



# Epidemiology of Distal Radius Fractures: a registry analysis containing >10 million patients per year in Ontario, Canada, 2004-2013

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## Background

The distal radius is the most common fracture site seen by physicians. This fracture is associated with age and gender, increasing in incidence in older women. Distal radius fractures are typical of active persons with osteoporotic bone. The societal repercussions of these fractures are significant and include medical costs, loss of work hours, loss of independence and lasting disability. Trends in the incidence of distal radius fractures in the adult population remain unclear. There was hope that the widespread uptake of osteoporosis treatment guidelines would lead to decreased rates of distal radius fractures over time.

## Objective

The purpose of this study is to examine population trends in the incidence rate of distal radius fractures over a 10-year period in Ontario, Canada.

## Methods

We examined age-sex trends in the incidence and treatment of distal radius fractures across a complete provincial population, representing almost 40% of the total Canadian population, over a 10-year period (2004-2013).

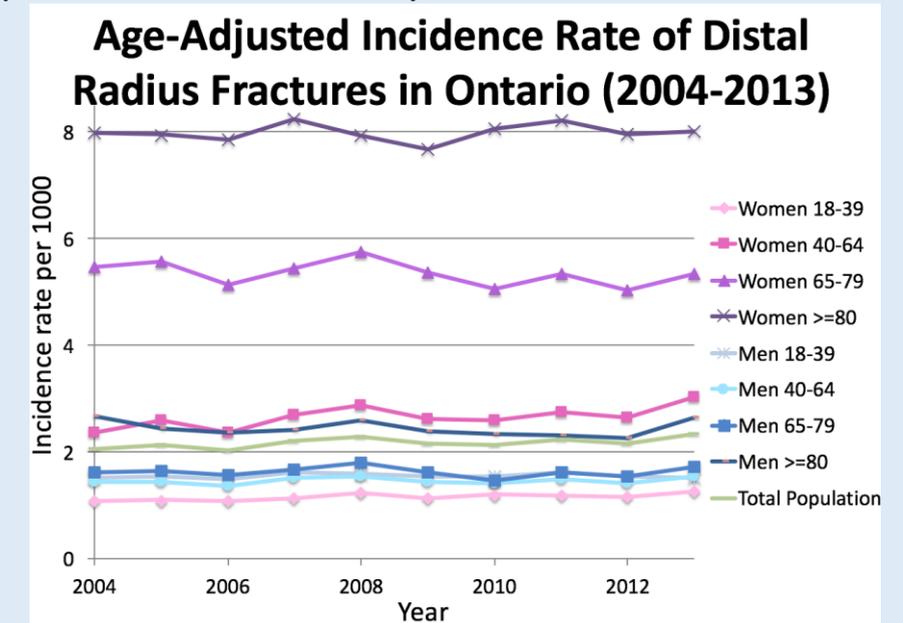
Ontario, with a total population of 13.7 million, has a public health care system. Patients receive health care through the Ontario Health Insurance Plan (OHIP). This population-based study identified all individuals aged 18 years and older with a distal radius fracture by utilizing the multiple databases linked using patient-specific encrypted identifiers available at the Institute for Clinical Evaluative Sciences. We report on the gross number of fractures per year and the yearly age-adjusted incidence rate.

## Results

In 2013, 25 355 distal radius fractures occurred in the province of Ontario amongst individuals 18 years and older. The male and female age-adjusted incidence rate for individuals 35 years and older was 1.63 per 1000 and 3.4 per 1000 persons, respectively.

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70% of all fractures occurred amongst women. Women aged 50-64 year old represent the majority subgroup (26% of all distal radius fractures). There is a steady increase in incidence rate amongst both sexes; with women experiencing a sharper increase to 8.02 per 1000 persons in women 80 years and older.



## Conclusion

This is a comprehensive description of the epidemiology of distal radius fractures in Ontario. It illustrates **the importance of studies targeted towards women aged 50-64 as they represent the majority of distal radius fractures.**