

Random error

With the exception of December, the **range** of the school data is from 6.5 to 19.5 half-day illnesses per 100 pupils per week.

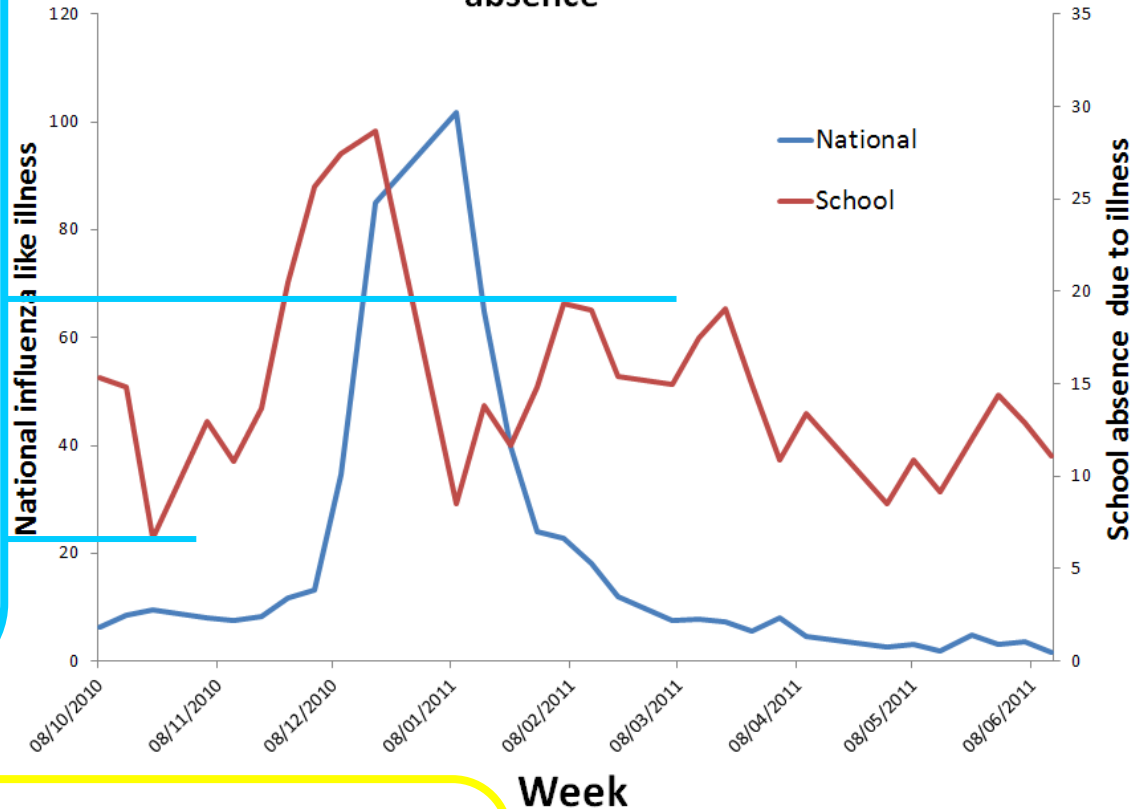
This natural variation is called "random error". The value fluctuates (wobbles) around an average background level of illness when there are no outbreaks.

Because you would have been at school in this period, you might remember a second outbreak of illness that wasn't flu. What would you say was the range of the random error now?

Confounding

We might look at this graph and suggest that the flu outbreak hit in schools 3 weeks before the rest of the population. What alternative explanations are there for this peak?

Rates of national influenza like illness compared to school absence



Reliability

This graph shows the results from one school and the national flu data coming from 60 GPs. Which graph is more reliable and why? How is this reflected in its shape?

Strength of evidence

Somebody looking at this graph might argue that there were two flu outbreaks this year of different sizes and that schools can predict an outbreak 3 weeks ahead of time. What evidence have they used to support their claim? How strong is their evidence?