

# Management's Discussion and Analysis

# For the Three and Six Months Ended September 30, 2017

DATE OF REPORT: November 10, 2017

# MANAGEMENT'S DISCUSSION AND ANALYSIS

The following management's discussion and analysis ("MD&A") has been prepared as of November 10, 2017, and should be read in conjunction with the September 30, 2017 unaudited condensed consolidated interim financial statements and related notes of Medicenna Therapeutics Corp. ("Medicenna", the "Company", "we", "our", "us" and similar expressions). The unaudited condensed consolidated interim financial statements and related notes of Medicenna condensed consolidated interim financial statements and related notes of Medicenna, were prepared in accordance with International Financial Reporting Standards ("IFRS") and all dollar amounts are expressed in Canadian dollars unless otherwise noted.

# FORWARD-LOOKING STATEMENTS

This MD&A contains forward-looking statements within the meaning of applicable securities laws. These statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. All statements contained herein that are not clearly historical in nature are forward-looking, and the words such as "plan", "expect", "is expected", "budget", "scheduled", "estimate", "forecast", "contemplate", "intend", "anticipate", or "believe" or variations (including negative variations) of such words and phrases, or statements that certain actions, events or results "may", "could", "would", "might", "shall" or "will" be taken, occur or be achieved and similar expressions are generally intended to identify forward-looking statements. Forward-looking statements in this MD&A include, but are not limited to, statements with respect to the Company's:

- business strategy;
- expected future loss and accumulated deficit levels;
- projected financial position and estimated cash burn rate;
- requirements for, and the ability to obtain, future funding on favorable terms or at all;
- expectations about the timing of achieving milestones and the cost of the Company's development programs;
- observations and expectations regarding the effectiveness of MDNA55 and the potential benefits to patients;
- expectations regarding the completion of enrolment of the Company's Phase 2b clinical trial;
- expectations about the timing with respect to commencement of additional clinical trials;
- expectations about the Company's products safety and efficacy;
- expectations regarding the Company's ability to arrange for the manufacturing of the Company's products and technologies;
- expectations regarding the progress and successful and timely completion of the various stages of the regulatory approval process;
- ability to secure strategic partnerships with larger pharmaceutical and biotechnology companies;
- strategy to acquire and develop new products and technologies and to enhance the safety and efficacy of existing products and technologies;
- plans to market, sell and distribute the Company's products and technologies;
- expectations regarding the acceptance of the Company's products and technologies by the market;
- ability to retain and access appropriate staff, management, and expert advisers;
- expectations with respect to existing and future corporate alliances and licensing transactions with third
  parties, and the receipt and timing of any payments to be made by the Company or to the Company in
  respect of such arrangements; and
- strategy and ability with respect to the protection of the Company's intellectual property.

all as further and more fully described under the section of this MD&A titled "Risk Factors". Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results to differ from those anticipated, estimated or intended.

Although the forward-looking statements contained in this MD&A are based upon what the Company's management believes to be reasonable assumptions, the Company cannot assure readers that actual results will be consistent with these forward-looking statements.

Any forward-looking statements represent the Company's estimates only as of the date of this MD&A and should not be relied upon as representing the Company's estimates as of any subsequent date. The Company undertakes no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events, except as may be required by securities laws.

All references in this MD&A to "the Company", "Medicenna", "we", "us", or "our" refer to Medicenna Therapeutics Corp. and the subsidiaries through which it conducts its business, unless otherwise indicated.

# **COMPANY OVERVIEW**

Medicenna Therapeutics Corp. is the company resulting from a "three-cornered" amalgamation involving A2 Acquisition Corp ("A2"), 1102209 B.C. Ltd., a wholly-owned subsidiary of A2 and Medicenna Therapeutics Inc. ("MTI"), a privately held clinical stage biotechnology company. A2 was formed by articles of incorporation under the Business Corporations Act (Alberta) ("ABCA") on February 2, 2015, and following its initial public offering, was a "capital pool company" listed on the Toronto Stock Exchange Venture ("TSXV"). As a capital pool company, A2 had no assets other than cash and did not carry on any operations. On March 1, 2017, the Company changed its name to Medicenna Therapeutics Corp. and completed a consolidation of its share capital on the basis of one post-consolidation common share for every 14 pre-consolidation common shares (the "Consolidation"). Medicenna completed its qualifying transaction pursuant to the policies of the TSXV by way of reverse takeover of A2 by the shareholders of MTI on March 1, 2017 (the "Transaction"). Medicenna has three wholly owned subsidiaries, MTI, Medicenna Biopharma Inc. (Delaware) and Medicenna Biopharma Inc. (British Columbia).

MTI was identified for accounting purposes as the acquirer, and accordingly the entity is considered to be a continuation of MTI and the net assets of A2 at the date of the Transaction are deemed to have been acquired by MTI. The condensed consolidated interim financial statements include the results of operations of Medicenna from March 1, 2017. The comparative figures are those of MTI prior to the Transaction.

Medicenna is a clinical stage immuno-oncology company developing first and best-in-class proprietary super agonist and antagonist versions of cytokines called Superkines<sup>™</sup>. These proprietary Superkines<sup>™</sup> are powerful immune modulators that have the potential to improve efficacy in a variety of diseases while minimizing off-target effects. Superkines<sup>™</sup> fused to cell-killing payloads, to form Empowered Cytokines<sup>™</sup> ("EC"), are target centric Molecular Trojan Horses being developed for treatment of cancer as superior alternatives to other targeted therapies such as Antibody Drug Conjugates ("ADC").

Our lead program is squarely focused around one target: the Interleukin-4 Receptor ("IL4R"). Expression levels of IL4R are low on the surface of healthy and normal cells, but increase 10-100 fold on cancer cells, cancer stem cells (CSCs) and non-malignant cells of the tumor microenvironment ("TME"). This differential expression of IL-4R therefore provides IL4 Empowered Cytokines™ ("IL4-EC"s) a wide therapeutic window. Furthermore, the IL-4/IL4R bias is a marker for highly aggressive forms of cancer, plays a central role in the establishment of an immunosuppressive TME and is generally associated with poor survival outcomes. We believe that by disrupting this pro-tumoral axis, Medicenna's novel IL4-ECs have the potential of not only targeting cancer cells, but also weaken the TME that protects cancer from our own immune system.

MDNA55 is our lead IL4-EC in clinical development for the treatment of cancers of the central nervous system ("CNS"). It is a fusion of a circularly permuted version of interleukin- 4 ("IL-4") fused to a potent fragment of the bacterial toxin, *Pseudomonas* exotoxin ("PE"). To date, MDNA55 has promising clinical data from 72 patients including 66 adult patients with recurrent glioblastoma ("rGBM"), the most aggressive and uniformly fatal form of

brain cancer. It has secured Orphan Drug Status from the United States Food and Drug Administration ("FDA") and the European Medicines Agency ("EMA") as well as Fast Track Designation from the FDA. Medicenna was awarded a non-dilutive product development grant of US\$14.1M from the Cancer Prevention and Research Institute of Texas ("CPRIT"). Grant funds are supporting the Phase 2b clinical trial for treatment of rGBM, preclinical development of next generation fully human IL4-ECs for treatment of other solid tumors and development of a companion diagnostic for detection of IL4 receptor expression. The MDNA55 program offers a promising approach to address serious unmet needs affecting adult and pediatric patients with various types of brain cancer. Complimenting our lead clinical asset, MDNA55, Medicenna has built a deep pipeline of promising preclinical candidates. These include a library of Superkines<sup>™</sup> such as IL-2 agonists ("MDNA109"), IL-2 antagonists ("MDNA209"), dual IL-4/IL-13 antagonists ("MDNA413") and IL-13 Superkine ("MDNA132").

# **ACHIEVEMENTS & HIGHLIGHTS**

The following are the achievements and highlights for the quarter ending September 30, 2017 through to the date hereof:

- Following the unanimous recommendation from the MDNA55 clinical Safety Review Committee after enrollment of the first six patients, we have implemented an amended protocol that incorporates an enhanced drug delivery procedure which will be used for the treatment of the remaining patients. The updated protocol includes higher doses and volumes of MDNA55 as well as an increase in the total expected study size – from 43 patients under the original protocol to 52 total planned patients now expected to enroll with enrolment expected to be complete in Q1 2018.
- On October 10, 2017, subsequent to the quarter end, new clinical data was presented at the 2017 Congress
  of Neurological Surgeons (Boston, MA), demonstrating successful delivery in brain cancer patients and a
  reassuring safety profile for MDNA55 as well as a substantially higher proportion of the target tissue being
  covered then in previous similar trials. In some cases, close to 100% of the tumor and the 1cm margin around
  it (at risk for tumor spread) had been successfully covered.
- On August 1, 2017 we announced the graduation of our common shares to the main board of Toronto Stock Exchange ("TSX"), the premier stock exchange in Canada.
- On October 18, 2017, subsequent to the quarter end, our common shares were listed on the OTCQX International ("OTCQX"), a segment of the OTC marketplace reserved for high-quality non-U.S. companies, under the symbol, "MDNAF".
- On September 21, 2017 we appointed Dr. William Li, an experienced oncology drug development expert, to our Board of Directors.
- Medicenna was issued a US Patent related to our Superkine platform. U.S. Patent 9,738,696, issued to the Board of Trustees of the Leland Stanford Junior University and licensed exclusively to Medicenna, covers the composition of engineered IL-4 Superkines.

## FINANCING UPDATE

#### Three and six months ended September 30, 2017

During the six months ended September 30, 2017, 30,714 stock options with an exercise price of \$1.40 were exercised for gross proceeds of \$43,000. No options were exercised in the three months ended September 30, 2017. The exercised stock options were issued by the predecessor company A2.

#### **Escrowed Securities**

In connection with the initial public offering of A2 and pursuant to an escrow agreement dated June 8, 2015, an aggregate of 714,285 common shares were placed in escrow. Subsequent to the Transaction and pursuant to

an escrow agreement dated March 1, 2017, an additional 15,600,000 common shares of Medicenna were placed into escrow.

An aggregate of 8,157,144 common shares of the Company remain in escrow as at September 30, 2017.

## **RESEARCH & DEVELOPMENT UPDATE**

#### MDNA55

MDNA55 has been studied in previous clinical trials under two Investigational New Drug Applications ("IND") for the treatment of recurrent glioblastoma, high grade glioma and non-CNS solid tumors. To date, MDNA55 has promising clinical data from 72 patients including 66 adult patients with rGBM following a single intra-tumoral infusion. It has secured Orphan Drug Status from the FDA and the EMA as well as Fast Track Designation from the FDA.

Since the above mentioned clinical trials, there have been many improvements to the convection enhanced delivery ("CED") technology, a drug delivery technique for localized delivery of MDNA55 into brain tumors. This includes use of newly developed techniques for high precision insertion and placement of catheters into the tumor bed as well as novel stepped design catheters that prevent backflow and leakage of MDNA55 during treatment. Furthermore, by co-infusion of an MRI ("Magnetic Resonance Imaging") contrast agent with MDNA55, drug distribution can be monitored in real-time in order to achieve maximum coverage of the tumor bed and the tumor margins. Unlike previous clinical trials, we believe that each of these improvements could facilitate more accurate targeting and optimum distribution of MDNA55 to regions of active tumor growth. Medicenna has obtained an exclusive license from the National Institute of Health ("NIH") to patents covering CED and the use of a surrogate tracer for real-time monitoring of MDNA55 delivery and distribution.

#### Phase 2b Study Outline for Glioblastoma at First Recurrence or Progression

A Phase 2b protocol evaluating MDNA55 for the treatment of rGBM, with improved CED technology, has been approved by the FDA. The Phase 2b trial is a multi-center, open-label, single-arm study in approximately 52 subjects with first or second recurrence or progression of GBM after surgery or radiotherapy ± adjuvant therapy or other experimental therapies.

The primary endpoint in the study is to determine the objective response rate ("ORR") as per modified Response Assessment in Neuro-Oncology ("mRANO") criteria following a single intra-and peri-tumoral infusion of MDNA55 in adult subjects with rGBM. The ORR will be assessed by gadolinium-enhanced MRI and determined by an independent blinded central imaging lab. The primary efficacy analysis will be assessed according to a single-stage binomial design with primary hypothesis test comparing a null ORR of 6% with an alternative ("pursue") ORR of 18%, at 1-sided alpha = 0.10. The study will have 80% power with 36 evaluable subjects. Analyses will also be conducted by IL4R stratum, including 95% confidence interval estimates of ORR within strata and examination of the treatment effect by IL4R level.

#### Phase 2b Study Update

In April 2017, we treated the first patient in the Phase 2b clinical trial of MDNA55 for the treatment rGBM and we currently have nine clinical sites enrolling patients at centers of excellence across the United States and one site in Europe. 16 patients have been treated in the trial to date and we expect to complete enrolment in the study (52 patients) by the end of the first quarter of calendar 2018.

On September 28, 2017 we announced that based on encouraging drug distribution and safety data observed in the on-going Phase 2b clinical trial of MDNA55 we had commenced the implementation of an amended protocol which incorporates enhanced drug delivery procedure which will be used for the treatment of the remaining patients. The amended protocol includes higher doses and volumes of MDNA55 as well as an increase in the total expected study size – from 43 patients under the original protocol to 52 total planned patients now expected to enroll.

This protocol amendment was based on a planned safety analysis following a unanimous recommendation from MDNA55's Safety Review Committee after enrollment of the first six patients. Based on the exceptional safety profile, the concentration of MDNA55 was doubled to 3.0  $\mu$ g/mL and the volume administered was maximized to a fixed volume of 60mL to ensure complete tumor coverage along with the surrounding margin of the tumor, irrespective of tumor size. The protocol amendment was discussed with all current investigators and input was received from thought leaders in the area of glioblastoma and CED in order to optimize patient benefit following a single treatment with MDNA55. The maximum dose of 180 $\mu$ g is well within the established safety profile based on earlier studies.

On October 10, 2017, new clinical data was presented at the 2017 Congress of Neurological Surgeons ("CNS") (Boston, MA), demonstrating successful delivery in rGBM patients and a reassuring safety profile for MDNA55, the company's lead immunotherapeutic agent targeting the IL-4R. In the study MDNA55-05, investigators administer MDNA55 directly into GBM brain tumors using CED which allows precision delivery of MDNA55 at high concentrations into the tumor tissue while avoiding exposure to the rest of the body. A planned review of the first treated patients was conducted to ensure patient safety and to assess effectiveness of the CED technique. Senior investigator John H. Sampson MD, PhD, of Duke University Medical Center Department of Neurosurgery, presented the data at the CNS meeting which showed a substantially higher proportion of the target tissue being covered then in previous similar trials. In some cases, close to 100% of the tumor and the 1cm margin around it (at risk for tumor spread) had been successfully covered.

## Superkine and Empowered Cytokine Platforms

#### IL-4 and IL-13 Superkines

Medicenna's IL-4 and IL-13 Superkines are engineered versions of wild type cytokines which possess enhanced affinity and selectivity for either the Type 1 or Type 2 interleukin-4 receptors (IL4R). This selectivity is achieved through mutations of the IL-4 or IL-13 proteins to enhance affinity for binding to specific IL4R subunits. Additional mutations have also been engineered to modulate their bioactivity, resulting in Superkines with enhanced signaling (super-agonists) or the ability to block signaling (super-antagonists).

One promising IL-13 Superkine antagonist is MDNA413. Compared to wild type IL-13, MDNA413 has been engineered to have 2,000-fold higher selectivity for the Type 2 IL4R and which potently blocks IL-4 and IL-13 signaling. Blocking of Type 2 IL4R by MDNA413 may be relevant not only for targeting solid tumors that overexpress this receptor, but also for Th2-mediated diseases such as atopic dermatitis, asthma and idiopathic pulmonary fibrosis. With commercial validation of the IL-4/IL-13 axis as an effective therapeutic target for atopic dermatitis and asthma, Medicenna believes a topical or aerosol formulation of MDNA413 may be an important differentiated product compared to a blocking antibody (Dupixent®: Regeneron Pharmaceuticals and Sanofi) recently approved by the FDA for the treatment of moderate to severe atopic dermatitis. Dupixent® is administered by subcutaneous injection every other week.

Another promising IL-13 Superkine is MDNA132. Unlike MDNA413, MDNA132 is an IL-13 ligand that has been engineered to increase affinity for IL13R alpha2 overexpressed on certain solid tumors while exhibiting sharply decreased affinity for IL13R alpha1. Medicenna believes MDNA132 has superior targeting compared to other IL-13 variants in development, and is an attractively differentiated targeting domain for inclusion in new and exciting field of immuno-oncology based on the Chimeric Antigen Receptor T cell (CAR-T) platform.

#### IL-4 and IL-13 Empowered Cytokines

As part of the CPRIT funded project, Medicenna is pursuing development of MDNA57. The objective of the development is to further develop MDNA57 (a fully human version of MDNA55) designed to specifically target solid tumors that express the Type 2 IL4R. Being fully human, we expect MDNA57 to be less or non-immunogenic allowing multi-cycle systemic administration. Use of IL-4 or IL-13 Superkines, licensed from Stanford, as targeting domains may provide a higher degree of selectivity and therefore much better safety and efficacy profile.

#### **IL-2** Superkines

Medicenna's lead IL-2 Superkine, in early stage pre-clinical development, is MDNA109. It is an engineered version of recombinant human IL-2 (Proleukin®: Prometheus Therapeutics), an approved product for treatment of metastatic melanoma and renal cell carcinoma. Unlike Proleukin®, MDNA109 signals independently of CD25, thereby preferentially activating effector T cells while limiting stimulation of regulatory T cells, which impede Proleukin's therapeutic response and mediate its toxicity. Consistent with these improved pharmacodynamic characteristics, MDNA109 is more effective than Proleukin® in animal models of cancer. On the basis of these results, Medicenna is evaluating MDNA109 and other IL-2 Superkine agonists as next-generation cancer immunotherapeutics that can be used alone and in combination with existing immune checkpoint regimens, extending the early success of Proleukin® therapy to the modern immuno-oncology paradigm.

Further engineering of MDNA109 has resulted in generation of the IL-2 Superkine antagonist MDNA209. This Superkine is capable of potently blocking signaling via the IL-2 and IL-15 receptors. Proof of concept studies show MDNA209 fused to the Fc4 antibody may be relevant for treatment for autoimmune diseases and organ rejection.

## SELECTED FINANCIAL INFORMATION

	Six month Septen		Three months ended September 30		
	2017	2016	2017	2016	
	\$	\$	\$	\$	
General and administration expense	1,070,223	519,612	632,132	311,498	
Research and development expense	2,874,438	586,588	1,069,648	521,587	
Net loss for the period	(3,973,924)	(1,096,556)	(1,718,252)	(944,654)	
Basic and diluted loss per share	(0.16)	(0.07)	(0.07)	(0.06)	
Total assets	9,904,455	6,803,300	9,904,455	6,803,300	
Total current and non-current financial liabilities	6,323,242	7,826,486	6,323,242	7,826,486	

We have not earned revenue in any of the previous fiscal years, other than income from interest earned on our cash balances.

For the six months ended September 30, 2017, we reported a net loss of \$3,973,924 or \$0.16 per share compared to a loss of \$1,096,556 or \$0.07 per share for the six months ended September 30, 2016. For the three months ended September 30, 2017, we reported a net loss of \$1,718,252 or \$0.07 per share compared to a loss of \$944,654 or \$0.06 per share for the three months ended September 30, 2016. The increase in net loss in the three and six months ended September 30, 2017 compared with the three and six months ended September 30, 2016 is a result of increased spending on the Phase 2b clinical trial of MDNA55 including headcount necessary to support the ongoing trial and increased general corporate expenditures necessary to operate a public company.

## **RESULTS OF OPERATIONS FOR THE SIX MONTHS ENDING SEPTEMBER 30, 2017**

#### Research and Development Expenses

	Six months ended		
	September 30		
	2017	2016	
	\$	\$	
Chemistry, manufacturing and controls	85,451	727,544	
Regulatory	67,165	122,118	
Discovery and pre-clinical	662,800	60,520	
Research & Development Warrant	473,716	-	
Clinical	1,775,389	785,812	
Salaries and benefits	742,632	233,111	
Licensing, patent legal fees and royalties	124,284	31,634	
Stock based compensation	248,115	-	
CPRIT grant claimed on eligible expenses	(1,449,604)	(1,516,131)	
Other research and development expenses	144,490	141,980	
	2,874,438	586,588	

Research and development ("R&D") expenses of \$2,874,438 were incurred during the six months ended September 30, 2017, compared with \$586,588 incurred in the six months ended September 30, 2016. The increase in the current year period can be primarily attributed to the following factors:

- Initiation of early discovery and pre-clinical activities associated with the Superkine programs including MDNA109 as well as the development of MDNA57 for which comparable programs did not exist in the prior year.
- A research and development warrant was issued to consultants working with Medicenna on the development of our early stage programs. The warrant was issued on January 1, 2017 and vests over an expected 24-month period. The year to date expense represents six months of amortization.
- Clinical costs increased significantly due to patient treatment and related expenses in the Phase 2b clinical trial of MDNA55 for which the first patient was treated in April 2017.
- Salaries and benefits rose in the six months ended September 30, 2017 due to the increased headcount necessary to support the initiation and ongoing management of the Phase 2b clinical trial as well as the ongoing discovery and pre-clinical activities.
- Higher patent costs associated with the issuance of new patents during the quarter.
- Stock based compensation costs represent the fair value amortization of stock option grants issued to employees in the research and development department. MTI did not previously issue stock options during the same quarter in the prior year and therefore no comparable expense existed;
- These increases were partially offset by reduced chemistry, manufacturing and controls ("CMC") costs associated with the manufacture, testing and stability studies of MDNA55 drug product currently being used in the Phase 2b clinical trial, as well as regulatory costs related to the initiation of the clinical trial incurred in calendar 2016;

The above noted increases were partially offset by CPRIT eligible expenses of \$1,449,604 for which the Company was reimbursed in the six months ended September 30, 2017, compared with \$1,516,131 in the same period in the prior year.

#### General and Administrative Expenses

	Six months ended September 30	
	2017	2016
	\$	\$
Depreciation expense	6,295	2,473
Stock based compensation	258,144	-
Facilities and operations	116,327	95,327
Legal, professional and finance	214,486	182,802
Salaries and benefits	436,487	537,592
Other expenses	383,899	104,908
CPRIT grant claimed in eligible expenses	(345,415)	(403,490)
	1,070,223	519,612

General and administrative ("G&A") expenses of \$1,070,223 were incurred during the six months ended September 30, 2017, compared with \$519,612 during the six months ended September 30, 2016. The increase is attributed primarily to the following factors:

- Stock based compensation expense in the current year represents the fair value amortization of stock
  option grants issued to general and administrative employees and directors. MTI did not previously issue
  stock options during the same period in the prior year and therefore no comparable expense exists;
- Increased legal and professional fees associated the OTCQX application and TSX graduation; and
- Other expenses increased due to the listing fee associated with the graduation of Medicenna's common shares from the TSX Venture exchange to the main TSX Board, the OTCQX application fee as well as investor relations activities.

The above noted increases were partially offset by CPRIT eligible expenses of \$345,415 for which the Company was reimbursed in the six months ended September 30, 2017, compared with \$403,490 in the same period in the prior year.

# **RESULTS OF OPERATIONS FOR THE THREE MONTHS ENDING SEPTEMBER 30, 2017**

#### Research and Development Expenses

	Three months ended		
	September 30		
	2017	2016	
	\$	\$	
Chemistry, manufacturing and controls	-	228,846	
Regulatory	23,862	31,847	
Discovery and pre-clinical	427,580	30,520	
Research & Development Warrant	236,858	-	
Clinical	888,607	542,207	
Salaries and benefits	408,049	135,243	
Licensing, patent legal fees and royalties	42,687	51,040	
Stock based compensation	128,639	-	
CPRIT grant claimed on eligible expenses	(1,090,102)	(584,689)	
Other research and development expenses	3,468	86,573	
	1,069,648	521,587	

R&D expenses of \$1,069,648 were incurred during the three months ended September 30, 2017, compared with \$521,587 incurred in the three months ended September 30, 2016. The increase can be primarily attributed to the following factors:

- Initiation of early discovery and pre-clinical activities associated with the Superkine programs including MDNA109 as well as the development of the MDNA57 program for which comparable programs did not exist in the prior year.
- A research and development warrant was issued to consultants working with Medicenna on the development of our early stage programs. The warrant was issued on January 1, 2017 and vests over an expected 24-month period. The expense in the quarter represents three months of amortization.
- Clinical costs increased due to patient treatment and related costs in the Phase 2b clinical trial of MDNA55 for which the first patient was treated in April 2017.
- Salaries and benefits rose in the current quarter due to increased headcount to support the ongoing management of the Phase 2b clinical trial as well as the discovery and pre-clinical programs.
- Stock based compensation costs represent the fair value amortization of stock option grants issued to employees in the research and development department. MTI did not previously issue stock options during the same quarter in the prior year and therefore no comparable expense existed.
- These increases were partially offset by CMC costs associated with the manufacture, testing and stability studies of MDNA55 drug product currently being used in the Phase 2b clinical trial, as this was primarily completed in calendar 2016.

The above noted increases were partially offset by CPRIT eligible expenses of \$1,090,102 for which the Company was reimbursed in the three months ended September 30, 2017, compared with \$584,689 in the same period in the prior year.

#### General and Administrative Expenses

	Three months ended		
	September 30		
	2017	2016	
	\$	\$	
Depreciation expense	1,705	1,236	
Stock based compensation	141,326	-	
Facilities and operations	76,433	68,923	
Legal, professional and finance	99,681	128,031	
Salaries and benefits	179,868	301,636	
Other expenses	299,718	61,636	
CPRIT grant claimed in eligible expenses	(166,599)	(249,964)	
	632,132	311,498	

G&A expenses of \$632,132 were incurred during the three months ended September 30, 2017, compared with \$311,498 incurred during the three months ended September 30, 2016. The increase is attributed primarily to the following factors:

- Stock based compensation expense in the current year represents the fair value amortization of stock option grants issued to general and administrative employees and directors. MTI did not previously issue stock options during the same quarter in the prior year and therefore no comparable expense exists.
- Other expenses increased due to additional travel requirements and filing fees associated with being a
  public company, including the listing fee associated with graduation to the main board of the TSX and
  the OTCQX listing fee.

The above noted increases were partially offset by CPRIT eligible expenses of \$166,599 for which the Company was reimbursed in the three months ended September 30, 2017, compared with \$249,964 in the same period in the prior year.

# SUMMARY OF QUARTERLY FINANCIAL RESULTS

	Sept. 30	June 30	March 31	Dec. 31	Sept. 30	June 30	March 31	Dec. 31
	2017	2017	2017	2016	2016	2016	2016	2015
	\$	\$	\$	\$	\$	\$	\$	\$
General and administration	632,132	438,091	542,243	622,756	311,529	208,114	226,535	38,195
Research and development	1,069,648	1,804,790	2,044,540	1,597,982	521,587	65,001	(162,654)	527,590
Net loss	(1,718,252)	(2,255,672)	(4,355,743)	(2,178,966)	(944,654)	(151,902)	(197,732)	(566,334)
Basic and diluted loss per share	(0.07)	(0.09)	(0.23)	(0.13)	(0.06)	(0.01)	(0.01)	(0.03)
Total assets	9,904,455	12,465,849	14,483,227	5,851,438	6,803,300	*	5,755,008	*
Total current and non-current financial liabilities	6,323,242	7,593,559	7,826,486	1,001,650	740,050	*	3,510,114	*

\* Quarterly balance sheet results for these quarters are not available as MTI (as a private company) did not prepare complete financial statements for these quarters.

Research and development expenses have increased over the past eight quarters as the Phase 2b clinical trial with MDNA55 for the treatment of recurrent glioblastoma is now well underway. In addition, we have initiated activities on our preclinical pipeline which has contributed to the spending increase year over year on a quarter by quarter basis.

General and administrative expenses are higher in the current quarters compared with the same quarters in the prior year due to financing activities and costs associated with establishing and maintaining a publicly listed company. Costs were higher in the quarters ended December 31, 2016 and March 31, 2017 due to expenses associated with the reverse takeover transaction as well as severance paid to a former Officer. The increase in the quarter ended September 30, 2017 related to costs associated with the graduation to the TSX main board as well as the OTCQX listing.

# LIQUIDITY AND CAPITAL RESOURCES

Since inception, the Company has devoted its resources to funding R&D programs, including securing intellectual property rights and licenses, conducting discovery research, manufacturing drug supplies, initiating preclinical and clinical studies, submitting regulatory dossiers and providing administrative support to R&D activities, which has resulted in an accumulated deficit of \$14,590,092 as of September 30, 2017. With current revenues only consisting of interest earned on excess cash, losses are expected to continue while the Company's R&D programs are advanced.

We currently do not earn any revenues from our drug candidates and are therefore considered to be in the development stage. As required, the Company will continue to finance its operations through the sale of equity or pursue non-dilutive funding sources available to the Company in the future. The continuation of our research and development activities and the commercialization of MDNA55 is dependent upon our ability to successfully finance and complete our research and development programs through a combination of equity financing and revenues from strategic partners. We have no current sources of significant revenues from strategic partners. We have approximately US\$6.5 million available to draw down from the CPRIT grant.

#### CASH POSITION

At September 30, 2017, we had a cash balance of \$9,535,093 compared to \$14,038,115 at March 31, 2017. We invest cash in excess of current operational requirements in highly rated and liquid instruments. Working capital at September 30, 2017 was \$3,966,780 (March 31, 2017: \$7,036,014). In addition, we have approximately US\$6.5 million available to draw down from the CPRIT grant.

We do not expect to generate positive cash flow from operations for the foreseeable future due to additional R&D expenses, including expenses related to drug discovery, preclinical testing, clinical trials, CMC and operating expenses associated with supporting these activities. It is expected that negative cash flow from operations will continue until such time, if ever, that we receive regulatory approval to commercialize any of our products under development and/or royalty or milestone revenue from any such products should they exceed our expenses.

# CONTRACTUAL OBLIGATIONS

As of September 30, 2017, we have the following obligations to make future payments, representing contracts and other commitments that are known and committed:

Contractual obligations	1 year	1-3 years	3-5 years	Total
Patent licensing costs, minimum annual royalties per license agreements	\$47,000	\$93,000	\$240,000	\$380,000
Liquidity event payment	\$159,000	\$318,000	\$159,000	\$636,000

The Company utilizes temporary office space with terms of less than one year.

The Company cannot reasonably estimate future royalties which may be due upon the regulatory approval of MDNA55.

## **Government assistance**

## CPRIT

In February 2015, the Company received notice that it had been awarded a grant by the CPRIT whereby the Company is eligible to receive up to US\$14,100,000 on eligible expenditures over a three year period related to the development of the Company's phase 2b rGBM clinical program for MDNA55 and pre-clinical research associated with MDNA57. In October 2017 the Company was granted a one year extension to the grant allowing expenses to be claimed over a four year period ending February 28, 2019

On February 24, 2017, the Company received an advance of US\$5,000,000 from CPRIT and as of March 31, 2017, \$5,949,870 (US\$4,470,226) remained available for offset from the advance. Of this advance \$1,795,019 (US\$1,406,937) was recognized as an offset against eligible expenses during the six months ended September 30, 2017. The Company has recognized the amount not offset against expenses during the year as a current liability in the amount of \$3,818,388.89 (US\$3,063,288.32). The amount payable at September 30, 2017 and March 31, 2017 represents funds received and not yet spent on approved grant expenditures.

The total amount offset against expenditures in the six months ended September 30, 2016 was \$1,919,621 (US\$1,478,793).

## **OFF-BALANCE SHEET ARRANGEMENTS**

The Company has no material undisclosed off-balance sheet arrangements that have, or are reasonably likely to have, a current or future effect on our results of operations, financial condition, revenues or expenses, liquidity, capital expenditures or capital resources that is material to investors.

# TRANSACTIONS WITH RELATED PARTIES

Key management personnel, which consists of the Company's officers (President and Chief Executive Officer, Chief Financial Officer, Chief Development Officer and Chief Operations Officer) and directors, received the following compensation for the following periods:

		Three months ended September 30,		ths ended mber 30,	
	2017	<b>2017</b> 2016		2016	
	\$	\$	\$	\$	
Salaries and wages	244,716	212,500	484,463	475,163	
Board fees	27,625	-	48,375	-	
Stock option expense	224,964	-	425,683	-	
Related party rent	9,000	-	9,000	-	
	506,305	212,500	- 967,521	475,163	

As at September 30, 2017, the Company had trade and other payables owing to related parties of \$324,000 related to expense reimbursements, accrued vacation and bonuses.

# **CRITICAL ACCOUNTING POLICIES AND ESTIMATES**

The significant accounting policies of the Company are described in note 2 of the audited consolidated financial statements for the year ended March 31, 2017 and available on SEDAR (www.sedar.com).

Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The determination of estimates requires the exercise of judgement based on various assumptions and other factors such as historical experience and current and expected economic conditions. Actual results could differ from those estimates. Critical judgements in applying the Company's accounting policies are detailed in the audited consolidated financial statements for the year ended March 31, 2017 filed on SEDAR (<u>www.sedar.com</u>).

# NEW STANDARDS, AMENDMENTS AND INTERPRETATIONS ADOPTED DURING FISCAL 2018

## IAS 7 Statement of Cash Flows

In February 2016, the IASB issued amendments to IAS 7 Statement of Cash Flows ("IAS 7") which requires entities to provide disclosures that enable investors to evaluate changes in liabilities arising from financing activities, including changes arising from cash flows and non-cash changes. The IAS 7 amendments are effective for annual periods beginning on or after January 1, 2017. The adoption of this amendment has not had a material impact on the Company's unaudited interim condensed consolidated financial statements.

## IFRS 9 Financial Instruments

IFRS 9, Financial Instruments in October 2010, the IASB published amendments to IFRS 9 Financial Instruments ("IFRS 9") which provides added guidance on the classification and measurement of financial liabilities. In July 2014, the IASB issued its final version of IFRS 9, which completes the classification and measurement, impairment and hedge accounting phases of the IASB's project to replace IAS 39 Financial Instruments: Recognition and Measurement. The final standard is mandatorily effective for annual periods beginning on or after January 1, 2018, with earlier application permitted. The Company believes that the adoption of this standard will not have a material impact on the unaudited interim condensed consolidated financial statements.

# FINANCIAL INSTRUMENTS

#### (a) Fair value

The Company's financial instruments recognized on the consolidated statements of financial position consist of cash, other receivables, accounts payable and accrued liabilities, deferred government grants and license fee payable. The fair value of these instruments, approximate their carry values due to their short-term maturity. *Classification of financial instruments* 

Financial instruments measured at fair value on the statement of financial position are summarized into the following fair value hierarchy levels:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability

Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The Company classifies its financial assets and liabilities depending on the purpose for which the financial instruments were acquired, their characteristics, and management intent as outlined below:

Cash is measured using Level 1 inputs and changes in fair value are recognized through profit or loss, with changes in fair value being recorded in net earnings at each period end.

Other receivables have been classified as loans and receivables and are measured at amortized cost less impairments.

Accounts payable and accrued liabilities and deferred government grants have been classified as other financial liabilities.

The Company has exposure to the following risks from its use of financial instruments: credit, interest rate, currency and liquidity risk. The Company reviews its risk management framework on a quarterly basis and makes adjustments as necessary.

#### (b) Financial risk management

We have exposure to credit risk, liquidity risk and market risk. Our Board of Directors has the overall responsibility for the oversight of these risks and reviews our policies on an ongoing basis to ensure that these risks are appropriately managed.

#### i. Credit risk

Credit risk arises from the potential that a counterparty will fail to perform its obligations. The financial instruments that are exposed to concentrations of credit risk consist of cash and cash equivalents.

The Company attempts to mitigate the risk associated with cash and cash equivalents by dealing only with major Canadian financial institutions with good credit ratings.

#### *ii.* Interest rate risk

Interest rate risk is the risk that the fair values and future cash flows of the Company will fluctuate because of changes in market interest rates. The Company believes that its exposure to interest rate risk is not significant.

#### iii. Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company currently settles all of its financial obligations out of cash. The ability to do so relies on the Company maintaining sufficient cash in excess of anticipated needs. As at September 30, 2017, the Company's liabilities consist of trade and other payables that have contracted maturities of less than one year.

#### iv. Currency risk

Currency risk is the risk that future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Company is exposed to currency risk from employee costs as well as the purchase of goods and services primarily in the United States and the cash balances held in foreign currencies. Fluctuations in the US dollar exchange rate could have a significant impact on the Company's results. Assuming all other variables remain constant, a 10% depreciation or appreciation of the Canadian dollar against the US dollar would result in an increase or decrease in loss and comprehensive loss for the six months ended September 30, 2017 of \$150,000 (March 31, 2017 - \$296,000).

Balances in foreign currencies are as follows:

	September 30, 2017	March 31, 2017
	\$	\$
Cash	5,147,872	7,069,230
Accounts payable and accrued liabilities	(929,041)	(389,200)
Deferred government grant	(3,063,288)	(4,470,226)
	1,155,543	2,209,804

# (c) Managing Capital

The Company's objectives, when managing capital, are to safeguard cash as well as maintain financial liquidity and flexibility in order to preserve its ability to meet financial obligations and deploy capital to grow its businesses.

The Company's financial strategy is designed to maintain a flexible capital structure consistent with the objectives stated above and to respond to business growth opportunities and changes in economic conditions. In order to maintain or adjust its capital structure, the Company may issue shares or issue debt (secured, unsecured, convertible and/or other types of available debt instruments).

There were no changes to the Company's capital management policy during the year. The Company is not subject to any externally imposed capital requirements.

# **RISKS AND UNCERTAINTIES**

Investing in our securities involves a high degree of risk. Before making an investment decision with respect to our common shares, you should carefully consider the following risk factors, in addition to the other information included or incorporated by reference into the most recently filed annual information form, as well as our historical consolidated financial statements and related notes. Management has reviewed the operations of the Company in conjunction with the Board of Directors and identified the following risk factors which are monitored on a biannual basis and reviewed with the Board of Directors. The risks set out below are not the only risks we face. If any of the following risks occurs, our business, financial condition, prospects or results of operations and cash flows would likely suffer. In that case, the trading price of our common shares could decline and you may lose all or part of the money you paid to buy our common shares.

Please refer to our MD&A and annual information form for the year ended March 31, 2017 for a complete discussion of risks and uncertainties.

- We have no sources of product revenue and will not be able to maintain operations and research and development without sufficient funding.
- MDNA55 is in the early and mid-stages of clinical development and, as a result, we are unable to predict whether we will be able to profitably commercialize our product.
- We are subject to the restrictions and conditions of the CPRIT agreement. Failure to comply with the CPRIT agreement may adversely affect our financial condition and results of operations.
- We are at an early stage of development. Significant additional investment will be necessary to complete the development of any of our products to approval.
- Our future success is dependent primarily on the regulatory approval of a single product.

- If we breach any of the agreements under which we license rights to product candidates or technology from third parties, we can lose license rights that are important to our business. Our current license agreements may not provide an adequate remedy for breach by the licensor.
- Clinical drug development involves a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results and our product candidates may not have favourable results in later trials or in the commercial setting.
- If we are unable to enroll subjects in clinical trials, we will be unable to complete these trials on a timely basis
- We rely and will continue to rely on third parties to plan, conduct and monitor preclinical studies and clinical trials, and their failure to perform as required could cause substantial harm to our business.
- We rely on contract manufacturers over whom we have limited control. If we are subject to regulatory, quality, cost or delivery issues with the preclinical and clinical grade materials supplied by contract manufacturers, business operations could suffer significant harm.
- We rely on third parties for drug delivery technologies, software, catheters and other components over whom we have limited control. If we are subject to regulatory, quality, cost or delivery issues with materials supplied by third parties, our clinical trials could be significantly delayed.
- We are highly dependent upon certain key personnel and their loss could adversely affect our ability to achieve our business objectives.
- If our competitors develop and market products that are more effective than our existing product candidates or any products that we may develop, or obtain marketing approval before we do, our products may be rendered obsolete or uncompetitive.
- We will be subject to extensive government regulation that will increase the cost and uncertainty associated with gaining final regulatory approval of our product candidates.
- Negative results from clinical trials or studies of others and adverse safety events involving the targets of our products may have an adverse impact on future commercialization efforts.
- We face the risk of product liability claims, which could exceed our insurance coverage and produce recalls, each of which could deplete cash resources.
- We may not achieve our publicly announced milestones according to schedule, or at all.
- Changes in government regulations, although beyond our control, could have an adverse effect on our business.
- Our significant shareholders may have material influence over our governance and operations.
- Our discovery and development processes involve use of hazardous and radioactive materials which may result in potential environmental exposure.
- If we are unable to successfully develop companion diagnostics or drug delivery technologies for our therapeutic product candidates, or experience significant delays in doing so, we may not achieve marketing approval or realize the full commercial potential of our therapeutic product candidates.
- Significant disruption in availability of key components for ongoing clinical studies could considerably delay completion of potential clinical trials, product testing and regulatory approval of potential product candidates.
- Our success depends upon our ability to protect our intellectual property and proprietary technology.
- Our potential involvement in intellectual property litigation could negatively affect our business.
- Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor will discover them.
- Product liability claims are an inherent risk of our business, and if our clinical trial and product liability insurance prove inadequate, product liability claims may harm our business.
- We will have significant additional future capital needs and there are uncertainties as to our ability to raise additional funding.
- Future sales or issuances of equity securities or the conversion of securities to common shares could decrease the value of the common shares, dilute investors' voting power, and reduce earnings per share.
- We are subject to foreign exchange risk relating to the relative value of the United States dollar.
- Any failure to maintain an effective system of internal controls may result in material misstatements of our consolidated financial statements or cause us to fail to meet the reporting obligations or fail to prevent

fraud; and in that case, shareholders could lose confidence in our financial reporting, which would harm the business and could negatively impact the price of our common shares.

- Any future profits will likely be used for the continued growth of the business and products and will not be used to pay dividends on the issued and outstanding shares.
- The market for shares in Canada is not stable or predictable and shareholder profits are not in the foreseeable future.
- We may pursue other business opportunities in order to develop our business and/or products.
- Generally, a litigation risk exists for any company that may compromise its ability to conduct our business.
- Our success depends on our ability to effectively manage our growth.
- We are likely a "passive foreign investment company," which may have adverse United States federal income tax consequences for United States shareholders.
- It may be difficult for non-Canadian investors to obtain and enforce judgments against us because of our Canadian incorporation and presence.

## **OTHER MD&A REQUIREMENTS**

#### **Outstanding Share Data**

As at the date of this report, the Company has the following securities outstanding:

	Number
Common Shares	24,344,048
Warrants	3,294,105
Stock Options	1,957,143
Total	29,595,296

Additional information relating to the Company, is available under the Company's profile on SEDAR at <u>www.sedar.com</u>.