“There is not a single place in Europe, other than in the UK, where life expectancy is falling, or anywhere else in Europe where infant mortality is rising.”

Making a just noticeable difference

JNDs and the Weber–Fechner Law. Ernst Weber was a 19th-century German physician who first described the just noticeable difference, the JND, before the work was taken up by his student, Gustav Fechner, another pioneer in experimental psychology. The Weber–Fechner Law highlights how our senses and perceptions aren’t as robust and rational as we might like. They found that the JND in any variable is proportional to the magnitude of that variable. Weber did research using simple weights to see when people could detect a difference in weight. We’re best at detecting relative differences — as a weight gets heavier we need a bigger difference to feel it.

This has clinical relevance as well. The JND is often the threshold at which people come to see us. It’s when they notice that they have lost weight, or their pain spills over, and they turn up to see the doctor. We all notice that people often struggle to be sure when a symptom actually began. On reflection, it might occur to them that the symptom has been there longer, but it has to trip the JND switch before they attend. Deteriorating eyesight, those of us of a certain age can testify, falls into this category. It feels like presbyopia swoops upon us, yet, more likely, we simply crossed that JND threshold.

Infant mortality is climbing. In the midst of the Brexit and election storm Danny Dorling wrote in *The Correspondent* about life expectancy and infant mortality.¹

There is not a single place in Europe, other than in the UK, where life expectancy is falling, or anywhere else in Europe where infant mortality is rising. This is, in his words, ‘uncharted territory’. The statistics show that 3.6 babies died for every 1000 born in 2014 and this has now risen to 3.9 in 2017. This is a statistically significant increase. Statistics can be a cruel, soulless language and there is a risk they blunt our emotional response to this tragedy.

In our little human brains, it is extraordinarily difficult to conceptualise the idea of 0.3 of a child. Let me do some maths to help. The ONS tells us there were 679 106 births in 2017.² That means

203 more babies died in 2017 than would have died in 2014 if the infant mortality had stayed the same. Let’s linger for a moment on the grief and the pain the deaths of over 200 babies will bring.

We are, again, the sick man of Europe, a term often reserved for bin-fire economies, but while commentators may feel happy with Britain’s economic metrics the grotesque irony is that the current policies are killing the most vulnerable.

Reversing the trends. Dorling has few doubts about the cause. He lays the blame squarely on austerity. The UK used to spend 41% of GDP on public spending in 2006 but it has now dropped to 36%.¹ This is among the lowest in the EU. One might argue that these are unrelated facts but the association is undeniable and a causal argument is easily made. The urgent discussion we need to have about social care and health and these appalling deaths has been drowned out by shrieks in the prolonged psychodrama of Brexit. I feel like I have crossed a professional version of the JND and my threshold to tolerate such grim facts is long since breached.

How many babies would have to die before you notice this in your everyday life? How many more street homeless would you step over before it gave pause? (Only Germany has more rough sleepers than us and most of those are refugees of whom we accept almost none.)

Notably, Scotland had the same infant mortality of 3.6 deaths per 1000 births in 2014 but the Scottish government diverted funding to mothers and babies. By 2018 it dropped to 3.2 deaths per 1000 births,¹ throwing the kingdom-wide gap into stark relief. We can’t wait for the just noticeable difference to be apparent to the majority; we have to act now and demand the investment.

Euan Lawson,
Deputy Editor, *BJGP*.

Email: euan@euanlawson.com

Euan Lawson has a full declaration of interests:
www.euanlawson.com/doi

DOI: <https://doi.org/10.3399/bjgp20X708533>

REFERENCES

1. Dorling D. The biggest story in the UK is not Brexit. It’s life expectancy. *The Correspondent* 2019; **16 Dec**: <https://thecorrespondent.com/177/the-biggest-story-in-the-uk-is-not-brexit-its-life-expectancy/197470651092-d2e0df85> [accessed 4 Feb 2020].
2. Office for National Statistics. Births in England and Wales: 2017. <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/bulletins/birthsummarytablesenglandandwales/2017> [accessed 4 Feb 2020].