



***Management's Discussion and Analysis***

***For the Three and Nine Months Ended  
December 31, 2018***

**DATE OF REPORT: February 14, 2019**

## MANAGEMENT'S DISCUSSION AND ANALYSIS

The following management's discussion and analysis ("MD&A") has been prepared as of February 14, 2019 and should be read in conjunction with the December 31, 2018 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, 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:

- requirements for, and the ability to obtain, future funding on favorable terms or at all;
- business strategy;
- expected future loss and accumulated deficit levels;
- projected financial position and estimated cash burn rate;
- 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;
- the Company's ability to maintain compliance with its agreement with the Cancer Prevention Research Institute of Texas ("CPRIT") and collect any remaining funding;
- 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 other than identifying and evaluating opportunities for the acquisition of an interest in assets or businesses for the completion of a qualifying transaction.

On March 1, 2017, A2 completed its qualifying transaction in accordance with the policies of the TSXV by way of a reverse takeover of A2 by the shareholders of MTI (the "Transaction"). In connection with the Transaction, A2 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").

On August 2, 2017 Medicenna graduated from the TSXV to the Toronto Stock Exchange ("TSX"). On November 13, 2017, Medicenna continued under the Canada Business Corporations Act.

Medicenna has three wholly owned subsidiaries: MTI, Medicenna Biopharma Inc. (Delaware) and Medicenna Biopharma Inc. (British Columbia).

Medicenna is a clinical stage immunotherapy company developing novel, highly selective versions of IL-2, IL-4 and IL-13 tunable cytokines, called "Superkines". These Superkines can be developed either on their own as short or long-acting therapeutics or fused with cell killing proteins in order to generate Empowered Cytokines™ ("ECs") that precisely deliver potent toxins to the cancer cells without harming healthy cells. Medicenna's mission is to become the leader in the development and commercialization of targeted ECs and Superkines for the treatment of a broad range of cancers. The Company seeks to achieve these successful treatments by drawing on its expertise, and that of world-class collaborators, to develop a unique set of Superkines. Compared to naturally occurring cytokines - that bind to multiple receptor types on many cell types - Superkines are engineered with unique specificity toward defined target receptor subsets to enable precise activation or inhibition of cell types in the context of disease. Superkines can also be fused with other types of proteins such as antibodies to generate novel "immunocytokines" or combined with other treatment modalities such as CAR-T or oncolytic viruses to stimulate tumor-killing immune cells or overcome the immunosuppressive tumor micro- environment.

MDNA55 is Medicenna's lead EC in clinical development for the treatment of recurrent glioblastoma ("rGBM"), the most common and uniformly fatal form of brain cancer. 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 and is designed to preferentially target tumor cells that over-express the interleukin-4 receptor (“IL-4R”). MDNA55 has been studied in 3 earlier clinical trials in 72 patients, including 66 patients with rGBM, in which it has shown compelling indications of superior efficacy when compared to the current standard of care. MDNA55 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 for the treatment of rGBM and other types of high grade glioma.

In order to advance further development of MDNA55 for rGBM, the Company was awarded a grant by CPRIT whereby the Company is eligible to receive up to US\$14,100,000 on eligible expenditures related to the Phase 2b clinical trial of MDNA55 for the treatment of rGBM.

Medicenna expects to complete patient enrollment in the Phase 2b clinical trial of MDNA55 in 52 rGBM patients by the end of the first calendar quarter of 2019 and announce top line interim results mid-2019. In addition, Medicenna plans to initiate a Phase 2 clinical trial with MDNA55 for the treatment of newly diagnosed GBM in the second calendar quarter of 2019

Complementing Medicenna’s lead clinical asset (MDNA55), the Company has built a deep pipeline of promising pre-clinical candidates. These include a library of Superkines such as IL-2 agonists (“MDNA109”), IL-2 antagonists (“MDNA209”), dual IL-4/IL-13 antagonists (“MDNA413”) and IL-13 Superkine (“MDNA132”) in-licensed from Leland Stanford Junior University (“Stanford”). The most advanced of these programs is MDNA109 which is in pre-clinical development and is the only engineered IL-2 Superkine designed to specifically target CD122 (IL-2R $\beta$ ) without CD25 dependency. Unlike native IL-2, MDNA109 potently stimulates effector T cells, reverses Natural Killer (NK) cell anergy and acts with exceptional synergy when combined with checkpoint inhibitors. Lead selection of MDNA109 with optimized properties, including extended half-life characteristics, is currently underway and expected to be completed by the end of Q1 2019.

## ACHIEVEMENTS & HIGHLIGHTS

The following are the achievements and highlights for the quarter ending December 31, 2018 through to the date hereof:

- On February 7, 2019 Dr. John H. Sampson, MD, PhD, (Robert H. and Gloria Wilkins Distinguished Professor and Chair of Neurosurgery at Duke University in Durham, NC) presented new clinical study results on MDNA55 at the 5<sup>th</sup> Annual Immuno-Oncology 360<sup>o</sup> Conference held in New York, NY. In a podium presentation entitled, “The IL4 Receptor as a Biomarker and Immunotherapeutic Target for Glioblastoma: Preliminary Evidence with MDNA55, a Locally Administered IL-4 Guided Toxin”, Dr. Sampson outlined that following a single treatment with MDNA55 at the low dose, (a) the IL4R positive group showed a remarkable increase in median overall survival (“mOS”) of 15.2 months when compared to 8.5 months in the IL4R negative group, (b) survival rates at 6, 9, and 12 months were 100%, 67% and 55% in the IL4R positive group versus 73%, 40%, and 30%, in the IL4R negative group, (c) irrespective of IL4R expression, mOS was 11.8 months in all patients with an overall survival rate of 89% at 6 months, 59% at 9 months and 46% at 12 months, substantially exceeding landmark mOS and survival rates reported for approved drugs for rGBM (mOS is 8 months for Avastin and Lomustine and survival rates at 6, 9 and 12 months are 62%, 38%, 26% and 65%, 43%, 30%, respectively).
- On February 6, 2019 Dr. Moutih Rafei, PhD, (Associate Professor, Department of Pharmacology and Physiology, Université de Montreal) presented new results on MDNA109 and its long acting variants at the 5<sup>th</sup> Annual Immuno-Oncology 360<sup>o</sup> Meeting held in New York, NY. In a podium presentation entitled, “Putting Pedal to the Metal: Combining IL-2 Superkine (MDNA109) with Checkpoint Inhibitors” the presentation outlined that MDNA109 (a) is an engineered IL-2 superkine exhibiting 1000-fold enhanced affinity toward the CD122 receptor, (b) has best-in-class potency toward cancer killing effector T cells, (c) was not

immunogenic *in-vivo* and (d) potently synergized with anti-PD-1 or anti-CTLA-4 checkpoint inhibitors to eliminate tumors in the majority of tumor-bearing mice.

- On December 21, 2018, the Company completed a public offering and issued 4,000,000 units of the Company for gross proceeds of CDN\$4,000,000.
- On December 5, 2018, Medicenna received a US\$1.2 million reimbursement of past expenses from CPRIT
- On October 22, 2018, the Company presented results and participated in a poster discussion session at the European Society for Medical Oncology (“ESMO”) Congress held in Munich on October 20, 2018. Based on interim data from patients treated at low doses implemented during the first half of the Phase 2b study of MDNA55, the presentation highlighted the benefits of using of advanced imaging modalities in order to help tumor response evaluation and identify pseudo-progression in some patients which ultimately translates into tumor shrinkage, and potential treatment benefit.
- On November 9, 2018, Medicenna presented an update on preliminary pre-clinical results on MDNA109 at the 33<sup>rd</sup> Annual Meeting of the Society for Immunotherapy of Cancer (“SITC”) held in Washington, DC.
- On November 16, 2018, Medicenna presented an update on intratumoral delivery of MDNA55 using MRI-guided convective delivery at the 23<sup>rd</sup> Annual Meeting of the Society for Neuro-Oncology

## **FINANCING UPDATE**

### ***Three and nine months ended December 31, 2018***

No options or warrants were exercised in the three or nine months ended December 31, 2018.

On December 21, 2018, the Company completed a public offering and issued 4,000,000 units of the Company for gross proceeds of CDN\$4,000,000. Each Unit was issued at a price of CDN\$1.00 per unit and is comprised of one common share of the Company and one-half of one common share purchase warrant of the Company. Each warrant entitles the holder thereof to acquire one common share at an exercise price of CDN\$1.20 per share until December 21, 2023.

In connection with the offering, Bloom Burton Securities Inc., Mackie Research Capital Corporation and Richardson GMP Limited were paid a cash commission equal to 7.0% of the aggregate gross proceeds of the offering and were issued 280,000 broker warrants, representing 7% of the aggregate number of units issued pursuant to the offering. Each broker warrant allows the holder to acquire one common share at an exercise price equal to \$1.20, subject to adjustment, until December 21, 2020.

The Units were qualified for sale by way of a (final) short form prospectus dated December 14, 2018 filed by the Company and receipted by the regulatory authorities in each of the provinces of British Columbia, Alberta and Ontario.

### ***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.

In connection with 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.

Pursuant to the policies of the TSX, all shares held in escrow were released by December 31, 2018.

## **RESEARCH & DEVELOPMENT UPDATE**

### **MDNA55**

MDNA55 has been studied in previous clinical trials under two Investigational New Drug Applications (“IND”) for the treatment of rGBM, high grade glioma and non-CNS solid tumors. In these earlier studies, MDNA55 showed

promising clinical results 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 administration of MDNA55 into brain tumors. This includes use of newly developed techniques for high precision 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 a magnetic resonance imaging (“MRI”) 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, early data from the MDNA55 Phase 2b clinical trial presented in October and November 2017, show that each of these improvements facilitates more accurate targeting and superior distribution of MDNA55 to regions of active tumor growth as well as the margins around the tumor. 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 or Second Recurrence or Progression***

The Phase 2b trial with MDNA55 using enhanced CED delivery 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 Response Assessment in Neuro-Oncology (RANO) based 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 incorporating advanced imaging modalities. 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 ORR of 18%, at 1-sided alpha = 0.20. The study will have 80% power with 23 evaluable subjects under the optimized protocol. Additional key endpoints of the study include median overall survival, overall survival rates and progression free survival. IL4R expression levels in tumor biopsies and their potential impact on patient outcomes following treatment with MDNA55, will be retrospectively evaluated.

### ***Phase 2b Study Update***

In April 2017, we treated the first rGBM patient in the Phase 2b clinical trial of MDNA55 and we are currently enrolling patients at up to ten clinical sites across the United States and we expect to complete enrolment in the study (52 patients) in Q1 of calendar 2019.

On September 28, 2017 we announced that based on encouraging drug distribution and safety data observed we implemented an amended protocol incorporating enhanced drug delivery procedure which will be used for the treatment of the remaining patients. The amended protocol allows 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.

On October 10, 2017, new clinical data was presented by Principal investigator John H. Sampson MD, PhD, (Chairman, Department of Neurosurgery, Duke University Medical Center) at the 2017 Congress of Neurological Surgeons (“CNS”) (Boston, MA), demonstrating successful delivery in rGBM patients and a reassuring safety profile for MDNA55. Furthermore, the data showed that a substantially higher proportion of the target tissue was being covered than 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.

Additional clinical data from the on-going Phase 2b rGBM clinical trial of MDNA55 were presented at the 22nd Annual Meeting of the Society of Neuro-Oncology (“SNO”) held in San Francisco (November 15-19, 2017). Dr. Krystof Bankiewicz, MD, PhD, Professor in Residence of Neurological Surgery at the University of California San Francisco, provided an update on drug distribution and safety data from the first 15 patients treated in the study.

The oral and poster presentations at the SNO conference outlined that through a process of real-time image guided delivery together with the ability to monitor and adjust infusion parameters, drug delivery was dramatically improved with significant enhancement in target coverage. A previous CED study in rGBM, without the advances implemented by Medicenna, [ref: J Neurosurg. 2010 Aug;113(2):301-9], was able to achieve, on average, coverage of only 20% of the target volume. In contrast, in the current study, a comparable estimate for coverage of the tumor and a 1cm high-risk margin around it showed approximately 65% coverage with the figure rising to 75% for the tumor area alone, with some patients achieving near 100% coverage of the target volume.

As reported on May 2, 2018, half the patients in the study had been recruited and the data to date demonstrated solid safety results and early signals of efficacy based on the findings of the Safety Review and Clinical Advisory Committees, comprised of key opinion leaders and study investigators. Following the Safety Review, Medicenna amended the protocol at the recommendation of clinical advisors to further improve the chances for demonstrating increased therapeutic benefit for patients. The amendment is expected to allow the implementation of optimal methodologies including more personalized dosing based on the tumor load, incorporation of advanced imaging modalities to measure treatment responses more reliably and allowing investigators to administer a second dose of MDNA55 where appropriate.

Review of some patients who had been withdrawn from the study, believing that their disease had progressed, found that the apparent increases in tumor volumes, seen on brain scans, were, in fact, due to tissue necrosis, inflammation and edema. This is a known effect of immunotherapeutic agents such as MDNA55, called pseudo-progression, which poses a challenge to patient retention, management and data interpretation. When evaluating images from the above patients, using multi-modal imaging, Medicenna found evidence of biological activity of MDNA55 suggesting that these patients were benefiting from the treatment, and in multiple cases following withdrawal from the study, surgical resection showed significant tumor necrosis. This amendment allows a biopsy and/or advanced multi-modal imaging to more accurately discriminate between necrosis/inflammation and true disease progression. It is believed these tools will encourage subjects to remain in the study, where appropriate, giving time for the pseudo-progression to resolve and increase the likelihood of clinical responses.

Following the amended protocol as announced on May 2, 2018 and after receiving the necessary regulatory and site approvals patient enrolment was resumed at the established maximum tolerated dose (“MTD”) which was not to exceed 240µg.

The protocol amendments announced September 28, 2017 and May 2, 2018 resulted in increased timelines for completion of the MDNA55 Phase 2b clinical trial due to an increase in the original number of patients (43 originally to 52 following the amendment) as well as delays in patient recruitment while the necessary regulatory reviews and approvals were completed.

On October 22, 2018, the Company presented results and participated in a poster discussion session at the European Society for Medical Oncology (ESMO) Congress held in Munich on October 20, 2018. Based on interim data from patients treated at low doses implemented during the first half of the Phase 2b study of MDNA55, the presentation highlighted the benefits of using of advanced imaging modalities in order to help tumor response evaluation and identify pseudo-progression in some patients which ultimately translates into tumor shrinkage, and potential treatment benefit.

On October 31, 2018, Medicenna provided an interim update from the ongoing Phase 2b clinical trial of MDNA55 for the treatment of rGBM. Results from the low dose cohorts showed promising median overall survival of 9.8 months following a single treatment with an overall survival rate of 89% at 6 months, 58% at 9 months and 47% at 12 months. This materially exceeds survival rates reported for approved drugs for rGBM; survival rates for MDNA55 at 6, 9 or 12 months are 44% to 81% better than that of Avastin and 35% to 57% better than Lomustine. Furthermore, a preliminary review of post-treatment MRIs conducted at each of the individual sites showed tumor shrinkage or stabilization for at least 8 weeks without clinical decline in 11 of 26 evaluable subjects treated at the low doses corresponding to a disease control rate of 42%. These results were further updated on February 7, 2019 as described below.

On February 7, 2019 Medicenna presented new clinical study results in a podium presentation entitled, “The IL4 Receptor as a Biomarker and Immunotherapeutic Target for Glioblastoma: Preliminary Evidence with MDNA55, a Locally Administered IL-4 Guided Toxin” by John H. Sampson, MD, PhD, Robert H. and Gloria Wilkins Distinguished Professor and Chair of Neurosurgery at Duke University during the 5<sup>th</sup> Annual Immuno-Oncology 360° Conference held in New York, NY. Following treatment with MDNA55 at the low dose, the IL4R positive group showed a remarkable increase in median overall survival (“mOS”) of 15.2 months when compared to 8.5 months in the IL4R negative group. Survival rates at 6, 9, and 12 months were 100%, 67% and 55% versus 73%, 40%, and 30%, in the IL4R positive and negative groups, respectively. In addition, Dr. Sampson presented that irrespective of IL4R expression, mOS was 11.8 months in all patients following a single treatment with MDNA55 at the low dose with an overall survival rate of 89% at 6 months, 59% at 9 months and 46% at 12 months, substantially exceeding landmark mOS and survival rates reported for approved drugs for rGBM (mOS is 8 months for Avastin and Lomustine and survival rates at 6, 9 and 12 months are 62%, 38%, 26% and 65%, 43%, 30%, respectively). In these participants, patients with IL4R positive tumors showed a faster time to relapse (10.3 months) following initial diagnosis of GBM when compared to patients with low to no expression of IL4R (16.7 months) supporting published research showing that the Type 2 IL4R is a key biomarker for more aggressive forms of GBM.

Enrolment in the second half of the study incorporating a higher dose of MDNA55 at a concentration of at least 6 µg/mL (but not to exceed the established MTD of 240µg) is well underway and the trial is expected to be fully enrolled by the end of Q1 2019 and to report interim top line data mid 2019.

## **Superkine and Empowered Cytokine Platforms**

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

IL-2 was one of the first effective immunotherapies developed to treat cancer due to its proficiency at expanding T cells, the central players in cell-mediated immunity. Originally discovered as a growth factor for T cells, IL-2 can also drive the generation of activated immune cells, immune memory cells, and immune tolerance.

In contrast, IL-2 induced overstimulation of immune cells can lead to an imbalance in the ratio of effector and regulatory T cells, resulting in autoimmune diseases.

Part of the reason for this is due to the nature of the IL-2 receptor.

The IL-2 receptor is composed of three different subunits, IL-2R $\alpha$  (also known as CD25), IL-2R $\beta$  (CD122) and IL-2R $\gamma$  (CD132). The arrangement of these different proteins determines the response to IL-2 signaling.

The IL-2 $\beta$  and IL-2 $\gamma$  components together make a receptor capable of binding IL-2, but only moderately so. When all three components are together, including IL-2R $\alpha$ , the receptor binds IL-2 with a much higher affinity. This complete receptor is usually found on regulatory T cells, which dampen an ongoing immune response. The lower affinity receptor, composed of just the IL-2 $\beta$  and IL-2 $\gamma$  components, is more often found on “naive” immune cells, which are awaiting instructions before seeking out cancer cells.

Altering IL-2’s propensity for binding these receptors could encourage greater immune cell activation or block the function of regulatory cells.

Medicenna's MDNA109 and MDNA209 take advantage of this dynamic by binding to specific receptors and either activating or blocking them.

MDNA109 is an enhanced version of IL-2 that binds 500 to 1,000 times more effectively to IL-2R $\beta$ , thus greatly increasing its ability to activate and proliferate the immune cells needed to fight cancer. Because it preferentially binds IL-2R $\beta$  and not the receptor containing IL-2R $\alpha$ , MDNA109 drives effector T cell responses over regulatory T cells.

Additionally, MDNA109 reverses Natural Killer (NK) cell anergy and acts with exceptional synergy when combined with checkpoint inhibitors. Lead selection of MDNA109 with extended half-life characteristics is currently underway and expected to be complete in Q1 2019.

On August 2, 2018, we announced preliminary pre-clinical data on MDNA109, the only IL-2 in development with high affinity to CD122 to boost cancer fighting T cells, showing that fusions of MDNA109 with inactive protein scaffolds are long-acting and provide the convenience of easier dosing without sacrificing its safety and efficacy.

On February 6, 2019 the Company presented new results on MDNA109 and its long acting variants in a podium presentation entitled, "Putting Pedal to the Metal: Combining IL-2 Superkine (MDNA109) with Checkpoint Inhibitors" by Moutih Rafei, PhD, Associate Professor, Department of Pharmacology and Physiology, Université de Montreal at the 5th Annual Immuno-Oncology 360° Meeting in New York, NY.

The results presented demonstrated that MDNA109 exhibited 1000-fold enhanced affinity toward the CD122 receptor and best-in-class potency toward cancer killing effector T cells. When tested in vivo, MDNA109 was not immunogenic and led to potent delay in the growth of pre-established B16F10 tumors compared to IL-2. Likewise, significant delay in the growth of pre-established MC38 and CT-26 colon cancer was observed in syngeneic mice receiving MDNA109, whereas its co-administration with anti-PD1 checkpoint inhibitor eliminated tumors in 90% of MC38 tumor-bearing mice. Furthermore, MDNA109 in combination with anti-CTLA-4 antibody, complete responses were observed in a majority of mice in the CT26 model. When cured animals were re-challenged on the counter-lateral flank with CT26 tumor cells, tumor growth was blocked at the secondary site clearly suggesting the generation of potent memory responses. Additional results on long-acting MDNA109 variants with impaired CD25 binding demonstrated abrogation of regulatory T cell activation at therapeutic doses in order to mitigate peripheral side effects, which are dependent on CD25 binding.

MDNA209 can be used to induce the opposite effect. This Superkine mimics the shape of IL-2 and also binds 500 to 1,000 times effectively to IL-2R $\beta$ . But rather than triggering IL-2 signaling, MDNA209 acts as an antagonist, blocking the receptor and preventing it from transmitting the signal. This could be used for diseases such as autoimmune disorders where it is essential to prevent T cells from becoming activated and attacking healthy tissue. Development timelines for MDNA209 have yet to be established.

#### ***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 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 (Moraga et al, 2015). 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. Development timelines for MDNA413 have yet to be established.

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 CAR-T platform. Development timelines for MDNA132 have yet to be established.

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

As part of the CPRIT funded project, Medicenna had initially been pursuing development of 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. Development timelines for MDNA57 have yet to be established with priority allocated to MDNA55. After review of the competitive activity within our industry, it became apparent that we should focus our non-CPRIT funds for our early stage assets to the development of MDNA109 rather than MDNA57 (as originally intended). As such, limited work has been done on MDNA57 to date.

### SELECTED FINANCIAL INFORMATION

	Nine months ended		Three months ended	
	December 31		December 31	
	2018	2017	2018	2017
	\$	\$	\$	\$
General and Administration	<b>1,295,132</b>	1,849,230	<b>437,218</b>	824,007
Research and Development	<b>2,356,683</b>	4,226,141	<b>1,275,896</b>	1,351,703
Net Loss	<b>(3,658,957)</b>	(6,154,946)	<b>(1,723,081)</b>	(2,181,022)
Basic and Diluted Loss per Share	<b>(0.15)</b>	(0.25)	<b>(0.07)</b>	(0.09)
Total Assets	<b>6,017,780</b>	6,838,585	<b>6,017,780</b>	6,838,585
Total Liabilities	<b>2,512,414</b>	4,534,080	<b>2,512,414</b>	4,534,080

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

For the nine months ended December 31, 2018, we reported a net loss of \$3,658,957 or \$0.15 per share compared to a loss of \$6,154,946 or \$0.25 per share for the nine months ended December 31, 2017. For the three months ended December 31, 2018, we reported a net loss of \$1,723,081 or \$0.07 per share compared to a loss of \$2,181,022 or \$0.09 per share for the three months ended December 31, 2017. The decrease in net loss during the nine months ended December 31, 2018 compared with the prior year period is primarily a result of lower general and administrative expenses due to reduced stock based compensation charges, lower professional fees and listing costs associated with the TSX graduation and OTC listing in the prior year as well as lower travel, and salary costs resulting from overall cost containment. In addition, research and development expenses were reduced in the current year periods due to lower consulting and CRO costs related to the ongoing MDNA55 clinical trial as well as lower discovery costs associated with work completed in the prior year and reduced salary and travel costs resulting from cost containment measures. The net loss decreased in the three months ended December 31, 2018 compared with the prior year period due primarily to lower general and administrative expenses resulting from lower stock based compensation costs and salary charges as well as reduced salaries and clinical costs offset by a lower CPRIT reimbursement.

## RESULTS OF OPERATIONS FOR THE THREE AND NINE MONTHS ENDING DECEMBER 31, 2018

### Research and Development Expenses

	Nine months ended December 31,		Three months ended December 31,	
	2018	2017	2018	2017
	\$	\$	\$	\$
Chemistry, manufacturing and controls	<b>302,128</b>	197,646	<b>164,910</b>	112,195
Regulatory	<b>26,137</b>	123,545	<b>14,048</b>	56,380
Discovery and pre-clinical	<b>635,025</b>	832,808	<b>189,416</b>	170,008
Research & Development Warrant	<b>710,574</b>	710,574	<b>236,858</b>	236,858
Clinical	<b>2,681,410</b>	3,558,039	<b>1,009,884</b>	1,782,650
Salaries and benefits	<b>921,210</b>	1,151,867	<b>288,936</b>	409,235
Licensing, patent legal fees and royalties	<b>570,077</b>	247,317	<b>157,536</b>	123,033
Stock based compensation	<b>295,936</b>	442,870	<b>99,553</b>	194,755
CPRIT grant claimed on eligible expenses	<b>(3,824,293)</b>	(3,334,424)	<b>(905,585)</b>	(1,884,820)
Other research and development expenses	<b>38,479</b>	295,899	<b>20,340</b>	151,409
	<b>2,356,683</b>	4,226,141	<b>1,275,896</b>	1,351,703

Research and development (“R&D”) expenses of \$2,356,683 were incurred during the nine months ended December 31, 2018, compared with \$4,226,141 incurred in the nine months ended December 31, 2017. The decrease in the expenses in the nine months ended December 31, 2018 can be primarily attributed to:

- Deceased regulatory costs due to the timing of expenditures and the protocol amendment in September 2017.
- Reduced discovery and pre-clinical expenses due to work ongoing and completed in the prior year related to the development of MDNA57.
- Lower clinical trial costs due to reduced consulting costs, clinical supplies and CRO fees due to nearing the end of the clinical study and general cost containment.
- Reduced salaries and benefits due to lower headcount and overall cost containment measures.
- Lower stock based compensation expense due to reduced option grants in the current year.
- A reduction in other R&D expenses due to reduced travel expenses.
- A higher reimbursement of expenses with respect to the CPRIT grant of \$3,824,293 in the nine months ended December 31, 2018 compared with \$3,334,424 in the nine months ended December 31, 2017

The above reductions were offset by the following increases:

- Chemistry, manufacturing and controls costs related to MDNA109 program development.
- Higher licensing fees, patent costs, royalties and consulting expenses associated with pipeline review and program prioritization.

R&D expenses of \$1,275,896 were incurred during the three months ended December 31, 2018, compared with \$1,351,703 incurred in the three months ended December 31, 2017. The decrease in expenses in the three months ended December 31, 2018 can be attributed to:

- Lower clinical trial costs due to reduced consulting costs, clinical supplies and CRO fees due to nearing the end of the clinical study and general cost containment.
- Reduced salaries and benefits due to lower headcount and overall cost containment measures.
- Lower stock based compensation expense due to reduced option grants in the current year.

- A reduction in other R&D expenses due to reduced travel expenses.

These reductions were offset by a lower reimbursement of expenses from CPRIT of \$905,585 in the current year period compared with the same period in the prior year due to overall spending reductions as well as the timing of claims.

### General and Administrative Expenses

	Nine months ended December 31,		Three months ended December 31,	
	2018	2017	2018	2017
	\$	\$	\$	\$
Depreciation expense	5,114	7,999	1,705	1,704
Stock based compensation	466,214	699,788	137,728	441,644
Facilities and operations	113,834	165,143	46,667	48,816
Legal, professional and finance	135,822	283,681	53,876	69,195
Salaries and benefits	508,748	674,751	153,511	238,264
Other expenses	454,671	587,956	171,218	204,057
CPRIT grant claimed on eligible expenses	(389,271)	(525,088)	(127,487)	(179,673)
	<b>1,295,132</b>	<b>1,894,230</b>	<b>437,218</b>	<b>824,007</b>

General and administrative (“G&A”) expenses of \$1,295,132 were incurred during the nine months ended December 31, 2018, compared with \$1,894,230 during the nine months ended December 31, 2017. In the three months ended December 31, 2018, G&A expenses of \$437,218 were incurred compared with \$824,007 during the three months ended December 31, 2017. The decrease in G&A expenses period over period is attributed primarily to the following factors:

- Lower stock based compensation costs due to timing of grants as well as a lower number of option grants in the current year periods.
- Reduced legal, professional and finance expenses in the current year periods due to expenses related to the graduation from the TSXV to TSX as well as the OTC listing incurred in the prior year periods.
- Lower salary and benefit costs due to headcount reductions and a bonus accrual in the prior year and no comparable accrual in the current year periods.
- Reduction in facility expenses with a lower cost alternative for office space.
- Lower ‘other’ expenses due to reduced travel costs, investor relations costs and listing fees incurred on the TSX graduation and OTC listing.
- Lower CPRIT eligible expenditures claimed in the current year periods.

### SUMMARY OF QUARTERLY FINANCIAL RESULTS

	Dec. 31 2018	Sept. 30 2018	June 30 2018	March 31 2018	Dec. 31 2017	Sept. 30 2017	June 30 2017	March 31 2017
	\$	\$	\$	\$	\$	\$	\$	\$
General and administration	437,218	443,363	414,551	440,454	824,007	632,132	438,091	542,243
Research and development	1,275,896	445,814	634,973	864,005	1,351,703	1,069,648	1,804,790	2,044,540
Net loss	(1,723,081)	(897,659)	(1,038,217)	(1,310,506)	(2,181,022)	(1,718,252)	(2,255,672)	(4,355,743)
Basic and diluted loss per share	(0.07)	(0.04)	(0.04)	(0.05)	(0.09)	(0.07)	(0.09)	(0.23)
Total assets	6,017,780	3,408,806	3,644,480	4,374,582	6,838,585	9,904,455	12,465,849	14,483,227
Total liabilities	2,512,414	2,173,528	2,000,746	2,212,757	4,534,080	6,323,242	7,593,559	7,826,486

R&D expenses fluctuate quarter over quarter based on the amount of expenditures eligible for CPRIT reimbursement in the period as well as the pace of the clinical trial enrollment during the period. Research and development costs in the quarter ended December 31, 2018 are higher than prior periods due to patient treatment costs and a lower CPRIT reimbursement in the quarter. During the three months ended March 31, 2017 and June 30, 2017 the CPRIT expenses eligible for offset were smaller than comparable quarter and therefore expenses were higher than comparable periods.

G&A expenses are lower in the current four quarters compared with the prior year quarters due to a reduction in salaries and legal fees as well as lower stock based compensation costs. The increase in the quarter ended December 31, 2017 related to costs associated with stock option grants issued to general and administrative employees and directors during that quarter.

## **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 \$21,740,577 as of December 31, 2018. 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 revenues from strategic partners.

Management has forecasted that the Company's current level of cash will not be sufficient to execute its current planned expenditures for the next 12 months without further financing being obtained. The Company is currently in discussion with several potential investors and partners to provide additional funding. Management believes that it will complete one or more of these arrangements in sufficient time to continue to execute its planned expenditures. However, there can be no assurance that the capital will be available as necessary to meet these continuing expenditures, or if the capital is available, that it will be on terms acceptable to the Company. The issuance of common shares by the Company could result in significant dilution in the equity interest of existing shareholders. There can be no assurance that the Company will be able to obtain sufficient financing to meet future operational needs which may result in the delay, reduction or discontinuation of ongoing development programs. As a result, there is a substantial doubt as to whether the Company will be able to continue as a going concern and realize its assets and pay its liabilities as they fall due.

### **CASH POSITION**

At December 31, 2018, we had a cash balance of \$4,645,232 compared to \$3,938,734 at March 31, 2018. We invest cash in excess of current operational requirements in highly rated and liquid instruments. Working capital at December 31, 2018 was \$3,600,586 (March 31, 2018: \$2,410,772).

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, chemistry, manufacturing and controls ("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 December 31, 2018, we have the following obligations to make future payments, representing contracts and other commitments that are known and committed:

Contractual obligations	Payments Due by Period			
	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	\$ 178,130	\$ 178,130	\$ 0	\$ 356,260

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.

### ***CPRIT assistance***

In February 2015, the Company received notice that it had been awarded a grant by 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 clinical program for MDNA55. On an ongoing basis, we must demonstrate that the expenditures are eligible using CPRIT's criteria, show proof that we have 50% matching funds available, that development milestones have been achieved and that best efforts have been made to establish substantial project related expenses within the state of Texas. 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 and on February 4, 2019 the Company was granted an additional six month extension allowing expense to be claimed until August 31, 2019.

Of the US\$14.1 million grant approved by CPRIT, Medicenna has received US\$10 million from CPRIT. The Company is eligible to receive the remaining US\$4.1 million upon the achievement of certain criteria as determined by CPRIT, from time to time. There can be no assurances that the balance of such grants will be received from CPRIT.

The amount receivable at December 31, 2018 represents funds spent on grant expenditures, but not yet reimbursed.

Ongoing program funding from CPRIT is subject to a number of conditions including the satisfactory achievement of milestones that must be met to release additional CPRIT funding, proof the Company has raised 50% matching funds and that best efforts have been made to establish substantial project related expenses within the state of Texas. If the Company is found to have used any grant proceeds for purposes other than intended, is in violation of the terms of the grant, or relocates the majority of its project related operations outside of the state of Texas, then the Company may be required to repay any grant proceeds received. There can be no assurances that the Company will continue to meet the necessary CPRIT criteria or that CPRIT will continue to advance additional funds to the Company.

### ***Intellectual Property***

The Company has entered into various license agreements with respect to accessing intellectual property in the form of filed and issued patents. In order to maintain these agreements, the Company is obligated to pay certain costs based on timing or certain milestones within the agreements, the timing of which is uncertain. These costs

include ongoing license fees, patent prosecution and maintenance costs, royalty and other milestone payments. As at December 31, 2018, the Company is obligated to pay the following:

- Patent licensing costs due within 12 months totaling \$47,000.
- Patent licensing costs, including the above, due within the next five years totaling \$380,000.
- Project milestone payments, assuming continued success in the development programs, of uncertain timing totaling US\$2,800,000 and an additional US\$2,000,000 in sales milestones.
- A liquidity payment of \$178,130 to the National Institute of Health (“NIH”) which represents the remaining payment resulting from the Company’s liquidity event in March 2017.

As part of these license agreements, the Company has committed to make certain royalty payments based on net sales to the NIH and Stanford.

## 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, and Chief Development Officer) and directors, received the following compensation for the following periods:

	Nine months ended		Three months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
	\$	\$	\$	\$
Salaries and Wages	668,811	852,284	249,749	236,272
Board Fees	106,188	85,692	34,983	36,195
Stock Option Expense	605,874	926,544	170,162	548,650
Related Party Rent	19,422	-	7,471	-
	1,400,295	1,864,520	462,365	821,117

As at December 31, 2018, the Company had trade and other payables in the normal course of business, owing to directors and officers of \$415,000 (2017: \$349,000) related to deferred salaries, board fees and accrued vacation (\$107,249 in deferred salaries, included in amounts earned).

The Company paid \$19,422 in office rent to Aries Biologics Corp, a company controlled by the CEO (Dr. Fahar Merchant) and CDO (Ms. Rosemina Merchant) of the Company. This transaction was in the normal course of business and has been measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

## NEW STANDARDS, AMENDMENTS AND INTERPRETATIONS ADOPTED DURING FISCAL 2019

The following IFRS pronouncement has been adopted during 2019:

The Company has adopted new accounting standard **IFRS 9 - Financial Instruments**, effective for the Company’s annual period beginning April 1, 2018. The adoption of IFRS 9 did not result in any changes to the classification, measurement or carrying amounts of the Company’s existing financial instruments on transition date.

The new standard brings together the classification and measurement, impairment and hedge accounting phases of the IASB's project to replace **IAS 39 - Financial instruments: recognition and measurement**. The standard retains but simplifies the mixed measurement model and establishes two primary measurement categories for financial assets: amortized cost and fair value.

The Company continues to classify and measure its cash at fair value through profit or loss with changes in fair value recognized in profit or loss as they arise ("FVTPL"). Other receivables and government grant receivables are classified initially at FVTPL, and subsequently at amortized cost using the effective interest rate method. Accounts payable and accrued liabilities and license fee payable are classified and measured as financial liabilities, initially at FVTPL, and subsequently at amortized cost using the effective interest rate method.

## **NEW STANDARDS AND INTERPRETATIONS NOT YET EFFECTIVE**

IFRS 16, Leases IFRS 16 is a new standard that sets out the principles for recognition, measurement, presentation, and disclosure of leases including guidance for both parties to a contract, the lessee and the lessor. The new standard eliminates the classification of leases as either operating or finance leases as is required by IAS 17 and instead introduces a single lessee accounting model. IFRS 16 is effective for annual periods beginning on or after January 1, 2019. The Company does not have any leases and has therefore determined that this standard will not have an impact on its unaudited interim condensed consolidated financial statements.

## **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, 2018 and available on SEDAR ([www.sedar.com](http://www.sedar.com)).

The preparation of financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities, revenue and expenses, related disclosures of contingent assets and liabilities and the determination of our ability to continue as a going concern. Actual results could differ materially from these estimates and assumptions. We review our estimates and underlying assumptions on an ongoing basis. Revisions are recognized in the period in which the estimates are revised and may impact future periods. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the financial statements have been set out in note 3 of our annual audited consolidated financial statements for the year ended March 31, 2018 filed on SEDAR ([www.sedar.com](http://www.sedar.com)).

## **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.

Government grant receivables and other receivables have been classified as loans and receivables and are measured at amortized cost less impairments.

Accounts payable and accrued liabilities have been classified as 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 December 31, 2018, 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 period ended December 31, 2018 of \$31,000 (March 31, 2018 - \$88,000).

Balances in foreign currencies are as follows:

	December 31, 2018	March 31, 2018
	\$	\$
Cash	709,039	2,115,262
Accounts payable and accrued liabilities	(1,238,321)	(1,429,909)
Deferred government grant receivable	757,940	-
	<b>228,658</b>	<b>685,353</b>

### (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.

- We have no sources of product revenue and will not be able to maintain operations and research and development without sufficient funding.
- 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 highly dependent upon certain key personnel and their loss could adversely affect our ability to achieve our business objectives.
- 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.
- 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.

- 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 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.
- 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 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.

Please refer to our MD&A and annual information form for the year ended March 31, 2018 for a complete discussion of risks and uncertainties.

## **OTHER MD&A REQUIREMENTS**

### **Outstanding Share Data**

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

	<b>Number</b>
Common Shares	28,578,137
Warrants	5,294,605
Stock Options	2,250,000
<b>Total</b>	<b>36,122,742</b>

Additional information relating to the Company, including the Company’s annual information form for the fiscal year ended March 31, 2018 is available under the Company’s profile on SEDAR at [www.sedar.com](http://www.sedar.com).