

The value of epidemic modeling in the midst of an epidemic

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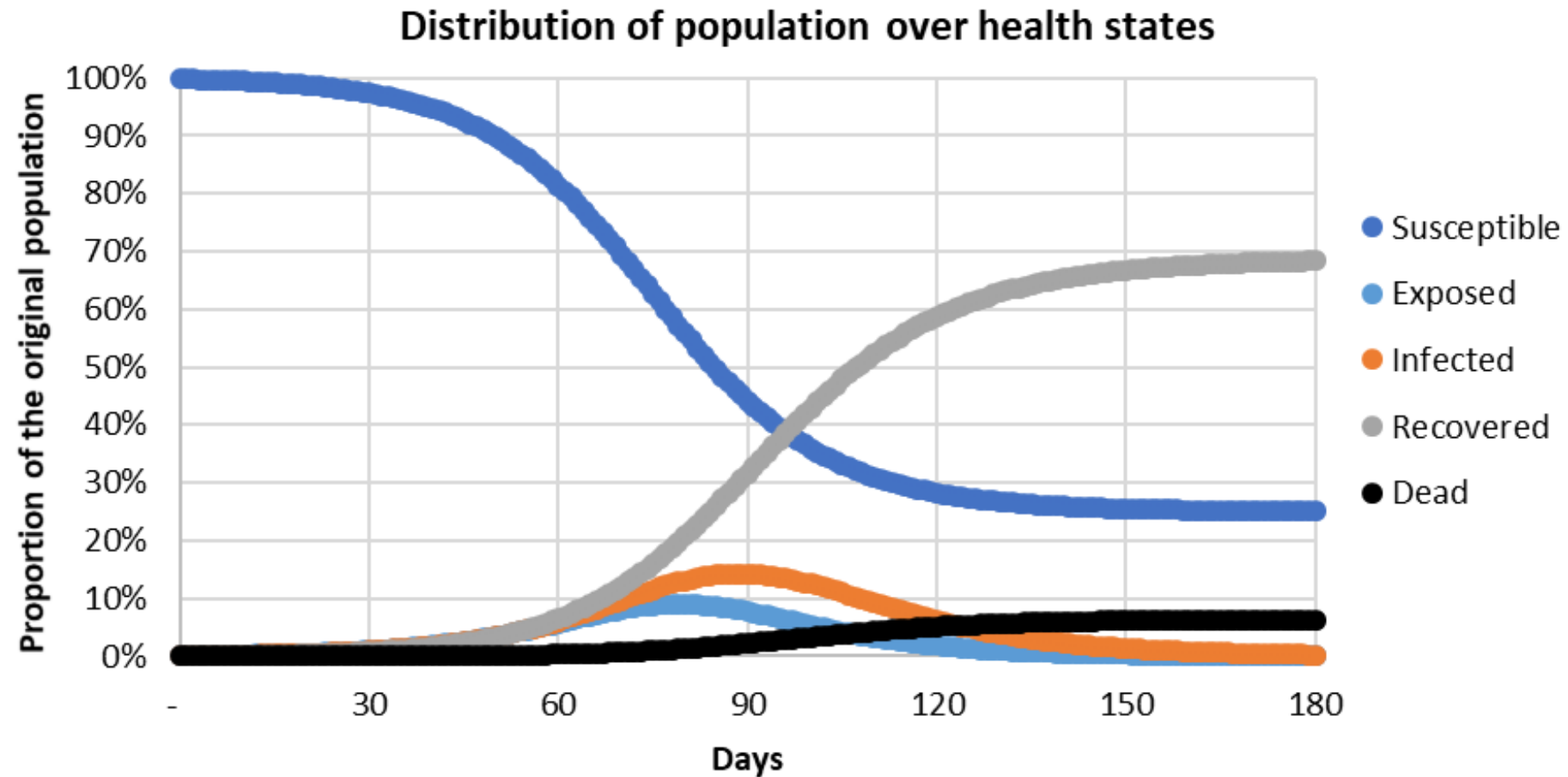
Schulich School of Medicine and Dentistry

Western University

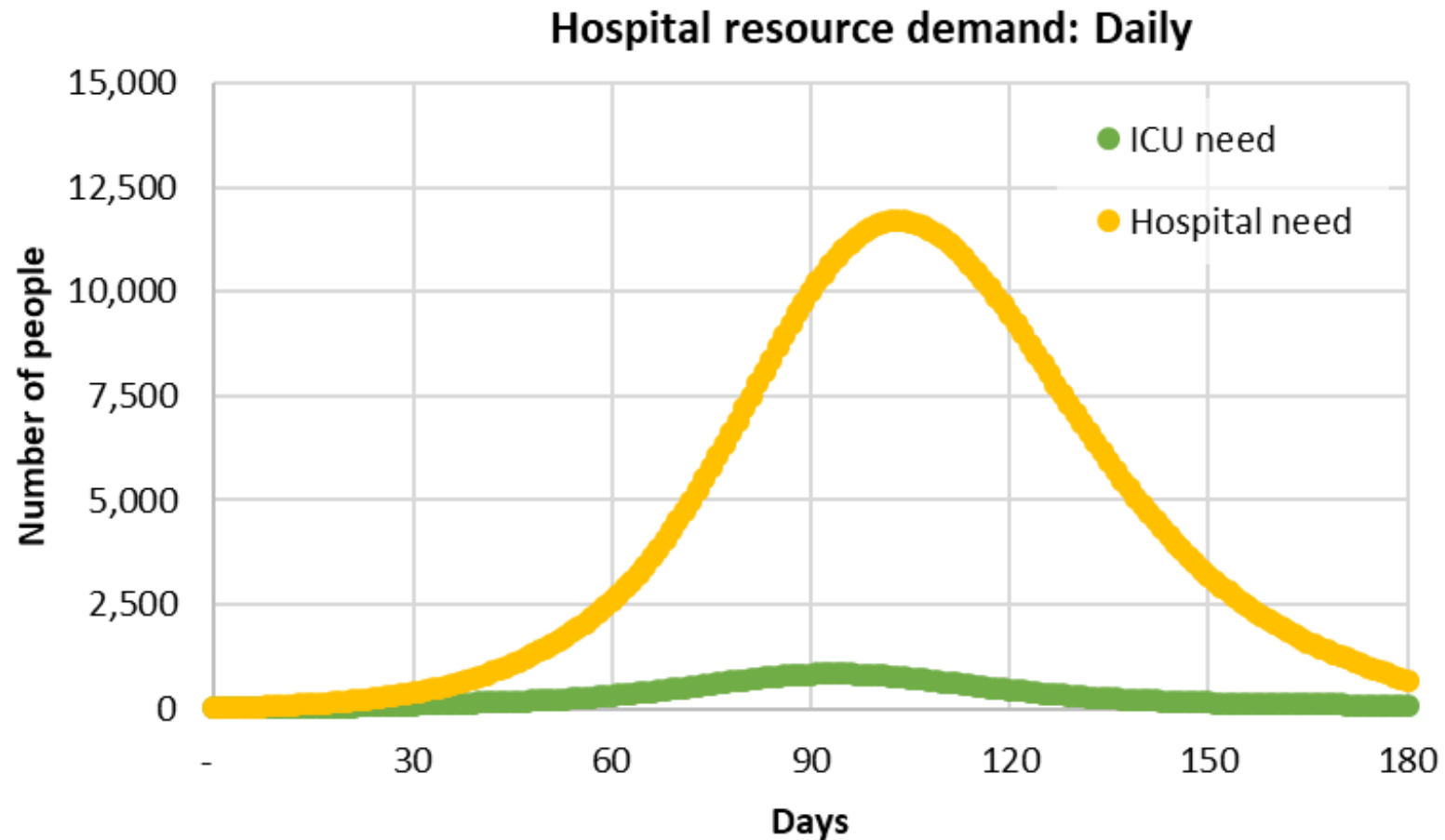
Mathematical models of epidemics

- Incorporate all available data into decision making process
- Evaluate and compare hypothetical policies to predict benefits and harms
- Systematically evaluate uncertainty to identify most-likely and worst case scenarios
 - Prepare physical and human resources
 - Develop mitigation strategies for undesirable consequences
 - Prioritize information gathering to reduce uncertainty about most influential unknowns

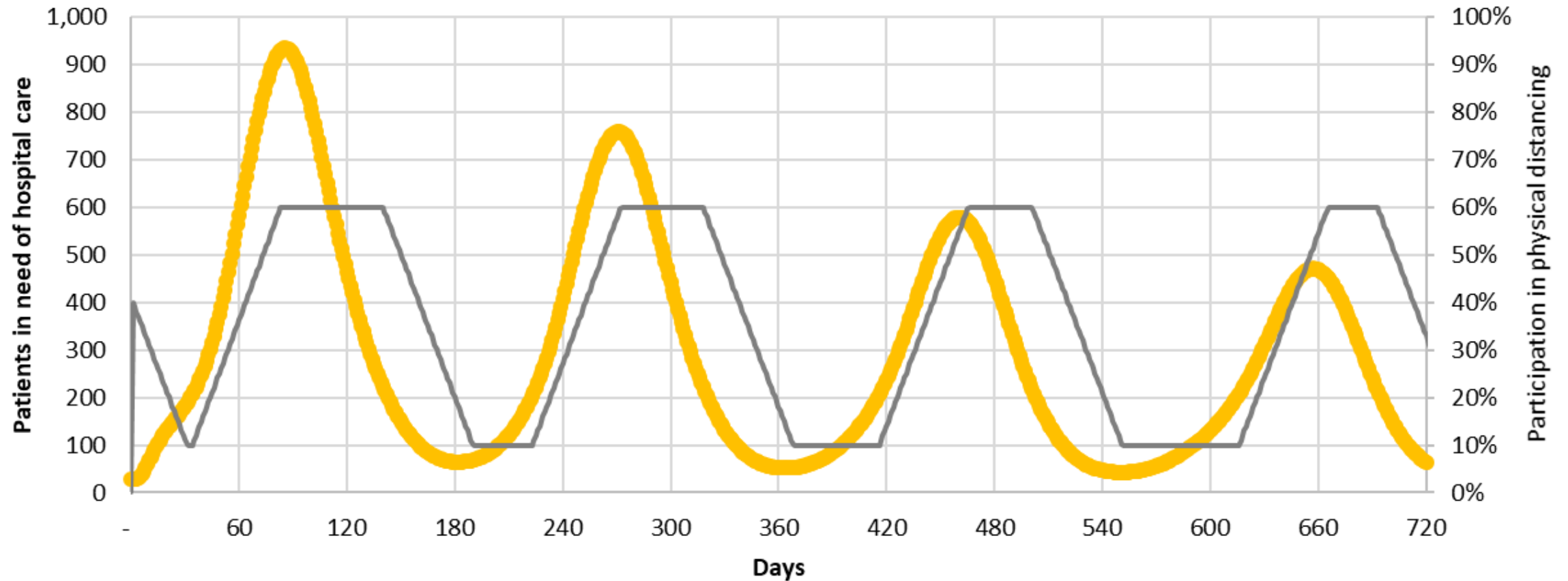
Models can project the distribution of the population over time



Models can estimate health resource demand in the absence of interventions and to compare interventions



Models can explore what happens when we lift social distancing recommendations



What is physical distancing doing?

- Preventing disease transmission
- Avoiding high demand for critical care resources
 - Preventing high rates of mortality associated with not having enough resources
- Providing time
 - Prepare health care resources and health care community
 - Learn more about the disease
 - Study potential treatments
 - Develop a vaccine
 - Identify and evaluate alternative strategies to prevent disease transmission and manage society, business, and community with coronavirus in the long-run