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Bugs and the big bang

'This is the way the world ends
This is the way the world ends
This is the way the world ends
Not with a bang but a whimper'.

TS Eliot. The Hollow Men¹

■ **Now that's a cheery thought! Somewhere more than 100 km below the Geneva countryside two parallel beams of subatomic particles are whizzing around a 27 km circuit in opposite directions at about 99% of the speed of light, doing over 11 000 laps per second. Physicists hope to create a 'bang' that won't end the world, but will unlock some of its mysteries. I confess I have never thought of physicists as poets, but they certainly come up with some evocative models to explain the unknown such as 'dark matter', the invisible skeleton stretching through space; or 'dark energy', which drives the expansion of the universe; or the grandiose 'God's particle' (officially named 'Higgs boson') postulated to endow other particles with mass. These are concepts both too large and too small to grasp.**

The Large Hadron Collider (LHC) is the largest particle accelerator ever built and is the culmination of over 20 years work in an international collaborative effort by the European Organisation for Nuclear Research (CERN). At four places in the LHC circuit powerful magnets bend the beams so that the streams of particles collide. Detectors in the collision chambers will give a 3-D image of the subatomic particles generated that will be analysed by physicists around the world. The particles collide with enough energy to recreate the conditions of the 'big bang' ...in a safe way!² Of course in the grand scheme of things it will only be a tiny 'big bang' but nevertheless enough for a number of people to postulate that this experiment could create an all consuming black hole that would end the world.

It seems that there are always events that are going to lead to the end of the world, or at least the world as we know it. When I hear of them I usually feel both powerless and paralysed... why bother to do anything if the world may end tomorrow? (In fact, if the CERN project remains on schedule, then the first collisions will be happening as you read this... on your journey to the black hole.)

However, some potential disasters we can do something about and it makes sense to do what is within our power to avert them. In this

issue of *Australian Family Physician* we focus on outbreaks of infection and what we can do as doctors to prevent them, minimise risk, or cope with them if and when they occur. At some stage it is likely that there will be another influenza pandemic, following on from the three that we had last century. The timing of that pandemic, the scale and the case fatality rate remains uncertain. General practice will be at the forefront of managing this crisis with an enormous impact on both general practitioner workload and staffing levels in this issue of *AFP*. Collins et al present us with a comprehensive checklist of the things we will need to consider including practice protocols, GP/staff education, equipment, infection control, notification, antivirals, vaccinations and workforce planning. The other two outbreaks discussed in this issue are Salmonella and Legionella infections. The authors describe the clinical syndromes caused by Salmonella and Legionella respectively, and their diagnosis and management. The key preventive and public health strategies against Salmonella are to vaccinate travellers against enteric fever, to educate patients about appropriate food preparation and handling and personal hygiene and to appropriately exclude sufferers from food preparation. In Legionella infections the preventive activities are more the province of health regulators in maintaining the safety of cooling towers. The key message for GPs faced with a patient with community acquired pneumonia is to consider... could it be Legionella? In both conditions GPs have an important public health role in notifying the appropriate health department of infections.

While planning and prevention is vitally important, and we need to do what we can to avoid disaster, too much focus on the doomsday prophecies can lead to excessive anxiety and can paralyse us... both from living our life and searching for what could be. If we do that, then our individual world as we know it will end anyway. Sure, there are potential risks with a project like the LHR accelerator, but what potential gains and what a testament to the overwhelming desire of mankind to find meaning and to understand the world. We can't always be too safe... otherwise we risk becoming the hollow men and ending, not with a bang, but a whimper.

References

1. Eliot TS. Collected poems 1909–1962. London: Faber & Faber Ltd, 1974.
2. Ellis J, Guidice G, Mangano M, Tkachev I, Wiedemann U. Review of the safety of LHC collisions. *J Phys G: Nucl Part Phys* 2008;35115004:1–18.

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