

**XORTX THERAPEUTICS INC.**  
**Management Discussion and Analysis**  
**For the year ended December 31, 2019**

This management discussion and analysis of financial position and results of operations (“MD&A”) is prepared as at April 29, 2020 and should be read in conjunction with the audited consolidated financial statements and related notes thereto of XORTX Therapeutics Inc. (the “Company” or “XORTX”) for the year ended December 31, 2019, which have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”) and interpretations of the International Financial Reporting Interpretations Committee (“IFRIC”). All dollar amounts included therein and in the following MD&A are expressed in Canadian dollars except where noted.

The Company’s critical accounting estimates, significant accounting policies and risk factors as disclosed in the Annual MD&A have remained substantially unchanged and are still applicable to the Company unless otherwise indicated.

In this discussion, unless the context requires otherwise, references to “we” or “our” are references to XORTX Therapeutics Inc.

### **Forward Looking Statements**

This MD&A contains certain statements, other than statements of historical fact that are forward-looking statements, which reflect the current view of the Company with respect to future events including corporate developments, financial performance and general economic conditions which may affect the Company.

All statements other than statements of historical fact contained in this listing statement, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

The words “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “will,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, among other things, statements about:

- our ability to obtain additional financing;
- the accuracy of our estimates regarding expenses, future revenues and capital requirements;
- the success and timing of our preclinical studies and clinical trials;
- our ability to obtain and maintain regulatory approval of XORLO and any other product candidates we may develop, and the labeling under any approval we may obtain;
- regulatory developments in the United States and other countries;
- the performance of third-party manufacturers;
- our plans to develop and commercialize our product candidates;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- the successful development of our sales and marketing capabilities;
- the potential markets for our product candidates and our ability to serve those markets;
- the rate and degree of market acceptance of any future products;

- the success of competing drugs that are or become available; and
- the loss of key scientific or management personnel.

XORTX relies on certain key expectations and assumptions in making the forecasts, projections, predictions or estimations set out in forward-looking information. These factors and assumptions are based on information available at the time that the forward-looking information is provided. These include, but are not limited to, expectations and assumptions concerning:

- the availability of capital to fund planned expenditures;
- prevailing regulatory, tax and environmental laws and regulations; and
- the ability to secure necessary personnel, equipment and services.

Undue reliance should not be placed on forward-looking information because a number of risks and factors may cause actual results to differ materially from those set out in such forward-looking information. These include:

- incorrect assessments of the value of acquisitions, licenses and development programs;
- technical, manufacturing and processing problems;
- actions by governmental authorities, including increases in taxes;
- the availability of capital on acceptable terms;
- fluctuations in foreign exchange, currency, or interest rates and stock market volatility;
- failure to realize the anticipated benefits from licenses or acquisitions;
- the other factors specifically identified as risk factors in this MD&A; and
- potential labour unrest.

Readers are cautioned that the foregoing list of factors should not be construed as exhaustive. Further information relating to risks is included in this MD&A under Risks Related to the Business.

Except as may be required by applicable law or stock exchange regulation, XORTX undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date of this document or to reflect the occurrence of unanticipated events. Accordingly, readers should not place undue reliance on forward-looking statements. If XORTX does update one or more forward-looking statements, no inference should be drawn that additional updates will be made with respect to those or other forward-looking statements. Additional information relating to the Company is available by accessing the SEDAR website at [www.sedar.com](http://www.sedar.com).

## **Business Overview**

XORTX is a bio-pharmaceutical company, dedicated to the development and commercialization of therapies to treat progressive kidney disease modulated by aberrant purine and uric acid metabolism in orphan disease indications such as autosomal dominant polycystic kidney disease and larger market type 2 diabetic nephropathy. The Company's focus is on developing two therapeutic products to slow and/or reverse the progression of kidney disease in patients at risk of end stage kidney failure and the identification of other opportunities where the Company's existing and new intellectual property can be leveraged to address health issues.

The primary development program for XORTX is at a late clinical stage and is focused on demonstrating the effectiveness and potential of a first-in-class therapy for autosomal dominant polycystic kidney disease ("ADPKD"), an orphan disease. In addition, XORTX is continues to evaluate new chemical entities for the treatment of type 2 diabetic nephropathy ("T2DN").

## Principal Products and Patents

### Products

The Company's most advanced development program, XRx-008 is at a late clinical stage program focused on demonstrating the potential of our first-in-class therapy for ADPKD. XRx-008 is the development name given to XORTX's proprietary oral formulation of Oxypurinol, and shows substantially increased bioavailability compared to Oxypurinol alone. XORTX is also developing a second oral formulation of Oxypurinol (XRx-101) for use in treating patients infected with the coronavirus COVID-19 infection and suppression of acute kidney injury and associated health consequences. (see "Future Plans and Outlook" below).

XORTX continues working with Teijin to develop, XRx-221, and with the exclusivity period having expired, the Company is also evaluating other candidate compounds for in-licensing to treat T2DN and chronic kidney disease. On March 19, 2019, the Company had entered into a non-binding letter of intent ("LOI") to co-develop TMX-049, a "next generation" xanthine oxidoreductase drug with Teijin Pharma Limited ("Teijin"). XORTX and Teijin recently co-announced positive phase 2a clinical trial results for TMX-049. The Company continues to evaluate TMX-049 and other clinical stage compounds for possible licensing relating to the T2DN indication.

### Patents

XORTX has three U.S. granted patents with claims to the use of all uric acid lowering agents to treat high blood pressure, insulin resistance or diabetic nephropathy, and four U.S. patent applications with similar claims for the treatment of metabolic syndrome, diabetes, fatty liver disease as well as a composition of matter patent for formulations of xanthine oxidase inhibitors. Counterparts for some of these patent applications have also been submitted in Europe, Japan, and other jurisdictions. Additional patents to expand and extend coverage of uric acid lowering agents are currently under preparation.

### Recent Developments

In March 2020, the outbreak of the novel strain of coronavirus, specifically identified as "COVID-19", resulted in governments worldwide enacting emergency measures to combat the spread of the virus. These measures, which include the implementation of travel bans, self-imposed quarantine periods and physical distancing, have caused material disruption to business globally resulting in an economic slowdown. Global equity markets have experienced significant volatility and weakness. The duration and impact of the COVID-19 outbreak is unknown at this time, as is the efficacy of the government and central bank interventions. It is not possible to reliably estimate the length and severity of these developments and the impact on the financial results and condition of the Company in future periods.

On March 16, 2020, XORTX announced the filing of a provisional patent application covering the potential use of XRx-101 (Oxypurinol) to treat respiratory and kidney disease injury related to patients infected with the coronavirus / COVID-19. To pursue this potential indication the Company is actively seeking the additional capital necessary to pursue this research program.

On March 2, 2020, the Company closed a first tranche of a 36,000,000 Unit Private Placement with the issuance of 18,259,427 Units for gross proceeds of \$2,556,319. Each Unit was priced at \$0.14 and comprised one common share and one common share purchase warrant exercisable at \$0.25 for a period of one year from the issuance of the Units, provided, however, that if, at any time following the expiry of the statutory four month hold period, the closing price of the common shares on the Canadian Securities

Exchange (“CSE”) is greater than \$0.35 for 10 or more consecutive trading days, the Company may notify the holder, by way of news release, that the warrants will expire on the 20th business day following the date of such notice, unless exercised by the holder before such date. The objective of this funding round is to advance ADPKD program toward a phase 3 registration trial in ADPKD, work continues on this program, In addition, current events have unfolded such that there is now a compelling opportunity to develop XRx-101 for the treatment of coronavirus / COVID-19 infection to suppress the severity of symptoms.

On March 12, 2019, XORTX announced that it had signed a non-binding LOI with Teijin for the exclusive global rights (excluding Japan) to develop TMX-049, a new generation of xanthine oxidoreductase inhibitor, for the treatment of progressive kidney disease (see “Products” above).

### **Future Plans and Outlook**

XORTX intends to grow its business by developing three programs focused on kidney disease.

First, the Company is in planning stages for the XRx-008 program to treat progressive kidney disease in individuals with ADPKD. XORTX’s primary goal is initiation of a pivotal phase 3 clinical trial in ADPKD, to demonstrate the benefit of xanthine oxidase inhibition and lowering elevated uric acid as a therapy, and then commercialize by out-licensing this program to a pharmaceutical partner company.

Second, XORTX is developing XRx-101 for coronavirus / COVID-19 infection as a therapeutic treatment to suppress virus, symptoms and protect kidneys from acute failure. This program is under early, rapid development with a target to initiate a clinical trial within the year and characterize the anti-viral, and kidney protective effects of this novel therapy.

Lastly, the Company continues to negotiate with Teijin and is also evaluating licensing of other candidate compounds for the treatment of progressive kidney disease due to type 2 diabetic nephropathy (see “Products” above).

In addition, XORTX plans to grow by expanding its knowledge and technical expertise into new therapeutic programs to treat a variety of other orphan diseases, fatty liver disease and health issues related to diabetes.

The Company will require additional capital to enable it to undertake these programs.

XORTX’s overall strategic goal is to initiate a pivotal clinical trial in the ADPKD program once sufficient funding is raised by the Company. Based upon recently published and successful phase 2 clinical pilot trials, progression of kidney disease in ADPKD and chronic kidney disease (~50% T2DN) can be slowed or perhaps stopped by decreasing uric acid levels into the mid-normal range of serum concentration. (Han et al, 2015) Recent, successful clinical trials and associated data shows the benefit of lowering uric acid levels in progressive kidney disease, Accumulating positive clinical trial results published recently in patients with chronic kidney disease and more specifically type 2 diabetic nephropathy suggest an increased probability of future clinical trial success, licensing potential and program advancement to marketing approval.

With respect to ADPKD, and over the next three years, subject to sufficient funding being available, the steps towards advancing this program are:

1. Manufacture Oxypurinol and formulation in preparation for pivotal phase 3 ‘registration’ clinical trials.

2. Complete the Investigational New Drug application (“IND”) process to advance XRx-008 and characterize bioavailability of XRx-008 in man.
3. Complete and receive ‘orphan drug designation’ for this program.
4. Submit the phase 3 pivotal trial protocol to demonstrate the effectiveness of uric acid lowering by XRx-008 in ADPKD patients and initiate the clinical trial under a special protocol assessment (SPA).
5. Complete licensing or co-development agreements for the ADPKD program within the next 24 months with pharmaceutical company partners in key markets. These agreements may include income to XORTX from upfront, milestone and royalty payments upon new drug application (“NDA”) approval.

A number of pharmaceutical companies have expressed an interest in the ADPKD program, once a phase 3 clinical trial, under SPA, is finalized or in the early stages of recruiting the phase 3 trial.

### Summary of Quarterly Results

The table below sets forth unaudited quarterly results prepared by management for the eight previous quarters to December 31, 2019:

(unaudited)	2019 Q4	2019 Q3	2019 Q2	2019 Q1
Accretion	420	415	406	397
Amortization of Intangible Assets	5,009	5,008	4,961	4,922
Foreign Exchange (gain) loss	10,126	(6,569)	5,651	17,189
Consulting	25,436	6,000	8,000	7,125
General and administrative	2,229	12,027	1,088	2,000
Interest	14,039	4,830	9,112	7,595
Investor Relations	14,707	5,346	3,385	11,344
Listing fees	8,776	10,479	14,870	8,370
Professional Fees	38,744	24,557	24,072	21,054
Research and Development	1,532	6,434	15,235	16,696
Share Based Payments	8,555	10,416	13,752	(6,406)
Travel	11,894	4,910	6,887	12,385
Wages and Benefits	48,000	48,000	48,000	50,166
Total Comprehensive Loss	189,467	131,853	155,419	152,837
Loss per Share	(0.00)	(0.00)	(0.00)	(0.00)
(unaudited)	2018 Q4	2018 Q3	2018 Q2	2018 Q1
Accretion	401	397	462	661
Amortization of Intangible Assets	4,922	4,873	4,760	4,761
Foreign Exchange loss (gain)	(27,051)	9,192	(10,239)	(14,280)
Consulting	6,000	12,720	43,569	46,575
General and administrative	5,208	2,491	479	3,506
Interest	7,011	3,262	7,673	2,431
Investor Relations	8,836	10,807	1,139	5,780
Listing fees	9,010	8,372	15,052	9,561
Professional Fees	22,414	19,593	13,050	27,837
Research and Development	20,175	137,921	121,953	62,202
Share Based Payments	8,652	18,983	24,904	222,555
Travel	4,478	30,214	3,730	14,972
Wages and Benefits	46,904	48,000	48,347	51,914
Charge related to public company listing	30,503	-	-	2,608,281
Total Comprehensive Loss	147,463	306,825	274,879	3,046,756
Loss per Share	(0.00)	(0.00)	(0.00)	(0.05)

### Three months ended December 31, 2019

The Company incurred a comprehensive loss of \$189,467 (\$0.00 per share) for the three months ended December 31, 2019 compared to \$147,463 (\$0.00 per share) in the three months ended December 31, 2018. Variances within the loss items are as follows:

*Foreign exchange gain/loss* –The Company incurred a loss of \$10,126 (2018 – gain of \$27,051) primarily relating the impact of exchange rate movement on the deposit paid in USD to Cato Research Canada Inc. (“Cato”). During the three months ended December 31, 2019 the Canadian dollar strengthened against the US dollar with the foreign exchange rate changing from 1.3243 CAD: 1 USD at September 30, 2019 to 1.2988 CAD: 1 USD at December 31, 2019. During the prior period quarter, the Canadian dollar weakened from 1.2945 CAD: 1 USD at September 30, 2018 to 1.3642 CAD: 1 USD at December 31, 2018.

*Consulting* - \$25,436 (2018 - \$6,000) – Consulting expenses increased during the three months ended December 31, 2019 due to combined billing of consultant fees.

*Investor relations*- \$14,707 (2018 - \$8,836) – Investor relations expenses increased in Q4 2019 as the Company had representatives attending conferences actively promoting investment into the Company.

*Professional fees* - \$38,744 (2018 - \$22,414). Professional fees for the year increased due to increased accounting and audit fees.

*Research and development* - \$1,532 (2018 - \$20,175) – Research and development expenses decreased during the fourth quarter of 2019 as less research work was performed.

*Travel* - \$11,894 (2018 - \$4,478) – Travel expenses increased in Q4 2019 as the Company was actively traveling to attend conferences and promoting investment into the Company.

### Selected Annual Financial Information

The financial information reported here in has been prepared in accordance with IFRS. The Company uses the Canadian dollar as its presentation currency. The following table represents selected financial information for the Company’s fiscal years 2019, 2018, and 2017.

#### Selected Statement of Operations Data

	2019	2018	2017
Revenue	\$Nil	\$Nil	\$Nil
Comprehensive loss for the year	\$629,576	\$3,775,923	\$474,201
Weighted average shares	62,919,691	61,816,018	22,343,661
Loss per share, basic and diluted	\$0.01	\$0.06	\$0.02

#### Selected Statement of Financial Position Data

	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2017
Cash and cash equivalents	\$58,614	\$260,019	\$61,939
Net working capital (deficiency)	\$(484,450)	\$79,201	\$(1,045,921)
Total assets	\$1,087,977	\$1,265,240	\$490,602
Long-term liabilities	\$Nil	\$43,255	\$35,768

## Comparison of Operations for the 2019 and 2018 Financial Years

### Results of Operations

	2019	2018	Change \$	Change %
Amortization	19,900	19,316	584	3%
Consulting	46,561	108,864	(62,303)	(57%)
General and administrative	17,344	11,684	5,660	48%
Investor relations	34,782	26,562	8,220	31%
Listing fees	42,495	41,995	500	1%
Professional fees	108,427	82,894	25,533	31%
Research and development	39,897	342,251	(302,354)	(88%)
Share-based payments	26,317	275,094	(248,777)	(90%)
Travel	36,076	53,394	(17,318)	(32%)
Wages and benefits	194,166	195,165	(999)	(1%)
Accretion	1,638	1,921	(283)	(15%)
Listing expense	-	2,638,784	(2,638,784)	(100%)
Foreign exchange gain	26,397	42,378	(15,981)	(38%)
Interest and other expenses	35,576	20,377	15,199	75%
Comprehensive Loss for the Year	629,576	3,775,923	(3,146,347)	(83%)
Loss per Share	0.01	0.06	(0.05)	(83%)

### Year ended December 31, 2019

The Company incurred a comprehensive loss of \$629,576 (\$0.01 per share) for the year ended December 31, 2019 compared to \$3,775,923 (\$0.06 per share) in the year ended December 31, 2018. This decrease in net loss is primarily related to the listing expense in 2018 from the RTO transaction with APAC Resources Inc. ("APAC") of \$2,638,784, as well curtailed operations in 2019 as the Company sought additional funding. Key aspects of results include the following:

*Consulting* - \$46,561 (2018 - \$108,864) – Consulting fees decreased year over year as the Company reduced its use of consultants during 2019 in an effort to control costs.

*Research and development* - \$39,897 (2018 - \$342,251) – Research and development expenses decreased during 2019 as less research work was performed by Cato during the period due to funding constraints.

*Share-based payments* - \$26,317 (2018 - \$275,094) – Share-based payments decreased during the year ended December 31, 2019 as there were no options granted during the 2019 year (2018 - 2,924,000 options) to directors, officers, and consultants.

*Travel* - \$36,076 (2018 - \$53,394) – Travel expenses decreased as the Company actively conserved cash during 2019.

### Comparison of cash flows for the years ended December 31, 2019 and 2018

The Company realized a net cash outflow of \$201,405 for the year ended December 31, 2019 compared to a net cash inflow of \$198,080 for the year ended December 31, 2018. The variances in the cash flow for the year ended December 31, 2019 compared to December 31, 2018 were as follows:

*Operating activities* – Cash used in operating activities for the year ended December 31, 2019 was \$249,580 (2018 - \$1,555,357). The decrease of cash used of was primarily due to the deposit paid to Cato of \$631,866 in 2018 as well as the decrease in net loss during 2019.

*Investing activities* – Cash used in investing activities for the year ended December 31, 2019 was \$7,037 (2018 - \$154,808). The cash used in the prior period was primarily due to the transaction costs of the reverse takeover transaction with APAC net of cash acquired of \$280,955, offset by the deferred transaction costs of \$167,220 that were recorded as at December 31, 2017 related to the transaction.

*Financing activities* – Cash provided by financing activities in the year ended December 31, 2019 was \$55,212 (2018 - \$1,908,245). The cash provided in the prior period was due primarily to the private placement that took place during the period raising gross proceeds of \$1,957,370 through the issuance of 3,914,740 units (the “Units”), at a price of \$0.50 per Unit.

### Liquidity and Capital Resources

As at December 31, 2019, the Company had a cash balance of \$58,614 and a working capital deficiency of \$484,450 as compared to a cash balance of \$260,019 and a working capital position of \$79,201 as at December 31, 2018. Subsequent to year end, the Company closed the first tranche of a proposed \$5 million private placement, see “Recent Developments”. The Company’s primary source of funding is by way of raising capital through the issuance of equity to third party investors. Given the nature of the Company’s low monthly expenses and that favorable repayment agreements relating to existing outstanding accounts payable, including that \$502,110 of the existing accounts payable and accrued liability balances are due to related parties, the Company believes that its current cash resources are sufficient for it to meet its existing monthly expenses, however additional funding to meet its obligations with regard to current outstanding accounts payable and for the Company to undertake its business plan will be required.

Although there is no certainty, management is of the opinion that additional funding for its projects and operations can be raised as needed. The Company is subject to a number of risks associated with the successful development of new products and their marketing and the conduct of its clinical studies and their results. The Company will have to finance its research and development activities and its clinical studies. To achieve the objectives in its business plan, the Company plans to raise the necessary capital and to generate revenues. It is anticipated that the products developed by the Company will require approval from the FDA and equivalent organizations in other countries before their sale can be authorized. If the Company is unsuccessful in obtaining adequate financing in the future, research activities will be postponed until market conditions improve. These circumstances and conditions may cast significant doubt about the Company’s ability to continue as a going concern.

### Commitments

The Company has long-term arrangements with commitments as at December 31, 2019 and December 31, 2018 as follows:

	<b>December 31 2019</b>	<b>December 31 2018</b>
	\$	\$
Management services – officers	192,000	192,000

The President and CEO of the Company has a long-term employment agreement. The agreement has a termination clause whereby he is entitled to the equivalent of 12 times his then current monthly salary which, as of December 31, 2019 equated to \$192,000.



## Off Balance Sheet Arrangements

The Company has no off balance sheet arrangements.

## Transactions with Related Parties

All related party transactions were measured at the amount of consideration established and agreed to by the related parties. All amounts due from/payable to related parties are unsecured, non-interest bearing and have no fixed terms of repayment.

During the years ended December 31, 2019 and 2018, the Company incurred the following transactions with related parties:

- a) Wages and benefits were paid or accrued to an officer of the Company in the amount of \$194,166 (2018 - \$195,165).
- b) Professional fees were paid or accrued to an officer of the Company in the amount of \$30,000 (2018 - \$18,750).
- c) Consulting fees were paid or accrued to an officer of the Company in the amount of \$nil (2018 - \$6,000).
- d) As at December 31, 2019, \$39,550 (2018 - \$6,881) was payable to an officer of the Company. The balance is unsecured, non-interest bearing, and has no fixed terms of repayment.
- e) As at December 31, 2019, \$502,110 (2018 - \$340,110) was accrued to directors, former directors, and officers of the Company. The balance is unsecured, non-interest bearing and has no fixed terms of repayments.
- f) Management compensation transactions for the years ended December 31, 2019 and 2018 are summarized as follows:

	Short-term employee benefits	Share-based payments	Total
	\$	\$	\$
Year ended December 31, 2018			
Directors and officers	219,915	160,809	380,724
Year ended December 31, 2019			
Directors and officers	<b>224,166</b>	<b>29,646</b>	<b>253,812</b>

## Changes in accounting policies – IFRS 16

The Company adopted all of the requirements of IFRS 16 *Leases* as of January 1, 2019. IFRS 16 replaces IAS 17 *Leases* ("IAS 17"). IFRS 16 provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. The Company has adopted IFRS 16 using the modified retrospective application method, where the 2018 comparatives are not restated and a cumulative catch up adjustment is recorded on January 1, 2019 for any differences identified, including adjustments to opening retained earnings balance.

The Company analyzed its contracts to identify whether they contain a lease arrangement for the application of IFRS 16. No such contracts were identified, and as a result, the adoption of IFRS 16 resulted in no impact to the opening retained earnings on January 1, 2019.

The following is the Company's new accounting policy for leases under IFRS 16:

### **Leases**

At inception of a contract, the Company assesses whether the contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Leases of right-of-use assets are recognized at the lease commencement date at the present value of the lease payments that are not paid at that date. The lease payments are discounted using the interest rate implicit in the lease, if that rate can be readily determined, and otherwise at the Company's incremental borrowing rate. At the commencement date, a right-of-use asset is measured at cost, which is comprised of the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any decommissioning and restoration costs, less any lease incentives received.

Each lease payment is allocated between repayment of the lease principal and interest. Interest on the lease liability in each period during the lease term is allocated to produce a constant periodic rate of interest on the remaining balance of the lease liability. Except where the costs are included in the carrying amount of another asset, the Company recognizes in profit or loss (a) the interest on a lease liability and (b) variable lease payments not included in the measurement of a lease liability in the period in which the event or condition that triggers those payments occurs. The Company subsequently measures a right-of-use asset at cost less any accumulated depreciation and any accumulated impairment losses; and adjusted for any remeasurement of the lease liability. Right-of-use assets are depreciated over the shorter of the asset's useful life and the lease term, except where the lease contains a bargain purchase option a right-of-use asset is depreciated over the asset's useful life.

### **Financial and Capital Risk Management**

The Company's financial instruments consist of cash, accounts payable and accrued liabilities, and the liability component on convertible loans. These financial instruments are classified as financial assets at FVTPL and financial liabilities at amortized cost. The fair values of these financial instruments approximate their carrying values at December 31, 2019, due to their short-term nature.

The following table presents the Company's financial instruments, measured at fair value on the consolidated statements of financial position as at December 31, 2019 and 2018 and categorized into levels of the fair value hierarchy:

	Level	December 31, 2019		December 31, 2018	
		Carrying Value	Estimated Fair Value *	Carrying Value	Estimated Fair Value *
		\$	\$	\$	\$
<b>FVTPL</b>					
Cash	1	58,614	58,614	260,019	260,019
Funds held in trust	1	70,000	70,000	-	-
<b>Other financial liabilities</b>					
Accounts payable and accrued liabilities	2	1,151,475	1,151,475	798,132	798,132
Liability component on convertible loans	2	50,813	50,813	43,255	43,255

\* Fair value approximates the carrying amounts due to the short-term nature.

There were no transfers for levels of change in the fair value measurements of financial instruments for the years ended December 31, 2019 and 2018.

Risk management is carried out by the Company's management team with guidance from the Board of Directors. The Company's risk exposures and their impact on the Company's financial instruments were as follows:

#### a) Credit risk

Credit risk is the risk of financial loss to the Company if a customer of counterparty to a financial instrument fails to meet its obligations. The Company's maximum exposure to credit risk at the financial position date under its financial instruments is summarized as follows:

	December 31, 2019	December 31, 2018
	\$	\$
Cash	58,614	260,019
Funds held in trust	70,000	-

All of the Company's cash is held with major financial institutions in Canada and management believes the exposure to credit risk with such institutions is minimal. The Company considers the risk of material loss to be significantly mitigated due to the financial strength of the major financial institutions where cash is held. Funds held in trust consist of cash held in trust by the Company's lawyer, received by the Company during the year in connection with the private placement closed on March 2, 2020. The Company's maximum exposure to credit risk as at December 31, 2019 and 2018 is the carrying value of its financial assets.

#### b) Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its obligations associated with financial liabilities. The Company has a planning and budgeting process in place by which it anticipates and determines the funds required to support normal operation requirements as well as the growth and development of its intellectual property portfolio.

The Company's financial assets are comprised of its cash and funds held in trust, and the financial liabilities are comprised of its accounts payable and accrued liabilities, and the liability component on convertible loans.

The contractual maturities of these financial liabilities as at December 31, 2019 and 2018 are summarized below:

<b>Payments due by period as of December 31, 2019</b>				
	<b>Total</b>	<b>Less than 3 months</b>	<b>Between 3 months and 1 year</b>	<b>1-3 years</b>
	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
Accounts payable and accrued liabilities	1,151,475	1,151,475	-	-
Liability component on convertible loans	50,813	50,813	-	-
	1,202,288	1,202,288	-	-

<b>Payments due by period as of December 31, 2018</b>				
	<b>Total</b>	<b>Less than 3 months</b>	<b>Between 3 months and 1 year</b>	<b>1-3 years</b>
	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
Accounts payable and accrued liabilities	798,132	798,132	-	-
Liability component on convertible loans	43,255	43,255	-	-
	841,387	841,387	-	-

**c) Market risk**

**i) Interest Rate Risk**

Interest rate risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate due to changes in market interest rates. The Company's bank accounts bear interest. Management believes that the credit risk concentration with respect to financial instruments included in cash is minimal.

**ii) Foreign Currency Risk**

The Company is exposed to foreign exchange risk on its US\$75,000 provision for patent acquisition, US\$ 505,331 deposit, US\$30,375 accounts payable balances, and US\$539 cash account. Based on the foreign exchange exposure arising from the above, varying the foreign exchange rate to reflect a 10% appreciation or depreciation of the Canadian dollar against the U.S. dollar would result in an increase/decrease of approximately \$61,000 (2018 - \$40,000) in the Company's loss from operations.

## Capital Management

The Company defines capital that it manages as equity. The Company manages its capital structure in order to have funds available to support its research and development and sustain the future development of the business. When managing capital, the Company's objective is to ensure the entity continues as a going concern as well as to maintain optimal returns to shareholders and benefits for other stakeholders. Management adjusts the capital structure as necessary in order to support its activities.

The Company includes the following items in its managed capital as at the following periods:

<b>Equity is comprised of:</b>	<b>December 31 2019</b>	<b>December 31 2018</b>
	<b>\$</b>	<b>\$</b>
Share capital	5,863,872	5,863,872
Share-based payments and warrants reserve	607,803	581,486
Share subscriptions received in advance	70,000	-
Equity component on convertible loans	5,202	5,202
Deficit	(6,758,598)	(6,129,022)

Since inception, the Company's objective in managing capital is to ensure sufficient liquidity to finance its research and development activities, general and administrative expenses, expenses associated with intellectual property protection and its overall capital expenditures. The Company is not exposed to external requirements by regulatory agencies regarding its capital.

## Outstanding Share Data

As at April 29, 2020, the Company had the following shares outstanding:

- Class	Class A Common Shares
- Authorized	Unlimited, without par value
- Issued and outstanding	81,179,118

## Options Outstanding:

The following table summarizes information on stock options outstanding at April 29, 2020:

<b>Exercise Price</b>	<b>Number Outstanding</b>	<b>Expiry Date</b>
\$0.50	1,750,000	March 19, 2023
\$0.50	150,000	October 9, 2023
\$0.50	250,000	November 5, 2023

## Warrants Outstanding:

The following table summarizes information on outstanding warrants as at April 29, 2020:

<b>Exercise Price</b>	<b>Number Outstanding</b>	<b>Expiry date</b>
\$0.25	18,259,427	January 31, 2021
\$0.14	139,657	January 31, 2021

## **Risks Related to the Business**

An investment in the Company is speculative and involves a high degree of risk. Accordingly, prospective investors should carefully consider the specific risk factors set out below, in addition to the other information contained in this MD&A, before making any decision to invest in the Company. The Directors consider the following risks and other factors to be the most significant for potential investors in the Company, but the risks listed do not necessarily comprise all those associated with an investment in the Company and are not set out in any particular order of priority. Additional risks and uncertainties not currently known to the Directors may also have an adverse effect on the Company's business. If any of the following risks actually occur, the Company's business, financial condition, capital resources, results or future operations could be materially adversely affected. In such a case, the price of the common shares could decline, and investors may lose all or part of their investment.

### **Speculative Nature of Investment Risk**

An investment in the common shares of the Company carries a high degree of risk and should be considered as a speculative investment by purchasers. The Company has limited cash reserves, a limited operating history, has not paid dividends, and is unlikely to pay dividends in the immediate or near future. The Company is in the development stage. Operations are not yet sufficiently established such that the Company can mitigate the risks associated with planned activities.

### **Limited Operating History**

The Company has no present prospect of generating revenue from the sale of products. The Company is therefore subject to many of the risks common to early-stage enterprises, including under-capitalization, cash shortages, limitations with respect to personnel, financial, and other resources and lack of revenues. There is no assurance that the Company will be successful in achieving a return on shareholders' investment and the likelihood of success must be considered in light of the early stage of operations.

### **Negative Cash Flow for the Foreseeable Future**

The Company has a no history of earnings or cash flow from operations. The Company does not expect to generate material revenue or achieve self-sustaining operations for several years, if at all. To the extent that the Company has negative cash flow in future periods, the Company may need to allocate a portion of its cash reserves to fund such negative cash flow.

### **Access to Further Funding**

Funding continues to be difficult to access and the ability of the Company to continue as a going concern, realize its assets and discharge its liabilities in the normal course of business and continue with, or expand upon its development programs is contingent upon securing additional financing. The timing and availability of additional financing will be determined largely by market conditions, legal restrictions, and the results of the Company's ongoing programs. There is no certainty that the Company will be able to raise funds as they are required in the future. The Company's consolidated financial statements do not give effect to adjustments that would be necessary to the carrying values and classification of assets, liabilities and reported expenses should the Company be unable to continue as a going concern. These adjustments could be material.

## **Reliance on Management**

The success of the Company is dependent upon the ability, expertise, judgment, discretion and good faith of its management. While employment agreements are customarily used as a primary method of retaining the services of key employees, these agreements cannot assure the continued services of such employees. Any loss of the services of such individuals could have a material adverse effect on the Company's business, operating results or financial condition.

## **Clinical trials for potential drug candidates will be expensive and time consuming, and their outcomes uncertain.**

Before the Company can obtain regulatory approval for the commercial sale of any drug candidate or attract major pharmaceutical companies with which collaborate, it will be required to complete extensive clinical trials to demonstrate safety and efficacy. Clinical trials are expensive and are difficult to design and implement. The clinical trial process is also time-consuming and can often be subject to unexpected delays.

The timing and completion of clinical trials may be subject to significant delays relating to various causes, including but not limited to: inability to manufacture or obtain sufficient quantities of materials for use in clinical trials; licensing or import/export restrictions for cannabinoid-based pharmaceuticals; delays arising from collaborative partnerships; delays in obtaining regulatory approvals to commence a study, or government intervention to suspend or terminate a study; delays, suspensions or termination of clinical trials by the applicable institutional review board or independent ethics board responsible for overseeing the study to protect research subjects; delays in identifying and reaching agreement on acceptable terms with prospective clinical trial sites; slow rates of patient recruitment and enrollment; uncertain dosing issues; inability or unwillingness of medical investigators to follow clinical protocols; variability in the number and types of subjects available for each study and resulting difficulties in identifying and enrolling subjects who meet trial eligibility criteria; scheduling conflicts; difficulty in maintaining contact with subjects after treatment, resulting in incomplete data; unforeseen safety issues or side effects; lack of efficacy during clinical trials; reliance on clinical research organizations to conduct clinical trials, which may not conduct such trials with good laboratory practices; or other regulatory delays.

## **Risks Related to Food and Drug Administration (FDA) Approval**

In the United States, the FDA regulates the approval of therapeutics and the FDA notification and approval process requires substantial time, effort and financial resources, and the Company cannot be certain that any approvals for its products will be granted on a timely basis, if at all.

Foreign jurisdictions have similar government regulatory bodies and requirements that the Company must meet prior to selling products in those jurisdictions.

The Company must be considered in light of the risks, expenses, shifts, changes and difficulties frequently encountered with companies whose businesses are regulated by various federal, state and local governments. The health care, wellness, workers' compensation and similar companies are subject to a variety of regulatory requirements and the regulatory environment is ever changing particularly with recent legislation, the full impact of which is not yet understood as regulations have not been issued. Failure to follow applicable regulatory requirements will have a materially negative impact on the business of the Company. Furthermore, future changes in legislation cannot be predicted and could irreparably harm the business of the Company.

## **Intellectual Property Rights**

The Company could be adversely affected if it does not adequately protect its intellectual property rights. The Company regards its marks, rights, and trade secrets and other intellectual property rights as critical to its success. To protect its investments and the Company's rights in these various intellectual properties, it may rely on a combination of patents, trademark and copyright law, trade secret protection and confidentiality agreements and other contractual arrangements with its employees, clients, strategic partners, acquisition targets and others to protect proprietary rights. There can be no assurance that the steps taken by the Company to protect proprietary rights will be adequate or that third parties will not infringe or misappropriate the Company's copyrights, trademarks and similar proprietary rights, or that the Company will be able to detect unauthorized use and take appropriate steps to enforce rights. In addition, although the Company believes that its proprietary rights do not infringe on the intellectual property rights of others, there can be no assurance that other parties will not assert infringement claims against the Company. Such claims, even if not meritorious, could result in the expenditure of significant financial and managerial resources.

The Company will rely on trade secrets to protect technology where it does not believe patent protection is appropriate or obtainable. Trade secrets are difficult to protect. While commercially reasonable efforts to protect trade secrets will be used, strategic partners, employees, consultants, contractors or scientific and other advisors may unintentionally or willfully disclose information to competitors.

If the Company is not able to defend patents or trade secrets, then it will not be able to exclude competitors from developing or marketing competing products, and the Company may not generate enough revenue from product sales to justify the cost of development of products and to achieve or maintain profitability.

### **The results of preclinical studies or initial clinical trials are not necessarily predictive of future favorable results.**

Preclinical tests and initial clinical trials are primarily designed to test safety and to understand the side effects of drug candidates and to explore efficacy at various doses and schedules. Success in preclinical or animal studies and early clinical trials does not ensure that later large-scale efficacy trials will be successful nor does it predict final results. Favorable results in early trials may not be repeated in later ones.

### **Difficulty to Forecast**

The Company must rely largely on its own market research to forecast sales as detailed forecasts are not generally obtainable from other sources at this early stage of the industry. A failure in the demand for its products to materialize as a result of competition, technological change or other factors could have a material adverse effect on the business, results of operations and financial condition of the Company.

### **Litigation**

The Company may become party to litigation from time to time in the ordinary course of business which could adversely affect its business. Should any litigation in which the Company becomes involved be determined against the Company such a decision could adversely affect the Company's ability to continue operating and the market price for the Company's common shares. Even if the Company is involved in litigation and wins, litigation can redirect significant company resources.



Commercial success of the Company will depend in part on not infringing upon the patents and proprietary rights of other parties and enforcing its own patents and proprietary rights against others. The research and development programs will be in highly competitive fields in which numerous third parties have issued patents and pending patent applications with claims closely related to the subject matter of the Company's programs. The Company is not currently aware of any litigation or other proceedings or claims by third parties that its technologies or methods infringe on their intellectual property.

While it is the practice of the Company to undertake pre-filing searches and analyses of developing technologies, it cannot guarantee that it has identified every patent or patent application that may be relevant to the research, development, or commercialization of its products. Moreover, it cannot assure that third parties will not assert valid, erroneous, or frivolous patent infringement claims.

### **Uninsurable Risks**

The business of the Company may not be insurable or the insurance may not be purchased due to high cost. Should such liabilities arise, they could reduce or eliminate any future profitability and result in increasing costs and a decline in the value of the Company.

### **The market price of the Company's common shares may be subject to wide price fluctuations.**

The market price of the Company's common shares may be subject to wide fluctuations in response to many factors, including variations in the operating results of the Company and its subsidiaries, divergence in financial results from analysts' expectations, changes in earnings estimates by stock market analysts, changes in the business prospects for the Company and its subsidiaries, general economic conditions, legislative changes, and other events and factors outside of the Company's control. In addition, stock markets have from time to time experienced extreme price and volume fluctuations, which, as well as general economic and political conditions, could adversely affect the market price for the Company's common shares.

### **Dividends**

The Company has no earnings or dividend record, and does not anticipate paying any dividends on the common shares in the foreseeable future.

### **Dilution**

The financial risk of the Company's future activities will be borne to a significant degree by purchasers of the common shares. If the Company issues common shares from its treasury for financing purposes, control of the Company may change and purchasers may suffer additional dilution.

### **Rapid Technological Change**

The business of the Company is subject to rapid technological changes. Failure to keep up with such changes may adversely affect the business of the Company. The Company is subject to the risks of companies operating in the medical and healthcare business. The market in which the Company competes is characterized by rapidly changing technology, evolving industry standards, frequent new service and product announcements, introductions and enhancements and changing customer demands. As a result, an investment in the stocks of the Company is highly speculative and is only suitable for investors who recognize the high risks involved and can afford a total loss of investment.

## **Risks Associated with Acquisitions**

If appropriate opportunities present themselves, the Company may acquire businesses, technologies, services or products that the Company believes are strategic. The Company currently has no understandings, commitments or agreements with respect to any other material acquisition and no other material acquisition is currently being pursued. There can be no assurance that the Company will be able to identify, negotiate or finance future acquisitions successfully, or to integrate such acquisitions with its current business. The process of integrating an acquired business, technology, service or product into the Company may result in unforeseen operating difficulties and expenditures and may absorb significant management attention that would otherwise be available for ongoing development of the Company's business. Future acquisitions could result in potentially dilutive issuances of equity securities, the incurrence of debt, contingent liabilities and/or amortization expenses related to goodwill and other intangible assets, which could materially adversely affect the Company's business, results of operations and financial condition. Any such future acquisitions of other businesses, technologies, services or products might require the Company to obtain additional equity or debt financing, which might not be available on terms favourable to the Company, or at all, and such financing, if available, might be dilutive.

## **Economic Environment**

The Company's operations could be affected by the economic context should the unemployment level, interest rates or inflation reach levels that influence consumer trends and consequently, impact the Company's future sales and profitability.

## **Global Economy Risk**

The ongoing economic problems and downturn of global capital markets has generally made the raising of capital by equity or debt financing more difficult. Access to financing has been negatively impacted by the ongoing global economic risks. As such, the Company is subject to liquidity risks in meeting its development and future operating cost requirements in instances where cash positions are unable to be maintained or appropriate financing is unavailable. These factors may impact the Company's ability to raise equity or obtain loans and other credit facilities in the future and on terms favourable to the Company. If uncertain market conditions persist, the Company's ability to raise capital could be jeopardized, which could have an adverse impact on the Company's operations and the trading price of the Company's Shares on the stock exchange.

## **Going-Concern Risk**

The Company's future operations are dependent upon the identification and successful completion of equity or debt financing and the achievement of profitable operations at an indeterminate time in the future. There can be no assurances that the Company will be successful in completing an equity or debt financing or in achieving profitability.

## **Financial Risk Exposures**

The Company may have financial risk exposure to varying degrees relating to the currency of each of the countries where it operates and has financial risk exposure towards digital currencies. The level of the financial risk exposure related to a currency and exchange rate fluctuations will depend on the Company's ability to hedge such risk or use another protection mechanism.

### **Attracting and keeping senior management and key scientific personnel**

The success of the Company depends on the continued ability to attract, retain, and motivate highly qualified management, clinical, and scientific personnel and to develop and maintain important relationships with leading academic institutions, companies, and thought leaders. Allen Davidoff, the Company's Chief Executive Officer and Director, exercises significant control over the day to day affairs of the Company. The Company depends on Dr. Davidoff to engage with third parties and contractors to operate the business. If Dr. Davidoff were to leave the Company or were otherwise unable to perform his duties, the Company's business may fail and shareholders may lose their investment.

### **Management's Responsibility for Financial Statements**

The Company's management is responsible for presentation and preparation of the financial statements and the MD&A. The MD&A have been prepared in accordance with the requirements of securities regulators, including National Instrument 51-102 of the Canadian Securities Administrators.

The financial statements and information in the MD&A necessarily include amounts based on informed judgments and estimates of the expected effects of current events and transactions with appropriate consideration to materiality. In addition, in preparing the financial information, we must interpret the requirements described above, make determinations as to the relevancy of information included, and make estimates and assumptions that affect reported information. The MD&A also includes information regarding the impact of current transactions and events, sources of liquidity and capital resources, operating trends, risks and uncertainties. Actual results in the future may differ materially from our present assessment of this information because future events and circumstances may not occur as anticipated.