

TRADURRE IN ITALIANO IL TESTO SEGUENTE:

### When numbers matter (Keith Devlin)

“Power cables linked to cancer” was the attention-grabbing headline in Britain’s *Guardian* newspaper. “Children living near high-voltage power lines are more likely to develop leukemia” the article began. “Those living within 200 metres of the overhead cables were 70% more likely to develop the disease than similar children living more than 600 metres away.”

Britain’s *Guardian* newspaper is a highly respectable national daily newspaper, and the claims it reported had been accepted for publication in the *British Medical Journal*, but that 70% increased risk figure seemed way too high to be true, in the sense that I initially understood it.

Suppose we have a population of 100,000 children, half living near a power line, half not. Suppose that 10 of the children who do not live near a power line develop leukemia over a given period while 17 who do live near a power line also develop leukemia over the same period. If we set the time period in my example at five years, my estimates are pretty realistic.

The 27 cases in total amount to a mere 0.027% of the population. Breaking this figure down into the two groups, the risk factor for children not living near power lines is 0.020%, the risk for children who do live near power lines is 0.034%. True enough, the latter figure is 70% greater than the first, but these are tiny risks.

This is not to say that the difference is not statistically significant. The *Guardian* article was careful not to conclude that exposure to high voltage power lines can cause leukemia, but many readers will surely make that assumption. Yet as anyone who has taken a college statistics course will know, correlation is not causality. There is another possibility that is, to my mind, far more likely.

What kind of people live close to power lines? The pylons are ugly and the lines emit a constant hum, particularly in wet weather. Property values are dramatically lower near power lines. It is likely to be one or more factors associated with poverty that give rise to an increased incidence of leukemia, not necessarily the effects of an electromagnetic field.

In fact, the *Guardian* article carries another message, namely, that numbers can be dangerous unless handled properly.

TRADURRE IN INGLESE LE FRASI SEGUENTI:

1. Alcune statistiche possono essere molto fuorvianti.
2. Il *Guardian* è uno dei giornali più diffusi in Gran Bretagna.
3. Quanti bambini vivono vicino ai cavi dell’alta tensione?
4. L’alta incidenza di una malattia può essere legata a molti fattori.
5. Il costo di una casa a Portofino è molto più alto che a Genova.