

Calculations from Data Divers Part 1

Prevalence Example:

EX: Let's say we want to know the number of individuals living with HIV (prevalence) within Marion County during 2019. There were 960,000 people living in Marion County during 2019. Of that, there were a total of 5500 people living with HIV.

Denominator (total population): 960,000

Numerator (number of individuals living with HIV): 5500

Prevalence: $5500 / 960,000$; this gives us a quotient of 0.00572. Again, this may not mean that much to us, so let's multiply it by our standardizing factor to get a prevalence rate. Since our population is in the 100,000, I suggest multiplying our quotient by 100,000.

$(0.00572) * (100,000 \text{ population}) =$ roughly 573 individuals living with HIV in Marion CT during 2019 per 100,000 population. So, if you would sample 100,000 individuals from MC, roughly 572 would be living with HIV. This again tells us about the spread among a population. We often use prevalence rates to compare across defined populations.

Incidence Example:

EX: Let's say we want to know the number of individuals living with HIV within Marion County during 2019. There were 960,000 people living in Marion County during 2019. Of that, there were a total of 5500 people living with HIV, with 150 new transmissions in 2019.

Denominator (total population): 960,000

Numerator (number of individuals newly diagnosed with HIV during time period): 150

Incidence: $150 / 960,000$; this gives us a quotient of 0.000156. Again, this may not mean that much to us, so let's multiply it by our standardizing factor to get an incidence rate. Since our population is in the 100,000, I suggest multiplying our quotient by 100,000.

$(0.000156) * (100,000 \text{ population}) =$ roughly 16 individuals newly diagnosed with HIV in Marion CT during 2019 per 100,000 population. So, if you would sample 100,000 individuals from MC, roughly 16 were newly diagnosed. Again, this tells us the risk of transmission.