

The Institute for Work & Health (IWH) is an independent, not-for-profit research organization. Our mission is to conduct and mobilize research that supports policy-makers, employers and workers in creating healthy, safe and inclusive work environments

IWH is currently seeking a **Post-Doctoral Associate** in biostatistics to work on a research project titled “Correcting for participation bias in convenience samples using multiple reference samples.”

## About the position

Assembling a representative study sample using probability sampling can be challenging due to high costs of data collection and low response rates. To overcome this problem, applied researchers increasingly adopt nonprobability (convenience) sampling strategies (e.g. recruiting through clinics, community centres, social media, membership lists, opt-in panels and crowdsourcing). While frameworks have been put forward to adjust convenience samples using a single representative sample, less is known about how performance improves, or not, when two samples with a greater variety of potential study variables are used.

The purpose of this research project is to develop methods to compute pseudo-weights for a convenience sample from two reference samples. We will study the statistical properties of the proposed methods and develop user-friendly software to implement them. The proposed research will create novel methods and tools to allow health researchers to obtain more accurate estimates from convenience samples.

As part of this project, we are looking for a post-doctoral associate to work under the supervision of the principal investigator, Dr. Victoria Landsman. This position will contribute to the methodological work on population inference from biased sampling. While there is flexibility in the specific areas of focus, they could include: 1) analyzing the impact of nonresponse in reference surveys on the performance of the new methods; 2) expanding the new methods to integrate administrative and census data as reference samples; 3) expanding the new methods or proposing alternative approaches to integrate three or more reference surveys for correcting the participation bias (e.g. statistical matching); 4) exploring variable selection techniques; and 5) developing pseudo-weights when data is collected at multiple time points on the same individuals.

The successful applicant is expected to be an independent researcher, have strong interpersonal and communication skills, and have extensive experience with programming in “R” and other statistical software. Work will follow the current IWH hybrid policy, in which a minimum of two days per week are expected in the office and as needed by the principal investigator.

This is a full-time contract position for up to two years, starting in June 2023. The project is supported by the Canadian Institutes for Health Research.

## Education and experience

PhD or equivalent degree completed within three years of the beginning of the appointment. If the degree is still pending, it must be awarded before December 31, 2023.

## Salary range

Salary will depend on qualifications and experience and will be in the range of \$55,000.00 to \$60,000.00 per year, with a \$5000.00 research allowance. Suitability for the position will be assessed at six months.

## **Application details**

Applications will be accepted until April 28, 2023, or until the position is filled.

If you are interested in this position, applicants must submit a cover letter, résumé and record of publications, all in a single PDF or Word file, to:

Derek Wills  
Director, Human Resources & Corporate Services  
400 University Avenue, Suite 1800  
Toronto, Ontario M5G 1S5  
Email: [dwills@iwh.on.ca](mailto:dwills@iwh.on.ca)

IWH is committed to creating an inclusive workplace that values and promotes diversity. IWH encourages applications from racialized persons/persons of colour, Indigenous people, women, LGBTQ2S+ persons, persons with disabilities, and others who may contribute to the further diversification of ideas.

Job applicants requiring accommodation to participate in the hiring process should contact Derek Wills, Director, Human Resources & Corporate Services, via e-mail at [dwills@iwh.on.ca](mailto:dwills@iwh.on.ca) or by phone at 416-927-2027 ext. 2115 to communicate their accommodation needs.

We thank all applicants, but only those considered for the position will be contacted.

## **About IWH**

IWH, guided by a Board of Directors and an international Scientific Advisory Committee, conducts and shares relevant, applicable and high-quality research to protect and improve the health, safety and wellbeing of working people, and to promote their full and inclusive work participation. IWH's research examines the inter-relationships between work and health from worker, workplace and system perspectives.

IWH supports an active knowledge transfer and exchange program, which implements interactive strategies to transfer research findings to key decision-makers. IWH also trains and mentors the next generation of work and health researchers.

IWH is committed to excellent working conditions, a cooperative team environment for its employees, and transparent, diverse and fair recruiting practices of staff and trainees.

IWH operates with the support of the Government of Ontario. For more information about our organization, visit our web site at [www.iwh.on.ca](http://www.iwh.on.ca).