

Alberta Doctors' Digest

Our crowded house

“There are just too many of us!” This is often offered up as the explanation for our troubles on a crowded planet. We passed the 8 billion mark some time ago and are increasingly worried about our numbers.

Our concern tracks back to 1798, when English scholar and cleric [Thomas Malthus](#) published *An Essay on the Principle of Population* at a time when there were a mere one billion people on the planet. Our numbers have accordingly risen eight-fold in a little over two centuries.

Malthus's contention was straightforward: our ability to procreate is infinitely greater than the power of the earth to provide subsistence for more and more people. Simply put, barring wars and pestilence or other global tragedy, we'll exceed our planet's carrying capacity as populations grow.

The argument remains credible and even compelling on a number of fronts. We are certainly running out of arable land and water. On an equally concerning basis, our explosive growth in numbers has been attended by a buildup of greenhouse gases that are warming the planet and altering ecosystems everywhere, imperilling ourselves and a host of life forms we know little about.

As time wears on, matters will only become more critical. Experts assure us that we have little room to manoeuvre, that if we can't respond dramatically and quickly enough, we can expect a point-of-no-return with apocalyptic wars, famine and pestilence that are self-sustaining.

We can't say we haven't been warned. In more recent times, Stanford biologist [Paul Ehrlich](#) published *The Population Bomb* in 1968, warning that many millions of people would soon starve to death and that the world would sink into chaos. The predicted famine and devastation never happened due, at least in part, to the “[green revolution](#)” and improved fertilizer technology. Ehrlich has been pilloried for his inaccurate predictions, though he still maintains that population-based scarcity will continue to define our collective futures.

Others think that the scarcity and the crises predicted by Ehrlich won't happen. Economist [Julian Simon](#) challenged Ehrlich's notion of critical over-consumption of resources in a celebrated wager that the prices of five metals – chromium, copper, nickel, tin and tungsten – would not rise over a 10 year period between 1980 and 1990.

Julian Simon won. Three of the five metals fell in price over the test interval, but on an inflation-adjusted price basis all were less expensive after 10 years. Generalizing beyond the terms of their bet proved difficult, though. Had the test interval been longer –

say between 1980 and 2011 – the result would have been different, and Simon would have lost significantly as the metals rose in price.

The debate was nevertheless an important one since it defined durable but opposing points of view. Some reckon that resources are finite and will eventually run out; others maintain that human ingenuity and creativity are paramount and will override any issues of scarcity through efficient use of resources or substitutions as needed.

The argument is unresolved.

There may be some reprieve on the burgeoning population side of things in that the rate of growth in our global numbers is slowing. The most recent UN report projects that the [world's population will grow](#) from its present 8 billion to peak circa 2086 at 10.4 billion people followed by a slow decline thereafter.

Demographers refer to a metric called the total fertility rate (TFR), which roughly represents the average number of children a woman will have in her lifetime, to describe matters on a country-by-country basis. As one might expect, a TFR of slightly more than two is needed to maintain a stable population without immigration. The world is changing, and there are many countries where the TFR is approaching one. Canada and most European countries have TFRs near 1.5, but other countries, often in Africa, are growing quickly. Nigeria is a good example. With a current population of 220 million people, it is projected to reach 375-400 million people by 2050. China's population, in contrast, is diminishing, and it is expected to decline from its present 1.43 billion to 1.42 billion by 2030. As well, it has been overtaken by India as the world's most populous country.

Too many mouths to feed remain problematic, but so too do waning populations. Countries where the fertility rate has dropped below replacement levels are in trouble. Most have long-standing social security programs that were put in place during periods of population growth and are based on the tacit assumption of more future young workers supporting benefits than oldsters receiving them. This can be regarded as a legitimate Ponzi scheme and works well during growth periods, but it presents a dilemma when fewer workers must support increasing numbers of retirees.

Whatever major issue we're facing, we are faced with a numbers game at end. Meeting people's needs without new sources of income from economic growth will be an enormous challenge for political leaders and bureaucrats. Our recent experience with the COVID-19 pandemic may be germane. Science and technology have served us in spectacular fashion here, but they have also exposed the weaknesses in our response.

Our plague, if we can call it that, would have been immeasurably worse without the effective vaccines and anti-viral medicines that were implemented expeditiously. Our Achilles heel in dealing with the virus, though, must be our collective unresponsiveness coupled with our collective misbehaviour. Denial and hostility prompted many among us, or more, to flout basic quarantine and hygiene measures; fall prey to demagogues, magical thinking, or hucksters; and shrug off concern for one another.

This last failure (can we call it failed citizenship?) is relevant to our survival. Homo sapiens have endured, historically, though other lines of humans have perished. Some were more muscular and stronger than us; some had brains that were considerably larger than ours. But we persist, possibly due to the resilience, adaptability and social prowess of our members.

These traits may have helped us when our numbers were smaller. What about now?
What about tomorrow?

We're fractious and angry and know full well our world is getting hotter. Another viral attack is inevitable. Climate change and nuclear annihilation loom darkly, along with all the other threats that linger.

Whether we're trying to feed 8 billion plus people or stop them despoiling our planet, our responses will have to be more immediate, more intelligent and more uniform than has been the case.

We know we're going to have to elevate our game.

By a lot.

Editor's note: The views, perspectives and opinions in this article are solely the author's and do not necessarily represent those of the AMA.

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