MYTH: WHEN IT COMES TO DRUGS AND DEVICES, NEWER IS ALWAYS BETTER

There's a well-known logical fallacy called an “appeal to novelty”. It captures a simple mistake we've probably all made: assuming that something is better just because it's newer. For many consumer products in our society (cars, cell phones, computers, TVs), we tend to think that newer means higher performance, safety, and efficiency, and this notion also applies to healthcare.1 With many new drugs and devices being approved yearly,2 it's worth scrutinizing the claim that newer is always better (and worth the extra cost). Research shows that sometimes existing drugs and devices for managing health conditions can be as good or better, safer, and cheaper than new technologies.3, 4, 5

ENSURING EFFECTIVENESS AND SECURING SAFETY

The drug approval process in Canada occurs through several mechanisms. Drug manufacturers are required to demonstrate the effectiveness of their new drug compared to no active treatment at all (a “placebo”),3 show that their new drug is not any less effective than an existing therapy, or that it has the potential to show improvement over existing therapies.6 This doesn't necessarily guarantee that new drugs will be better (and safer) than what's already on pharmacy shelves, however. Sometimes clinical trials are short-term, or do not include specific groups, such as individuals above a certain age,7 which makes it difficult to predict all of the possible outcomes that can occur when a new drug reaches the general population.8, 9 As a result, some adverse events are recognized only after a drug is released.8 A recent study of new drugs approved in Canada between 1995 and 2010 showed that almost 1 in 4 had a serious safety issue.10

Additionally, sometimes new drugs are not new in the molecular sense.8, 11 Instead, they are existing drugs or “molecular entities” that have been reformulated (e.g., extended-release versions of various pharmaceuticals) or “repositioned” for the treatment of different conditions.12 While these "new" technologies sometimes confer better health outcomes to patients, they often do so at a higher cost.13 Reformulating or repositioning drugs extends patents, creating delays until cheaper generic versions can compete in the marketplace.14 The result can mean greater costs to patients, healthcare systems, and society.13

EVIDENCE TRUMPS AGE

There's another common fallacy to be watchful for, however: "an appeal to tradition". Just because something has been around for a while doesn't mean it's necessarily better either. Many new drugs and devices do provide significant benefits. Thanks to improvements in drug technologies, many categories of drugs are now better than their predecessors (e.g. anti-psychotics), and conditions which were previously untreatable are now manageable with medication (e.g. HIV/AIDS).15 Additionally, one 2010 study found that there is a very strong relationship between pharmaceutical innovation and decreased mortality rates, especially for young people.16 The point is that a health technology's age tells us very little about its cost-effectiveness or safety. A sober look at the available evidence is the best way to determine value.

Establishing the relative value of drugs and devices has become increasingly important as the financial and opportunity costs of investing in new health technologies increase.5, 17 That's why health technology...
assessment (HTA) has come into such prominence in recent years.\(^{16,19}\) HTA involves using evidence to ensure Canadians are using the best, most cost-effective technologies possible, regardless of how new or old the technologies may be.

**ASSESSING THE FACTS**

In Canada, many organizations (including the Canadian Agency for Drugs and Technologies in Health (CADTH), Health Quality Ontario,\(^ {20}\) and the Institut national d’excellence en santé et en services sociaux in Quebec\(^ {21}\) have used HTA to compare a variety of drugs and devices. By using HTA, experts can ensure that they are relying on evidence, rather than the age of a technology, to illustrate its value.

For example, one CADTH study released in 2011 indicated that newer MRI (magnetic resonance imaging) machines with stronger magnets can provide faster scan times and better quality images as compared with previous models.\(^ {22}\) However, the study also suggested that for most medical conditions the newer and older MRI machines were not different in terms of diagnoses or patient health outcomes,\(^ {23}\) despite the higher cost of the new machines. However, this is an area of technology that is developing rapidly and will require re-evaluation in a few years.

Meanwhile, a 2012 Health Quality Ontario study considered the use of remote monitoring systems as an alternative to traditional in-person follow-ups for patients with Cardiovascular Implantable Electronic Devices (e.g. pacemakers). The researchers found that using remote monitoring systems led to significant reductions in in-office follow-ups in the first year after implantation; detection rates were higher for clinically significant events (e.g. increased patient heart rate or a low battery in the device); and the time to a clinical decision regarding these events was shorter.\(^ {23}\) These studies clearly indicate that it is not the age of a technology that matters, but rather the benefits it offers to patients.

**CONCLUSION**

“New” can mean a lot of things. When it comes to drugs and devices, however, assuming it always means “better” can be costly. Always favouring newer health technologies can lead to suboptimal use of healthcare dollars and may even put patients at risk. Assessing health technologies to make sure the most clinically effective and cost-effective technologies (regardless of age) are being used is essential for getting the most out of healthcare spending and ensuring patients receive the best care possible.

---

**REFERENCES**