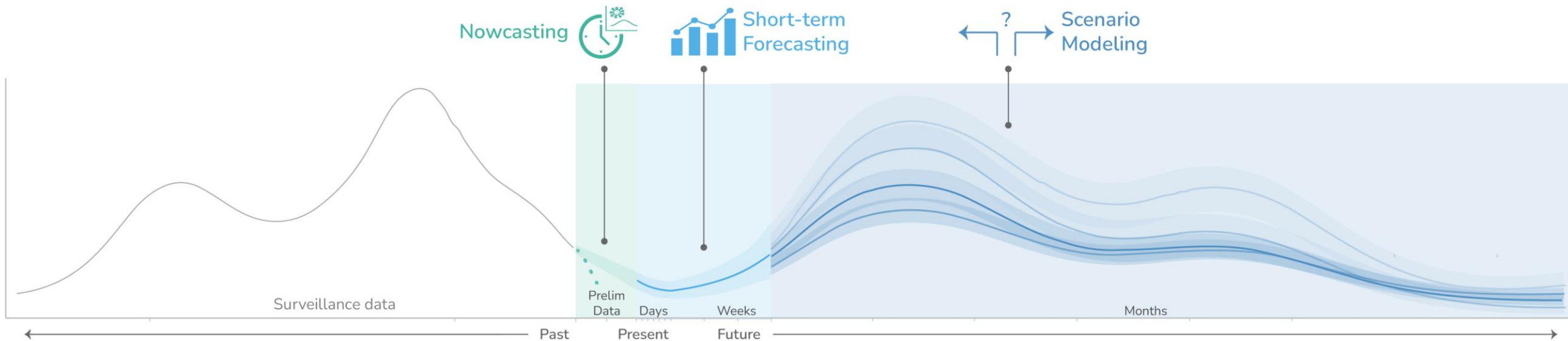


Scenario models

Practical Modeling Concepts for Public Health

Different types of qualitative assessments and modeling outputs are useful at different horizons

Qualitative assessments: Rapid, early evaluations of potential outbreak trajectory and risk posed to a population



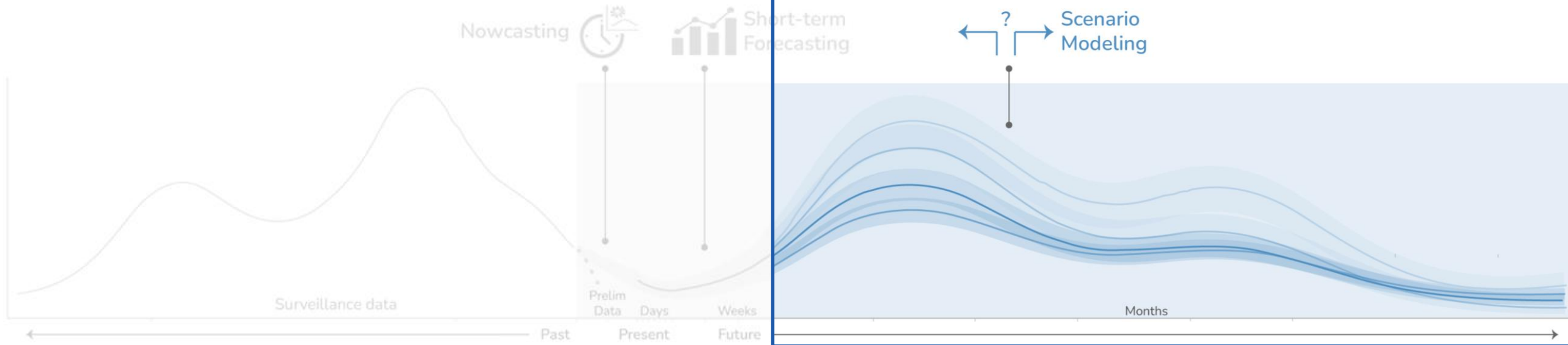
Nowcasts: Estimate real-time disease burden based on partially reported data

Short-term forecasts: Predict disease burden in the coming days and weeks

Scenario models: Compare different potential futures (or pasts) under varied assumptions

Scenario models

Qualitative assessments: Rapid, early evaluations of potential outbreak trajectory and risk posed to a population



Nowcasts: Estimate real-time disease burden based on partially reported data

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Scenario models

What is it? Measures possible longer-term future directions of disease activity under hypothetical scenarios

Why is it useful? Explores impact of policies or interventions, as well as unknowns (e.g., new variants)

Example inputs Surveillance data, vaccine effectiveness, vaccine uptake, variant immune escape properties, other interventions

*Scenario models can also be used retrospectively to compare a counterfactual situation to what happened

Scenario models can help answer, “What if ... ?”

Better or worse
vaccine coverage?

Vaccine matches
circulating variants
more or less well?

People test more
versus less?

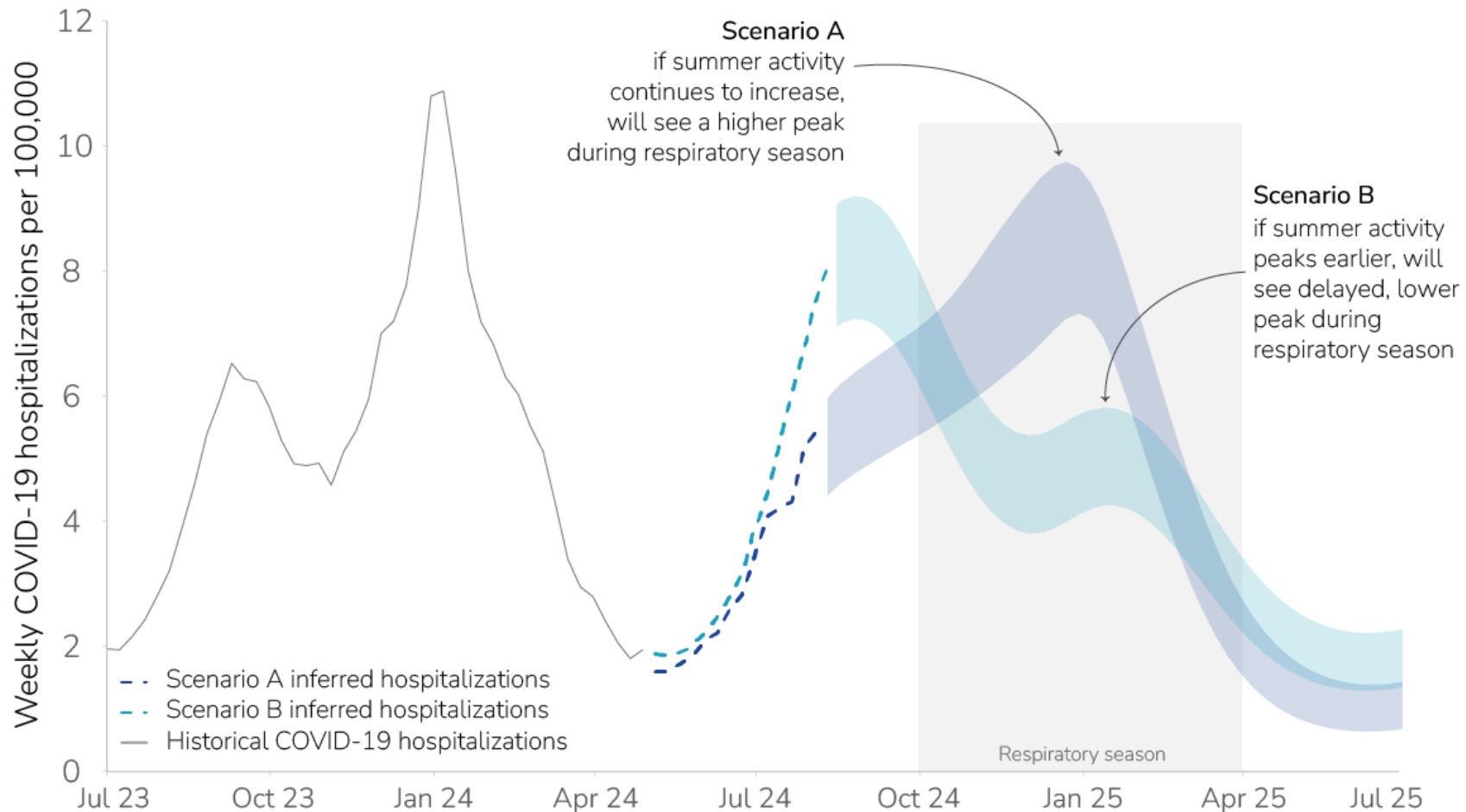
Indoor masking
required or not?

People reduce
contacts versus
not?

Scenario modeling relies on assumptions to create hypothetical scenarios for comparison.

Scenario models can help answer, “What if ... ?”

Possible scenarios for weekly COVID-19 hospitalizations for 2024-2025 respiratory season



Scenario models can help scope potential outbreak scenarios and incorporate impacts of mitigation measures.

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

