# Yale SCHOOL OF PUBLIC HEALTH

*Public Health Modeling Unit*
*Seminar Series*

## Nicolas Menzies, PhD

**Assistant Professor of Global Health**
**Department of Global Health and Population**
**Harvard TH Chan School of Public Health**

## Covidestim: a Modelling Tool for Tracking COVID-19 at State and County Levels in the US

**November 9, 2020**
**12 - 1 pm EDT    (US & Canada)**

Understanding local trends in COVID-19 outcomes is important for public and individual decision-making. In this seminar Dr. Menzies will discuss the estimation approach behind Covidestim (www.covidestim.org), a tool for estimating COVID-19 outcomes at state- and county-level. The tool uses a simple mathematical model to synthesise daily data on COVID-19 cases and deaths with published natural history evidence. This approach corrects for various lags and biases that affect the raw data, and produces near real-time estimates of current disease trends in over 2500 jurisdictions within the United States.

Nick Menzies is a member of thecore faculty of the Harvard Center for Health Decision Science. Professor Menzies uses decision science and mathematical modelling to understand the consequences of policies to combat major infectious diseases, and help design effective disease control programs when resources are limited.

In his empirical research Nick has worked to improved the level of evidence on the resource requirements for HIV interventions in high burden settings, allowing for better budgeting of these large programs and allowing decision-makers to weigh the advantages of different implementation approaches. Nick is currently working on a multi-country study to understand the costs, cost drivers and efficiency determinants of routine immunization services. Other applied work has addressed the costs and benefits of expanding access to HIV screening and diagnosis in high prevalence settings.

The long-term population-level impacts of disease control policy are often difficult to assess empirically, especially for infectious diseases. Yet these are often the outcomes of interest when planning major public health investments. Through a number of studies Nick has used mathematical modelling − computer experiments which seek to recreate the underlying mechanisms generating health outcomes and resource utilization − to compare competing policy options being considered by HIV or TB control programs and directly inform the policy debate.

Professor Menzies's methodological interests include Bayesian approaches to calibrating simulation models, value of information analysis, the use of simulation models for causal inference, and approaches for synthesizing results from multiple models to inform policy.

Prior to joining Harvard Nick worked with the Global AIDS Program at the U.S. Centers for Disease Control and Prevention, conducting economic evaluation and implementation research on HIV/AIDS control interventions in countries supported by the President's Emergency Plan for AIDS Relief (PEPFAR).

EPH 580 01 (FA20): Seminar for Modeling in PH

Join from PC, Mac, Linux, iOS or Android: https://yale.zoom.us/j/94811381496

Or Telephone : 203-432-9666 (2-ZOOM if on-campus) or 646 568 7788
Meeting ID: 940 1687 8445

International numbers available: https://yale.zoom.us/u/aeG7mvgIH7