

THE 20SENSE REPORT



Making sense of Canada's
specialty pharmaceutical market

SPOTLIGHT ON THE CANADIAN
SPECIALTY PHARMACEUTICAL MARKET

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The Innovation vs Sustainability Conundrum

The Sky's the Limit for Specialty Drug Innovation

In 1899, Charles Duell, commissioner at the US patent office, reportedly stated that “everything that can be invented has been invented.” Duell is surely blushing in his grave: through the 20th century and into our new millennium, invention has exploded in all domains, medicine being a shining example.

First came antibiotics, then genetic testing, and still later, complex specialty medicines that mimic, amplify, and intercept physiologic processes. Among the numerous space-age technologies that have landed on earth is next-generation sequencing, a high-speed DNA processing technique that can identify patients at risk of a variety of cancers.

The pace of these advances continues to astonish. Twenty years ago, before the advent of targeted anti-retroviral therapy, AIDS was a killer disease that incited worldwide fear, and HIV-positive patients could expect to live just 10 to 12 years following diagnosis.¹ A young person beginning therapy today can expect to live to age 78, close to the average lifespan.² Hepatitis C treatment has made equally dramatic strides. A decade ago, hep C ravaged bodies and lives like a silent time bomb. →

Back to Earth: Drug Sustainability S.O.S.

Depending on how old you are, you may recall shelling out serious money for a calculator – or paying a month's salary for a desktop computer. Today, calculators cost the same as candy, and computers have shrunk dramatically in size, weight, and price.

Such price drops arise naturally from increasing demand and production efficiency in the wake of a disruptive innovation. In the pharmaceutical world, however, prices haven't followed the expected script. Instead, costs keep spiraling upward, with no ceiling in sight. As just one of many examples, blinatumomab, a novel immunotherapy for a type of leukemia, clocks in at approximately \$33,000 per month.¹⁰ And earlier this year, the province of Nova Scotia agreed to cover a man's CAR-T treatment in Boston, valued at \$900 thousand.¹¹

Some of these therapies do deliver on their promise – but not all. Of the eight new medicines assessed by the Patented Medicine Prices Review Board (PMPRB) in 2016, all but one showed only a slight improvement over standard treatment.¹² The “slight improvement” argument, in fact, stands behind the CADTH expert panel's recommendation against funding the →

CONTINUED FROM PAGE 1

Today, direct-acting antivirals offer a path to a permanent cure – a milestone that earlier generations didn't even dare dream about.³

Then there's oncology, the focus of breakthrough after breakthrough. The old phrase "fight against cancer," which assumed one either won the fight (cured the disease) or lost it (succumbed), no longer reflects reality. Sophisticated new treatments have turned cancer into a chronic disease for many patients: these medications keep the cancer in long-term remission, allowing patients to carry on – more or less – with their lives.

The drug ibrutinib, for example, has given a new lease on life to people with treatment-resistant leukemia. In a landmark trial of patients with chronic lymphocytic leukemia, 59% of patients receiving ibrutinib survived 3 years without progression of disease, compared to just 3% of those treated with a traditional comparator drug.⁴ Most remarkable of all? Complete responses to ibrutinib increased over time.

Even within a particular drug class, new kids on the block are outdoing their predecessors – a testament to the vigor of →

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\$250,000-per-year cystic fibrosis medication Orkambi.¹³ Such cautionary tales aside, novel therapies are rising not only in cost, but in number. According to an IQVIA forecast, the next half-decade will see an average of 54 "new active substance" launches per year, two-thirds of them specialty products.¹⁴ If this prediction bears out, specialty medicines will swallow up half of total drug spend by 2023.¹⁴ One can only imagine how costs will surge if today's rarefied therapies find applications in more common diseases, such as Alzheimer's. As it happens, Janssen has recently inked a partnership with the University of Pennsylvania to develop Alzheimer's drugs based on gene therapy.¹⁵ Should this trend continue, lower-cost drugs may become the exception, rather than the norm.¹⁶

Even patent losses don't necessarily bring costs down anymore. It used to be that low-cost generics swooped into the market following the expiry of an innovator drug's patent. In the increasingly crowded biologic drug space, however, stakeholders have been slow to accept the lower-priced biosimilar molecules, and many patients remain on the costly originator drugs.¹⁷ What's more, the price breaks on biosimilars have not approached the deep discounts seen with generics. →



CONTINUED FROM PAGE 2

today's specialty drug research. As one example of in-class progress, the ALK inhibitor alectinib significantly outperformed the older ALK inhibitor crizotinib in patients with a specific type of advanced lung cancer.⁵ And it goes without saying that these new targeted therapies roundly beat chemotherapy.⁶

If there were an Academy Awards for medicine, an emerging cancer treatment called CAR-T cell therapy would surely get an Oscar. A *tour de force* of modern medical science, CAR-T therapy involves adding genetic matter to a patient's T cells (immune fighter cells), enabling them to mount a targeted attack on cancer cells. Once in the bloodstream, these genetically enhanced cells continue to multiply and do their job.

The FDA has given the nod to several CAR-T agents, and Health Canada's recent approval of Kymriah and Yescarta – CAR-T agents used for some forms of lymphoma – has ushered the class into Canada. Canadian stakeholders are also joining forces to ramp up CAR-T research and capacity. Case in point: the BioCanRx network and its partners is funding 16 research initiatives that have the potential to cure cancer, such as made-in-Canada CAR-T.⁷ And that's a good thing, because the worldwide CAR-T market is expected to grow at an annual rate of 45.6%.⁸ More importantly, these therapies give patients with treatment-resistant cancer a real shot at beating their disease.

On a parallel track, the science of cancer interception – stopping cancer before it even shows up – is coming into its own. For example, researchers are now working on drugs to treat smoldering multiple myeloma (SMM). Affected patients have abnormal proteins in the blood and urine that, in 5 percent of cases, progress to outright multiple myeloma.⁹ The next rung on the ladder, a cure for cancer, may not be so pie-in-the-sky anymore.

More than a century after Charles Duell's misguided prognostication, there is no reason to believe medical invention will ever slow down. Quite the opposite: pharma innovation is blazing more brightly than ever, with thousands of Canadians reaping the benefits of manufacturers' investment in targeted therapies. But is it sustainable?

Even within a particular drug class, new kids on the block are outdoing their predecessors – a testament to the vigor of today's specialty drug research.

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Can we continue to pay for treatment so costly that other health services may need to be dropped? It's the elephant in the room and we can't dodge it forever. We need to find the sweet spot that marries best patient care with the realities of our healthcare system.

And here's an uncomfortable thought: if these new "super drugs" help people survive cancer and live longer, these same people may well develop other diseases along the way – diseases that will require more expensive drug treatment. Who will pay for all this? While the ferment of innovation in our midst is cause for celebration, our system cannot bear these spiraling costs.

This matter has not escaped our policymakers' notice. In stakeholder discussions about the proposed national pharmacare program, affordability ranks as a top concern. The PMPRB, for its part, has proposed new rules that would bring down Canada's per-capita drug spend, which exceeds that of all other industrialized nations except the US and Switzerland.¹⁸ Estimated implementation timeline? Early 2020.¹⁸ Understandably, these looming changes have caused some concern among stakeholders. With cost pressures bearing down on all points along the delivery chain, pharmacy wholesalers, specialty pharmacies, distributors – not to mention drug manufacturers themselves – could all take a financial hit if the pie gets smaller.

Can we continue to pay for treatment so costly that other health services may need to be dropped? It's the elephant in the room and we can't dodge it forever. We need to find the sweet spot that marries best patient care with the realities of our healthcare system. But how? While manufacturers deserve fair compensation for the risks and costs of developing specialty medications, we need to look the pricing and sustainability issues square in the eye. *What other choice do we have, really?*



At the Vanguard of Innovation: Interview with Sophie Rochon

Sophie Rochon's job as National Director, Health Policy and Patient Access, for Novartis Oncology has her talking to government policymakers—and listening to poignant patient stories. An expert negotiator and nationally respected industry leader known for her solutions-based approach, Rochon works to get government, patient groups, private insurers, and professional associations to improve patient access to treatments vital to their continued health. A board member of Group Entreprises en Santé, Rochon also serves as co-chair of the innovation committee of Montréal Invivo. Here, Rochon gives us a peek at the early days of integration of cell and gene therapies in Canada following the September 2018 approval of the CAR-T cell therapy Kymriah.

Q: Tell us a little about Kymriah. What does the treatment mean to Canadians?

Kymriah is indicated for certain types of lymphoma in adults and leukemia for children. The treatment involves reprogramming a patient's own T cells so they recognize and attack the cancer cells. It is

personalized medicine at its best and offers hope to patients who have run out of other treatment options. The first child treated with Kymriah, Emily Whitehead in the US, is now cancer-free for seven years.

Q: What is your experience to date bringing this historic innovation to market?

Everything about the treatment is new, so we expected the process to look different. For one thing, Health Canada, CADTH and INESSS conducted a parallel regulatory review and health technology assessments. Interestingly, CADTH looked at the treatment through the lens of a device rather than a drug. The assessment process went far beyond efficacy and safety, and looked at hospital implementation, societal impact, and ethical issues.

Q: Tell us about access. Where and how will the therapy be offered?

First and foremost, our objective is to provide appropriate patients with safe access to Kymriah. Kymriah will be offered at centres accredited by FACT [Foundation for the Accreditation of Cellular Therapy].

We will initially roll it out at two centres in Ontario and two in Quebec, and from there we hope to expand to a national network. The treatment centres will need to have affiliated cellular therapy labs and specially trained personnel.

Q: How close are you to offering the treatment in Canada outside of clinical trials?

We're laying down the infrastructure and the training, as well as discussing with the provinces. In terms of a first treatment date, the best estimate I can give right now is "soon."

Q: How are the negotiations going?

Cancer Care Ontario is taking the lead on negotiations, not just for Ontario but the other provinces and territories. For new drugs, such negotiations have traditionally gone through the pCPA [pan-Canadian Pharmaceutical Alliance] office, but in this case the discussion goes far beyond pricing, so it made sense for a cancer organization to step in. The pCPA is participating as an observer. →

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Q: What factors come into play in setting a price for Kymriah?

The patient population Kymriah treats has limited treatment options and historically poor outcomes. The price of Kymriah takes into consideration unmet medical needs, clinical and quality of life measures, the value of Kymriah in consideration of its clinical benefit and its ability to mitigate the economic, healthcare and social burden of disease in the two indications for which it is approved.

We are exploring ways we can support health system stakeholders to introduce Kymriah in a responsible and sustainable manner including innovative pricing models, early access mechanisms, outcomes-based agreements as well as patient and caregiver support.

Q: How might a risk-sharing arrangement work for Kymriah?

In the US, Novartis has entered into outcomes-based agreements (OBAs) with the certified treatment centers that offer Kymriah for the pediatric and young adult leukemia indications. We are exploring similar arrangements in Canada.

Q: What is the role of health outcomes data in the CAR-T space?

There is a global Kymriah registry in place, enabling the collection of shareable clinical data. In Canada, it could be an exciting opportunity to use outcomes data to test OBAs. We still need to figure out how to broaden access to data. Are we comfortable using proxy measures? How can we automate the collection and sharing of data? To give a simple example: when a patient has an outcome, do we have the appropriate infrastructure to collect data on that outcome in a timely manner?

Q: How do expensive therapies such as CAR-T fit in with a sustainable healthcare system?

It bears noting that patented drugs represent only 7% of total healthcare spend. Even if we take all drugs off the table, we'll still have full hospitals with patients who require procedures, equipment, and staff. If we can get better at measuring these costs, as well as evaluating the cost-effectiveness of different treatments, we'll be in a position to have balanced discussions about sustainability. For the time being, our role at Novartis is to introduce CAR-T to the health system in a responsible way, and to pave the way for CAR-T therapies that come after us.

Q: Is CAR-T moving us toward a cure for cancer?

It's too early to say, but long-term remission is now a realistic scenario. Some truly great minds have gone into the development of CAR-T. In this case we can actually say: it is rocket science.

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Finding the Balance

The era of personalized medicine is arriving at a full gallop. In this brave new world, specialty medicines target different genetic profiles and patients take DNA tests to find out if they qualify for a treatment. An array of lab tests hones in on their immune profile, enabling scientists to tweak a drug so it speaks the same immune language. If all goes well, the patient gets better – much better.

How can we continue to support these sci-fi advances while keeping a lid on costs? How can we steer the innovation ship so it lands on fertile soil?

Some ideas to consider:

Set innovation priorities:

All innovation is not created equal. Some new treatments, while technologically impressive, may not have a benefit-to-cost ratio that justifies the investment. By the same token, some treatments have complicated protocols that can compromise patient adherence – and create massive who-pays-for-what confusion. We need to think beyond pure science and prioritize

innovation that fits into the real world. How about focusing more on prevention? An HIV vaccine, for example, could end the epidemic once and for all and save incalculable health care costs.¹⁹

Connect pricing to value:

The proposed new PMPRB framework will give consideration to value-based pricing, meaning that the cost-effectiveness of a treatment may factor into pricing determinations.¹⁸ In a similar vein, the Expensive Drugs for Rare Diseases (EDRD) working group is looking to incorporate real-world evidence into its evaluation of medications.²⁰ Evidence not strong enough? The price comes down. That's the idea, anyway. While value-based pricing comes with its own complications, it keeps industry accountable and oriented toward treatments that deliver the goods.

Leverage and evolve your PSPs:

The patient support program (PSP) accompanying most specialty drugs is a valuable data source. PSPs facilitate the collection of data specific to a product and a disease state, thus having the potential

to yield critical insights on bang for buck. PSPs also enable the collection of patient-reported outcomes (PROM) and other metrics that are increasingly valued as supports for payer decision-making.

Keep a finger on the pulse:

Keep abreast of what's happening and what's about to happen in the specialty medicine ecosystem. Look for guidance on harnessing real-world evidence from the Canadian Association for Population Therapeutics.²¹ Explore opportunities afforded by collaborative research groups, such as the international partnership to explore the therapeutic potential of a new target for HIV cure and prevention, spearheaded by the NEOMed Institute in Montreal.²² The Centre for Commercialization of Regenerative Medicine's (CCRM) new Centre for Cell and Vector Production in downtown Toronto, for its part, provides the specialized environment and expertise needed to develop cell therapies.²³ Connect with thought leaders to zero in on the most salient clinical needs – and put them at the top of your R&D to-do list.

What We're Reading

We find that the following articles provide great insight into the specialty pharmaceuticals market. Follow us on LinkedIn where we're sharing our thoughts on these topics and many more.

[Podcast: Could pharmacare in Canada be a reality?](#)

[Nova Scotia agrees to cover man's \\$900K cancer treatment in Boston](#)

[A short documentary of Dr. Carl June's T-cell therapy against leukemia](#)

[Uncertain, costly, but filled with hope: Gene therapy about to go mainstream in Canada](#)

[Thwarting Deadly Diseases Before They Start: The New Science of Cancer Interception](#)

[CBC Ideas Podcast: All the drugs that are fit to take](#)

[PMPRB Meds Entry Watch, 2017](#)

Upcoming Issues

In upcoming issues of *The 20Sense Report*, we'll take a deeper dive into:

- Patient support programs: exploring opportunities for outcomes-based agreements
- The patient perspective on specialty pharmaceuticals

Is there an issue you'd like us to address? Do you have a question you'd like us to answer?

We welcome your suggestions for topics you'd like *The 20Sense Report* to cover.

Are you looking to make better sense of the specialty pharmaceuticals market?

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