



**NanoSphere Health Sciences Inc.**

**Management's Discussion & Analysis**

**For the year ended December 31, 2021**

**NANOSPHERE HEALTH SCIENCES INC. Form 51-102F1**  
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*The following Management Discussion and Analysis (“MD&A”) of NanoSphere Health Sciences Inc. (the “Company” or “NanoSphere Health Sciences” or “NanoSphere”) should be read in conjunction with the consolidated financial statements of the Company for the year ended December 31, 2021 which have been prepared in accordance with the International Financial Reporting Standards (“IFRS”). This MD&A includes certain statements that may be deemed “forward looking statements”. All statements in this MD&A, other than statements of historical fact, that address future exploration activities and events or developments that the Company expects, are forward looking statements. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in the forward-looking statements. Additional information can be found on SEDAR at [www.sedar.com](http://www.sedar.com). This MD&A is dated as of April 25, 2022.*

**DESCRIPTION OF THE COMPANY**

NanoSphere Health Sciences is a biotechnology firm that created a patented NanoSphere Deliver System, a revolutionary platform using nanotechnology in the biodelivery of supplements, nutraceuticals and over-the-counter medications for the cannabis, pharmaceutical and animal health industries, and beyond. NanoSphere Delivery System represents one of the most important developments for advancing the non-invasive and user-friendly delivery of biological agents in over 25 years. The Company trades on the Canadian Securities Exchange under the symbol ‘NSHS’.

**Company Updates and Highlights**

- completed a non-brokered private placement by issuing 1,231,578 units at CAD\$0.19 per unit for gross proceeds of \$190,570 (CAD\$234,000). Each unit consisted of one common share and one share purchase warrant entitling the holder to purchase one half common share at a price of CAD\$0.35 per common share for a period of two years from the date of issue and is subject to certain acceleration provision. Pursuant to the offering, the Company incurred share issuance costs of \$8,144 (CAD\$10,000).
- and issued 3,625,876 common shares valued at CAD\$0.19 per unit to settle outstanding liabilities of \$547,097 (CAD\$688,916).

**Selected Annual Financial Information**

The following table provides a brief summary of the Company’s financial operations. For more detailed information, refer to the consolidated financial statements.

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	December 31, 2021	December 31, 2020	December 31, 2019
<b>Financial results</b>			
Total revenue	\$ Nil	\$ Nil	\$ 218,034
Loss for the year	\$ 356,270	\$ 591,220	\$ 3,468,744
Basic and diluted loss per share	\$ 0.05	\$ 0.11	\$ 0.03
<b>Balance sheet data</b>			
Current assets	\$ 132,514	\$ 15,739	\$ 139,639
Non-current assets	\$ -	\$ 39,450	\$ 194,083
Total assets	\$ 132,514	\$ 55,189	\$ 333,722
Current liabilities	\$ 1,207,992	\$ 1,508,980	\$ 1,213,753
Shareholders' equity (deficiency)	\$ (1,075,478)	\$ (1,453,791)	\$ (919,494)

The net loss for the year ended December 31, 2021 was primarily attributable to consulting fee, professional fees and research and development costs.

**Results of Operations for the year ended December 31, 2021 compared to 2020**

The net loss for the year decreased to \$356,270 (2020 – \$591,220). Individual items contributing to the net loss:

- Investor relation and marketing decreased to \$1,050 (2020 - \$2,785). The decrease in investor relation is a result of management initiatives to reduce overall expenditure to conserve working capital.
- Salaries and consulting fee decreased \$149,665 (2020 - \$224,515) as the Company reduced and suspended management fees.
- Professional fee decreased to \$116,621 (2020 - \$189,865). The company incurred less legal expense during the year.
- Research and development costs increased to \$59,531 (2020- \$Nil) due to application fees on Patents.
- Regulatory and filing fee increased to \$29,927 (2020 - \$19,308). The increase was primarily due to the Company consolidation of its shares during the year.

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**Summary of Quarterly Results**

	December 30, 2021	September 30, 2021	June 30, 2021	March 31, 2021
Total assets	\$ 132,514	\$ 150,952	\$ 7,167	\$ 30,780
Working capital (deficiency)	(1,075,478)	(1,008,016)	(1,659,252)	(1,532,910)
Net loss	187,500	(349,839)	(127,300)	(66,631)
Net loss per share	(0.01)	(0.06)	(0.02)	(0.01)
	December 31, 2020	September 30, 2020	June 30, 2020	March 31, 2020
Total assets	\$ 55,189	\$ 131,958	\$ 164,126	\$ 246,590
Working capital	(1,493,241)	(1,375,161)	(1,337,973)	(1,245,183)
Net loss	(179,463)	(64,831)	(111,642)	(96,430)
Net loss per share	(0.03)	(0.01)	(0.02)	(0.02)

**Results of Operations for the three-month period ended December 31, 2021 compared to 2020**

The Company has a gain of \$187,500 (2020 – loss of \$179,463). Individual items contributing to the net gain:

- Professional fees decreased to \$35,478 (2020 - \$72,341) due to reduced legal fees during the period.
- Management and consulting decreased to \$35,478 (2020 - \$37,715) and was considered comparable period over period.

**Cash flows for the year ended December 31, 2021 compared to 2020**

- The Company does not generate cash from operating activities. Net cash used by the Company for operating activities for the year ended December 31, 2021 was \$64,680 (2020 - \$47,257).
- The Company received proceeds of \$182,426 (2020 - \$34,269), comprised of \$190,570 from issuance of common shares, less share issuance costs of \$8,144. In the prior year, the Company received \$34,269 net short term loan.

**LIQUIDITY AND CAPITAL RESOURCES**

The Company has no significant revenues to date. In order to manage risk, the Company closely monitors its cash requirements and expenditures. At December 31, 2021 and 2020, the Company's working capital and deficit were as follows:

	December 31, 2021	December 31, 2020
Working capital deficit	\$ (1,075,478)	\$ (1,493,241)
Deficit	(21,036,956)	(20,680,686)

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As at December 31, 2021, the Company has a working capital deficit of \$1,075,478. Management is actively reviewing financing opportunities in order to meet working capital requirements for the current fiscal period.

**BASIS OF PRESENTATION - INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS)**

The annual consolidated financial statements of the Company comply with IFRS as issued by the International Accounting Standards Board (“IASB”) and interpretations of the International Financial Reporting Interpretations Committee (“IFRIC”). The consolidated financial statements of the Company have been prepared on an accrual basis and are based on historical costs, modified where applicable. The consolidated financial statements are presented in US dollars unless otherwise noted.

**RELATED PARTY TRANSACTIONS**

The consolidated financial statements include the financial statements of NanoSphere Health Sciences Inc. and its 100% owned subsidiaries.

**Key management compensation**

Key management personnel comprise the interim Chief Executive officer, interim Chief Financial Officer, and directors.

During the year ended December 31, 2021, the Company paid or accrued the following to key management personnel:

- a) Management, salaries, and consulting fees of \$99,000 (2020 - \$182,062) of which \$24,000 was accrued to an independent director and \$75,000 was accrued to a company controlled by the interim CFO;
- b) Professional fees of \$69,020 was accrued to a legal firm controlled by a director of the Company (2020 - \$106,456); and
- c) Share-based compensation of \$4,272 (2020 - \$65,405) to the officers and directors of the Company.

Included in accounts payable and accrued liabilities is \$364,680 (December 31, 2020 - \$672,155) due to directors, officers, and companies controlled by directors and officers of the Company that is non-interest bearing and due on demand. During the year ended December 31, 2021, the Company settled an aggregate of \$196,484 in accounts payable and accrued liabilities to an officer and a director through the issuance of 1,302,914 common shares valued at \$196,484.

As at December 31, 2021, the Company had short term loans of \$nil (2020 - \$34,269). The loans were settled via shares for debt issuance during the year.

## **CRITICAL ACCOUNTING ESTIMATES**

### *Critical accounting estimates*

Management is required to make certain estimates, judgments and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported expenses during the period. Actual results could differ from these estimates.

Significant assumptions about the future and other sources of estimation and judgement uncertainty that management has made at the end of the reporting period, that could result in a material adjustment to the carrying amounts of assets and liabilities in the event that actual results differ from assumptions made, relate to:

#### **I. Going concern**

The Company's consolidated financial statements have been prepared with the assumption that the Company will be able to realize its assets and discharge its liabilities in the normal course of business rather than through a process of forced liquidation. Ongoing operations of the Company are dependent upon its ability to receive continued financial support, complete public equity financings, or generate profitable operations in the future. The Company incurred a loss of \$356,270 during the year ended December 31, 2021 and as of that date, the Company's had an accumulated deficit of \$21,036,956. Management is actively targeting sources of additional financing which would assure the continuation of the Company's operations. The Company anticipates the need to raise additional funds within the next 12 months to pay operational costs and fund any investing activities. To the extent financing is not available, lease payments, rental payments, and other payments may not be satisfied and could result in a loss of earning opportunities for the Company. These material uncertainties may cast significant doubt upon the Company's ability to continue as a going concern.

In March 2020 the World Health Organization declared coronavirus COVID-19 a global pandemic. This contagious disease outbreak and any related adverse public health developments may adversely affect workforces, economies, and financial markets globally, potentially leading to an economic downturn. It is not possible for the Company to predict the duration or magnitude of the adverse results of the outbreak and its effects on the Company's business or results of operations at this time.

#### **II. Loans and receivables**

Loans and receivables are financial assets with fixed or determinable payments that are not quoted in an active market. After initial recognition, loans and receivables are measured at amortized cost using the effective interest rate method, less any impairment losses. The carrying amount is reduced through the use of an allowance account. When an amount receivable is considered uncollectible, it is written off against the allowance account. Subsequent

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recoveries of amounts previously written off are credited against the allowance account. Changes in the carrying amount of the allowance are recognized in profit or loss.

**RISKS AND UNCERTAINTIES**

This section discusses factors relating to the business of Company that should be considered by both existing and potential investors. The information in this section is intended to serve as an overview and should not be considered comprehensive and the Company may face risks and uncertainties not discussed in this section, or not currently known to us, or that we deem to be immaterial. All risks to the Company's business have the potential to influence its operations in a materially adverse manner.

The following sets out the principal risks (non-inclusive) faced by the Company.

**Financing risks.** The Company will be dependent upon the capital markets to raise additional financing in the upcoming months, while it maintains essential operations and furthers the research, science and product development that will underpin the commercialization of our technology and future products. 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 impact the Company's ability to raise equity or obtain loans and other credit facilities in the future and on terms favorable to the Company and its management. 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 Exchange.

**Share Price Volatility and Price Fluctuations.** The market price for the Common Shares of the Company could be subject to wide fluctuations. Factors such as commodity prices, government regulation, interest rates, share price movements of peer companies and competitors, as well as overall market movements, may have a significant impact on the market price of the Company. The stock market has from time to time experienced extreme price and volume fluctuations, which have often been unrelated to the operating performance of particular companies.

**Key personnel risks.** The Company's business development efforts are dependent to a large degree on the skills and experience of certain of its key personnel. The Company does not maintain "key man" insurance policies on these individuals. Should the availability of these persons' skills and experience be in any way reduced or curtailed, this could have a material adverse outcome on the Company and its securities.

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**Collection of revenue risk.** The Company recorded licensing revenue but to date has not received payment. The Company has assessed the collectability of revenue and determined that the Colorado licensee revenues are at high risk for not being paid. Should revenue not be collected, it could be reserved in subsequent filings.

**History of Net Losses; Accumulated Deficit; Lack of Revenue from Operations.** The Company has incurred net losses to date. Its deficit as of December 31, 2021 was \$21,036,956. The Company does not have a strong history of sales operations and there is no assurance that it will produce revenue, operate profitably or provide a return on investment in the future.

**Uninsurable risks.** The Company may be subject to liability for risks against which it cannot insure or against which the Company may elect not to insure due to the high cost of insurance premiums or other factors. The payment of any such liabilities would reduce the funds available for the Company's normal business activities. Payment of liabilities for which the Company does not carry insurance may have a material adverse effect on the Company's financial position and operations.

**Change in Law, Regulations and Guidelines.** The Company's business is subject to a variety of laws, regulations and guidelines relating to marketing, acquisition, manufacture, management, transportation, storage, sale and disposal of medical marijuana but also laws and regulations relating to health and safety, the conduct of operations and the protection of the environment. Changes to such laws, regulations and guidelines may cause adverse effects to the Company's operations. On February 24, 2016, the Federal Court released its decision in the case of *Allard et al v. Canada*, declaring that the Marijuana for Medical Purposes Regulations ("MMPR"), as it was drafted, was unconstitutional in violation of the plaintiffs' rights under section 7 of the Charter of Rights and Freedoms. On August 24, 2016, the Access to Cannabis for Medical Purposes Regulations ("ACMPR") came into force, replacing the MMPR as the regulations governing Canada's medical cannabis regime which permits patients to produce a limited amount of cannabis for their own medical purposes or to designate a person to produce a limited amount of cannabis. The ACMPR could potentially decrease the size of the market for the Company's business, and potentially materially and adversely affect the Company's business, its results of operations and financial condition.

**Unfavourable Publicity or Consumer Perception.** The success of the medical marijuana industry may be significantly influenced by the public's perception of marijuana's medicinal applications. Medical marijuana is a controversial topic, and there is no guarantee that future scientific research, publicity, regulations, medical opinion and public opinion relating to medical marijuana will be favourable. The medical marijuana industry is an early-stage business that is constantly evolving with no guarantee of viability. The market for medical marijuana is uncertain, and any adverse or negative publicity, scientific research, limiting regulations, medical opinion and public opinion relating to the consumption of medical marijuana may have a material adverse effect on our operational results, consumer base and financial results.

**Political and Economic Instability.** The Company may be affected by possible political or economic instability. The risks include, but are not limited to, terrorism, military repression, extreme fluctuations in currency exchange rates and high rates



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of inflation. Changes in medicine and agriculture development or investment policies or shifts in political attitude in certain countries may adversely affect the Company's business. Operations may be affected in varying degrees by government regulations with respect to restrictions on production, distribution, price controls, export controls, income taxes, expropriation of property, maintenance of assets, environmental legislation, land use, land claims of local people and water use. The effect of these factors cannot be accurately predicted.

**FINANCIAL INSTRUMENTS AND RISK MANAGEMENT**

Financial instruments measured at fair value are classified into one of three levels in the fair value hierarchy according to the relative reliability of the inputs used to estimate the fair values. The three levels of the fair value hierarchy are:

Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities;

Level 2: Inputs other than quoted prices that are observable for the asset or liability either directly or indirectly; and

Level 3: Inputs that are not based on observable market data.

The fair value of the Company's receivables, accounts payable and accrued liabilities, approximate carrying value, which is the amount recorded on the consolidated statement of financial position. Cash and receivables, under the fair value hierarchy are based on level one quoted prices in active markets for identical assets or liabilities.

The Company is exposed in varying degrees to a variety of financial instrument related risks. The Board of Directors approves and monitors the risk management processes, inclusive of documented investment policies, counterparty limits, and controlling and reporting structures. The type of risk exposure and the way in which such exposure is managed is provided as follows:

***Credit risk***

Credit risk is the risk of potential loss to the Company if the counterparty to a financial instrument fails to meet its contractual obligations. The Company's credit risk is primarily attributable to its liquid financial assets including cash and receivables. The Company limits exposure to credit risk on liquid financial assets through maintaining its cash with high-credit quality financial institutions.

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***Liquidity risk***

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company has a planning and budgeting process in place to help determine the funds required to support the Company's normal operating requirements on an ongoing basis.

Historically, the Company's sole source of funding has been the issuance of equity securities for cash, primarily through private placements. The Company's access to financing is always uncertain. There can be no assurance of continued access to significant equity funding.

All of the contractual maturities of the Company's non-derivative financial liabilities are within one year of the financial statement end date.

***Market risk***

Market risk is the risk of loss that may arise from changes in market factors such as interest rates, foreign exchange rates, and commodity and equity prices.

**a) Interest rate risk**

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

The risk that the Company will realize a loss as a result of a decline in the fair value of the short-term investments included in cash is minimal.

**b) Foreign currency risk**

The Company's foreign exchange risk arises from transactions denominated in other currencies. Through this, the Company is exposed to foreign currency risk on fluctuations related to cash, receivables, accounts payable and accrued liabilities that are denominated in United States Dollar and Canadian Dollars. The Company does not use derivative instruments to reduce its exposure to foreign currency risk nor has it entered into foreign exchange contracts to hedge against gains or losses from foreign exchange fluctuations. A 10% change in the foreign exchange rate would result in a \$20,058 (Canadian dollar equivalent) change in profit or loss.

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c) **Price risk**

The Company is exposed to price risk with respect to commodity and equity prices. Equity price risk is defined as the potential adverse impact on the Company's earnings due to movements in individual equity prices or general movements in the level of the stock market. Commodity price risk is defined as the potential adverse impact on earnings and economic value due to commodity price movements and volatilities. The Company closely monitors commodity prices of gold, individual equity movements, and the stock market to determine the appropriate course of action to be taken by the Company.

*Sensitivity Analysis*

The carrying amount of cash, receivables, and accounts payable and accrued liabilities approximates their fair value due to their short-term nature. The Company does not have significant exposure to changing interest rates.

Based on management's knowledge and experience of the financial markets, the Company believes the following movement is "reasonably possible".

*Capital management*

The Company's primary objectives in capital management are to safeguard the Company's ability to continue as a going concern in order to provide returns for shareholders and to maintain sufficient funds to finance current production of the Company's patented NanoSphere Delivery System and development of future products utility system. Capital is comprised of the Company's shareholders' equity. The Company manages its capital structure to maximize its financial flexibility making adjustments to it in response to changes in economic conditions and the risk characteristics of the underlying assets and business opportunities.

The Board of Directors does not establish quantitative return on capital criteria for management, but rather relies on management to sustain future development and commercialization of the business. The Company will continue to assess sources of financing available and to assess the potential for collaboration with interested partners with a view to managing its current financial resources in the interest of sustaining the long-term viability of the Company's operations. The Company's overall strategy with respect to management of capital at December 31, 2021 remains fundamentally unchanged.

**OUTSTANDING SHARE DATA**

Common shares, options, warrants and convertible securities outstanding as at the date of this report:

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<b>Security</b>	<b>Outstanding</b>
Common Shares	18,762,420
Options	89,000
Warrants	2,428,727

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**PROPOSED TRANSACTIONS**

The Company has no proposed transactions other than already disclosed.

**OFF BALANCE SHEET ARRANGEMENTS**

The Company has no off-balance sheet arrangements.

**OTHER INFORMATION**

Additional information on the Company is available on SEDAR at [www.sedar.com](http://www.sedar.com)