



Healthcare Industry Update

Monday, July 16th, 2018



THE ORIGIN RX

Cannabis Consolidation Continues

You might have expected things to be getting a little quieter now that summer is here, particularly with the July 1st and July 4th holidays kicking things off in Canada and the US respectively, along with Wimbledon and the World Cup! Well, that certainly has not been the case this year. We finalized two divestitures for clients over the long weekend, as exclusive advisor to Yellow Pages and Dealnet Capital on carveouts to UK buyers. And the cannabis industry remains busy, with Canopy Growth Corp. announcing the acquisition of Hiku Brands Ltd. in an all-stock transaction valued at approximately US\$250 million.

You might recall that Hiku announced a tie-up with WeedMD back in April of this year. This merger of near equals had Hiku shareholders ending up with about 52% of the combined company, in a share exchange transaction valued at approximately US\$240 million. The rationale was to “create a premium cannabis brand house with fully vertically integrated operations, an expanding network of retail stores, a growing medical business and four scalable cannabis production facilities, two of which are currently licensed.” Further, the “combined offerings create a company that is insulated from potential wholesale margin compression...”

Fast forward to last week and Canopy presented a superior offer to Hiku and advanced the \$10 million for payment of the break fee to WeedMD. For a little background on Hiku, the company came together in December 2017 with the merger of Toronto-based Tokyo Smoke and BC-based DOJA Cannabis, along with a \$10 million strategic investment from Aphria. Today Hiku has a portfolio of adult recreational cannabis brands in Canada - including Tokyo Smoke, DOJA Cannabis, female-focused Van der Pop, and cannabis accessory & design brand Maitri - as well as an expanded national retail footprint led by Tokyo Smoke cafés plus licenses to open retail stores in Alberta, BC, and Manitoba.

What does this deal say about where cannabis is going? In the press release, Canopy says it will benefit from the opportunity to integrate and expand into its own retail stores in provinces where direct consumer sales will be legal - essentially owning the margin all the way from seed to customer. This reminds me a little bit of the interest in FIPCOs (fully integrated pharmaceutical companies) of the late '90s - where some emerging drug developers thought the economics of having their own sales force would be more attractive, like a Pfizer, Merk, or Amgen. But that gave way largely to focused drug development or distribution (specialty pharma) companies, unless it's a rare blockbuster drug in the making. All forecasts point to cannabis being a blockbuster, but it's a bit more challenging to predict exactly where and how Canadians will consume cannabis, both from a legal and consumer preference standpoint. I'm predicting, as is Canopy, there is more than a small demographic who will enjoy meeting at a cannabis café after work instead of a nearby patio for a cocktail.

The addition of Hiku's adult rec brands by way of this acquisition also confirms the anticipated importance of brands. The rules around branding and marketing remain a little opaque, but cannabis will be a consumer product story. And consumers care about brands and what kind of attributes they convey such as image, value, price, consistency, and quality. The grow story was so last year. We're seeing the importance of innovative strategies to differentiate and establish competitive advantage in a generic market. Such strategies to build a loyal and growing customer base can include proprietary products or channels or brands.

For Hiku shareholders, Canopy provides a strong, liquid currency, with a market cap of nearly C\$8 billion. It also offers immediate access to capital and other resources to drive growth of its brand and retail channel strategies. Two thirds of Hiku shareholders will have to vote in favour of the deal for it to close. They will likely see their future prospects as stronger together.

CATHY STEINER, PRINCIPAL





BIGGEST MOVERS

Recent News¹

Markets have been up the last two weeks with the TSX increasing 1.8% and the NASDAQ increasing by 4.3%. It's been a mixed bag in healthcare subsectors, which follow in this report. A selection of the largest share price movers in the healthcare space during the recent period is included below:

- **Arbutus Biopharma Corporation** (NasdaqGS:ABUS, +41%): Arbutus Biopharma Corporation is a Hepatitis B Virus (HBV) therapeutic solutions company. Share prices improved recently due to positive data reported for the APOLLO phase 3 study of patisiran Hereditary ATTR Amyloidosis patients with polyneuropathy, for which the drug candidate met all primary and secondary endpoints with statistical significance
- **Endocyte, Inc.** (NasdaqGS:ECYT, +27%): Endocyte is a biopharmaceutical company developing targeted therapies for the personalized treatment of cancer. The recent increase in share price was primarily due to its announcement that it had signed a long-term supply agreement for no-carrier-added Lutetium-177 with **Isotopen Technologien München AG**. Endocyte stated that this agreement secures a long-term strategic partnership to ensure a reliable supply of no-carrier-added Lutetium-177 through commercialization
- **Biogen Inc.** (NasdaqGS:BIIB, +19%): Biogen discovers, develops and delivers worldwide therapies for people living with serious neurological and neurodegenerative diseases. Strong share price performance was primarily due to Biogen's announcement that its Phase II study with BAN2401, an anti-amyloid beta protofibril antibody, had achieved statistical significance on key predefined endpoints. The study evaluated BAN2401 on the efficacy at 18 months on slowing progression in Alzheimer's Disease Composite Score and on reduction of amyloid accumulated in the brain as measured using amyloid-PET
- **TissueGene, Inc.** (KOSDAQ:A950160, +16%): TissueGene is a clinical-stage biopharmaceutical company based in Maryland, US. The recent rise in share price is primarily due to its announcement that the clinical hold issued by the FDA has been lifted effective July 5. It now has FDA approval to move forward with its clinical trials involving patients diagnosed with knee osteoarthritis. The pivotal phase III trials for US approval of Invossa will enroll close to 1,020 patients at over 50 clinical sites across the US
- **WeedMD Inc.** (TSXV:WMD, -20%): WeedMD is a Canadian federally-licensed producer and distributor of medical cannabis. Its recent decrease in share price is primarily attributed to the announcement that **Hiku Brands Company** terminated the previously announced arrangement agreement, driven by the acceptance of **Canopy Growth**'s recent takeover offer. Hiku has paid WeedMD a C\$10 million termination fee
- **Idera Pharmaceuticals, Inc** (NasdaqCM:IDRA, -23%): Idera Pharmaceuticals is a clinical-stage biopharmaceutical company focused on priming the immune system to play a more powerful role in fighting cancer to ultimately increase the number of people who can benefit from immunotherapy. Its recent share price decline was primarily due to the announcement that **Biocryst Pharmaceuticals**' shareholders voted against the proposed merger with Idera. As part of the merger agreement, BioCryst will pay Idera US\$6 million for the termination

Note 1: For the period July 4th to July 16th, 2018

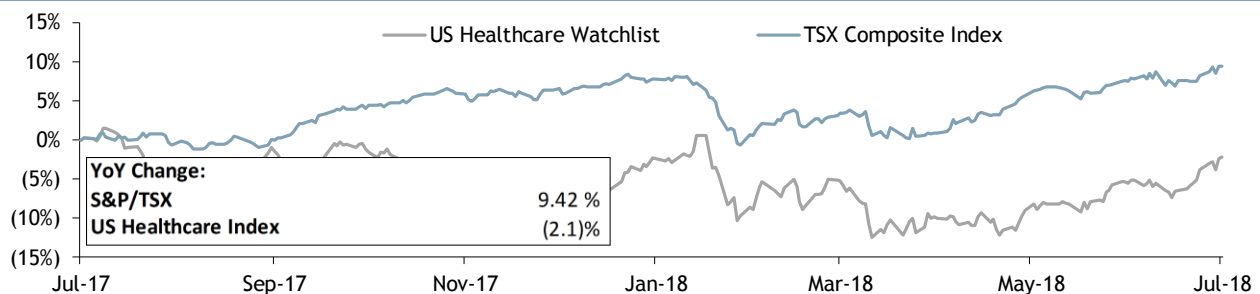


US HEALTHCARE WATCHLIST

News Scan¹

- The US Healthcare Watchlist Index lost approximately 2.1% over the last twelve months, while the TSX Composite Index gained 9.4% over the same period. Some events making news this month:
- On July 13th, **Johnson & Johnson** was ordered to pay US\$4.69 billion to women who claimed asbestos in the company's talcum powder contributed to ovarian cancer, marking the sixth-largest product-defect verdict in U.S. history. Included in this was US\$4.14 billion in punitive damages and US\$550 million to compensate the 22 women and their families
- On July 10th, **Takeda Pharmaceutical**, the largest pharmaceutical company in Japan, announced that it had received approval from the US **Federal Trade Commission (FTC)** for its US\$62 billion acquisition of **Shire**, an Irish-based biopharmaceutical company with operations based in the US. It is still awaiting other regulatory clearances, and approval from shareholders. Together, the combined company will gain a stronger global footprint as a leader in treatments in gastroenterology, neuroscience, oncology, rare diseases, and blood-derived therapies, used for serious conditions
- On July 9th, **Oculocare Medical**, a Swiss technology company, announced that the company received **Food and Drug Administration (FDA)** 510(k) clearance of Alleye, its mobile medical software application indicated for the detection and monitoring of age-related macular degeneration. Alleye is designed to detect and characterize central and paracentral metamorphopsia (visual distortion) in patients with macular conditions including AMD and diabetic retinopathy. The commercialization of Alleye is in partnership with **Novartis** and **Bayer**
- On July 9th, **Mylan**, a global pharmaceutical company, announced that it received final approval from the US **FDA** for its Rivastigmine Transdermal System, a generic version of **Norvatis'** Exelon Patch. The product treats dementia associated with mild, moderate and severe Alzheimer's disease, and Parkinson's disease. The launch of the product greatly strengthens the company's central nervous system portfolio
- On July 9th, **Teva**, a global pharmaceutical company, announced the launch of a generic version of Uceris in the US. The tablets are a glucocorticosteroid indicated for the induction of remission in patients with active ulcerative colitis
- On July 9th, **Soligenix**, a late-stage biopharmaceutical company, announced that it received patents for its Ricin Toxin vaccine formulation, a proprietary vaccine heat stabilization platform technology. The patent has been previously allowed in Japan, Australia and New Zealand with applications pending in China, the US, and other countries
- On July 5th, **Bristol-Myers Squibb (BMS)**, a U.S. pharmaceutical giant, announced that it is looking to sell **Upsa**, its French over-the-counter drugs business to focus on its core operations of concentrating on high-margin prescription drugs, particularly for cancer. According to an unnamed source cited by Reuters, the unit could be worth up to US\$1.8 billion. Upsa produces effervescent aspirin, Dafalgan and Efferalgan painkiller, vitamin C and others
- On July 5th, **Boston Scientific**, a medical technology company, announced a definitive agreement to acquire the remaining 65% stake in **Cryterion Medical** for US\$202 million in cash. Cryterion is a privately-held company developing a single-shot cryoablation platform for the treatment of atrial fibrillation. The addition of this platform positions the company as the first to have both cryothermal and radiofrequency sing-shot, balloon-based ablation therapies in its portfolio

Relative Performance Index



Note 1: For the period July 4th to July 16th, 2018

US Healthcare Watchlist Constituents: Johnson & Johnson, Pfizer Inc., Roche Holding AG, Novartis AG, Merck & Co., Inc., AbbVie Inc., Amgen Inc., Medtronic plc, Gilead Sciences, Inc., Bayer AG, Abbott Laboratories, Bristol-Myers Squibb, GlaxoSmithKline plc, Eli Lilly and Company, AstraZeneca PLC, Celgene Corporation, Allergan plc, Boston Scientific Corporation, Mylan N.V., Teva Pharmaceutical Industries, Mallinckrodt Public Limited Company, Endo International plc

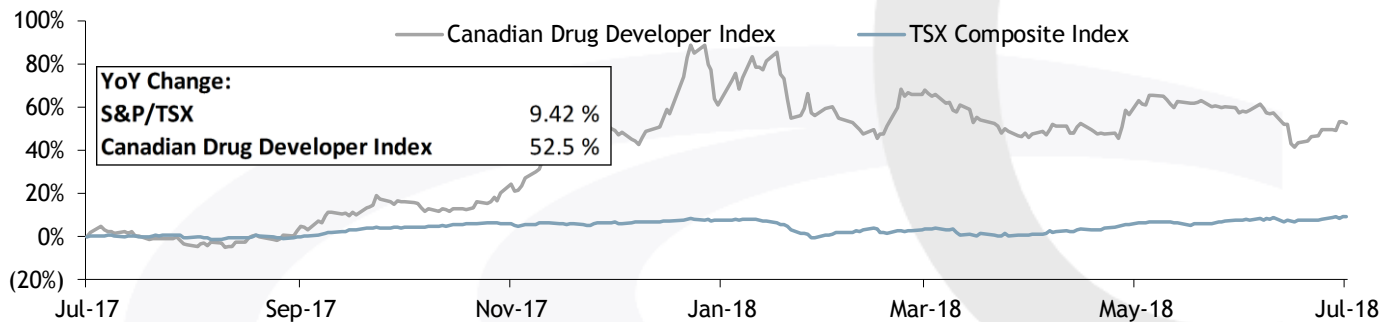


CANADIAN DRUG DEVELOPERS

News Scan¹

- Last twelve-month performance of the Canadian Drug Developers Index was an impressive 52.5%, significantly outperforming the TSX Composite Index which only gained 9.4% over the same period. In the news this month:
- On July 9th, **Bristol-Myers Squibb Canada**, a subsidiary of a global biopharmaceutical company, announced that its immunology combination therapy received approval from **Health Canada** as a first-line treatment for advanced or metastatic renal cell carcinoma
- On July 9th, **BELLUS Health**, a biopharmaceutical development company based in Quebec, announced the initiation of a Phase 1 clinical study for its chronic cough drug candidate, BLU-5937. The main objectives of the study are to assess the safety, tolerability and pharmacokinetic profile of the drug in up to 90 healthy adult subjects
- On July 9th, a subsidiary of **Valent Pharmaceuticals, Bausch + Lomb**, a global eye health company, announced that the FDA accepted the New Drug Application (NDA) for its sub-micron loteprednol etabonate ophthalmic gel, 0.38%. Once approved, the product would be the lowest concentrated loteprednol ophthalmic corticosteroid indicated for the treatment of post-operative inflammation and pain following ocular surgery
- On July 4th, **The Janssen Pharmaceutical Companies**, a Canadian pharmaceutical company of **Johnson & Johnson**, announced that **Health Canada** has approved ERLEADA, apalutamide tablets for the treatment of non-metastatic castration-resistant prostate cancer (nmCRPC). The recent approval is based on Phase 3 data from the SPARTAN clinical trial, which showed that ERLEADA decreased the risk of metastasis or death in nmCRPC patients by 70% and improved median metastasis-free survival by more than two years (24.8 months) compared to placebo
- On July 4th, **Pharmascience**, a Quebec pharmaceutical company, launched (Pr)pms-TRANDOLAPRIL, the first generic bioequivalent to (Pr)MAVIK available on the Canadian market, for the treatment of mild to moderate essential hypertension

Relative Performance Index



For the period July 4th to July 16th, 2018

Canadian Drug Developers Constituents: ProMetic Life Sciences Inc., Clementia Pharmaceuticals Inc., Aurinia Pharmaceuticals Inc., Arbutus Biopharma Corporation, Resverlogix Corp., Aquinox Pharmaceuticals Inc., Zymeworks Inc., ImmunoVaccine Inc., InMed Pharmaceuticals Inc., Sierra Oncology, Inc., Tetra Bio-Pharma Inc., Oncolytics Biotech Inc., Cardiome Pharma Corp., Acerus Pharmaceuticals Corporation, ProMIS Neurosciences Inc., Aeterna Zentaris Inc., Trillium Therapeutics Inc.

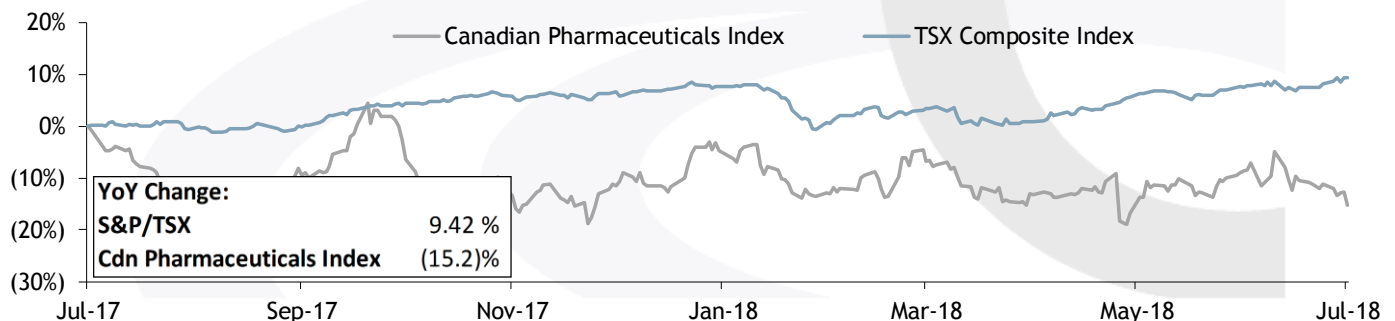


CANADIAN PHARMACEUTICALS

News Scan¹

- The Canadian Pharmaceuticals Index experienced a decline of approximately 15.2% over the last twelve months, while the TSX Composite Index gained 9.4% over the same period. Recent news highlights include:
- On July 16th, **Edge Pharmacy Services**, a pharmaceutical company, announced its acquisition of Mississauga-based **Apolab ULC** for an undisclosed amount. With the acquisition of the Apolab facility, Edge moves internationally with its unit-dose compounded products
- On July 16th, **Valeant Pharmaceutical International** commenced trading under a new name and ticker symbol. The company changed its name to **Bausch Health Cos. Inc.** and stock ticker to “BCH”. Bausch stems from the company’s well-known Bausch & Lomb eye products line
- On July 10th, **Health Canada** recalled blood-pressure drug valsartan, a generic drug sold by several companies in Canada, over fears of N-nitrosodimethylamine (NDMA) contamination, a chemical classified as a probable human carcinogen. Health Canada said Chinese company, **Zhejiang Huahai Pharmaceuticals** supplied the valsartan to several companies that used it to make the finished product. The **European Medicines Agency** also made a similar announcement in recent weeks
- On July 9th, **Hoffman-La Roche (Roche Canada)**, a Canadian pharmaceutical company, announced that **Health Canada** approved GAZYVA, a humanized anti-CD20 monoclonal antibody for the treatment of follicular lymphoma. The approval of GAZYVA is based on data from the multicenter phase III, open label, GALLIUM trial studying 1,202 patients
- On July 6th, **Purdue Pharma**, the manufacturer of OxyContin, announced that it has stopped actively promoting its prescription opioids in Canada
- On July 4th, **Theratechnologies**, a specialty pharmaceutical company, announced that it has filed a supplemental new drug application with the FDA for a single-vial formulation of EGRIFTA called F4. F4 is four times more concentrated than EGRIFTA, which treats HIV-associated lipodystrophy. The single-vial formulation significantly reduces the volume of administration, and since the formula comes in a single vial, handling the drug is more user-friendly. F4 is also stable at room temperature which represents an advantage, as EGRIFTA requires a cold-chain distribution network from the manufacture to the patient

Relative Performance Index



For the period July 4th to July 16th, 2018

Canadian Pharmaceuticals Constituents: Valeant Pharmaceuticals International, Inc., Knight Therapeutics Inc., Concordia International Corp., Aralez Pharmaceuticals Inc., Theratechnologies Inc., Zomedica Pharmaceuticals Corp.

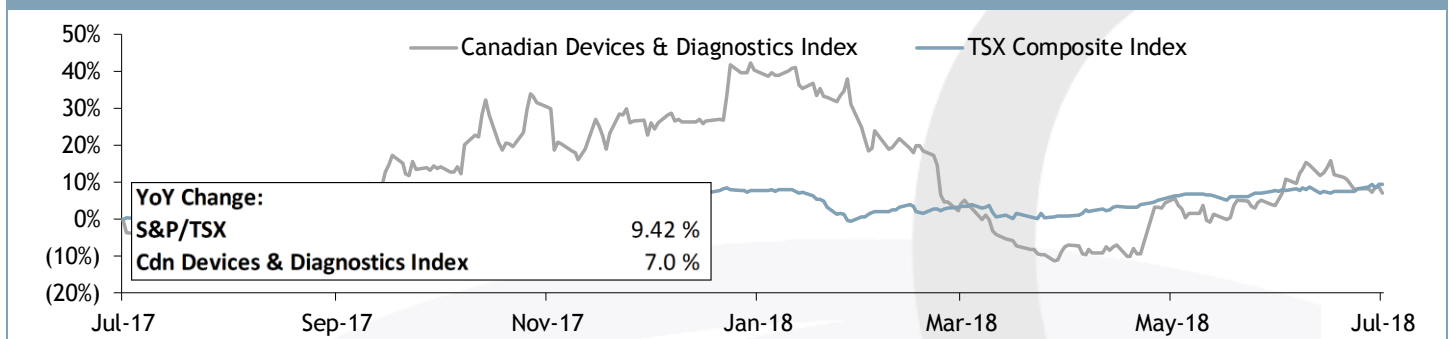


CANADIAN DEVICES & DIAGNOSTICS

News Scan¹

- The Canadian Devices & Diagnostics Index gained approximately 7.0% over the last twelve months, lagging the TSX Composite Index which gained 9.4% over the same period. Newsmakers for July 2018:
- On July 16th, **FARO Technologies**, a developer and manufacturer of computer-aided measurement and imaging devices and software, announced its acquisition of **Open Technologies**, for an undisclosed amount. Open Technologies offers FARO an integrated suite of industrial products that significantly reduce time and effort across a variety of product design and inspection applications. The acquisition also extends FARO's 3D capabilities into the dentistry industry and other design driven industries
- On July 11th, **Medtronic of Canada**, a subsidiary of **Medtronic**, a global medical technology, services and solutions company, announced that its StealthStation S8 and its StealthStation Ear, Nose and Throat (ENT) surgical navigation systems are now licensed for sale in Canada
- On July 6th, **Neovasc**, a developer of minimally invasive transcatheter mitral valve replacement technologies, announced that it received the expected notice from the **Nasdaq** indicating that it has determined to delist the company's shares from market due to inability to maintain a minimum bid price of US\$1.00

Relative Performance Index



For the period July 4th to July 16th, 2018

Canadian Devices and Diagnostics Constituents: CRH Medical Corporation, TSO3 Inc., Titan Medical Inc., Opsens Inc., Neovasc Inc., ChromedX Corp., Profound Medical Corp., Covalon Technologies Ltd., Spectral Medical Inc., Hamilton Thorne Ltd.

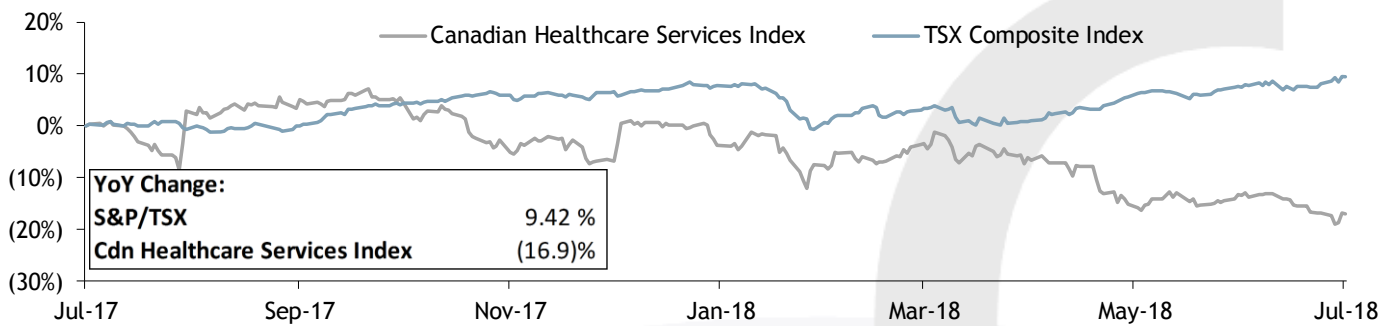


CANADIAN HEALTHCARE SERVICES

News Scan¹

- Last twelve-month performance of the Canadian Healthcare Services Index decreased 16.9%, while the TSX Composite Index increased 9.4% over the same period. In July, the following occurred in the Canadian healthcare services space:
- On July 5th, **McKesson Canada**, a subsidiary of **McKesson Corporation**, announced that its INVIVA network has met requirements to become the first accredited private infusion clinic network in Canada. Nearly 90 INVIVA clinics provide patients with specialized therapy in various therapeutic areas including, gastroenterology, rheumatology, geriatrics, and pediatrics
- On July 5th, **Evergreen Pacific Insurance**, a financial-services holding company, announced that it has signed a binding agreement to acquire interest in **Synergy Health Services**, subject to completion of customary due diligence. Synergy provides evidence-based natural healthcare to client by combining traditional medical pain management with physiotherapy, yoga, massage and nutrition at its multi-disciplinary wellness centres in Ontario

Relative Performance Index



For the period July 4th, to July 16th, 2018

Canadian Healthcare Services Constituents: *Sienna Senior Living Inc., Extencicare Inc., Medical Facilities Corporation, Akumin Inc, Centric Health Corporation*

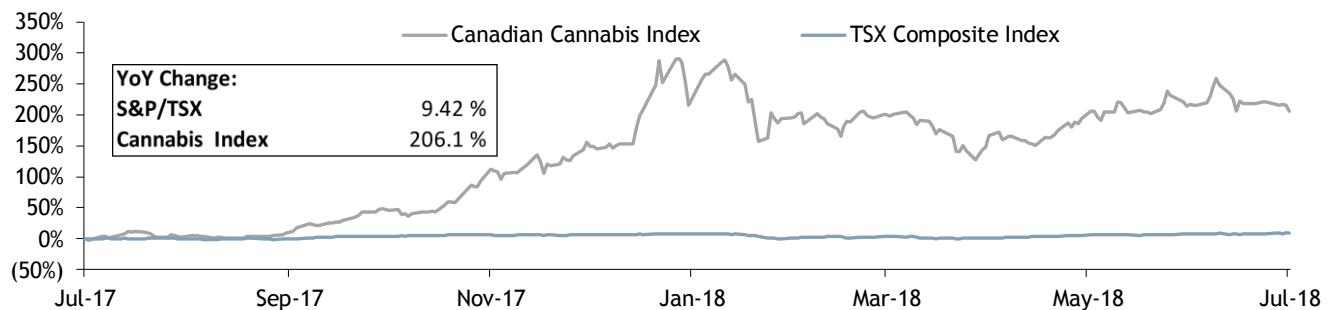


CANNABIS

News Scan¹

- The ACMPR has issued 113 cultivation licenses. Last twelve-month performance of the Cannabis index was approximately 206.1%, dwarfing the 9.4% gain of the TSX Composite Index over the same period. Highlights of cannabis news for July 2018:
- On July 16th, **Aurora Cannabis** announced it reached an agreement with **Shopify**, to have Shopify power its global e-commerce platform
 - On July 6th, **Aurora Cannabis** announced that it has received clearance from the **Canadian Competition Bureau** for the acquisition of **MedReleaf**. The acquisition is still awaiting approval by Aurora and MedReleaf shareholders
- On July 12th, **FSD Pharma** announced a binding agreement to purchase 51% of **Atlantic Island Cannabis**, for C\$6.5 million in Class B subordinated shares of FSD Pharma based on a 15-day volume weighted average price. The agreement involves a strategic investment of C\$40 million to drive production and sales of cannabis in Newfoundland
- On July 11th, the **British Columbia Liquor Distribution Branch** signed memorandums of understanding with 31 licensed producers to form an extensive and competitive wholesale product assortment. Licensed producers include **Aphria, Canopy Growth, Maricann, MedReleaf, THC BioMed, Tilray, WeedMD** among others
- On July 10th, **Canopy Growth Corp.** announced that it had entered into a definitive arrangement agreement with **Hiku Brands** in an all share deal worth C\$269.2 million. Hiku shareholders will receive 0.046 of a Canopy Growth common share for each Hiku share, representing a premium of 33% based on the 20-day volume weighted average prices. **WeedMD** and **Hiku Brands** also agreed to terminate the merger previously announced on April 19th, 2018. As part of the termination WeedMD will receive a termination payment of C\$10 million
 - On July 5th, **Canopy Growth Corp.** announced the closed acquisition of the remaining 33% stake of **BC Tweed Joint Venture** for C\$374 million in shares and C\$1 million in cash. This acquisition consolidates the two largest federally licensed cannabis facilities in the world into full Canopy Growth ownership
 - On July 5th, **Canopy Growth Corp.** introduced its Latin American affiliate **Canopy LATAM**, a wholly owned and controlled subsidiary of Canopy Growth. Through Canopy LATAM, Canopy Growth acquired **Spectrum Cannabis Colombia S.A.S.**, expanding its focus on the emerging medical cannabis market of Latin America
- On July 9th, **Tilray Inc.**, a vertically-integrated and federally-licensed cannabis cultivator, announced that it had applied to list its common stock on the Nasdaq Global Select Market under the ticker symbol "TLRY". It is offering 9,000,000 shares of Class 2 common stock at an initial price between US\$14.00 and US\$16.00 per share, valuing the company near US\$1.5 billion
- On July 9th, **Canopy Rivers Corporation** announced that it completed its previously announced private placement of -C\$104 million, and it entered into a definitive agreement with **AIM2 Ventures**, a subsidiary of **AIM2**, in a reverse-takeover of AIM2
- On July 6th, **CannTrust Holdings** announced that its Danish joint venture partner **STENOCARE** had received approval to distribute CannTrust products in Denmark. CannTrust's cannabis oils are the first oils approved for Denmark's list of admitted cannabis products and are the only ready to use oil products available
- On July 5th, **Alberta Gaming and Liquor Commission** announced that it signed cannabis supply agreements with the following companies: **The Supreme Cannabis Company, ABCann Global, Aphria, Aurora, CannTrust, Canopy Growth, Emblem Cannabis, Maricann, MedReleaf, Organigram, Starseed Medicinal, UP Cannabis** (subsidiary of **Newstrike**), **WeedMD**

Relative Performance Index



For the period July 4th to July 16th, 2018

Cannabis Index Constituents: Canopy Growth, Aurora Cannabis, Aphria, MedReleaf, CannTrust Holdings, CanniMed Therapeutic, Cannabis Wheaton Income, OrganiGram Holdings, The Supreme Cannabis Company, The Hydrothecary



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