Re: Unusual Y Axis Scale Question

Source: http://www.tech−archive.net/Archive/Excel/microsoft.public.excel.charting/2004−02/0250.html

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From: Gene (*gene.cooney_at_cox.net*)
Date: 02/09/04

Date: Sun, 8 Feb 2004 20:10:46 −0500

Thanks for the reply, Bernard.

The data that needs to be plotted as actually quite simple. They are serum creatinine values (a measure of kidney function) over time. E.g.:

Jan. 1 => 1.8
April 1 => 2.1
July 1 => 2.3
Oct 1 => 2.4
Jan 1 => 2.8
April 1 = 2.9
Etc.

(All values are in mg/Dl, or milligrams per deciliter.)

Although it would be easy to plot these data on a graph with standard Y−axis values that were uniformly incremental, the preferred way to plot the data is with the "accelerating" Y−axis values that I have described. When you actually see the data plotted out, you realize the benefit of doing it this way. In the early stages of chronic renal insufficiency, the subtle changes of a few tenths of a point are more accurate and significant, whereas in the later stages, known as ESRF (end−stage renal failure), subtle changes in creatinine on the order of 1/10 point are relatively meaningless for a few different reasons. At these higher values, the labs can't measure that accurately and, once you reach a value 3 or so, you better get on the list for renal transplant anyway.

When the data is plotted in the way I described the trend line is much steeper than it would be with a uniformly incremented Y−axis, thus demonstrating the progression of the disease more graphically.

So, it's not the data that is complex, it's just the scale of the Y−axis.

I hope this clarifies it. Thanks again.

"Bernard Liengme" <bliengme@stfx.TRUENORTH.ca> wrote in message news:%23ul7I9p7DHA.488@TK2MSFTNGP12.phx.gbl...
> Hello Gene,

> *If you can plot it manually we expect to be able to do it in Excel. But*
you
> *are asking a lot of this group − you have not told us what to plot. Are*
you
> *thinking of the Michaelis Menten equation? Or is it some other function of*
> *[S] that needs to be worked out?*
> *We would love to help but need more info*
>
> *−−*
> *Bernard Liengme*
> *www.stfx.ca/people/bliengme*
> *remove CAPS in e−mail address*
>
> *"Gene" <gene.cooney@cox.net> wrote in message*
> *news:u0kZCTn7DHA.1504@TK2MSFTNGP12.phx.gbl...*
> > *I am trying to create what is referred to in the medical literature as a*
> > *"reciprocal creatine curve." The data is rather simple −− just serum*
> > *creatinine values (Y−axis) over time (X−axis), but the Y−axis scale is*
> *quite*
> > *unusual. The scale is not linear and it's not logarithmic. It's a scale*
in
> > *which the values appear to constantly accelerate. Thus, the distance*
> *between*
> > *1 and 2 is greater than the distance between 2 and 3, the distance*
> *between*
> > *2 and 3 is greater than the distance between 3 and 4, etc. Toward the*
very
> > *top of the Y−axis the incremental distance between values becomes*
> > *infinitesimally small.*
> >
> > *Is this scale possible to recreate in Excel? Any help is sincerely*
> > *appreciated.*
> >
> >
>
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