# MATHEMATICAL MODELING OF PUBLIC HEALTH POLICIES

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Mathematical modeling of infectious diseases and the evolution of pathogens can contribute to the prediction of health policy effectiveness and best practices. Integrating mathematics, epidemiology, economics, and evolutionary biology, this interdisciplinary research generates predictions that could not be made by these disciplines alone, and has important impacts on these fields as well as for policy makers world-wide. Health policies must be developed to maximize the benefit to the public and to balance health, social, and economic considerations. Achieving this aim requires combining molecular, individual, population, and national scales with evolutionary perspectives to understand the importance of trade-offs between disease control and the risk of pathogen replacement.

## References

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