Researching Effective Strategies to Prevent Opioid Death (RESPOND)

Post-Doctoral Fellow Job Description
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POSITION SUMMARY:
The post-doctoral fellow will be an essential member of a team of investigators who are building a compartmental simulation model of opioid use disorder and its treatment. The model will simulate the population of people with opioid use disorder in Massachusetts and it will be calibrated to state-specific estimates of disease prevalence, admissions to treatment facilities, and overdose deaths. We will then employ the model to investigate strategies for improving access to and retention on medications for opioid use disorder.

The post-doc will lead model development with the help of a computer programmer and a data analyst. A team of faculty with experience in simulation modeling will supervise the post-doctoral fellow. Model development will include Bayesian calibration approaches for fitting simulation inputs, as well data analysis both for developing Bayesian “priors” and for estimating calibration targets. The post-doc will lead working groups within the larger team, and will guide all aspects of model development. Ultimately, when the model is completed, the post-doctoral fellow will employ the model to develop the evidence base needed to formulate new policy and treatment guidelines for opioid use disorder. We anticipate the post-doctoral fellow will present model findings at national conferences and will author multiple peer-reviewed manuscripts.

ESSENTIAL RESPONSIBILITIES / DUTIES:
1. Assume administrative responsibility for a portfolio of projects that includes collaborators at multiple institutions
2. Balance multiple competing projects at the same time
3. Lead Bayesian calibration of the simulation including developing priors and calibration targets, and interpreting the posterior distribution of model inputs.
4. Work closely with computer programmer and data analyst in developing the simulation
5. Work with faculty including the team biostatistician to review progress, set agendas, and interpret findings.
6. Work with team to interpret model results to draw conclusions about public policy
7. Write and edit manuscripts at various stages of development
8. Attend and present at conferences and meetings
9. Maintain project records and manage timelines

OTHER DUTIES:
Tasks related to routine administration of research projects including minutes and notes, scheduling, and logistics of travel.

(The above statements in this job description are intended to depict the general nature and level of work assigned to the employee(s) in this job. The above is not intended to represent an exhaustive list of accountable duties and responsibilities required).

JOB REQUIREMENTS

EDUCATION:
Requires a PhD, preferably in mathematics, statistics, engineering or another quantitative field, although outstanding applicants from other fields may be considered.

CERTIFICATES, LICENSES, REGISTRATIONS REQUIRED:
None required.

EXPERIENCE:
Previous experience building simulation models
Experience with model calibration approaches

KNOWLEDGE AND SKILLS:
• Excellent English communication skills, including comfort with public speaking and formal writing
• Mastery of computational methods
• Understanding of infectious disease dynamics
• Familiarity with R, SAS or other statistical programming language
• Data visualization and graphical communication useful
• A proven ability to learn and apply new technical skills
• Cultural sensitivity and comfort with a wide range of social, racial and ethnic populations
• Organizational ability to perform multiple tasks efficiently and to prioritize duties
• Must be able to maintain strict protocols of all confidential or sensitive information