



*"Ignorance comes in several guises."*

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## The Age of Hubris

Apps don't help parents of sick kids.<sup>1</sup>

A recent systematic review of research relating to apps and their use in helping parents of ill children found an absence of evidence of benefit but evidence of user dissatisfaction.

We are in the midst of the Information Age, but I suspect that a combination of outcomes is something we are all familiar with, whether users of such apps or not. Wikipedia identifies the development of the transistor as the fundamental facilitator to the ending of the earlier Industrial Age,<sup>2</sup> shifting us to an economy primarily based on information technology; that economy includes plenty of failed promises still.

I contend that this is in fact the Age of Hubris. It is salutary to think how little we still know.

Ignorance comes in several guises. There is stuff we know that turns out to be otherwise. There is stuff we know that turns out we just don't, and no one else does either. There are the known unknowns, the stuff we actually know we don't understand. And there are the unknown unknowns, as made famous by Donald Rumsfeld:

*"The message is that there are no "knowns". There are things we know that we know. There are known unknowns. That is to say there are things that we now know we don't know. But there are also unknown unknowns. There are things we do not know we don't know."*<sup>3</sup>

Those parents of sick children who try to use an app to determine their best course of action probably fall into the first category — they thought it would be helpful but learn that it is not. They are not the only ones to be prone to having to change their view though. Fresh challenges to existing beliefs come up all the time. For example, a recent cohort study using a database based on UK GP records identified that macrolide prescribing in pregnancy was associated with an increased risk of malformations.<sup>4</sup>

A recent US safety assessment of commonly used active ingredients from sunscreens falls into the second group — we all assume they're safe but it turns out

nobody knows if they genuinely are.<sup>5</sup> The research in question found all six compounds tested show higher than recommended plasma levels even after a single application. Although they report no significant toxicity, this was not a long-term follow-up study.

A core purpose of science is to explore the known unknowns and to help us reduce the blindspots so that we can then explore those too. A piece of research that won an Ig Nobel Prize in 2018 explored a known unknown — why most users of new electronic consumer products don't RTFM (read the field manual).<sup>6</sup> It identified that children were least likely to do so, and that most users use only a subset of the features of their products. The probable cause? Over-features and being forced to consult manuals appear to cause negative emotional experiences.

France's recent decision to remove state funding for dementia drugs suggests its government has decided to move the topic of how to promote cognition in dementia back into the category of known unknowns.<sup>7</sup> I applaud this, thinking there are quite a few medicines we peddle that have only marginal benefit at best and whose use promotes the illusion of knowing how to help.

In terms of unknown unknowns, my practice faces a Care Quality Commission (CQC) inspection next week. A recent study reported that the quality indicators used by CQC to measure UK general practices have very little correlation with the inspection ratings practices receive.<sup>8</sup> So it appears the basis for the rating we will receive is as unknowable as the outcome of our visit.

If this really is the Information Age, we're still some way off its zenith.

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DOI: <https://doi.org/10.3399/bjgp20X709217>

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