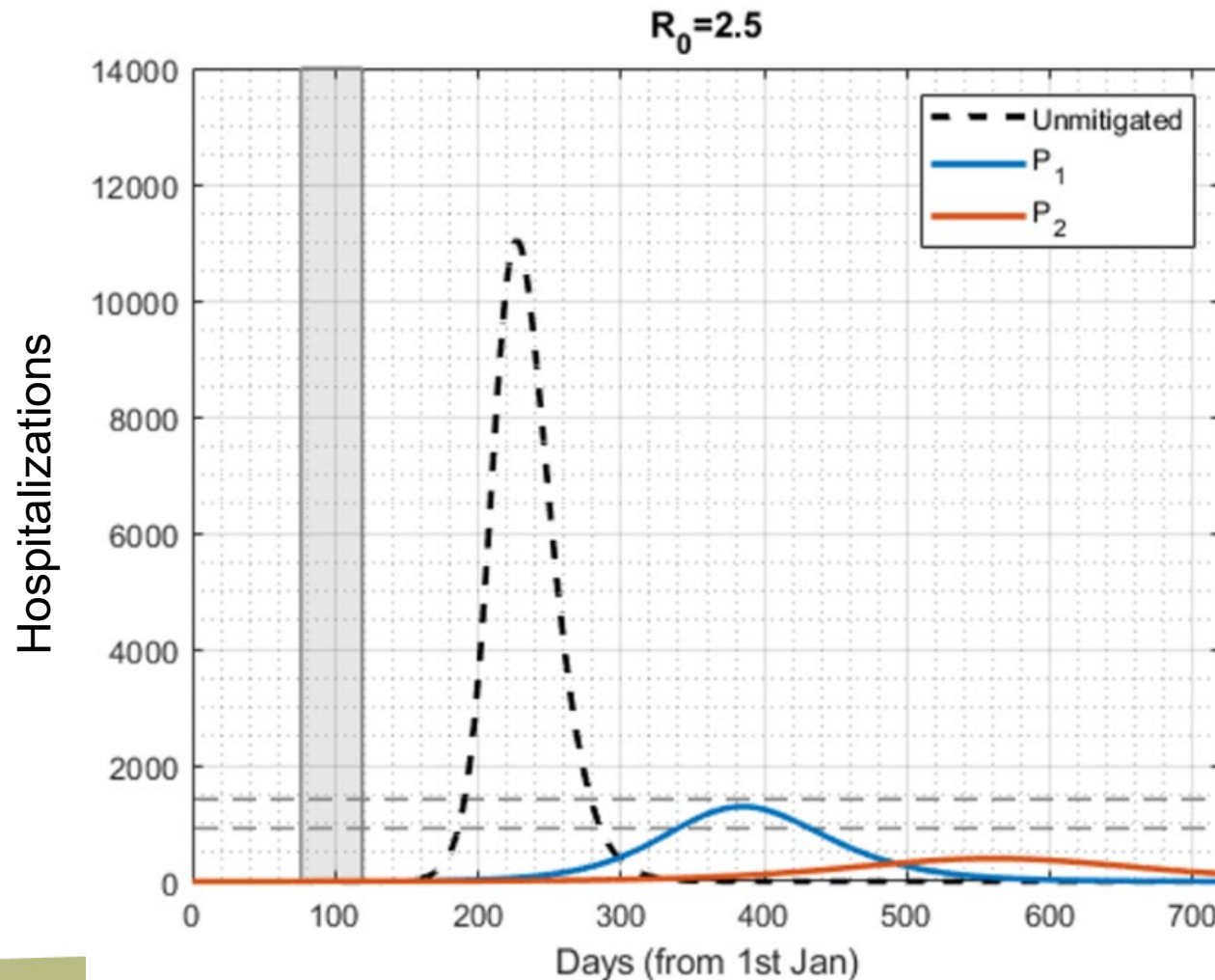
Transmission
Interrupted



Modelled Hospitalisations with intensive contact tracing, isolation of cases, contact quarantine



Modelled Hospitalisations without SIP with intensive contact tracing



Conclusions and Next Steps

- SIP is working.
- The timing of SIP (with respect to local hospitalisations/deaths) hugely impacts disease dynamics under SIP. Sonoma/Mendocino introduced SIP with fewer cases than neighbouring counties, and so are seeing far fewer hospitalisations and deaths.
- Upon lifting SIP, intensive test-and-isolate strategies can be a valuable means of protecting the population from a resurgent wave of infection.
- Such a strategy can have some impact if testing symptomatics alone, and isolating them as rapidly as possible. However, in order to keep any 'second wave' within levels manageable by the health system, it may additionally be necessary to identify and isolate asymptomatic infections in the community.

Conclusions and Next Steps

- Asymptomatic infections could be reached through tracing of all contacts of known cases, regardless of symptom status, as well as making testing more widely accessible in the community. These measures could be facilitated by approaches such as testing pooled samples.
- Absent a vaccine, herd immunity will be difficult to achieve without allowing transmission to spread through the community. Consequently, intensive testing efforts may need to be maintained until a vaccine becomes available.

Proposed SIP Order Amendment Highlights

- No end date
 - Align with Governor's Order that has no end date
 - Alternative approach: June 1, 2020 end/reevaluation date
- Private and public mass gatherings
 - Prohibited through Labor Day, September 7th
 - Subject to modification

Loosening Restriction - Construction

- All new commercial and residential construction allowed
- Interior remodels on occupied buildings to make safe, sanitary, or habitable – extended list
- Broad construction support services allowed

Best Management Practices - Construction

Construction Projects must comply to the following:

- Post a copy of the Construction Field Safety Requirements on site.
- Construction sites are subject to sector specific social distancing and hygiene requirements, as well as a daily temperature and symptom checking.
- All construction sites shall designate officers responsible for ensuring compliance with these requirements and have the authority to halt construction at a site when the site is not in compliance.

Loosening Restrictions - Real Estate

- New order allows these viewing of occupied properties
- Requires PPE to be worn during the viewing and requires the seller or landlord to disinfect the residence after each viewing.



Loosening Restrictions - Outdoor Business

Landscapers/Gardeners/Pool Cleaners

- **Existing order** limited landscapers, gardeners, pool cleaners to projects that were necessary to make sure that businesses and residences were safe, habitable, and for fire mitigation.
- The **new order** allows all activity by these workers, including for cosmetic purposes.
- Social distancing and hygiene requirements are required, especially if the activity requires more than one worker.

Loosening Restrictions - Outdoor Business Continued

Nurseries

- New order adds nurseries as an essential business.

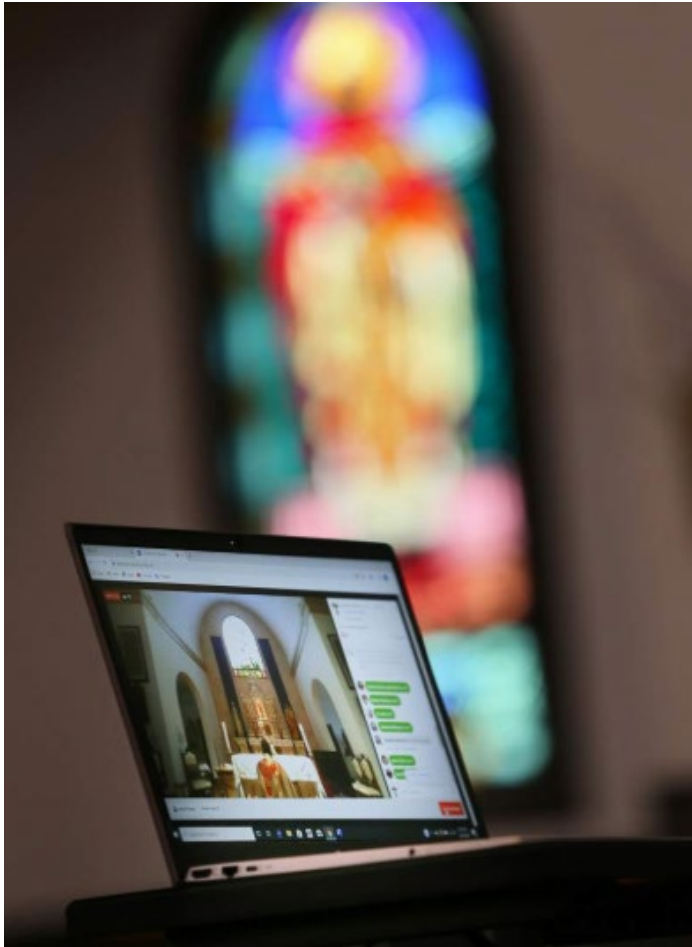


Loosening Restrictions - Florists

New order clarifies that florists are part of agriculture, and may operate retail via **curbside pick-up, delivery, or shipping.**



Loosening Restrictions – Religious Activities



Faith-based services provided through virtual streaming or similar technology.

What is all means

- Need to ramp-up testing
- Intensive contact tracing
- Strict isolation/quarantine
- Systematically relax SIP in line with the Governor's direction

Questions