## Fatal injury rate computation

Fatal injury rates depict the risk of incurring a fatal occupational injury and can be used to compare risk among worker groups with varying employment levels. Since employment data are not collected by CFOI, fatal injury rates are calculated using Current Population Survey (CPS) data. The rate represents the number of fatal occupational injuries per 100,000 full-time equivalent workers and was calculated as:

\[(N/EH) \times 200,000,000\]

where:
- \(N\) = number of fatal work injuries
- \(E\) = total hours worked by all employees during the calendar year
- 200,000,000 = base for 100,000 equivalent full-time workers (working 40 hours per week, 50 weeks per year)

State rates by industry were imputed by using national-level “average hours” and “at work” information from CPS to calculate the average annual number of hours for each employee, since these data are not available at the state level. The imputation to calculate \(EH\) (total hours worked by all employees during the calendar year) for the state was calculated as:

\[EH_s = HW_n \times E_s\]

where:
- \(E_s\) = State employment
- \(HW_n\) = average annual number of hours for each employee at the national level

## Fatal injury rate limitations

State industry rates are not directly comparable to national industry rates. Because state rates include government workers in their respective industry sector and are not broken out separately, both the numerator and denominator include a different group of workers than that of the national rates. State industry rates are not comparable to other states because of the large differences in the industry composition of employment by state.

There are several limitations of using CPS data in CFOI rate calculations.

- **State of residence versus state of incident**: The CPS counts workers by their state of residence, whereas the CFOI counts workers by state of incident.

- **Primary job versus job at the time of incident**: The CPS annual average employment data used in the rate calculations count workers according to their primary job, whereas CFOI uses the job held when fatally injured.

- **Employment sampling errors**: The CPS data uses a sample of households, therefore the CPS estimates, and the fatality rates based on them, have sampling errors.

For more information on how state rates are calculated and employment data limitations please see Chapter 9 of the BLS Handbook of Methods: [https://www.bls.gov/opub/hom/pdf/homch9.pdf](https://www.bls.gov/opub/hom/pdf/homch9.pdf).