

BROWN: Crime statistics can be vastly misleading

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Happy New Year! Out with the old math, in with the new.

It's a good time to take stock of what has transpired over the last year, as data is trickling in. So, I thought I would take a look at the crime statistics on the Halifax Regional Municipality website, and see what lessons there are to be learned.

On the HRM site, the statistics are broken up into weekly police calls throughout the year, and further subdivided into calls to the Halifax Regional Police/RCMP and by local region. For example, during the week Dec. 24-30, 2012, there were 32 calls for assaults, 21 for break and enters and 10 for possible impaired driving. Not all of the calls lead to arrests or charges, but they do give some insight into what is going on around town.

There is a lot that can be read into the data. For example, in Central Halifax, during the week in question, there were seven assaults as compared to 16 the week before. Is this an indication of a drop in the crime rate? After all, the number of assaults dropped more than 50 per cent.

We need to be careful about jumping to conclusions based on a small amount of data, even for what looks like a big change. In contrast, during the same time frames, the number of assaults went up from one to three in Cole Harbour. Certainly there is a lot of variation in numbers from week to week, and the small numbers involved make percentage changes seem much more dramatic than they are. As Mark Twain said (attributing it to British Prime Minister Benjamin Disraeli), "There are three kinds of lies: lies, damned lies and statistics."

Perhaps looking at the year-to-date would be more meaningful, as we compare the crime rate from year to year. By the nature of the variation in the dates of the reporting weeks, some of the year-to-dates in the reports correspond to different number of days, but for the purposes of a little MI (mathematical investigation), it'll do.

I see that the number of calls for assaults in HRM in the years 2006-2012 are as follows: 3,374; 3,146; 3,008; 2,764; 2,924; 2,917; 2,636.

As mentioned earlier, the results are only approximations, as they may not represent exactly the same number of days, though from cursory look at the weekly data, each is probably no more than 50 off the true yearly total.

Overall, there seems to be a general declining trend in the data, with a bump along the way. When I fit a line mathematically to capture the trend of the data, I find that the slope is about -98, that is, the number of assault calls seem to decrease at a rate of 98 per year.

My best guess for the number of HRM assault calls for this coming year would be about 2,573, so I'll have to wait and see. But perhaps things are better than they used to be.

Finally, I'll turn from crime to punishment and just say a word about the deeply disturbing story of Aaron Swartz, an Internet wunderkind. Swartz, a co-founder of Reddit, committed suicide last week. What astounds me is that U.S. federal prosecutors went after him with both barrels a-blazing for downloading millions of research articles from JSTOR, an online academic archive.

If found guilty, Swartz could have been sentenced to decades in prison.

Authors of research papers aren't paid by the publisher and are ecstatic if anyone has the inclination to download even one of the works. They come down on murderers less harshly than on academic hackers.

Above all, punishment should be proportional to the offence, and isn't breaking such a mathematical principle a bigger crime in itself

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