# **INVESTMENT RESEARCH**



# Aphria Inc.

## SPECULATIVE BUY

(APH-TSX.V, \$0.78)

## JI ECOLATIVE DOT

Price Target: \$2.00

# **Green Thumbs In A Budding Industry**

Estimates (C\$)	F2015E	F2016E	F2017E	F2018E			
Revenue (MM)	\$1.0	\$11.6	\$21.0	\$38.5			
Revenue Growth (%)	nmf	nmf	80%	84%			
EBITDA (MM)	(\$0.8)	\$5.4	\$10.8	\$22.0			
EBITDA Margin (%)	nmf	46.5%	51.3%	57.2%			
EBITDA Growth (%)	nmf	nmf	10%	11%			
EPS	(\$0.02)	\$0.05	\$0.10	\$0.21			
EPS Change Y/Y	nmf	nmf	100%	110%			
<u>Valuation</u>							
P/E	nmf	15.5x	7.8x	3.7x			
EV/EBITDA	nmf	5.1x	2.6x	1.3x			
Market Data							
Previous Close				\$0.78			
Potential Return				156%			
52 Week High - Low			\$1.2	20 - \$0.05			
Volume (3 months)				33,969			
Shares Basic / Diluted (M	MM)		52.:	5 / 75.5			
Market Cap (MM)				\$40.9			
Net Debt (MM)				(\$13.4)			
Enterprise Value (MM)				\$27.5			
Management/Insider Owi	nership			50%			
Fiscal Year End				31-May			
2,000 —				- \$1.00			
				- \$0.80			
€ 1,500				- \$0.80			
0				-\$0.60 €			
(\$ 1,500 o 1,000 o 1,000				- \$0.40 E			
S 500				ФО10 Д			
300				- \$0.20			
0				- \$0.00			
Source: FactSet							
<u>Description</u>							
Aphria supplies medical marijuana to the Canadian market. The							
company is currently licensed to produce and sell 700kg of medical marijuana annually out of its 30,000 square foot greenhouse facility in							
, ,	its 30,000 sc	uare foot g	reenhouse fa	acility in			
Leamington, ON.							

We are initiating coverage with a **SPECULATIVE BUY** rating and a 12-month target price of **\$2.00** per share.

- Aphria has a leg up on much of the competition with its established team possessing significant growing knowledge. One of the kev differentiators in the early stages of Canada's new commercial medical marijuana industry is a company's ability to grow quality product, consistently. Aphria's management team has significant experience in greenhouse growing, with its Chief Operating Officer and Chief Agronomist Officer also the co-founders) (who are collectively having over 55 years of experience.
- **Product offering.** Aphria has grown over 40 different strains of medical marijuana for testing and technique experimenting, and will be focusing on CBD/THC ratios as well as adjusting its product offering in step with demand. The company currently has approximately 100kg inventory of saleable product in its vault.
- **Expansion plans.** Expected annual production from the currently-licensed 52,000 sq. ft. facility is about 1,600kg annually once the company reaches its capacity run-rate (mid-2015). The company will be spending about \$7.5MM over the next 18 months in order to add 85,000 sq. ft. and expand capacity by about 6,000kg.
- Cost advantages. Lower lighting costs, passive cooling, biological controls, facility location, single-element fertilizer, and producing its own carbon dioxide will all help Aphria be a low-cost producer, in addition to its support services agreement with CF Greenhouses. Cash production costs at full capacity should range from \$1.25 to \$1.35/gram.
- Valuation. We are initiating coverage of Aphria with a **SPECULATIVE BUY** recommendation and a **\$2.00** per share target price based initially on our DCF valuation, using a terminal EBITDA multiple of 8x and a 20% discount rate.



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#### **INVESTMENT HIGHLIGHTS**

Strong management team with significant growing experience. One of Aphria's advantages is a management team that has significant experience in greenhouse growing. Between the company's Chief Operating Officer and Chief Agronomist Officer (Co-Founders) they collectively have over 55 years of experience. We believe that this will prove beneficial to Aphria's ability to consistently grow high-quality medical marijuana. This has been demonstrated already with the 100kg accumulation of product inventory since Aphria was granted its license to harvest in August. In addition, Aphria's CEO has over 20 years of experience in the pharma industry, where he grew Jamieson Laboratories from \$20 million in sales to over \$250 million during his tenure. In our view, this management team has the experience to not only grow high quality product in a cost-effective manner, but also the experience to penetrate and establish market share in this infant industry. Lastly, interests are well aligned with the three key managers owning more than 45% of the shares outstanding and all management and insiders collectively owning over 50%.

**Poised to be a low-cost producer.** Aphria's economic model looks very attractive with eventual cash costs per gram ranging from \$1.25 to \$1.35 as yield size increases and production rates increase. The company has many advantages with its greenhouse environment that should establish it as the lowest-cost producer in the space. The greenhouse environment provides the advantage of lower electricity costs, with supplementary lights that are only used when natural light is not sufficient. In addition, Aphria expects to have lower fertilizer and lower carbon dioxide costs. Lastly, the company's support services agreement with CF Greenhouses will help share resources and direct greenhouse knowledge and the sharing of staff that will also keep labour costs at a minimum.

In this early-stage industry, the ability to grow and market are critical elements. As we have commented before, the medical marijuana industry is in its infancy. There are now 15 licensed producers in various stages of building out capacity and growing crops. One of the key differentiators is a company's ability to grow quality product, consistently. We believe this is where Aphria has a leg up on much of the competition with its established team possessing significant growing knowledge. In addition to having quality product, companies must have a successful sales and marketing strategy to build brand awareness and register patients, while heeding Health Canada's advertising and promotion restrictions. Again, Aphria is well positioned to succeed with the experience and past success of its CEO in a similar industry. Despite the early stage of the industry, we believe Aphria is well positioned to succeed and establish itself as one of the premiere medical marijuana suppliers in Canada. We are initiating coverage of Aphria with a SPECULATIVE BUY recommendation and \$2.00 per share target price.



#### THE CANADIAN MEDICAL MARIJUANA MARKET

According to Health Canada, the market for medical cannabis in Canada was about \$150 million at the end of 2013 and Health Canada estimates it will grow at 35% CAGR for the next five years.

Exhibit 1. Health Canada Market Size and Projections

Year	# of Patients	Market Size
2012	28,000	n/a
2014	40,000	\$150MM
2024	450,000	\$1.4B

Source: Health Canada

The medical marijuana industry grew from less than 500 prescriptions in 2002 to over 28,000 in 2012 and is expected to reach 40,000 in 2014 (this implies a 43% growth rate between 2012 and 2014). As of December 31, 2013, about 38,000 people held authorization to possess dried marijuana. About 25,000 people held a personal-use production license and about 4,000 people held a designated-person production license.

To put the Health Canada market assumptions in perspective, Health Canada has used an estimate of 1.5g/day/person. On an annual basis, that equates to approximately 550g per patient. Using Health Canada's price per gram of \$7.60 implies an annual cost for the average patient of \$4,160, or \$11.40 per day. For the average user, this is not an overly expensive therapy. For the market as a whole, using the approximate 38,000 patients at the end of 2013, implies market demand of approximately 20,800 kg or \$158 million as a starting point.

**Supply constraints.** To date Health Canada has only granted 15 producer licenses under the MMPR, with hundreds more applications submitted and under review. However, the approval process is very detailed and demanding, requiring significant production site security, background checks and quality assurance requirements. At this point it is difficult to determine how many of the applicants will actually receive a licence under MMPR, and Health Canada has not put an official cap on the number of licenses it will grant. Of the 15 currently approved, most of the producers are still in their infancy and not close to full production capability.

In the near term, we expect that supply of medical marijuana will continue to be somewhat constrained. We have seen supply restrictions from some of the current licensed producers as patient registrations and demand are unable to be met by current supply. Some producers are currently taking registrations for patients to register on a waiting list as LPs continue to expand their production capabilities to their full extent, so supply is currently constrained.

There are a number of conflicting views as to how quickly Health Canada will grant approvals going forward. It is our view that when the initial producers were granted a license, Health Canada had very broad specifications on standard operating procedures or good manufacturing processes. We believe the Health Canada is in the process of refining, expanding and



establishing more specificity around the regulations and is focused on managing the current 15 producers. We believe that producers that are well down the path of the approval process will likely get approved between now and the end of 2015. However, we do not expect a significant increase in the number of producers over the next 18 months given the recent pace.

Market constraints. It is estimated that prior to the conversion to MMPR there were approximately 38,000 users registered under MMAR. What remains to be seen is how many of these users will convert to MMPR. Since many of the users were previously able to grow their own supply, even if they register in MMPR they may continue to grow or source their marijuana the way they had previously, at least until the courts decide on the injunction. The Federal Court of Appeal this week rejected the government's appeal of the injunction, which is set to go to trial in February 2015. In addition, a patient that registers under MMPR and submits their medical document to a licensed producer may not necessarily purchase any marijuana from that producer and instead continue to source as they did under MMAR.

With the new regulations, Health Canada is not directly tracking the number of patients under MMPR since a patient submits their medical document directly to a licensed producer (although LPs are required to report monthly statistics to Health Canada). The actual number of patients registered will be difficult to ascertain given as of yet there is no central agency tracking patient numbers that is disclosing this information. The licensed producers are required to submit the data to Health Canada through various reporting requirements, but at the current time there has been no public release of that data.

#### OUR UPDATED SUPPLY/DEMAND FORECAST

As we noted in our industry report dated October 21, 2014, a clear demand/supply outlook is challenging for a few reasons. The market is in its infancy with the implementation of MMPR just nine months ago. With the new Health Canada framework there is no clear indication of the actual number of patients registered under MMPR as that information is held by the LPs and not disclosed by Health Canada. On the demand side, there were about 38,000 patients registered under MMAR at the end of 2013. Under MMPR, it is easier to gain access to marijuana and this is expected to help fuel demand. This is likely to come from patients with legitimate indications but also from recreational users. Latest reports suggest that there were approximately 12,500 patients that had registered under MMPR as of October, up from 6,000 in May, or an annual run rate of around 24,000. This implies approximately 15,500 registered users at the end of this year, which remains consistent with our initial estimate.

Looking at the growth profile of patients under MMAR, we estimate that the CAGR from 2002 through 2013 was 48%. Health Canada projects a CAGR of 25-28% from 2014 through 2024. We do not assume a linear CAGR over that period and instead expect demand to be significantly above that level in the next few years as patients register under the new program. As a proxy, for California (similar-sized population but different regulatory environment) we estimate a CAGR of 49% from the introduction of medical marijuana in 1996 to 2013, based on a report by



ArcView. We believe it is conceivable that demand growth under MMPR will be above 200% in 2015 from conversion plus organic growth, falling to 65% in 2016 with a gradual decline towards 10% by 2024. We reach a total estimated 370,000 patients of in 2024, representing a CAGR of 37% from 2014 to 2024 (note this is off a lower base of the 9,500 patients reported at the end of August 2014 versus Health Canada estimates of 25-28% CAGR off a base of 38,000 patients previously registered under MMAR). Our forecast calls for about 1% of the Canadian population to be patients by 2024, which is a reasonable assumption given typical usage rates in the U.S. While it is yet early and there are a number of variables that may affect this demand, both the growth rate under MMAR and in California suggest these are reasonable assumptions.

Exhibit 2. Demand Forecast

Assumptions							
Grams/day	1.5						
Price/gram	\$7.50						
					Impl	ied 10-Yea	ar CAGR
							37%
Forecast	May-14	Aug-14	2014	2015	2016	2017	2024
Y/Y Patient Growth Rate (%)				244%	65%	25%	10%
Patients (#)	6,000	9,500	16,000	55,000	90,750	113,438	371,302
Estimated Demand (kg)			8,760	30,113	49,686	62,107	203,288
Estimated Revenue (\$000s)			\$65,700	\$225,844	\$372,642	\$465,803	\$1,524,660

Source: Clarus Securities

#### SUPPLY REMAINS CONSTRAINED NEAR-TERM

As we commented in our initial report on the medical marijuana industry, we believe supply will be constrained as various producers struggle to ramp up production capacity. There is a significant difference from expected production capacity as disclosed by many of the companies and our estimate of actual production. This is because stated capacity may not equal actual production and in an industry in its infancy, we believe there remains much uncertainty with respect to growing cycles, exact yield capabilities and the risk of some sort of crop failure. Our near-term expected production is much less than our interpretation of nameplate capacity as stated by the producers, but as producers improve their processes, have full production rooms (or greenhouses) continuously turn over harvests, and refine production, we expect actual production to ramp up towards nameplate production. As we have noted before, there is likely to be significant variability in actual production. While there has been limited additional information disclosed since our initial report, we have made some downward revisions to our supply forecast. Our downward revisions are in part a result of recent quarterly results from Tweed and Mettrum that suggest sales and production were below what we had initially expected. Based on that, we have lowered our supply estimates for those producers, as well as some slight reductions from a few of the other producers.



There are also licensed producers that are private that contribute to the supply side of the equation. For these producers there is even less information available about current or expected production capability. We believe the largest private licensed producer is CanniMed, whose parent company Prairie Plant Systems was contracted under MMAR to supply medical marijuana through Health Canada. Exhibit 3 lists the licensed producers (including the private ones) and our estimate of their production capability. It is important to note that some of this information is our best estimate based on stated square footage of facilities or numbers of patients and may be materially different than actual production rates and/or eventual capacity.

Exhibit 3. Licensed Producer Production Forecast (kg)

	2014	2015	2016	2017	2018
Public Companies					
Aphria Inc.	100	1,223	1,667	5,304	7,333
Bedrocan Cannabis Corp.	262	1,350	2,700	3,800	4,000
Mettrum Ltd.	500	2,000	4,000	6,000	9,000
OrganiGram Inc.	100	2,000	3,500	4,500	5,500
Thunderbird Biomedical Inc.	-	150	350	800	1,300
Tweed Inc.	200	2,779	5,717	6,500	8,000
Subtotal	1,162	9,502	17,934	26,904	35,133
Private Companies					
Broken Coast Cannabis Ltd.	-	-	-	-	-
Canna Farms Ltd.	500	1,000	1,000	1,000	1,000
CanniMed Ltd.	2,500	6,000	13,500	13,500	13,500
Delta 9 Bio-Tech Inc.	400	2,200	4,500	6,000	6,000
In the Zone Produce Ltd.	-	-	-	-	-
MariCann Inc.	-	-	-	-	-
MedReleaf Corp.	400	1,800	4,000	4,000	4,000
The Peace Naturals Project Inc.	-	-	-	-	-
Tilray	800	1,500	3,500	4,000	4,000
Whistler Medical Marijuana Corp.	200	800	1,200	1,500	1,500
Subtotal	4,800	13,300	27,700	30,000	30,000
Nearing Approval or New LPs					
Beleave Inc.		150	1,000	1,750	2,000
New LPs		250	1,000	2,000	3,000
Subtotal		400	2,000	3,750	5,000
Total Expected Production (kg)	5,962	23,202	47,634	60,654	70,133

Source: Company reports, Clarus Securities Inc.

One of the key variables in the supply equation continues to be Health Canada's approval of additional licensed producers. It appears that Health Canada is taking a more deliberate approach to its review and approval process. We had speculated that Health Canada was more focused on



improving its rules and guidelines for those existing LPs while being more strict with those applicants that are in process. We believe that remains the case and suggest that Health Canada's recent license renewal for some of the existing LPs as evidence. We have seen most renewals at a much lower annual production limit, more in-line with an LP's current capacity, not its eventual capacity. The approval process and the production capability of the new LPs creates uncertainty in the medium- to long-term supply outlook.

Exhibit 4. Market Forecast

Zamon 4. Market i orecast							
Assumptions							
Grams/day	1.5						
Price/gram	\$7.50						
					Impl	ied 10-Yea	ır CAGR
							37%
Forecast	May-14	Aug-14	2014	2015	2016	2017	2024
Y/Y Patient Growth Rate (%)				244%	65%	25%	10%
Patients (#)	6,000	9,500	16,000	55,000	90,750	113,438	371,302
Estimated Demand (kg)			8,760	30,113	49,686	62,107	203,288
Estimated Revenue (\$000s)			\$65,700	\$225,844	\$372,642	\$465,803	\$1,524,660
Estimated Supply (kg)			5,962	23,202	47,634	60,654	209,484
Balance (±)			2,798	6,910	2,052	1,453	-6,196

Source: Clarus Securities Inc.

#### **CONCLUSION**

Overall, we continue to believe that the market will be supply-constrained in the near term and could approach more balanced levels in 2016. To date the growth rate of patients registered in MMPR is supportive of our demand forecast. In 2015, we expect many of the producers to have material growth in product available but we still believe they will not achieve their full production rate. As the LPs expand production and maximize their capacity heading into 2016, in addition to some new producers approved by Health Canada, we believe it will become a more balanced market. Naturally there is risk to both sides of our forecast, particularly in the near-term. Demand may not grow at our suggested rate, and at the same time we believe the producers will be challenged to ramp up supply with limited prior experience growing marijuana at those production rates.



#### COMPANY BACKGROUND

**Overview.** Aphria operates a 30,000 sq. ft. facility (22,000 sq. ft. of production space across three greenhouses) in Leamington, Ontario that is located in a 450,000 sq. ft. facility on a 40-acre parcel of land. The company operates as a greenhouse producer that grows in a state-of-the-art light- and computer-controlled environment. The company has grown and harvested 12 crops (under Health Canada's MMPR as well as the previous MMAR regime).. Expected annual production from the currently-licensed facility is about 1,600kg annually once the company reaches its capacity run-rate which is expected in mid-2015.

The company has been growing marijuana for a select number of medical customers for the past two years and under the new regulations Aphria has grown medical marijuana for testing and is experimenting with different strains and techniques. The company is currently on a three-week harvest rotation and intends to ramp up to two-week rotations (i.e. two harvests per month) by March/April 2015. Each harvest currently yields about 35kg of product, and the company expects that to increase to 45kg by March 2015 and to 60kg (or 120kg/month) by June 2015. Aphria has acquired and tested over 40 strains and expects to provide customers with approximately 6 strains as it works through its selection process to determine the optimal strains to grow. The company currently has approximately 100kg inventory at various finishing stages in its yault.

**Expansion plans.** Aphria intends to expand its production capacity by an additional 85,000 sq. feet, for a total of 107,000 sq. ft. of operating space. Currently the company estimates the expansion to cost about \$7.5MM and it would enable Aphria to produce an additional approximately 6,000kg on an annual basis. Aphria is licensed to produce and sell 700kg of medical marijuana until March 24, 2015, and expects an increase in that license before that time reflecting its expanding growing operations. Management intends to apply for its new license with production capacity of 2,000kg annually for its current facility.

**Poised to be a lower-cost producer.** There are a number of factors that help position Aphria as a low-cost producer, one of the key differentiators in the market place:

- 1. Growing in a greenhouse will result in lower electricity costs, with supplementary lighting only used when natural light is not enough. The greenhouses are designed to use a passive cooling method instead of air conditioning, which will also help reduce electricity costs. In addition, the use of a greenhouse allows Aphria to use biological controls ("good" bugs being used to control "bad" bugs that feed on marijuana plants) that are much more active under natural light.
- 2. The facility's location is advantageous as the area has a large number of other greenhouses, which will provide access to local vendors and suppliers, purchasing power, and a strong talent pool.



- 3. Fertilizer costs are expected to be lower than for other producers as Aphria will be mixing its own fertilizer and can customize nutrient blends or add single elements to match plant needs. In addition, the use of flood irrigation will help provide different nutrient feeds to plants in different stages of growth and ensure a more consistent nutrient delivery than that provided by standard watering systems.
- 4. Aphria will be producing carbon dioxide instead of purchasing it. Carbon dioxide is an input that helps boost plant growth and improve yields. It can be obtained by burning carbon-based fuels (e.g. natural gas, propane) or from tanks of pure carbon dioxide. Aphria produces its own carbon dioxide using generators that burn natural gas, which can be up to 40% cheaper than purchasing carbon dioxide.
- 5. A support services agreement with CF Greenhouses (controlled in part by Cole Cacciavillani, Director and COO) enables Aphria to take advantage of CF Greenhouse employee knowledge and experience much equipment is the same or similar for medical marijuana and other agricultural products that CF Greenhouses produces. This is expected to result in labour cost savings for Aphria.

Computer-controlled high-tech environment. Aphria uses a computer program called Priva to help manage the greenhouse. The program continuously measures the sun's intensity so that additional artificial lighting is only used when there is not enough sunlight. The program is used to measure and control all aspects of the greenhouse environment, including humidity, carbon dioxide, heat, the timing and quantity of fertilizer and water needed, and air circulation. Aphria's misting system provides water through the leaves of (delicate, root-less) cuttings and in addition to its high-pressure fogging system, helps to constantly control the humidity and temperature levels.

Customer acquisition plan. The company has a sales team in place and plans to market to doctors, alternate healthcare providers, dedicated pain management clinics, drug addiction centres, trade marketing representatives and nutrition and pharmacy retailers. The company plans to increase brand awareness through roundtable discussions, sponsored learning opportunities and direct outreach. Aphria is also in the process of sponsoring patient studies with two patient care organizations. The company's connection to patients is also helped by a social media presence and a full service call centre.

**Product offering.** Aphria has grown different strains of medical marijuana for testing and is experimenting with techniques. The company has tested over 40 strains and expects to provide customers with approximately six strains as it works through its selection process to determine the optimal strains to grow. The company has seen particular demand for high CBD strains with lower levels of THC, as well as for balanced strains. Aphria will be focusing on CBD/THC ratios and will adjust its product offering in step with demand. There are currently 22 strains listed in the company's online shop, nine of which are listed as currently available. The strains are named after Canadian lakes, with equivalent street names provided for easy reference. Products are packaged in 10-gram bottles.





Tignish (Qrazy Train)

Exhibit 5. Currently Available Products

Source: Company reports

**Secondary business strategy.** Aphria's primary strategy is to produce and sell top-quality medical marijuana to patients across Canada. However, depending on the level of patient demand and its production rates, Aphria may also consider selling medical marijuana plants to other LPs as a secondary revenue stream. Aphria's license allows the sale of plants and plant material (rooted cuttings, transplanted cuttings, plants that are ready to be flowered) to other LPs without any further requirements.

Aphria's vault (which is where drying, processing and packaging occurs) is deemed to be "security level eight", which limits the amount of dried marijuana the company can store on site to 620kg. If Aphria's production capacity increases faster than its active patient database, management stated that it will consider the sale of plants to other LPs in Canada. In fact the company has already been approached by other LPs expressing interest in purchasing plants despite only having received its license in the past couple of weeks. Obviously, one of the key determining factors in this decision will be the pace at which Aphria registers new patients. It is our belief that in the near term the company will be focused on selling dried cannabis to its registered patient database. However, this does highlight an opportunity to further expand sales and earnings and in our opinion, speaks to the confidence that management has in its ability to grow to scale in relatively short order. The company has not yet entered into any agreements with other LPs and at this time we have not modeled this optionality into our estimates.



Strong management team with decades of greenhouse growing experience. In our view one of Aphria's key strengths is its management team that brings significant experience in greenhouse growing with over 85 years of combined experience in agriculture and agribusiness and more than 40 years of combined experience in the pharmaceutical industry.

Cole Cacciavillani (COO) has over 35 years of experience in the greenhouse and agricultural industry. Through that time he has built expertise in the use of natural light, proprietary growing techniques and technologies to produce a top quality cost-effective product. John Cervini (Chief Agronomist Officer), with 20 years of experience, is from fourth generation growers and helped establish one of North America's leading sales and marketing companies selling produce from Canada to retailers throughout North America. In addition, he is an innovator in greenhouse growing technology and has expanded greenhouse growing in California and Mexico.

That experience is instrumental in establishing Aphria's products. The co-founders began growing medical marijuana in 2012 to gain experience, knowledge and understand the cannabis plant well. Since that time, Aphria has grown and harvested 12 crops of medical marijuana and has acquired and tested over 40 different strains. Since Aphria was granted its license to harvest in August 2014, the company has already built an inventory of 100kg. That compares to Tweed which we estimate sold a total of 40-45kg in their latest quarter despite having received their license and initiated production in May 2014. While Tweed's production rate is expected to grow with recent harvests at both of its facilities, we still view Aphria's production to date as proof it has the experience to scale product output.

In addition, Aphria's CEO was the CEO at Jamieson Laboratories, Canada's largest manufacturer and distributor of natural vitamins for over 21 years. In his time with Jamieson, Vic Neufeld grew the company from \$20 million in annual sales to over \$250 million. In addition, he grew the company's distribution network to over 40 countries and into a globally-recognized brand. His past experience building the Jamieson business and his contacts throughout various channels should prove instrumental in building the Aphria brand awareness and market penetration.

Overall, we believe this is one of the key differentiators for Aphria in an industry that is in its infancy. The company's experience in greenhouse growing puts Aphria in a position to achieve early success in growing medical marijuana, as is evident by the inventory the company has already been able to establish. In conjunction with Mr. Neufeld's significant ties throughout the Canadian medical and pharmaceutical community, this should provide Aphria with the ability to grow quantity and develop brand recognition.

**Private placement overview.** Aphria completed a private placement on July 31, 2014 that raised gross proceeds of \$12.65 million at \$1.10 per subscription receipt. Each subscription receipt entitles the holder to one common share and one common share purchase warrant with an exercise price of \$1.50 any time prior to five years following the receipt of Aphria's license that occurred on November 27, 2014.



Exhibit 6. Estimated Use of Funds

Estimated use of funds	Amount (\$MM)
Renovations and other current capex	\$0.20
Future expansion	\$7.20
Rent	\$0.25
Staffing costs	\$1.35
Estimated transaction costs	\$0.50
Consulting fees	\$0.45
Unallocated	\$2.53
Total	\$12.5

Source: Company reports

**Capex.** Aphria will be deploying about \$7.5 million in order to expand its facility to 107,000 square feet. The company expects to spend about \$1.1 million in the first half of F2016 (the six months ending November 30, 2015). About \$2.7MM is expected to be incurred in the fiscal quarter ended February 28, 2016, and about \$3.8MM in the subsequent quarter. The expansion is expected to be completed 12 months from the start date, or mid-2016. Included in the cost of expansion is the cost of a cogeneration system that will use natural gas and supply carbon dioxide in addition to heat and electricity.



#### FINANCIAL ANALYSIS AND FORECASTS

**Demand assumptions.** The average dose of medical marijuana is estimated to be 1-3 grams/day when smoked or vaporized. Our forecasts assume 1.5 grams/day/patient, which equates to about 550 grams annually, a more conservative assumption than the mid-point of 2 grams/day. If demand turns out to be closer to that mid-point it would provide a more bullish outlook than what we have assumed. Aphria's management is internally forecasting closer to 1.0 grams/day to take a more conservative approach. We have modeled 1.5 grams to be consistent with our other forecasts and comparable to other licensed producer forecasts.

Costs per gram. The company anticipates cash production costs in the range of \$1.25-1.35 per gram at full capacity. Management has suggested selling prices of \$7.00/gram, however in our model we have used \$7.50/gram, consistent with our other estimates. Initially we expect similar pricing across the various LPs and only once we have a more balanced demand/supply situation would we expect much variation in pricing either based on quality or demand for particular strains. About 80% of the company's costs are fixed, therefore profitability will increase as the company scales production.

Clientele ramp-up. We expect Aphria will have an average of 250 patient users in Q3/F15 (ending February 28, 2015), ramping up to an average of 750 in Q4/F15 (ending May 31, 2015). That begins to scale in the balance of APH's first operational year with average patients of 1,900 in Q1/F16 (ending August 31, 2015) and 2,600 in Q2/F16 (ending November 30, 2015). We show our expectations for the company's patient roster in Exhibit 7.

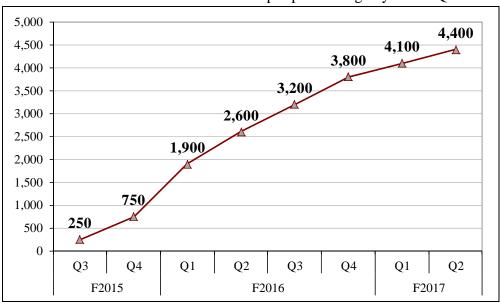


Exhibit 7. APH's Patient Enrolment Ramp-Up – Average by Fiscal Quarter

Source: Clarus Securities Inc.



**Financial estimates.** As we have noted above with respect to client acquisition, we have modeled a gradual ramp up in sales in Aphria's first two operational quarters (Q3 and Q4 of its fiscal year ending May 31, 2015). Despite currently having close to 100kg of product in the vault, with sales just beginning to ship, we expect a gradual ramp up in patients as Aphria builds its brand and establishes itself in the market. We expect that to ramp up significantly in the middle of calendar 2015 as the company will have built some meaningful inventory with various strains that are being demanded by patients. We forecast Aphria to be breakeven by mid-2015 (Q1/F16, ending August 31, 2015).

We also assume that Aphria's planned capacity expansion will be complete in mid-to-late 2016. In our view the biggest risk to the timing is Health Canada's approval process, however we are using this as a baseline for now. We forecast a steady ramp up in patients for Aphria, as we model that the company will produce more than its patient demand in its first four quarters of operations (November 2015). In the quarters that follow December 2015 through mid-2016, we believe that the company will continue to register new patients and draw down the accumulated inventory as it completes its expansion. This will allow Aphria to continue its patient roster growth and will have a patient base to serve as the new production comes on-line. In addition, as we noted earlier, should the patient acquisition pace fall below our expectations, the company does have a secondary business strategy to sell plants to other LPs if the right opportunity presents itself, however we have not included that in our model for now.

For fiscal 2015 (ending May 31, 2015), we forecast revenue of \$1.0 million and an EBITDA loss of \$0.8 million. In APH's F2016 (ending May 31, 2016), we model revenue of \$11.6 million and EBITDA of 5.4 million. We have also provided calendar year estimates in Exhibit 9.

Exhibit 8. Clarus Fiscal Year Estimates

\$MM, May 31 year-end	2015	2016	2017	2018
Financial Forecasts (\$MM)				
Revenue	\$1.0	\$11.6	\$21.0	\$38.5
Growth Y/Y %		nmf	80%	84%
Gross Profit	\$0.8	\$9.4	\$17.1	\$31.5
Gross Margin %	78%	81%	81%	82%
EBITDA	(\$0.8)	\$5.4	\$10.8	\$22.0
EBITDA %	nmf	46.5%	51.3%	57.2%
Net income	(\$1.3)	\$3.8	\$7.6	\$15.9
<b>EPS</b> (\$)	(0.02)	0.05	0.10	0.21

Source: Clarus Securities Inc.



Exhibit 9. Clarus Calendar Year Estimates

\$MM, Dec 31 year-end	2015	2016	2017	2018
Financial Forecasts (\$MM)				
Revenue	\$6.6	\$16.5	\$31.1	\$50.3
Growth Y/Y %		151%	89%	62%
Gross Profit	\$5.3	\$13.3	\$25.5	\$41.2
Gross Margin %	80%	81%	82%	82%
EBITDA	\$1.8	\$8.2	\$17.2	\$29.7
EBITDA %	27.7%	49.6%	55.3%	59.0%
Net income	\$1.1	\$5.7	\$12.4	\$21.7
<b>EPS</b> (\$)	0.01	0.08	0.16	0.29

Source: Clarus Securities Inc.

#### VALUATION

We have taken two approaches to look at the valuation of Aphria: DCF and EV/EBITDA. Given the early stage of the industry and the company itself, we have placed more emphasis on the DCF valuation but expect to transition to an EV/EBITDA basis over time. We have included a sensitivity table using different discount rates and terminal multiples. At the mid-point with a 8x terminal multiple and 17.5% discount rate we generate a value of \$2.10/share. For the purposes of the DCF we have used basic shares outstanding, not including the warrants as the resulting cash from such exercise could provide possible expansion opportunities and earnings that we have not included in our DCF. We are initiating coverage of Aphria with a **SPECULATIVE BUY** recommendation and target price of \$2.00 per share, based on our DCF valuation, using a terminal EBITDA multiple of 8x and a 20% discount rate.

Exhibit 10. DCF Sensitivity

	Terminal EBITDA multiple							
		6.0 8.0 10.0						
Discount	15.0%	\$1.90	\$2.40	\$2.80				
Rate	17.5%	\$1.70	\$2.10	\$2.60				
	20.0%	\$1.50	\$1.90	\$2.30				

Source: Clarus Securities Inc.

Exhibit 11. Table of Comparables (Calendar Year Basis)

-	Last	Market		M	larket Cap	/Gram of	Productio	n		EV	/EBITI	DA	
Company	Price	Cap	EV	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Aphria (APH-V)	\$0.78	\$41	\$28	\$409.3	\$46.8	\$18.6	\$9.9	\$6.1	nmf	15.2	3.4	1.6	0.9
Bedrocan Cannabis Corp. (BED-V)	\$0.72	\$50	\$39	\$223.6	\$36.9	\$18.4	\$13.1	\$12.5	nmf	8.4	3.1	2.1	1.9
Mettrum Ltd. (MT-V)	\$2.01	\$68	\$42	\$135.4	\$33.8	\$16.9	\$11.3	\$7.5	nmf	22.3	2.8	1.5	1.0
Organigram Holdings Inc. (OGI-V)	\$0.70	\$36	\$29	\$360.9	\$18.0	\$10.3	\$8.0	\$6.6	nmf	10.5	2.4	1.6	1.3
Tweed Marijuana Inc. (TWD-V)	\$2.20	\$89	\$76	\$443.2	\$31.9	\$15.5	\$13.6	\$11.1	nmf	12.1	4.1	3.1	2.5
T-Bird Pharma Inc. (TPI-V)	\$0.50	\$23	\$20	nmf	\$153.6	\$65.8	\$28.8	\$17.7	nmf	nmf	25.4	8.3	5.1
Average (excl. TPI)				\$314.5	\$33.5	\$16.0	\$11.2	\$8.7	nmf	13.7	3.2	2.0	1.5

Source: Clarus Securities Inc., company reports, FactSet



#### **INVESTMENT RISKS**

**Regulatory reliance.** Aphria must renew its MMPR license each year and there is no guarantee that Health Canada will extend or renew a license. The company's current license expires in March 2015. In addition, should a company fail to comply with any requirements the license could be cancelled, which would impact financial results. Aphria's new facility will need to pass inspection once construction is complete. Delays in any of these approvals could adversely impact the company's production ramp-up.

Changes in regulatory environment. If Health Canada were to make further modifications to the MMPR program or introduce any other changes that could affect the medical marijuana industry it would have an impact on producers, either positively or negatively depending on the nature of the change.

**Limited operating history.** Aphria has a limited operating history and therefore is subject to risks typical in early-stage companies. This could include crop failures, inability to scale production to full capacity or access to financial resources, among other risks typical of early-stage companies.

**Demand profile.** Patient demand growth may be higher or lower than preliminary estimates which may affect the overall market. If demand were to be significantly lower than forecast the market may experience an over-supply situation, creating pricing pressure for producers. Conversely, if demand were to exceed expectations, the market may be constrained which could have a positive impact on prices.

**Dependence on key personnel.** An important part of the company's marketing strategy is the emphasis on Aphria management's expertise. The departure of key personnel could impact Aphria's brand, as well as operations.



#### APPENDIX A: INDUSTRY BACKGROUND

#### REGULATORY CHANGE CREATES AN INDUSTRY

In June 2013, Health Canada announced changes that have dramatically transformed the medical marijuana industry in Canada. Patients have been able to use marijuana for medical purposes for more than a decade under the previous Marijuana Medical Access Regulations (MMAR) program. However, Health Canada was subsidizing access under MMAR and it was costing Canadian taxpayers millions of dollars each year. Effective April 1, 2014 Health Canada's new Marijuana for Medical Purposes Regulations (MMPR) came into effect. As a result a new and growing industry is in the early stages of evolution.

Since announcing the new regulations and framework, Health Canada has approved 15 licensed producers of medical marijuana. There are many more applications in process as companies strive to get first-mover advantage and capture market share in what is expected to be a growth industry. Of those 15 producers, six are now publicly traded.

#### ABOUT MARIJUANA

There are over 700 varieties of cannabis that have been described to date. Based on characteristics such as shape, colour, height, smell, etc., cannabis is usually recognized as one of two main types: Cannabis sativa, which originated in the Western hemisphere and is typically tall with few widely-spaced branches and long thin leaves; and Cannabis indica, which originated in Central and South Asia, and is typically shorter and bushier with broad leaves. While these physical features are typically used to help differentiate between sativa and indica, there is no scientifically validated way to measure the proportion of each species type in a specific plant, and physical characteristics can be manipulated using environmental controls (e.g. soil, water, lighting, temperature, fertilizing, ventilation).

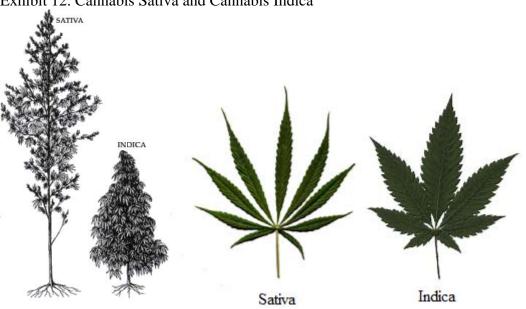


Exhibit 12. Cannabis Sativa and Cannabis Indica

Source: Wikipedia, www.usaweed.org



Cannabinoids, which are unique to the cannabis plant, are considered to be the main therapeutic components of the plant. Over 100 cannabinoids have been identified to date with chemical structures that closely resemble each other. The specific mix of cannabinoids in a cannabis flower influences the plant's medicinal properties. Cannabis plants grown indoors tend to have higher levels of cannabinoids compared to cannabis grown outdoors.

The most well-known cannabinoid is delta-9-tetrahydrocannabinol, more commonly known as **THC**. This is the compound that has psychoactive effects, though it is also responsible for medicinal effects including reduction of nausea, vomiting, pain and muscle spasms, and improvement of sleep and appetite.

The second cannabinoid that receives a lot of attention is cannabidiol, or **CBD**, which provides non-psychoactive effects. CBD can be effective in easing the symptoms of various conditions such as rheumatoid arthritis, diabetes, PTSD, anxiety disorder, and antibiotic-resistant infections. In addition to THC and CBD, the most studied cannabinoids are CBN (cannabinol), CBG (cannabigerol), CBC (cannabichromene), CBL (cannabicyclol), CBV (cannabivarin) and THCV (tetrahydrocannabivarin). Historically, most marijuana has been bred for high ratios of THC. However, interest in high-CBD strains has increased recently, and the market is adapting by breeding more plants for a higher ratio of CBD.

The effect of cannabinoids is due to their interaction with certain receptors in the central nervous system. So far two types of cannabinoid receptors have been found, Cannabinoid-Binding receptor type 1 (CB1) and type 2 (CB2). The cannabinoids' effects depend on the areas of the brain with which they interact, and tend to occur in the limbic system (affects memory, cognition and coordination), the mesolimbic pathway (a major dopamine pathway associated with the reward circuit) and in regions of pain perception. The CB1 receptor is mainly found in the brain and spinal cord, typically in the areas of the brain that regulate sleep, appetite, perception of time, feelings of pain and memory. The euphoric feeling that comes from consuming cannabis is due to the overstimulation of the CB1 receptor. The CB2 receptor is primarily found on cells within the immune system, and has an effect on pain, inflammation and tissue damage.

#### APPLICATIONS FOR MEDICAL MARIJUANA

Chronic pain associated with the central nervous system is one of the main applications for medical marijuana. Different types of pain respond differently to marijuana, and the beneficial effects of cannabinoids is most noticeable in neuropathic types of pain, which come from damage or disease that affects sensory nerves. Examples include multiple sclerosis, where the nerves are attacked by a patient's own immune system, or fibromyalgia where the patient's nerves become hypersensitive. Marijuana has helped reduce pain, muscle spasms and cramps in patients with multiple sclerosis or spinal cord damage, and most clinical trials with cannabinoid-based drugs have been concentrated on multiple sclerosis.



Consuming marijuana also helps stimulate the appetite and reduce nausea and vomiting, which helps patients who are undergoing chemotherapy or radiotherapy to treat cancer, hepatitis C and HIV/AIDS.

Medical marijuana is used for the management of symptoms associated with conditions that include, among others:

- Alcohol and opioid withdrawal symptoms (drug withdrawal symptoms)
- Alzheimer's disease and dementia
- Anorexia nervosa
- Anxiety and depression
- Arthritis and musculoskeletal disorders
- Asthma
- Chronic pain
- Diseases of the pancreas (diabetes, pancreatitis)
- Epilepsy
- Fibromyalgia
- Glaucoma

- Headaches and migraines
- Huntington's disease
- Hypertension
- Metabolic syndrome, obesity, diabetes
- Multiple Sclerosis
- Nausea and vomiting
- Parkinson's disease
- Post-traumatic stress disorder (PTSD)
- Sleep disorders
- Spinal cord injury
- Tourette's Syndrome

While not all indica strains are CBD-dominant, the therapeutic effects of CBD are typically in indica strains. Indica strains are typically used for relaxation and for issues such as insomnia, body pain and inflammation. Indica strains can have higher levels of CBD and more balanced blends of CBD and THC. Studies on CBD have shown that it can benefit people suffering from epilepsy and seizures, anxiety, movement disorders, Alzheimer's disease and multiple sclerosis.

Sativa strains are THC-dominant and generally for daytime use to help with appetite stimulation, nausea suppression, chronic pain, Multiple Sclerosis and glaucoma. Hybrids have combinations of sativa and indica characteristics.



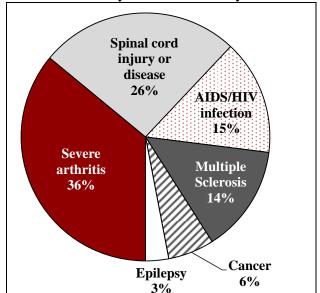


Exhibit 13. Use by Ailment – Survey of Patients Using Medical Marijuana in Canada

Source: http://www.visualcapitalist.com/medical-marijuana-in-canada/

In Canada, it is estimated that about 4.6 million people suffer from arthritis, 86,000 have a spinal cord injury or disease, 72,000 are living with HIV/AIDS and about 100,000 people have Multiple Sclerosis. Approximately 900,000 people in Canada are living with cancer and about 300,000 with epilepsy. Together, this represents about 17% of the Canadian population, or about 6.1 million people that could be potential consumers. The estimated 40,000 medical marijuana patients in 2014 represents just 0.7% of these potential consumers, or 0.1% of the Canadian population. Therefore, a growth outlook of 400,000 to 500,000 patients by 2024 is reasonable, if not conservative, especially as more research is conducted and the medical community becomes more aware and comfortable prescribing medical marijuana.

#### WAYS TO ADMINISTER MEDICAL MARIJUANA

There are various ways for a patient to administer marijuana, including smoking, vaporization or through edibles. There is clinical value in patients being able to use medicinal cannabis via inhalation. Because the cannabis vapor is absorbed through the lining of the lungs, this method has a rapid onset of therapeutic effect, and allows patients to control dosage in a more effective manner. Eating marijuana or taking it orally typically takes longer for the drug to take effect in a patient (30-60 minutes), making it more difficult to monitor dosage and increasing the risk of overdose. The recommended way to administer it is with the use of a vaporizer. This provides the patient a way to inhale marijuana, providing more immediate therapeutic effect, without the harmful aspect of smoking it. A vaporizer is an inhalation device that heats the marijuana past the boiling point of the cannabinoids but not does not get hot enough to burn the plant matter. There is a wide variety of vaporizers, from those designed to use pumped hot air and others that use electrically heated plates, from table-top devices to portable ones. In August 2014 the Canadian Medical Association (CMA) approved a delegate resolution opposing the smoking of



any plant material, including medical marijuana. The resolution does not restrict how a patient administers marijuana but it does warn a patient of the hazards of smoking a plant product and highlights that there is a safer alternative, through vaporization.

#### BACKGROUND TO THE CANADIAN EXPERIENCE

Since 2001, Health Canada has granted access to marijuana for medical purposes to Canadians. Once approved under the previous Marijuana Medical Access Regulations (MMAR), individuals had three options for obtaining a legal supply of dried marijuana: 1) they could apply to access Health Canada's supply of dried marijuana; 2) they could apply for a personal-use production license; or 3) they could designate someone to cultivate on their behalf with a designated-person production license. Under the MMAR, about 13% of patients in the program received their supply from Health Canada, however prices of \$5/gram were subsidized by the government. Under the MMAR, about 66% of people held personal-use production licenses and about 10% held designated-person production licenses.

In June 2013 the Government of Canada introduced the new Marijuana for Medical Purposes Regulations (MMPR) that aim to treat marijuana like other narcotics used for medical purposes by allowing for a new, commercial industry that is responsible for production and distribution.

The change in regulations occurred after Health Canada received feedback from various constituent groups about problems with the MMAR, including violence, the presence of firearms, diversion of product to the black market, production in excess of authorized limits, the presence of mold and other contaminants in home-grown products, fire and electrical hazards from home-based operations and risks to children near the residential growing operations.

The production of marijuana for medical purposes in private residences and Health Canada's supply ended on March 31, 2014. As of April 1, 2014, the only way to access marijuana for medical purposes is through commercial, licensed producers.

The updated regulations include the following changes:

- 1. A physical medical document has to be presented in original;
- 2. Registration has to be completed with original documents;
- 3. Processing is completed by licensed producers and not Health Canada;
- 4. Medical documents are non-transferrable a patient requires a new medical document in order to change suppliers; and
- 5. No on-site dispensing.

Producer licenses are issued for a maximum period of one year therefore producers need to submit a renewal application to Health Canada every year. We do not believe there is much risk of a producer not being able to renew a license, unless they have not continued to follow Health Canada's guidelines. There are regular inspections performed by Health Canada throughout the year to ensure compliance. Recent renewals have indicated that Health Canada is changing its



approach to the license program. Initially, Health Canada provided producers with a license to distribute based on what their eventual planned capacity was, regardless of when that supply would be available. However, more recently Health Canada has granted renewals based on the current or near-term capacity of the LP's facility. For example, Tweed (TWD-TSX.V, Not Rated) had its license renewed for 3,500kg of product annually, down from the initial license granted of 15,000kg annually. We believe that this is Health Canada's approach to more closely monitor and inspect a producer's expansion to ensure compliance. Some recent license information is summarized below

- October 24: The Peace Naturals Project, a private licensed producer based in Stayner, ON, was granted a one-year MMPR license renewal. The company has 1,600 registered clients and employs over 40 people. The Peace Naturals Project is in the process of completing a 40,000 sq. ft. expansion and has plans for additional development in spring 2015.
- October 31: Mettrum Health Corp. (MT-TSX.V, Not Rated) had its production license renewed by Health Canada, which allowed Mettrum to produce and sell up to 650kg annually.
- November 18: Tweed announced that Health Canada has renewed the company's MMPR license, allowing for the production and sale of up to 3,500kg of marijuana over the next year.
- November 27: Aphria granted full license under MMPR.
- Autumn 2014: Broken Coast Cannabis Ltd. added to Health Canada's list of licensed producers.

Canadian regulatory risk. On March 21, 2014, in response to a motion brought by individuals claiming that medical marijuana would be prohibitively expensive under the MMPR regime, the Federal Court of Canada issued an order allowing for exemptions to the MMPR for individuals who were licensed under MMAR. Those who held a license to possess marijuana under the MMAR on March 21, 2014 are permitted to continue to possess marijuana in accordance with the terms of that license with the maximum amount permitted to be the lesser of that specified by their licence or 150 grams, and those who held a license to produce marijuana under the MMAR as of September 30, 2013, are allowed to continue to produce in accordance with the terms of that license until the Federal Court decides the merits of the case. The order applies only to existing MMAR license holders and not to new patients who were not licensed under the old rules. Therefore, new patients must procure medical marijuana from licensed producers under the MMPR.

The Government of Canada appealed the order however the Federal Court of Appeal this week rejected the government's appeal of the injunction, which is set to go to trial in February 2015.



#### ONEROUS REQUIREMENTS TO BECOME A LICENSED PRODUCER

Barriers to entry into the Canadian medical marijuana industry include licensing, compliance and setup costs including security, quality control and customer care. In addition, the new rules do not allow advertising to end users. Therefore, patients need to select a vendor based on the list on Health Canada's website, a physician's referral, or brand awareness. The new rules help create customer loyalty, as switching to a different producer requires a new medical document.

Licensed producers can be authorized to possess, sell, ship, deliver, transport, destroy, produce, export and/or import marijuana for medical purposes under the MMPR. To obtain a producer licence from Health Canada, applicants must demonstrate compliance with stringent requirements. Production sites need to be located indoors (this includes greenhouses), and cannot be in a private residence. There are also specific and capital-intensive physical security requirements for storage and non-storage spaces within a production facility. Applicants need to show Health Canada that they meet these security requirements, and sites are subject to regular audits and inspections by Health Canada. The bullet points below illustrate some of the intensive security measures that are required to become a licensed producer. This is not an exhaustive list but highlights some of the requirements that must be met and underscores the time and investment required to become a licensed producer.

- The perimeter of the site must be visually monitored at all times by visual recording devices to detect attempted or actual unauthorized access
- The perimeter must be secured by an intrusion detection system that operates at all times
- Access to the site must be capable of identifying each individual who enters or leaves a
  restricted area. A PIN alone is not sufficient, the security system should require a PIN and an
  identification card or biometrics
- Areas within the site where cannabis is present must be visually monitored at all times by recording devices to detect illicit conduct
- Backup mechanisms must be in place to ensure the cameras are recording 24/7 and all visual recordings and records must be retained for two years

In addition, Health Canada also requires producers to follow Good Production Practices that ensure the cleanliness of the site and equipment. Producers must have a quality assurance person with the necessary training, experience, and technical knowledge to approve product quality before it is sold. Dried marijuana must be tested for microbial and chemical contaminants before it can be sold.

Individuals in key positions, including officers and directors, must undergo security clearance and a criminal record check. Other requirements include having a sanitation program, the use of standard operating procedures, appropriate product labelling, tamper-evident and child-resistant packaging and the establishment of a recall system. Health Canada checks that standard operating procedures and appropriate record-keeping are in place.



It takes six months or more for a potential producer to get interviewed by Health Canada after applying. It can then take three months or more for the initial facility inspection, which can be followed by remediation and re-inspection. Once the first planting is complete, a typical growing cycle takes three to four months. Therefore, the entire process from application to commercial sales can take 12-18 months, if not longer.

#### GO-TO-MARKET STRATEGY WILL BE CRITICAL

Under the new MMPR process, a patient is required to obtain a medical document from a medical practitioner that must be provided to the licensed producer. Marijuana cannot be purchased by the patient until the producer has the original document. If a patient wants to change their marijuana provider the patient is required to obtain a new medical document and resubmit everything to the new licenced producer. We believe that this will create a significant degree of "stickiness" of acquired patients and will help licensed producers with client retention. In our view, this underscores the importance of initial patient acquisition.

In our view, one of the critical success factors (besides growing and producing top-quality product) in this infant industry will be a producer's go-to-market strategy. As noted previously, advertising and marketing to end users is not allowed under current Health Canada regulations. This presents a challenge to the licenced producers with respect to patient acquisition. Producers will, however, be able to promote their products to the medical community. This can be accomplished through both direct and indirect approaches. A producer's participation through continuing education and other medical events with be important, as will engagement of medical thought leaders on the benefits and merits of medical marijuana and the use of studies. Companies could also engage pharmaceutical sales representatives as another avenue to directly market to doctors.

Brand awareness will also be important, yet challenging given the inability to advertise. This is where we believe that licensed producers will have to try and maximize media coverage (including social media) and public relations activities within the boundaries of Health Canada's regulations. Sponsorship of medical events or conferences can help develop a producer's brand recognition. Word of mouth is also going to be important, however we believe it will be driven primarily by product quality, customer service levels, availability of product and timeliness of shipments.

Given what we expect to be the "stickiness" of patients, the early-stage large-volume producers may have an advantage. Assuming a high-quality product and good customer service, a patient is likely to stick with a brand and strain. Given our estimate of a short-term supply-constrained market, those producers that can ramp up their production and become a large-scale producer in the near term may have an advantage in the long term.



### APPENDIX B: FINANCIAL STATEMENT

<b>Aphria</b>	Inc.
Model	

Model				
C\$MM;May. 31 year end	2015E	2016E	2017E	2018E
	May-15	May-16	May-17	May-18
Pinancial Madalina				
Financial Modeling				
Number of patients	750	3,800	6,700	11,000
Grams/patient/day	1.5	1.5	1.5	1.5
Total demand (kg)	135	1553	2795	5130
F 17 0 7 (1)	400	4 500	0.400	0.004
Facility Capacity (kg)	460	1,500	2,400	6,904
Price/gram (\$)	\$7.50	\$7.50	\$7.50	\$7.50
ι που/grain (ψ)	φ1.50	Ψ1.50	Ψ1.50	φ1.30
Revenue (\$MM)	1.0	11.6	21.0	38.5
το τοπου (ψππη)				••••
COGS/gram (\$)	\$1.64	\$1.45	\$1.39	\$1.35
COGS (\$MM)	0.2	2.3	3.9	6.9
,	-			
Gross Profit	0.8	9.4	17.1	31.5
Gross Margin	78%	81%	81%	82%
· ·				
EBITDA	(0.8)	5.4	10.8	22.0
EBITDA margin (%)	-80%	46%	51%	57%
	2015E	2016E	2017E	2018E
	May-15	May-16	May-17	May-18
Lancas Otalas and				
Income Statement				
5				
Revenue	1.0	11.6	21.0	38.5
Cost of sales	0.2	2.3	3.9	6.9
Gross profit	0.8	9.4	17.1	31.5
Gross margin	78%	81%	81%	82%
Evnences				
Expenses	0.0	2.0	2.0	C E
Sales and Marketing expenses G&A	0.6	2.0 2.0	3.6 2.8	6.5
Total SG&A	1.0 1.6	4.0	6.3	9.5
% of Gross Rev	158%	4.0 34%	30%	9.5 25%
Y/Y Growth	nmf	34% 149%	59%	25% 51%
17 1 Glowar	,,,,,,	143/0	33/0	3170
EBITDA	(0.8)	5.4	10.8	22.0
EBITDA margin	-80%	46%	51%	57%
g			****	
EBT	(1.3)	4.9	10.3	21.5
	` ,			
Income tax provision		1.1	2.7	5.6
Net income (loss)	(1.3)	3.8	7.6	15.9
, ,	` ,			
Basic loss per common share	(0.02)	0.07	0.14	0.30
Diluted loss per common share	(0.02)	0.05	0.10	0.21
Shares O/S - Basic	52.5	52.5	52.5	52.5
Shares O/S - Diluted				
	75.5	75.5	75.5	75.5
Source: Clarus Securities Inc.	75.5	75.5	75.5	75.5



#### APPENDIX C: MANAGEMENT AND DIRECTOR BIOGRAPHIES

Vic Neufeld, President, CEO and Director. Mr. Neufeld is the former CEO of Jamieson Laboratories, Canada's largest manufacturer and distributor of natural vitamins, minerals, concentrated food supplements, herbs and botanical medicines. Mr. Neufeld brings 15 years of experience as a chartered accountant and partner with Ernst & Young and 21 years as CEO of Jamieson. During his tenure with Jamieson, the company went from \$20 million in annual sales to over \$250 million and expanded the company's distribution network to over 40 countries. Mr. Neufeld, a native of Leamington, Ontario, earned a Bachelor's degree from the University of Windsor and MBA from the University of Windsor and is a CPA.

John Cervini, Chief Agronomist Officer and Director. Mr. Cervini, Aphria's co-Chair and founder, comes from fourth generation growers in southwestern Ontario with hydroponic agricultural experience. Together with his father and brother, Mr. Cervini helped established Lakeside Produce, selling fresh produce from Canada to multinational retailers throughout North America. Mr. Cervini is a leading innovator in greenhouse growing technology and has also overseen greenhouse expansion to Carpinteria, California and Guadalajara, Mexico. He is the founding chair of the Ontario Greenhouse Marketing Association and remains involved in the industry as part of the Ontario Greenhouse Vegetable Growers Association.

Cole Cacciavillani, Chief Operating Officer and Director. Mr. Cacciavillani, Aphria's cochair and founder, is an industrial engineer with 35 years of experience in the agricultural and greenhouse industry. Mr. Cacciavillani sits on a number of charitable and associative boards including serving as Chairman of the Board for Leamington Memorial District Hospital as well as serving on the Hospital's Foundation Board. Mr. Cacciavillani is a part of the Ontario Greenhouse Alliance; serves on the board of the Agricultural Institute of Ontario, Police Services Board, F.V. Energy Co-op, and the Leamington Economic Development Committee. Currently he serves as Co-Chair of Fundraising for the Erie Shores Campus Hospice.

Jonathan Leong, Chief Financial Officer. Mr. Leong has been involved in a number of public and private market transactions, including business acquisitions and reverse take-overs, for both domestic and international entities. Mr. Leong is a Chartered Professional Accountant, Chartered Accountant and Chartered Business Valuator with experience working in a variety of financial reporting, audit, advisory, M&A and valuation engagements. Mr. Leong articled with Grant Thornton LLP and obtained his Master of Accounting from the University of Waterloo.

Gary Leong, Chief Scientific Officer. Mr. Leong has a background in quality assurance, quality control, quality system audits, international and domestic regulatory affairs and product research and development. He currently is the president of Neautrical Solutions Inc. located in Surrey, British Columbia. Prior to that he was the Chief Scientific Officer at Jamieson. He began at Jamieson in 2000 as the Vice President of Scientific and Technical Affairs. He also held the position of Quality Control Manager at Boehringer Ingelheim Consumer Products: Quest Vitamins, and of Development Officer at Atomic Energy of Canada: Radiochemical Company.



Mr. Leong holds a B. Sc. in Chemistry and an MBA in Quality Management from City University of Bellevue Washington. He is currently affiliated with the Life Sciences Working Team of Windsor-Essex Economic Development Corporation.

**Dennis Staudt, Director.** Mr. Staudt, has over 35 years of experience providing business advice to private companies in Southwestern Ontario, having spent most of his career with PricewaterhouseCoopers LLP, including 22 years as a partner in the Audit and Assurance Group. Following his retirement from PwC in 2012, he continues to provide business advisory services to a number of private companies, primarily in the manufacturing and greenhouse sectors. He is also Vice-President of Staudt Farms Limited, a family-owned farming operation in Leamington, Ontario. Mr. Staudt graduated from the University of Windsor in 1977 with a B. Comm. He obtained his Chartered Account (Ontario) designation in 1979 and his Certified Public Accountant (Illinois) designation in 1998. Mr. Staudt is also an Advisory Board Member at the University of Windsor Centre for Executive and Professional Education.

Exhibit 14. Management & Insider Ownership

Name	Common Shares		Options	
Cole Cacciavillani (COO)	9,944,444	18.9%	500,000	2.2%
John Cervini (Chief Agronomist Officer)	11,500,001	21.9%	500,000	2.2%
Vic Neufeld (CEO)	849,292	1.6%	1,000,000	4.3%
Other Management & Insiders	5,412,999	10.3%		
Total Management & Insiders	27,706,736	52.8%	2,000,000	8.7%
Shares Issued and Outstanding	52,479,587	100%	23,045,996	100%

Source: Company reports, SEDI



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Accumulate: Attractively valued, but given the current market price, is expected to appreciate moderately over the next 12 -18 months.

Hold: Fairly valued and expected to trade in line with the current price over the next 12-18 months.

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