Management's Discussion and Analysis

For the Three and Nine Months Ended December 31, 2020

DATE OF REPORT: February 11, 2021

MANAGEMENT'S DISCUSSION AND ANALYSIS

The following management's discussion and analysis ("MD&A") has been prepared as at February 11, 2021 for the three and nine months ended December 31, 2020 and should be read in conjunction with the unaudited interim condensed consolidated financial statements of Medicenna Therapeutics Corp. for the three and nine months ended December 31, 2020 and 2019, and the annual audited consolidated financial statements and accompanying notes for the years ended March 31, 2020 and 2019 (the "Annual Financial Statements"), which have been prepared by management in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"). Our IFRS accounting policies are set out in note 2 of the Annual Financial Statements and all dollar amounts are expressed in Canadian dollars unless otherwise noted.

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

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 favourable terms or at all;
- business strategy;
- the potential impact of the COVID-19 pandemic on our business;
- projected financial position and estimated cash burn rate, and the sufficiency of the Company's financial resources to support its activities;
- expected future loss and accumulated deficit levels;
- 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 MDNA11 and the potential benefits to patients;
- impacts of the Phase 3 trial of MDNA55, including its design, reduced number of participants, costs, timeline, survival data and partnership opportunities for MDNA55;
- expectations regarding the progress, and the successful and timely completion, of the various stages of the regulatory approval process;
- ability to initiate, progress, and successful and timely completion, of various preclinical and manufacturing activities associated with future 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 filing and approval of various submissions by regulatory agencies regarding the conduct of new clinical trials;
- 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 with respect to the protection of the Company's intellectual property.

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.

The forward-looking information in this MD&A does not include a full assessment or reflection of the unprecedented impacts of the COVID-19 pandemic and the ongoing and developing indirect global and regional economic impacts. The Company is currently experiencing uncertainty related to the rapidly developing COVID-19 situation. It is anticipated that the spread of COVID-19 and global measures to contain it and its variants, have had and continue to have an impact on the Company, however it is challenging to quantify the potential future magnitude of such impact at this time. The Company is regularly assessing the situation and remains in contact with its partners, clinical sites and investigators, contract research organizations ("CROs"), contract development and manufacturing organizations ("CDMOs") and suppliers to assess any impacts and risks. The Company believes that ongoing COVID-19 restrictions could impact CROs and associated IND-enabling studies of MDNA11, CDMOs and manufacturing timelines for MDNA11, as well as the planned clinical development timelines of the MDNA11 Phase 1 clinical trial as patient recruitment for clinical trials is currently being impacted. However, the initiation of the clinical study is not planned until mid-calendar 2021 and it is not possible to predict the potential impact of patient recruitment at that time.

All forward-looking statements reflect the Company's beliefs and assumptions based on information available at the time the assumption was made. In making the forward-looking statements included in this MD&A, the Company has made various material assumptions, including but not limited to (i) obtaining positive results from clinical trials; (ii) obtaining regulatory approvals; (iii) general business and economic conditions; (iv) the availability of financing on reasonable terms; (v) the Company's ability to attract and retain skilled staff; (vi) market competition; (vii) the products and technology offered by the Company's competitors; (viii) the Company's ability to protect patents and proprietary rights; and (ix) the effect of COVID-19 on the Company's business and operations. By its nature, forward-looking information involves numerous assumptions, inherent risks and uncertainties, both general and specific, known and unknown, that contribute to the possibility that the predictions, forecasts, projections or other forward-looking statements will not occur. Factors which could cause future outcomes to differ materially from those set forth in the forward-looking statements include, but are not limited to:

- the effect of continuing operating losses on the Company's ability to obtain, on satisfactory terms, or at all, the capital required to maintain the Company as a going concern;
- the ability to obtain sufficient and suitable financing to support operations, preclinical development, clinical trials, and commercialization of products;
- the risks associated with the development of novel compounds at early stages of development in the Company's intellectual property portfolio;
- the risks of reliance on third parties for the planning, conduct and monitoring of clinical trials and for the manufacture of drug products;
- the risks of reliance on third parties for timely completion of ongoing clinical trial activities, conduct of statistical analysis, imaging analysis, preparation of study reports and regulatory submissions;
- the risks associated with the development of the Company's product candidates including the demonstration of efficacy and safety;
- the risks related to clinical trials including potential delays, cost overruns and the failure to demonstrate efficacy and safety;
- the risks of delays and inability to complete clinical trials due to difficulties in securing ethics approval and enrolling subjects;

- the risks associated with the Company's inability to successfully develop companion diagnostics for the Company's development candidates;
- the risks associated with the Company's inability to successfully access drug delivery technology or materials and components required for drug delivery;
- the risks associated with reliance on third parties for proper storage, packaging and shipment of active ingredients or other components required for preclinical or clinical trials;
- the risks associated with product loss or degradation or failure of manufacturing batches and not meeting specifications for use in preclinical or clinical trials;
- delays or negative outcomes from the regulatory approval process;
- the Company's ability to successfully compete in the Company's targeted markets;
- the Company's ability to attract and retain key personnel, collaborators and advisors;
- the risks relating to the increase in operating costs from expanding existing programs, acquisition of additional development programs and increased staff;
- risk of negative results of clinical trials or adverse safety events by the Company or others related to the Company's product candidates;
- the potential for product liability claims;
- the Company's ability to achieve the Company's forecasted milestones and timelines on schedule;
- the financial risks related to the fluctuation of foreign currency rates and expenses denominated in foreign currencies;
- the Company's ability to adequately protect proprietary information and technology from competitors;
- risks related to changes in patent laws and their interpretations;
- the Company's ability to source and maintain licenses from third-party owners; and
- the risk of patent-related litigation and the ability to protect trade secrets.

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.

COMPANY OVERVIEW

The Company's principal business activity is the development and commercialization of Superkines and Empowered Superkines for the treatment of cancer. Medicenna has three wholly owned subsidiaries, Medicenna Therapeutics Inc. (British Columbia), Medicenna Biopharma Inc. (Delaware) and Medicenna Biopharma Inc. (British Columbia). On August 2, 2017 Medicenna graduated to the main board of the Toronto Stock Exchange. On November 13, 2017, Medicenna continued under the *Canada Business Corporations Act*. On August 24, 2020, Medicenna began trading on the Nasdaq Capital Market ("NASDAQ") under the symbol "MDNA".

Medicenna is a clinical stage immuno-oncology company developing novel, highly selective versions of interleukin-2 ("IL-2"), interleukin-4 ("IL-4") and interleukin-13 ("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 Superkines that precisely deliver potent toxins to cancer cells without harming adjacent healthy cells. Medicenna's mission is to become the leader in the development and commercialization of targeted Empowered Superkines and Superkines for the treatment of a broad range of cancers. The Company seeks to achieve its goals by drawing on its expertise, and that of world-class collaborators, in order to develop a unique set of therapeutic 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 cell subsets to enable precise activation or

inhibition of relevant immune cells in order to improve therapeutic efficacy and safety. 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 checkpoint inhibitors, chimeric antigen receptor T cells ("CAR-Ts") or oncolytic viruses to stimulate tumor-killing immune cells or overcome the immunosuppressive tumor microenvironment ("TME").

Medicenna has completed a Phase 2b clinical trial of MDNA55, Medicenna's lead Empowered Superkine, for the treatment of recurrent glioblastoma ("rGBM"), the most common and uniformly fatal form of brain cancer. MDNA55 is a fusion of a circularly permuted version of IL-4, fused to a potent fragment of the bacterial toxin, Pseudomonas exotoxin (PE), that is designed to preferentially target tumor cells that over-express the interleukin 4 receptor ("IL-4R"). MDNA55 has now been studied in 5 clinical trials in 132 patients, including 112 patients with rGBM, in which it has shown indications of superior efficacy when compared to the current standard of care (SOC). 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. Medicenna announced on April 30, 2019 that patient enrollment was complete in the Phase 2b clinical trial of MDNA55 after treating 46 patients with rGBM. Medicenna announced preliminary top line data from the study on June 18, 2019 and additional survival data in December 2019, January 2020 and May 2020. On September 29, 2020, Medicenna had an End of Phase 2 ("EOP2") meeting with the FDA and provided an update on October 15, 2020 announcing that the FDA agreed for Medicenna to conduct an innovative open-label hybrid Phase 3 trial that allows use of a substantial number of patients (two-thirds) from a matched external control arm to support regulatory approval of MDNA55 for rGBM. This hybrid trial design will reduce the overall number of subjects needed to enroll in the study to achieve the primary endpoint, and notably reduce the number of subjects that would be randomized to SOC treatment under a conventional 1:1 randomization. We are currently pursuing a strategic partnership to assist with additional clinical development of MDNA55.

Complementing Medicenna's lead clinical asset (MDNA55), the Company has built a deep pipeline of promising preclinical Superkine candidates such as IL-2 agonists (MDNA109), IL-2 antagonists (MDNA209), dual IL-4/IL-13 antagonists (MDNA413) and IL-13 Superkine (MDNA132) all in-licensed from Leland Stanford Junior University ("Stanford"). The most advanced of these programs is the MDNA109 platform (MDNA11 and MDNA19), of which MDNA11 is in IND-enabling studies and the only genetically engineered IL-2 Superkine designed to specifically target CD122 (IL-2Rβ) with high affinity without CD25 dependency. Both MDNA11 and MDNA19, which unlike native IL-2 (Proleukin), have superior pharmacokinetic properties, lack CD25 binding in order to improve safety, potently stimulate effector T cells, reverse natural killer ("NK") cell anergy and act with exceptional synergy when combined with checkpoint inhibitors.

MDNA19 and MDNA11 originate from the same base molecule engineered from the MDNA109 platform. This base molecule, MDNA109, has a very short half-life which would require frequent daily dosing and therefore would not be convenient for cancer patients. To address this issue, Medicenna fused both Fc (MDNA19) and albumin (MDNA11) to MDNA109 with the effect of increasing the size of the molecule and its half-life. After completing pilot non-human primate studies with both MDNA19 and MDNA11, it became apparent that MDNA11 was the more promising molecule and has therefore been selected as the lead IL-2 candidate to advance into clinical development over MDNA19. Medicenna is thus working towards initiating a Phase 1 clinical study for MDNA11 in mid-2021. Medicenna currently does not have the intention or the resources to advance the clinical development of MDNA19 in parallel with MDNA11 but MDNA19, which was previously identified as the Company's lead IL-2 candidate, remains relevant for Medicenna because it is derived from the same platform as MDNA11 and could also be moved to clinical development in certain circumstances following additional protein design.

ACHIEVEMENTS & HIGHLIGHTS

The following are the achievements and highlights for the quarter ending December 31, 2020 through to the date hereof:

- On October 15, 2020, we announced positive outcomes following the EOP2 meeting with the FDA. The FDA agreed that we could conduct an innovative open-label hybrid Phase 3 trial that allows use of a substantial number of patients (two-thirds) from a matched external control arm to support regulatory approval of MDNA55 for rGBM. The FDA also expressed their willingness to consider interim analysis of the trial if certain criteria are met. Unlike conventional randomized control trials, the hybrid trial design will reduce the overall number of subjects needed to enroll in the study to achieve the primary endpoint, as well as reduce the cost and timelines associated with completing the trial.
- On October 26, 2020, we announced a poster presentation at the 32nd ENA Symposium on Molecular Targets and Cancer Therapeutics. The preclinical data, which featured results with MDNA11 as well as data related to a long acting bispecific IL-2/IL-13 Superkine that is designed to simultaneously activate cancer killing immune cells while reversing anti-inflmmatory TME. The results sustained the potent therapeutic efficacy of MDNA11 as a monotherapy agent in multiple tumor models. Medicenna's novel bispecific IL-2/IL-13 Superkines demonstrated the potential of the platform to address a critical unmet need by effectively targeting immunologically "cold" tumors that are often resistant to immunotherapeutic agents.
- On October 26, 2020, we also announced a Late Breaking Abstract poster presentation at the 32nd ENA Symposium on Molecular Targets and Cancer Therapeutics. Amongst an all-comer population, a single treatment with MDNA55 resulted in at least 100% increase in both 12-month progression free survival ("PFS-12") (27% versus 2 to 10%) and 2-year survival ("OS-24") (20% vs 5 to10%) when compared to what is achieved with approved therapies. In a subset of all-comer patients treated with transient low dose bevacizumab, to reduce steroid use, median survival ("mOS") was 21.8 months and OS-24 was 44%.
- On November 4, 2020 Medicenna held a positive Scientific Advice Meeting for MDNA11 (similar to a pre-IND meeting) with the United Kingdom (UK) Medicines and Healthcare products Regulatory Agency (MHRA). It confirmed that our plans for CMC, pre-clinical and Phase 1/2a clinical trial were appropriate for submission of an Investigational Medical Product Dossier ("IMPD") in mid-calendar 2021 in order to commence first in human studies with MDNA11 in the UK.
- On December 9, we presented at an oral session at the 2nd Annual Glioblastoma Drug Development Summit. The presentation included updated data from the MDNA55 Phase 2b clinical trial, as well as an overview of the planned MDNA55 Phase 3 registration trial.
- On December 11, 2020, we hosted a key opinion leader ("KOL") call on MDNA55 featuring presentations by KOLs who provided an overview on the current treatment landscape for rGBM, highlighted the results from the MDNA55 Phase 2b clinical trial and addressed the advantages of the hybrid Phase 3 design agreed by the FDA.
- On December 30, 2020, we announced that we entered into a sales agreement (the "ATM Agreement") with SVB Leerink LLC ("SVB Leerink") acting as sales agent, pursuant to which the Company may, from time to time sell, through the at-the-market ("ATM") offering, such number of common shares as would have an aggregate offering price of up to US$25.0 million (the "ATM Facility"). We plan to use the net proceeds of the ATM offering for general corporate purposes including, but not limited to working capital expenditures, research and development expenditures, and clinical trial expenditures. Costs associated with setting up the ATM Facility were approximately $0.4 million. Subsequent to the quarter-end, a total of 898,357 common shares have been sold under the ATM Facility for total gross proceeds of US$3.9 million.

COVID-19 UPDATE

In March 2020, the World Health Organization declared the COVID-19 outbreak a global pandemic and the Company continues to evaluate the COVID-19 situation and monitor any impacts or any potential impacts to the business. Medicenna has implemented health and safety measures in accordance with health officials and guidance from local government authorities. Further, the pandemic has an impact on the Company's third-party vendors which could result in the interruption of operations and result in development delays including the ongoing pre-clinical, manufacturing and future clinical activities related to MDNA11. The Company asked all our business partners to engage us by telephone or video conference where possible, minimizing business travel and requiring self-isolation for employees travelling outside of Canada. As the COVID-19 health crisis further develops, the Company will continue to rely on guidance

and recommendations from local health authorities, Health Canada and the Centers for Disease Control and Prevention to update the Company's policies.

FINANCING UPDATE

Nine months ended December 31, 2020

On April 15, 2020, the Company closed the full over-allotment option to purchase an additional 1,693,548 common shares of Medicenna at a price of $3.10 per share in connection with its public offering of common shares initially closed on March 17, 2020 (the "2020 Public Offering"). As a result of the exercise of this over-allotment option, Medicenna received additional gross proceeds of $5.3 million, for total gross proceeds of $40.25 million, which will be used to fund further development of MDNA11, including preclinical activities, manufacturing and Phase 1/2a clinical trials, as well as for general corporate purposes and working capital.

On December 30, 2020, the Company entered into the ATM agreement with SVB Leerink acting as sales agent, pursuant to which the Company may, from time to time sell, through ATM offerings, on the NASDAQ such number of common shares as would have an aggregate offering price of up to US$25.0 million. The ATM Facility will remain in place until the earlier of the maximum number of shares being sold, August 28, 2022 or the ATM Agreement being terminated. Costs associated with setting up the ATM Facility were approximately $0.4 million. Total costs associated with the offering will be recorded as a reduction in share capital when common shares are issued, net of gross proceeds received in the same period. Subsequent to the quarter-end, a total of 898,357 shares have been sold under the ATM for total gross proceeds of US$ 3.9 million). Additionally, subsequent to the quarter end, a total of 1,429,500 warrants and options have been exercised for total gross proceeds of $2.8 million.

During the nine months ended December 31, 2020, 1,962,824 warrants were exercised for proceeds of $3.8 million, the details of which are described below:

Number of Warrants	Exercise Price	Proceeds	Expiry Date
	$	$	
57,500	1.20	69,000	December 21, 2020
115,000	1.20	138,000	December 21, 2023
133,509	1.30	173,561	October 17, 2021
139,022	1.75	243,289	October 17, 2022
1,379,083	2.00	2,758,166	January 1, 2021
138,710	3.10	430,001	March 17, 2022
1,962,824		**3,812,017**	

Nine months ended December 31, 2019

During the nine months ended December 31, 2019, 346,555 warrants were exercised at a price of $1.20 per share for gross proceeds of $0.4 million.

RESEARCH & DEVELOPMENT UPDATE

MDNA55

Excluding the recently completed Phase 2b clinical study, 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. The Company 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 in 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. Data from the MDNA55 Phase 2b clinical trial showed that each of these advances facilitate 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 Institutes of Health ("NIH") to patents covering CED.

Phase 2b Study Outline for Glioblastoma at First or Second Recurrence or Progression
The Phase 2b trial with MDNA55 using enhanced CED delivery was a multi-center, open-label, single-arm study in up to 52 patients (at least 46 intent-to-treat ("ITT") patients evaluable for survival and 35 patients evaluable for response), with first or second recurrence or progression of GBM after surgery or radiotherapy ± adjuvant therapy or other experimental therapies.

The primary endpoint of the study was mOS comparing an expected null survival rate of 8.0 months (based on historical control) with an alternative pursue rate of 11.5 months (1-sided alpha = 0.10 and 80% power for approximately 46 ITT or per protocol subjects). IL4R expression levels in tumor biopsies and their potential impact on surival outcomes following treatment with MDNA55, were retrospectively evaluated.

Phase 2b Study Update
In April 2017, we treated the first rGBM patient in the Phase 2b clinical trial of MDNA55 and enrolled patients at eight clinical sites across the United States and 1 site in Europe with enrolment in the study (46 ITT patients) completed in April 2019 of which 44 patients met all the protocol eligibility requirements (per protocol population).

On September 28, 2017, we announced that based on encouraging drug distribution and safety data observed we implemented an amended protocol allowing higher doses and volumes of MDNA55 as well as an increase in study size to up to 52 subjects. This protocol amendment was based on a planned safety analysis following a unanimous recommendation from MDNA55's Safety Review Committee.

It was reported on May 2, 2018 that 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. 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 allowed 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, use of sub-therapeutics dose of Avastin® in patients that could not tolerate steroid use to control edema and inflammation 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 such 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 allowed a biopsy and/or advanced multi-modal imaging to more accurately discriminate between necrosis/inflammation and true disease progression. These tools would 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 higher doses provided that the pre-established MTD of 240 μg was not to be exceeded.

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 as well as a slowdown of patient recruitment while the necessary regulatory reviews and approvals were completed.

On April 30, 2019, Medicenna announced that enrolment in the study was complete with 46 evaluable patients (ITT population) of which 44 patients were subsequently identified as meeting protocol eligibility requirements without major deviations (per protocol population).

On May 29, 2020, Medicenna announced presentation of data from its Phase 2b trial of MDNA55 in patients with rGBM, at the 2020 ASCO Annual Meeting. The oral poster discussion led by Dr. Ian F. Parney, MD, PhD (Mayo Clinic), and a presentation by Dr. John Sampson, MD, PhD (Robert H. and Gloria Wilkins Distinguished Professor of Surgery, Duke University School of Medicine), focused on additional data demonstrating clinical superiority of MDNA55 in patients with rGBM.

Highlights from the ASCO presentation included:

- Comparison of MDNA55 with an eligibility-matched External Control Arm ("ECA" or also known as Synthetic Control Arm, SCA) using propensity-score weighting (Li et al.), an unbiased approach to select patients that match the baseline characteristics of MDNA55 treated patients based on 11 key baseline prognostic factors, demonstrated an improvement in mOS of 72%. When stratified by IL4R status, IL4R High subjects in the MDNA55 arm demonstrated improved mOS by 116% (Table 1).

Table 1.

Propensity-Weighted Groups	**N**	**mOS (months)**	**Improvement in mOS**	**HR**
MDNA55 All-comers	43	12.4	72%	0.63
ECA All-comers	40.8	7.2		
MDNA55 IL4R High	17	13.2	116%	0.52
ECA IL4R High	16.8	6.1		

Irrespective of IL4R expression, subjects showed a tumor control rate ("TCR") (tumor shrinkage or stabilization) of 76% based on modified RANO criteria; these subjects demonstrated mPFS of 4.6 months, PFS at six months ("PFS-6") of 40%, PFS-12 of 33%, mOS of 15.0 months and OS-12 of 57%.

Additional updated results (not presented at ASCO) include the following:

Patients with Low IL4R expression (H-Score ≤ 60) had a similar TCR as patients with High IL4R expression (H-Score > 60); TCR of 75% vs. 76%, respectively. However, the majority of the IL4R Low patients (11 of 16) received high doses of MDNA55 (180 – 240 μg; median 180 μg) whereas only 8 of 21 IL4R High patients received the high dose of MDNA55.

The IL4R Low group receiving high dose also showed improved survival (mOS Not Reached, OS-12 of 53%) when compared to the low dose group (mOS = 8 months, OS-12 = 13%).

The Proposed Population (n=32), comprised of all IL4R High (irrespective of dose) as well as IL4R Low patients receiving the high dose, were shown to benefit the most from a single treatment of MDNA55. Median survival and OS-12 in this population was 15.8 months and 62% vs 7.0 months and 18%, respectively, when compared to the eligibility matched ECA. (Table 2).

Table 2.

Eligibility-Matched	**N**	**mOS**	**Improvement in mOS**	**HR**	**OS-12**
Proposed Population	32	15.8	126%	0.45	62%
ECA	40	7.0			18%
Propensity-Weighted					
Proposed Population	32	15.7	118%	0.52	NA
ECA	33.9	7.2			NA

TCR in the Proposed Population was 81% based on radiologic assessment by mRANO criteria.

These data indicate that MDNA55 has the potential to benefit all rGBM patients treated at the high dose (180 – 240 μg; median 180 μg) irrespective of IL4R expression. The high dose has already shown an acceptable safety profile in this and earlier clinical trials (MTD = 240 μg).

On October 26, 2020, Dr. John Sampson, MD, PhD (Robert H. and Gloria Wilkins Distinguished Professor of Surgery, Duke University School of Medicine) updated clinical data from the Phase 2b trial of MDNA55 in rGBM as a Late Breaking Abstract poster at the 32nd ENA Symposium on Molecular Targets and Cancer Therapeutics. Highlights from the poster included updated results following a longer follow-up duration and new data based on transient low-dose use of bevacizumab:

- Data from all trial participants show that a single MDNA55 treatment led to a mOS of 11.9 months (expected 6-9 months) which is comparable to earlier reported mOS of 11.6 months, an OS-24 of 20% (expected 0-10%), and a PFS-12 of 27% (expected 2-10%).
- In Medicenna's proposed patient population, mOS was 14.0 months (comparable to mOS of 15 months reported earlier), OS-24 was 20%, and PFS-12 was 24%. The proposed patient population included all MDNA55-treated trial participants with high IL4R expression and participants with low IL4R expression that received a high dose of MDNA55 treatment.
- Unmethylated *MGMT* promoter affects more than 50% of GBM patients and is associated with treatment resistance and poorer survival outcomes. However, MGMT status did not negatively affect MDNA55 treatment. In the proposed population (N=17), mOS was 14.9 months with an OS-24 of 22%.
- Following MDNA55 treatment, transient (median of 3 cycles) low dose (5 mg/Kg q2w or 7.5 mg/Kg q3w) administration of Avastin®, used for symptom control and steroid sparring in patients receiving high concentrations of MDNA55, further improved patient survival. Amongst all comers (N=9) and

the proposed population (N=8), mOS was 21.8 months and 18.6 months and OS-24 was of 44% and 38%, respectively.

On September 29, 2020, Medicenna had an EOP2 meeting with the FDA to discuss future development and commercialization of MDNA55 for rGBM. On October 15, 2020, we announced positive outcomes following the EOP2 meeting with the FDA. The FDA agreed that we could conduct an innovative open-label hybrid Phase 3 trial that allows use of a substantial number of patients (two-thirds) from a matched external control arm to support regulatory approval of MDNA55 for rGBM. The FDA also expressed their willingness to consider interim analysis of the trial if certain criteria are met. Unlike conventional randomized control trials, the hybrid trial design will reduce the overall number of subjects needed in the study to achieve the primary endpoint as well as reduce the cost and timelines associated with completing the trial.

The proposed Phase 3 clinical trial design includes a concurrent 3:1 randomized cohort (3 subjects receiving MDNA55 for every 1 subject receiving SOC) and an additional matched external control arm. The primary endpoint of overall survival (OS) will be determined by a 1:1 analysis of the MDNA55 arm versus the pooled control arm, which will consist of external controls and subjects randomized to SOC. This hybrid trial design will also reduce the overall number of subjects needed to enroll in the study to achieve the primary endpoint, and notably reduce the number of subjects that would be randomized to SOC treatment under a conventional 1:1 randomization. By reducing the need to enroll control subjects, an ECA can increase efficiency, reduce delays, lower trial costs, and speed lifesaving therapies to market. The Company demonstrated promising results for MDNA55 in a Phase 2b clinical trial when compared to a retrospective and a well-balanced ECA. Medicenna is pursuing strategic partnerships to assist with additional clinical development of MDNA55, as well as preparing the program for commercialization and its subsequent launch in various countries where approval has been granted. In addition to development and regulatory approval of MDNA55, see “Risk and Uncertainties” below.

Superkine Platform

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-2Rα (also known as CD25), IL-2Rβ (CD122) and IL-2Rγ (CD132). The arrangement of these different proteins determines the response to IL-2 signaling.

The IL-2β and IL-2γ components together make a receptor capable of binding IL-2, but only moderately so. When all three components are together, including IL-2Rα, the receptor binds IL-2 with a much higher affinity. This complete receptor is usually found on regulatory T cells, which dampens an ongoing immune response. The lower affinity receptor, composed of just the IL-2β and IL-2γ 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 and/or block the function of regulatory cells. Medicenna’s MDNA109 and MDNA209 platforms take advantage of this dynamic by binding to specific receptors and either activating (MDNA109) or blocking them (MDNA209). The majority of development has been focused on the MDNA109 platform candidates where promising results have been demonstrated in various animal tumour models, as described below.

MDNA109 (a precursor to MDNA19 and MDNA11) is an enhanced version of IL-2 that binds up to 200 times more effectively to IL-2Rβ, thus greatly increasing its ability to activate and proliferate the immune cells needed to fight cancer. Because it preferentially binds IL-2Rβ and not the receptor containing IL-2Rα, MDNA109 preferentially drives effector T cell responses over regulatory T cells. Additionally, MDNA109 reverses NK cell anergy and acts with exceptional synergy when combined with checkpoint inhibitors.

One of the development challenges with MDNA109 was its short half-life, similar to native IL-2, which would require frequent dosing. In order to extend the half-life of MDNA109, Medicenna fused inactive protein scaffolds to MDNA109 including Fc-fusions (Fc) and Albumin fusions (Alb) and, on August 2, 2018, we announced preliminary preclinical data on long acting variants of MDNA109, showing that these fusions have better pharmacokinetic properties enabling less frequent dosing without sacrificing its efficacy or safety.

Further modifications were made to MDNA109 in its extended half-life forms to enhance pharmacodynamics and further enhance selectivity in order to reduce binding to CD25 which is associated with the toxic side effect profile of Proleukin. These modifications have provided us with two candidates in development, MDNA19 and MDNA11.

On March 25, 2020, Medicenna announced preclinical data including non-human primate (NHP) data from its IL-2 Superkine program during a conference call and webcast.

The presentation highlighted data from the long-acting variant MDNA19, engineered to have enhanced binding to CD122 without binding to CD25 and included:

- Kinetic studies in NHP showed a dose-dependent upregulation of Ki67 in CD8 T-cells lasting for almost two weeks post-MDNA19 administration, with no apparent side effects.
- When administered to NHP, MDNA19 increases the absolute number of circulating CD8 T-cells in the absence of Treg and eosinophil stimulation (the latter being a major source of IL-5 production which is responsible for triggering vascular leak syndrome and associated toxicity).
- MDNA19 administration as a monotherapy in syngeneic mice with pre-established CT26 colon cancer led to 60% survival and induction of strong and long-lasting memory responses correlating with resistance to subsequent re-challenges.
- Furthermore, MDNA19 treatment of B16F10 melanoma tumors favoured activation of CD8 T cells over Tregs in the tumor microenvironment driving a strong therapeutic effect.

On May 29, 2020, Medicenna announced the virtual presentation of data on MDNA11, one of its lead candidates from the IL-2 Superkine program, at the 2020 ASCO Annual Meeting. The poster presentation by Dr. Moutih Rafei, PhD (Associate Professor of Pharmacology and Physiology at the Université de Montréal), focused on new data arising from studies with MDNA11. The poster presentation focused on encouraging data in NHP for MDNA11, a long-acting IL-2 variant engineered to have enhanced affinity to CD122 without binding to CD25. This engineering allows MDNA11 to specifically expand cancer fighting naïve CD8 T cells as well as NK cells with minimal stimulation of Tregs and eosinophils (associated with vascular leak syndrome). As such, the use of MDNA11 circumvents both immune-suppression and toxicity normally observed with Proleukin. In addition, MDNA11 has several advantages over other long-acting IL-2 variants as it permits enhanced accumulation in the tumor vicinity and can be recycled in vivo thus exhibiting prolonged circulation in the blood stream thereby reducing the frequency of treatment. The presentation also demonstrated that MDNA11 had better in-vitro and in-vivo characteristics than MDNA19 and has therefore been selected as the lead candidate to move into clinical development.

On October 26, 2020, we announced a poster presentation at the 32nd ENA Symposium on Molecular Targets and Cancer Therapeutics. The presentation of preclinical results featured data on MDNA11 as well as data related to long acting bispecific IL-2/IL-13 Superkine that is designed to simultaneously activate cancer killing immune cells while reversing anti-inflmmatory TME. These results demonstrate the potent therapeutic efficacy of MDNA11 monotherapy in multiple tumor models. Our bispecific IL-2/IL-13

Superkines are novel and demonstrate the potential of the platform to address a critical unmet need by effectively targeting immunologically "cold" tumors that are often resistant to immunotherapeutic agents. Highlights from the poster and corresponding abstract include:

- Data show that compared to native IL-2, MDNA11 exhibits enhanced potency towards anti-tumor CD8+ T and natural killer (NK) cells, and diminished activity toward pro-tumor T_{reg} cells.
- MDNA11 inhibited B16F10 melanoma tumor growth and improved survival as a monotherapy and in combination with a tumor-antigen targeting antibody by inducing a durable increase in tumor infiltrating lymphocytes.
- Treatment with MDNA11 alone or in combination with an immune checkpoint inhibitor resulted in long-term tumor regression and a strong memory response in a preclinical colon cancer model
- Repeat dosing of non-human primates with MDNA11 did not trigger cytokine release syndrome, anti-drug antibody response nor eosinophilia (associated with vascular leak syndrome).
- Data show that Medicenna's bispecific IL-2/IL13 Superkine induced anti-tumor Th1 immune responses and inhibited pro-tumor IL-4/IL-13 signaling.

On November 4, 2020 Medicenna held a positive Scientific Advice Meeting for MDNA11 (similar to a pre-IND meeting) with the UK MHRA. It confirmed that our plans for CMC, pre-clinical and Phase 1/2a clinical trial design would be appropriate for submission of an IMPD in mid-calendar 2021 in order to commence first in human studies with MDNA11 in the UK.

Medicenna has commenced good laboratory practices ("GLP") and good manufacturing practices ("GMP") related manufacturing activities for MDNA11 as well as IND enabling studies and plans to initiate a Phase 1/2a clinical trial in mid-2021.

Like the MDNA109 platform, MDNA209 therapeutics bind with exceptional affinity to IL-2Rβ, but are unable to bind to the common IL-2γ receptor which in turn blocks signaling and activation of NK cells and effector CD8 T cells. MDNA209 platform offers a variety of candidates that are either partial agonists, partial antagonists or complete antagonists, enabling us to dampen the signaling properties of an over-active immune system to an amplitude that elicits desired therapeutic function without causing undesired toxicity. MDNA209 variants can therefore be used to treat a host of autoimmune diseases such as multiple sclerosis and preliminary studies (Mitra et al., 2015) have shown that MDNA209 variants can also mitigate graft versus host disease (GvHD) following transplantation. Limited work on MDNA209 has been initiated but development timelines have not been established at this time.

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 IL4 receptors or dedicated IL13 receptors such as IL13Rα2. This selectivity is achieved through mutations of the IL-4 or IL-13 proteins to enhance affinity for binding to specific IL4R or IL13R 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).

Refer to "IL-2 Superkines" section above for updated data related to our long acting bispecific IL-2/IL-13 Superkine.

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 the Th2 biased tumour microenvironment, which shields the cancer from the immune system.

Another promising IL-13 Superkine is MDNA132. Unlike MDNA413, MDNA132 is an IL-13 ligand that has been engineered to increase affinity for IL13Rα2 overexpressed on certain solid tumors while exhibiting

sharply decreased affinity for IL13Rα1. 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.

As preparing, submitting, and advancing applications for regulatory approval, developing products and processes and clinical trials are complex, costly, and time consuming processes, an estimate of the future costs related to the development of MDNA209, MDNA413, MDNA132, and IL2/IL-13 bispecific Superkine is not reasonable at this time.

SELECTED FINANCIAL INFORMATION

All tabular amounts below are presented in thousands of Canadian dollars, except for per share amounts.

	Three months ended December 31,		**Nine months ended December 31,**	
	2020	2019	**2020**	2019
	$	$	**$**	$
General and Administration	**2,093**	742	**4,516**	1,846
Research and Development	**3,180**	1,659	**7,169**	3,734
Net Loss	**(5,338)**	(2,389)	**(11,488)**	(5,588)
Basic and Diluted Loss per Share	**(0.11)**	(0.07)	**(0.24)**	(0.19)
Total Assets	**36,323**	7,316	**36,323**	7,316
Total Liabilities	**2,216**	1,993	**2,216**	1,993

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

For the three and nine months ended December 31, 2020, we reported a net loss of $5.3 million ($0.11 loss per share) and $11.5 million ($0.24 loss per share), compared to a net loss of $2.4 million ($0.07 per share) and $5.6 million ($0.19 loss per share), for the three and nine months ended December 31, 2019 respectively. The increase in net loss for the three and nine months ended December 31, 2020 compared with the three and nine months ended December 31, 2019 was primarily a result of no reimbursement under the grant from the Cancer Research and Prevention Institute of Texas ("CPRIT") in the current year period, increased research and development expenditures related to the MDNA11 program as well as costs associated with the NASDAQ listing, in particular directors and officers insurance premiums.

Cash utilized in operating activities for the nine months ended December 31, 2020 was $13.2 million, compared to cash utilized in operating activities for the nine months ended December 31, 2019 of $2.7 million. The increase in cash utilized in the current nine month period is primarily the result of increased research and development expenses, no reimbursement under the CPRIT grant as well as an increase in directors and officers liability insurance and other expenses due to the NASDAQ listing in the current period.

RESULTS OF OPERATIONS FOR THE THREE AND NINE MONTHS ENDING DECEMBER 31, 2020

Research and Development ("R&D") Expenses

	Three months ended December 31,		**Nine months ended December 31,**	
	2020	2019	**2020**	2019
	$	$	**$**	$
Chemistry, manufacturing and controls	**528**	53	**1,558**	179

Regulatory	**251**	133	**599**	264
Discovery and pre-clinical	**861**	444	**1,574**	1,266
Clinical	**271**	420	**999**	1,254
Salaries and benefits	**462**	250	**982**	817
Licensing, patent legal fees and royalties	**664**	156	**1,080**	397
Stock based compensation	**104**	117	**283**	317
CPRIT grant claimed on eligible expenses	**-**	-	**-**	(951)
Other research and development expenses	**39**	76	**94**	191
	3,180	1,659	**7,169**	3,734

R&D expenses of $3.2 million and $7.2 million were incurred during the three and nine months ended December 31, 2020 respectively, compared with $1.7 million and $3.7 million incurred in the three and nine months ended December 31, 2019.

The increase in R&D expenses in the current period is primarily attributable to:

- No reimbursement of expenses with respect to the CPRIT grant in the three and nine months ended December 31, 2020, compared with $1.0 million in the nine months ended December 31, 2019.
- Higher chemistry, manufacturing and controls, as well as discovery and pre-clinical expenses associated with the development of MDNA11 as we initiate GLP and GMP manufacturing activities and IND enabling studies for future clinical development.
- Increased regulatory costs associated with preparation for the EOP2 meeting for MDNA55 as well as the Scientific Advice Meeting for MDNA11 with the MHRA.
- Increased licensing and patent legal fees related to outsourced business development activities, market research activities and the timing of patent prosecution.

The above increases were partially offset by lower clinical trial costs due to completion of the Phase 2b rGBM clinical study.

General and Administrative ("G&A") Expenses

	Three months ended December 31,		Nine months ended December 31,	
	2020	2019	**2020**	2019
	$	$	**$**	$
Depreciation expense	**10**	1	**30**	4
Stock based compensation	**240**	273	**464**	516
Facilities and operations	**92**	54	**225**	188
Public company expenses	**1,419**	283	**3,201**	816
Salaries and benefits	**332**	131	**596**	447
CPRIT grant claimed on eligible expenses	**-**	-	**-**	(125)
	2,093	742	**4,516**	1,846

G&A expenses of $2.1 million and $4.5 million were incurred during the three and nine months ended December 31, 2020 respectively, compared with $0.7 million and $1.8 million during the three and nine months ended December 31, 2019.

The increase in G&A expenditures period over period is primarily attributed to increased directors and officers liability insurance premiums due to our NASDAQ listing as well as higher board fees, legal fees, listing expenses in the current year due to activities associated with our NASDAQ listing, filing a shelf prospectus in both Canada and the United States, qualifying our common shares with the Depository Trust Company (DTC) and other corporate initiatives.

SUMMARY OF QUARTERLY FINANCIAL RESULTS

	Dec. 31 2020	Sept. 30 2020	June 30 2020	Mar. 31 2020	Dec. 31 2019	Sept. 30 2019	June 30 2019	Mar. 31 2019
	$	$	$	$	$	$	$	$
Revenue	-	-	-	-	-	-	-	-
General and administration	2,093	1,691	732	529	742	643	462	414
Research and development	3,180	2,176	1,813	2,135	1,659	1,246	828	661
Net loss	(5,338)	(3,786)	(2,352)	(2,689)	(2,389)	(1,904)	(1,295)	(1,049)
Basic and diluted loss per share	(0.11)	(0.08)	(0.05)	(0.07)	(0.07)	(0.07)	(0.05)	(0.04)
Total assets	36,323	37,640	40,920	37,996	7,316	2,244	3,674	5,187
Total liabilities	2,216	1,656	1,547	1,847	1,993	2,050	1,898	2,571

R&D expenses fluctuate quarter over quarter based on the amount of expenditures eligible for CPRIT reimbursement in the period as well as the progression of IND-enabling studies for MDNA11 during the period. Beginning with the quarter ended December 31, 2019, there were no CPRIT expenses eligible for offset vs. the comparable quarters in the prior year where there were eligible expenses resulting in lower expenditures in the prior year. The increased expenditures in the quarters ended September 30, 2020, and December 31, 2020, related to activities associated with the MDNA11 program as well as the EOP2 meeting with the US FDA. It is anticipated that R&D expenses will remain higher than prior year quarters due to increased activity.

G&A expenses are higher beginning with the quarter ended September 30, 2019, due to no expenditures claimed for CPRIT reimbursement as well as higher stock-based compensation costs and expenses associated with investor relations activities. Beginning in the quarter ended September 30, 2020, G&A expenses were further increased due to costs associated with completing the NASDAQ listing and

associated shelf prospectus filings in Canada and the United States, as well as increased directors and officers insurance premiums.

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 $42.5 million as of December 31, 2020. With current revenues only consisting of interest earned on excess cash, cash equivalents and marketable securities, 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 for both MDNA55 and MDNA11 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 be sufficient to execute its current planned expenditures for more than the next 12 months without further financing being obtained.

CASH POSITION

At December 31, 2020, we had a cash, cash equivalents and marketable securities balance of $33.2 million, compared to $37.7 million at March 31, 2020. We invest cash in excess of current operational requirements in highly rated and liquid instruments. Working capital at December 31, 2020 was $34.1 million (March 31, 2020 - $36.0 million).

On December 30, 2020, we announced that we entered into the ATM agreement with SVB Leerink acting as sales agent for our ATM offering of up to US$25.0 million. We plan to use the net proceeds of the ATM offering for general corporate purposes including, but not limited to working capital expenditures, research and development expenditures, and clinical trial expenditures. Costs associated with setting up the ATM Facility are approximately $0.4 million. Total costs associated with the offering will be recorded as a reduction in share capital when common shares are issued, net of gross proceeds received in the same period. Subsequent to the quarter-end, a total of 898,357 common shares have been sold under the ATM Facility for total gross proceeds of US$3.9 million.

We also have up to US$1.4 million remaining available under the CPRIT grant to be used towards the development of MDNA55.

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 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

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$14.1 million on eligible expenditures over a three year period related to the development of the Company's Phase 2b clinical program for MDNA55. 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 4, 2019 the Company was approved for a further six-month extension ending August 31, 2019, on July 25, 2019 an additional six-month extension was granted to February 28, 2020 and on January 6, 2020 an additional six-month extension was granted to August 28, 2020. The grant expired on August 28, 2020 as no additional extensions were requested.

Of the US$14.1 million grant approved by CPRIT, Medicenna has received US$12.7 million from CPRIT as of June 30, 2020. The Company is eligible to receive the remaining US$1.4 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.

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 maintaining substantial functions of the Company related to the project grant in Texas as well as using Texas-based subcontractor and collaborators wherever possible. There can be no assurances that the Company will continue to meet the necessary CPRIT criteria, satisfactorily achieve milestones, or that CPRIT will continue to advance additional funds to the Company.

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 its MDNA55 related operations outside of the state of Texas, then the Company is required to repay any grant proceeds received.

Under the terms of the grant, the Company is also required to pay a royalty to CPRIT, comprised of 3-5% of revenues on net sales of MDNA55 until aggregate royalty payments equal 400% of the grant funds received at which time the ongoing royalty will be 0.5%.

During the nine months ended December 31, 2020, the Company did not receive any funds from CPRIT (December 31, 2019: $1.1 million).

Intellectual Property

On August 21, 2015, the Company exercised its right to enter into two license agreements with Stanford (the "Stanford License Agreements"). In connection with these licensing agreements, the Company issued 649,999 common shares with a value of $0.1 million to Stanford and affiliated inventors. The value of these shares has been recorded as an intangible asset that is being amortized over the life of the underlying patents. As at December 31, 2020, the Company's intangible assets have a remaining capitalized net book value of $0.07 million.

The development milestones under the Stanford License Agreements were updated during the year ended March 31, 2020 to reflect the current stage of development of the Company's programs. In connection with the amendment of the Stanford License Agreements, Medicenna paid a US$150,000 fee to Stanford.

The Company has entered into various license agreements with respect to accessing patented technology. 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, 2020, the Company is obligated to pay the following:

- Patent licensing costs due within 12 months totaling $42 thousand.

- Patent licensing costs, including the above, due within the next five years totaling $1.3 million.
- Given the current development plans and expected timelines of the Company it is assumed that project milestones of US$50 thousand and US$100 thousand will be due in the next five years.
- Project milestone payments, assuming continued success in the development programs, of uncertain timing totaling US$2.7 million and an additional US$2 million in sales milestones.
- A liquidity payment of $333 thousand (US$261 thousand), is due to the NIH which represents the remaining payments 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.

As of December 31, 2020, we have the following obligations to make future payments, representing contracts and other commitments that are known and committed:

	Payments Due by Period			
Contractual obligations	**Less than 1 year**	**1-3 years**	**3-5 years**	**Total**
Patent licensing costs, minimum annual royalties per license agreements	$ 42	$ 888	$ 324	$ 1,255
Lease payments	$ 45	$ -	$ -	$ 45
Liquidity event payment	$ 333	$ -	$ -	$ 333

The Company cannot reasonably estimate future royalties which may be due upon the regulatory approval of MDNA55 or MDNA11.

As at the date of this report, we had obligations to make future payments, representing significant research and development and manufacturing contracts and other commitments that are known and committed in the amount of approximately $9.4 million, of which $0.5 million has been paid or accrued at December 31, 2020. Most of these agreements are cancellable by the Company with notice. These commitments include agreements for manufacturing and preclinical studies.

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 (Dr. Fahar Merchant, President and Chief Executive Officer, Ms. Elizabeth Williams, Chief Financial Officer, and Ms. Rosemina Merchant, Chief Development Officer) and directors, received the following compensation for the following periods:

	Three months ended December 31,		Nine months ended December 31,	
	2020	2019	**2020**	2019
	$	$	**$**	$
Salaries and wages	**518**	223	**1,006**	669
Board fees	**106**	36	**171**	107
Stock option expense	**313**	292	**635**	593
Related party rent	**-**	3	**-**	10

As at December 31, 2020, the Company had trade and other payables in the normal course of business, owing to directors and officers of $0.1 million (2019: $0.2 million) related to board fees and accrued vacation.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The significant accounting policies of the Company are described in note 2 of the Annual Financial Statements, 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 Annual Financial Statements, filed on SEDAR (www.sedar.com).

FINANCIAL INSTRUMENTS

(a) Fair value

We recognize financial instruments on the consolidated statements of financial position, which consist of cash, cash equivalents, marketable securities, government grant receivable, other receivables, accounts payable and accrued liabilities, 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).

We classify our financial assets and liabilities depending on the purpose for which the financial instruments were acquired, their characteristics, and management intent as outlined below:

Cash, cash equivalents and marketable securities are 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 and government grant receivable are measured at amortized cost less impairments.

Accounts payable, accrued liabilities, deferred government grants and license fee payable are measured at amortized cost.

We have exposure to the following risks from our use of financial instruments: credit, interest rate, currency and liquidity risk. We review our 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 and marketable securities.

We attempt 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. We believe our 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. We currently settle all of our financial obligations out of cash. The ability to do so relies on maintaining sufficient cash in excess of anticipated needs. As at September 30, 2020, 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 a $0.5 million (December 31, 2019 - $0.1 million) increase or decrease in loss and comprehensive loss for the three months ended December 31, 2020.

Balances in thousands of US dollars are as follows:

	December 31, 2020	March 31, 2020
	US$	US$
Cash and cash equivalents	**5,032**	135
Accounts payable and accrued liabilities	**(1,148)**	(900)
	3,884	(765)

(c) Managing Capital

The Company's objectives, when managing capital, are to safeguard cash, cash equivalents and marketable securities 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.

USE OF PROCEEDS

The following table provides an update on the anticipated use of proceeds raised in the 2020 Public Offering along with amounts actually expended. Following completion of the 2020 Public Offering, Medicenna selected MDNA11 as its lead IL-2 candidate over MDNA19 to progress to the clinic and, as such, proceeds from the 2020 Public Offering, which were initially allocated to the development of MDNA19, have been re-directed to the development of MDNA11 in the same proportions As of December 31, 2020, the following expenditures have been incurred (in thousands of Canadian dollars):

Item	Amount to Spend	Spent to Date	Adjustments	Remaining to Spend
Preclinical development	$ 3,300	$1,742	–	$ 1,558
Manufacturing of clinical batch	$ 4,400	$ 1,079	–	$ 3,321
Clinical development	$ 13,150	–	–	$ 13,150
General corporate and working capital purposes	$ 11,350	$ 4,022	–	$ 7,328
Total	**$ 32,200**	**$ 6,843**	**$ –**	**$ 25,357**

RISKS AND UNCERTAINTIES

An investment in the Company's common shares (the "Common Shares") involves a high degree of risk and should be considered speculative. An investment in the Common Shares should only be undertaken by those persons who can afford the total loss of their investment. Investors should carefully consider the risks and uncertainties set forth below, as well as other information described elsewhere in this MD&A. The risks and uncertainties below are not the only ones the Company faces. Additional risks and uncertainties not presently known to Medicenna or that Medicenna believes to be immaterial may also adversely affect Medicenna's business. If any of the following risks occur, Medicenna's business, financial condition and results of operations could be seriously harmed and you could lose all or part of your investment. Further, if Medicenna fails to meet the expectations of the public market in any given period, the market price of the Common Shares could decline. Medicenna operates in a highly competitive environment that involves significant risks and uncertainties, some of which are outside of Medicenna's control.

Please refer to our management's discussion and analysis, and annual information form for the year ended March 31, 2020 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.
- We are highly dependent upon certain key personnel and their loss could adversely affect our ability to achieve our business objective.
- The impact of the COVID-19 pandemic could severely disrupt our business, including but not limited to: interruption of key manufacturing, research, and clinical development activities, interruption of key business activities due to illness and/or quarantine of key individuals and delay with recruiting, hiring, and training new temporary or permanent replacements for such key individuals, both internally and at our third party service providers, and changes in local regulations as part of a response to the COVID-19 outbreak that may result in unexpected costs.
- 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 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 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 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 quality, cost or delivery issues with the preclinical and clinical grade materials supplied by contract manufacturers, business operations could suffer significant harm.
- Our future success is dependent primarily on the regulatory approval of a single product. MDNA55 is in the mid stages of clinical development and MDNA11 in pre-clinical development and, as a result, we will be unable to predict whether we will be able to profitably commercialize our product.
- We will be subject to extensive government regulation that will increase the cost and uncertainty associated with gaining final regulatory approval of its product candidates.
- Negative results from clinical trials or studies of third parties and adverse safety events involving the targets of our products may have an adverse impact on future commercialization efforts.
- If we are unable to enroll subjects in clinical trials, we will be unable to complete these trials on a timely basis.
- 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 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 its 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.
- Our common share price has been volatile in recent years, and may continue to be volatile.
- Future sales or issuances of equity securities or the conversion of securities into 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 the 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.
- 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 our 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.

DISCLOSURE CONTROLS AND INTERNAL CONTROL OVER FINANCIAL REPORTING

The Company has implemented a system of internal controls that it believes adequately protects the assets of the Company and is appropriate for the nature of its business and the size of its operations. The internal control system was designed to provide reasonable assurance that all transactions are accurately recorded, that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS, and that our assets are safeguarded.

These internal controls include disclosure controls and procedures designed to ensure that information required to be disclosed by the Company is accumulated and communicated as appropriate to allow timely decisions regarding required disclosure.

Internal control over financial reporting means a process designed by or under the supervision of the Chief Executive Officer and the Chief Financial Officer, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS as issued by the IASB.

The internal controls are not expected to prevent and detect all misstatements due to error or fraud. There were no changes in our internal control over financial reporting that occurred during the three months ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

As of December 31, 2020, the Company's management has assessed the effectiveness of our internal control over financial reporting and disclosure controls and procedures using the Committee of Sponsoring Organizations of the Treadway Commission's 2013 framework. Based on their evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that these controls and procedures are effective.

OTHER MD&A REQUIREMENTS

Outstanding Share Data

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

	Number
Common shares	52,902,061
Warrants	4,134,243
Stock options	4,022,584
Total	**61,058,888**

For a detailed summary of the outstanding securities convertible into, exercisable or exchangeable for voting or equity securities of Medicenna as at March 31, 2020, refer to notes 8, 9, and 10 in the Annual Financial Statements.

Additional information relating to the Company, including the Company's annual information form in respect of fiscal year 2020, is available under the Company's profile on SEDAR at www.sedar.com.