

Prospectus Supplement No. 7
(to Prospectus dated August 7, 2023)



**555,555 Common Shares Issuable Upon
Exercise of Warrants**

XORTX THERAPEUTICS INC.

This Prospectus Supplement No.7 (this “**Prospectus Supplement**”) amends and supplements the Prospectus dated August 7, 2023 (the “**Prospectus**”) of XORTX Therapeutics Inc. (the “**Company**”), which forms a part of our Registration Statement on Form F-1 (Registration No. 333-267328). This Prospectus Supplement is being filed to amend and supplement the information included or incorporated by reference in the Prospectus with the information contained in this Prospectus Supplement. The Prospectus and this Prospectus Supplement relate to the offer by us of 555,555 common shares issuable upon exercise of 555,555 common share purchase warrants (the “**Warrants**”). The Warrants have an exercise price of \$5.00 and expire five years from the original date of issuance (October 7, 2027).

This Prospectus Supplement should be read in conjunction with the Prospectus, as it has been further supplemented, which is to be delivered with this Prospectus Supplement. This Prospectus Supplement updates and supplements the information in the Prospectus. If there is any inconsistency between the information in the Prospectus and this Prospectus Supplement, you should rely on the information in this Prospectus Supplement.

Our common shares are currently traded under the symbol “XRTX” on the TSX Venture Exchange (the “**TSXV**”) and on the Nasdaq Capital Market (“**Nasdaq**”). On June 12, 2024, the last reported sale price of our common shares on the TSXV was CAD\$2.99 per common share and on the Nasdaq was \$2.12 per common share.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading “Risk Factors” beginning on page 10 of the Prospectus and under similar headings in any further amendments or supplements to the Prospectus before you decide whether to invest in our securities.

Neither the Securities and Exchange Commission, Canadian securities commission nor any domestic or international securities body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is June 13, 2024.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

Form 6-K

**REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934**

For the month of May 2024

Commission File Number: 001-40858

XORTX Therapeutics Inc.

3710 – 33rd Street NW, Calgary, Alberta, T2L 2M1

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.
Form 20-F Form 40-F

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

XORTX THERAPEUTICS INC.
(Registrant)

Date: May 15, 2024

By: /s/ Allen Davidoff

Name: Allen Davidoff

Title: Chief Executive Officer

EXHIBIT INDEX

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| 99.1 | Condensed Interim Consolidated Financial Statements for the three months ended March 31, 2024 |
| 99.2 | Management Discussion and Analysis for the three months ended March 31, 2024 |
| 99.3 | CEO Certificate |
| 99.4 | CFO Certificate |

Exhibit 99.1



CONDENSED INTERIM CONSOLIDATED FINANCIAL STATEMENTS

As at and for the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

XORTX THERAPEUTICS INC.

Condensed Interim Consolidated Statements of Financial Position
(Unaudited - expressed in U.S. Dollars)

| | Note | March 31, 2024 | December 31, 2023 |
|--|-------|-------------------|----------------------|
| | | \$ | \$ |
| Assets | | | |
| Current | | | |
| Cash | 5 | 3,835,440 | 3,447,665 |
| Accounts receivable | | 30,883 | 60,711 |
| Prepaid expenses | 6 | 639,034 | 236,966 |
| Deferred share issuance costs | | 157,097 | 323,441 |
| Total Current Assets | | 4,662,454 | 4,068,783 |
| Non-current | | | |
| Contract payments | 7 | 1,200,000 | 1,200,000 |
| Intangible assets | 8 | 165,991 | 175,254 |
| Property and equipment | 9 | 22,153 | 23,927 |
| Total Assets | | 6,050,598 | 5,467,964 |
| Liabilities | | | |
| Current | | | |
| Accounts payable and accrued liabilities | 10,13 | 326,891 | 283,428 |
| Current portion of lease obligation | 11 | 14,037 | 11,510 |
| Total Current Liabilities | | 340,928 | 294,938 |

| Non-Current | | | |
|---|-------|------------------|------------------|
| Derivative warrant liability | 12(g) | 3,218,548 | 531,000 |
| Total Liabilities | | 3,559,476 | 825,938 |
| Shareholders' Equity | | | |
| Share capital | 12 | 17,871,433 | 17,056,535 |
| Reserves | 12 | 5,521,391 | 5,468,257 |
| Obligation to issue shares | 8(c) | 24,746 | 24,746 |
| Accumulated other comprehensive (loss) income | | (52,605) | (52,605) |
| Accumulated deficit | | (20,873,843) | (17,854,907) |
| Total Shareholders' Equity | | 2,491,122 | 4,642,026 |
| Total Liabilities and Shareholders' Equity | | 6,050,598 | 5,467,964 |

Nature of Operations (Note 1)

Commitments (Note 16)

Subsequent events (Note 18)

/s/ "Allen Davidoff"

Director

/s/ "Paul Van Damme"

Director

The accompanying notes are an integral part of these condensed interim consolidated financial statements.

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XORTX THERAPEUTICS INC.

Condensed Interim Consolidated Statements of Comprehensive Loss

For the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

| | Note | Three months ended March 31 | |
|---|----------|--------------------------------|--------------------|
| | | 2024 | 2023 |
| | | \$ | \$ |
| Expenses | | | |
| Research and development | 13 | 73,643 | 1,046,957 |
| Consulting, wages and benefits | 13 | 224,721 | 184,312 |
| Directors' fees | 13 | 39,161 | 44,238 |
| Investor relations | | 439,405 | 180,288 |
| Professional fees | 13 | 120,210 | 140,858 |
| General and administrative | | 74,920 | 101,499 |
| Public company costs | | 29,683 | 47,361 |
| Travel | | 1,607 | 55,384 |
| Amortization of property and equipment | 9 | 20,246 | 18,105 |
| Amortization of intangible assets | 8 | 11,886 | 48,742 |
| Share-based payments | 12(f),13 | 53,134 | 39,550 |
| Loss before other items | | (1,088,616) | (1,907,294) |
| Fair value adjustment on derivative warrant liability | 12(g) | (1,724,792) | - |
| Foreign exchange (loss)/gain | | (12,644) | 8,457 |
| Interest income | | 31,602 | 66,802 |
| Transaction costs on derivative warrant liability | 12(b) | (224,486) | - |
| Net loss and comprehensive loss for the period | | (3,018,936) | (1,832,035) |
| Basic and diluted loss per common share | | (1.24) | (0.95) |
| Weighted average number of common shares outstanding | | | |
| Basic and diluted | | 2,429,268 | 1,929,445 |

The accompanying notes are an integral part of these condensed interim consolidated financial statements.

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XORTX THERAPEUTICS INC.**Condensed Interim Consolidated Statements of Changes in Shareholders' Equity**
(Unaudited - expressed in U.S. Dollars)

| | Number of common shares | Share capital | Reserves | Obligation to issue shares | Accumulated Deficit | Accumulated other comprehensive (loss) income | Total |
|--|-------------------------------|-------------------|------------------|----------------------------------|------------------------|--|------------------|
| | | \$ | \$ | \$ | \$ | \$ | \$ |
| Balance, December 31, 2022 | 1,670,071 | 16,524,354 | 6,197,158 | 24,746 | (15,696,842) | (52,605) | 6,996,811 |
| Reclassification of derivative warrant liability | - | - | 3,854,403 | - | - | - | 3,854,403 |
| Pre-funded warrants exercised | 328,777 | 532,181 | (531,885) | - | - | - | 296 |
| Share-based payments | - | - | 39,550 | - | - | - | 39,550 |
| Comprehensive loss for the period | - | - | - | - | (1,832,035) | - | (1,832,035) |
| Balance, March 31, 2023 | 1,998,848 | 17,056,535 | 9,559,226 | 24,746 | (17,528,877) | (52,605) | 9,059,025 |
| Reclassification of derivative warrant liability | - | - | (4,172,403) | - | - | - | (4,172,403) |
| Share-based payments | - | - | 81,434 | - | - | - | 81,434 |
| Comprehensive loss for the period | - | - | - | - | (326,030) | - | (326,030) |
| Balance, December 31, 2023 | 1,998,848 | 17,056,535 | 5,468,257 | 24,746 | (17,854,907) | (52,605) | 4,642,026 |
| Shares issued pursuant to private placement | 899,717 | 1,032,549 | - | - | - | - | 1,032,549 |
| Warrants exercised | 5,000 | 21,814 | - | - | - | - | 21,814 |
| Share issuance costs | - | (239,465) | - | - | - | - | (239,465) |
| Share-based payments | - | - | 53,134 | - | - | - | 53,134 |
| Comprehensive loss for the period | - | - | - | - | (3,018,936) | - | (3,018,936) |
| Balance, March 31, 2024 | 2,903,565 | 17,871,433 | 5,521,391 | 24,746 | (20,873,843) | (52,605) | 2,491,122 |

The accompanying notes are an integral part of these condensed interim consolidated financial statements.

XORTX THERAPEUTICS INC.**Condensed Interim Consolidated Statements of Cash Flows**
For the three months ended March 31, 2024 and 2023
(Unaudited - expressed in U.S. Dollars)

| | Three months ended March 31 | |
|---|-----------------------------|--------------------|
| | 2024 | 2023 |
| | \$ | \$ |
| Cash provided by (used in): | | |
| Operating activities | | |
| Net loss for the period | (3,018,936) | (1,832,035) |
| Items not affecting cash: | | |
| Amortization of property and equipment | 20,246 | 18,105 |
| Amortization of intangible assets | 11,886 | 48,742 |
| Fair value adjustment on derivative warrant liability | 1,724,792 | - |
| Share-based payments | 53,134 | 39,550 |
| Transaction costs on derivative warrant liability | 224,486 | - |
| Unrealized foreign exchange loss/(gain) | 7,406 | (14,359) |
| Changes in non-cash operating assets and liabilities: | | |
| Accounts receivable | 29,828 | 45,331 |
| Prepaid expenses | (402,068) | 117,295 |
| Accounts payable and accrued liabilities | 45,374 | (907,816) |
| | <u>(1,303,852)</u> | <u>(2,485,187)</u> |
| Investing activities | | |
| Acquisition of intangible assets | (2,623) | (17,058) |
| Acquisition of equipment | - | (2,673) |
| | <u>(2,623)</u> | <u>(19,731)</u> |
| Financing activities | | |
| Proceeds from issuance of equity instruments | 2,000,549 | - |
| Pre-funded warrants and warrants exercised | 16,570 | 296 |
| Share issuance costs | (297,607) | (6,210) |
| Payment of lease obligation | (15,945) | (16,063) |
| | <u>1,703,567</u> | <u>(21,977)</u> |
| Effect of foreign exchange (gain) loss on cash | <u>(9,317)</u> | <u>1,160</u> |

| | | |
|--|-----------|-------------|
| Increase (Decrease) in cash | 387,775 | (2,525,735) |
| Cash, beginning of period | 3,447,665 | 10,434,196 |
| Cash, end of period | 3,835,440 | 7,908,461 |
| Supplemental Cash Flow and Non-Cash Investing and Financing Activities Disclosure | | |
| Derivative warrant liability reclassified to share capital on exercise of warrants | 6,775 | - |
| Recognition of right-of-use asset | 18,472 | - |
| Deferred financing costs reclassified to share capital and transaction costs on derivative warrant liability | 166,344 | - |

The accompanying notes are an integral part of these condensed interim consolidated financial statements.

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XORTX THERAPEUTICS INC.

Notes to the Condensed Interim Consolidated Financial Statements

For the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

1. Nature of operations

XORTX Therapeutics Inc. (the “Company” or “XORTX”) was incorporated under the laws of Alberta, Canada on August 24, 2012.

XORTX is a public company listed on the TSX Venture Exchange (the “TSXV”) and on the Nasdaq Stock Market (“Nasdaq”) under the symbol “XRTX”. The Company’s operations and mailing address is 3710 – 33rd Street NW, Calgary, Alberta, Canada T2L 2M1 and its registered address is located at 550 Burrard Street, Suite 2900, Vancouver, British Columbia, V6C 0A3.

XORTX is a late stage clinical pharmaceutical company focused on developing innovative 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, as well as more prevalent type 2 diabetic nephropathy, and fatty liver disease. The Company’s current focus is on developing products to slow and/or reverse the progression of kidney disease in patients at risk of end stage kidney failure.

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. Although there is no certainty, management is of the opinion that additional funding for future projects and operations can be raised as needed. The products developed by the Company will require approval from the U.S. Food and Drug Administration 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.

2. Basis of preparation

Statement of Compliance

These condensed interim consolidated financial statements have been prepared in accordance with International Accounting Standard 34 (IAS 34), Interim Financial Reporting as issued by the International Accounting Standards Board (“IASB”) and interpretations of the IFRS Interpretations Committee (“IFRIC”). Accordingly, certain disclosures included in the annual financial statements prepared in accordance with IFRS Accounting Standards (“IFRS”) have been condensed or omitted. These unaudited condensed interim consolidated financial statements should be read in conjunction with the Company’s audited consolidated financial statements for the year ended December 31, 2023.

Basis of Measurement and Presentation

These condensed interim consolidated financial statements have been prepared using the historical cost convention except for financial instruments which have been measured at fair value. These condensed interim consolidated financial statements were prepared on an accrual basis except for cash flow information.

These condensed interim consolidated financial statements incorporate the financial statements of the Company and its 100% owned subsidiary, XORTX Pharma Corp. The accounts of the Company’s subsidiary are prepared for the same reporting period as the parent company, using consistent accounting policies. Inter-company transactions, balances and unrealized gains or losses on transactions are eliminated.

These condensed interim consolidated financial statements were approved for issue by the Board of Directors on May 15, 2024.

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XORTX THERAPEUTICS INC.

Notes to the Condensed Interim Consolidated Financial Statements

For the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

3. Material Accounting policies

These condensed interim consolidated financial statements have been prepared on a basis consistent with the significant accounting policies disclosed in the annual financial statements for the year ended December 31, 2023. Accordingly, they should be read in conjunction with the annual consolidated financial statements for the year ended December 31, 2023.

4. Critical accounting judgments and estimates

The preparation of condensed interim consolidated financial statements requires management to make judgments and estimates that affect the amounts reported in the condensed interim consolidated financial statements and notes. By their nature, these judgments and estimates are subject to change and the effect on the condensed interim consolidated financial statements of changes in such judgments and estimates in future periods could be material. These judgments and estimates are based on historical experience, current and future economic conditions, and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Actual results could differ from these judgments and estimates.

Revisions to accounting estimates are recognized in the period in which the estimate is revised and may affect both the period of revision and future periods. Information about critical accounting judgments in applying accounting policies that have the most significant risk of causing material adjustment to the carrying amounts of assets and liabilities recognized in the condensed interim consolidated financial statements within the next financial year are discussed below:

Share-based payment transactions and warrant liabilities

The Company measures the cost of equity-settled transactions with employees by reference to the fair value of the equity instruments at the date at which they are granted. Warrants liabilities are accounted for as derivative liabilities as the proceeds from exercise are either not fixed, denominated in a currency other than the functional currency, or can be settled on a net basis, and therefore do not meet the fixed for fixed criteria. Estimating fair value for share-based transactions requires determining the most appropriate valuation model, which is dependent on the terms and conditions of the instrument. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life of the share option or warrant, volatility and dividend yield and making assumptions about them.

Classification of contract payments

In concluding that contract payments are a non-current asset, management considered when future regulatory and clinical trial programs are anticipated to be completed. Management assessed that the future regulatory and clinical trial programs would not be completed within 12 months from period end and therefore classified contract payments as a non-current asset.

Impairment of intangible assets

Patents (obtained and pending) and licenses are reviewed for impairment at each financial reporting date. If, in the judgment of management, future economic benefits will not flow to the Company, then the Company will assess the recoverable value of the asset. If the carrying value is greater than the recoverable value, the asset will be impaired to the recoverable value.

Determination of functional currency

In concluding that the U.S. dollar is the functional currency of the Company and its subsidiary, management considered the currency that mainly influences the cost of providing goods and services in the primary economic environment in which each entity operates and the currency in which funds from financing are generated, or if there has been a change in events or conditions that determined the primary economic environment.

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XORTX THERAPEUTICS INC.

Notes to the Condensed Interim Consolidated Financial Statements

For the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

4. Critical accounting judgments and estimates (continued)

Treatment of research and development costs

Costs to develop products are capitalized to the extent that the criteria for recognition as intangible assets in IAS 38 Intangible Assets are met. Those criteria require that the product is technically and economically feasible, the Company has the intention and ability to use the asset, and how the asset will generate future benefits. Management assessed the capitalization of development costs based on the attributes of the development project, perceived user needs, industry trends and expected future economic conditions. Management considers these factors in aggregate and applies significant judgment to determine whether the product is feasible. The Company has not capitalized any development costs as at March 31, 2024.

Leases

Value of right-of-use assets and lease obligations require judgement in determining lease terms such as extension options, determining whether a lease contract contains an identified asset to which the Company has the right to use substantially all of the economic benefits from the use of that asset and the incremental borrowing rate applied. The Company estimates the incremental borrowing rate based on the lease term, collateral assumptions and the economic environment in which the lease is denominated. Renewal options are only included if management is reasonably certain that the option will be renewed.

5. Cash

The Company's cash consists of cash held and interest-bearing deposits with the Company's bank and brokerage accounts. The current annual interest rate earned on these deposits is 5.15% (December 31, 2023 – 5.15%).

| | March 31, 2024 | December 31, 2023 |
|---------------------------|-------------------|----------------------|
| | \$ | \$ |
| Cash | 1,916,581 | 94,999 |
| Interest-bearing deposits | 1,918,859 | 3,352,666 |
| | 3,835,440 | 3,447,665 |

6. Prepaid expenses

The Company's prepaid expenses relate to the following:

| | March 31, 2024 | December 31, 2023 |
|---|-------------------|----------------------|
| | \$ | \$ |
| Insurance | 135,750 | 204,302 |
| Investor relations conferences and services | 474,588 | 25,309 |
| Administrative services and other | 28,696 | 7,355 |
| | 639,034 | 236,966 |

7. Contract payments

During the year ended December 31, 2020, the Company entered into an agreement with Prevail InfoWorks Inc. As part of the agreement, the Company paid \$1,200,000 through the issuance of units in the private placement that closed February 28, 2020, to be applied to future regulatory and clinical trial programs. The 108,590 units issued were measured by reference to their fair value on the issuance date, which is equal to CAD \$14.76 per unit.

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XORTX THERAPEUTICS INC.**Notes to the Condensed Interim Consolidated Financial Statements**

For the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

8. Intangible assets

| Cost | Total |
|-----------------------------------|----------------|
| | \$ |
| Balance, December 31, 2022 | 294,751 |
| Additions | 42,052 |
| Balance, December 31, 2023 | 336,803 |
| Additions | 2,623 |
| Balance, March 31, 2024 | 339,426 |
| Accumulated amortization | |
| | Total |
| | \$ |
| Balance, December 31, 2022 | 94,917 |
| Amortization | 66,632 |
| Balance, December 31, 2023 | 161,549 |
| Amortization | 11,886 |
| Balance, March 31, 2024 | 173,435 |
| Carrying values | |
| | Total |
| | \$ |
| At December 31, 2023 | 175,254 |
| At March 31, 2024 | 165,991 |

The Company has licensed intellectual property from various third parties. The intangible assets relate solely to licensed intellectual property and there are no other classes of intangible assets. The intangible assets are as described below:

- a) The Company has licensed from a third party (the "Licensor"), under patent rights purchase agreement dated July 9, 2013 and amended April 15, 2014, certain patents relating to allopurinol for the treatment of hypertension. The Company paid a total of \$40,000 to the Licensor per the terms of the agreement.

The Company will also pay the Licensor royalties on the cumulative net revenues from the sale or sublicense of the product covered under the patent license until the later of (i) the expiration of the last patent right covering the product; and (ii) the expiration of ten years from the date of the first commercial sales of a product. As of March 31, 2024, no royalties have been paid.

- b) In December 2012, the Company entered into an agreement to license certain intellectual property relating to the use of all uric acid lowering agents to improve the treatment of metabolic syndrome. Under this patent rights purchase agreement, between the Company and Dr. Richard Johnson and Dr. Takahiko Nakagawa (the "Vendors"), the Company will pay the Vendors a royalty based on the cumulative net revenues from the sale or sublicense of the product covered under the licensed intellectual property until the later of (i) the expiration of the last patent right covering the product; and (ii) the expiration of 10 years from the date of the first commercial sales of a product.

- c) Pursuant to a license agreement dated October 9, 2012 as amended on June 23, 2014, between the Company and the University of Florida Research Foundation, Inc. ("UFRF"), the Company acquired the exclusive license to a patent that claims the use of any uric acid lowering agent to treat insulin resistance. The Company has paid or is obligated to pay UFRF the following:

- i) An annual license fee of \$1,000;
- ii) Reimburse UFRF for United States and/or foreign costs associated with the maintenance of the licensed patents;
- iii) The issuance to UFRF of 180,397 shares of common stock of the Company (160,783 have been issued to UFRF as at March 31, 2024 and December 31, 2023. Remaining shares to be issued are included in obligation to issue shares (\$24,746));

XORTX THERAPEUTICS INC.**Notes to the Condensed Interim Consolidated Financial Statements**

For the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

8. Intangible assets (continued)

- iv) Milestone payments of \$500,000 upon receipt of FDA approval to market licensed product in the United States of America and \$100,000 upon receipt of regulatory approval to market each licensed product in each of other jurisdictions;
- v) Royalty payments of up to 1.5% of net sales of products covered by the license until the later of (i) the expiration of any patent claims; or (ii) 10 years from the date of the first commercial sale of any covered product in each country. Following commencement of commercial sales, the Company will be subject to certain annual minimum royalty payments that will increase annually to a maximum of \$100,000 per year. As at March 31, 2024, no royalties have been paid; and
- vi) UFRF is entitled to receive a royalty of 5% of amounts received from any sub-licensee that are not based directly on product sales, excluding payments received for research and development or purchases of the Company's securities at not less than fair market value. No royalties have been paid to date.

UFRF may terminate the agreement if the Company fails to meet the above specified milestones.

9. Property and equipment

| Cost | Right-of-use asset | Equipment | Total |
|----------------------------|---------------------------|------------------|--------------|
| | \$ | \$ | \$ |
| Balance, December 31, 2022 | 114,588 | 19,033 | 133,621 |
| Additions | - | 4,311 | 4,311 |

| | | | |
|-----------------------------------|----------------|---------------|----------------|
| Balance, December 31, 2023 | 114,588 | 23,344 | 137,932 |
| Additions | 18,472 | - | 18,472 |
| Balance, March 31, 2024 | 133,060 | 23,344 | 156,404 |

| Accumulated amortization | Right-of-use asset | Equipment | Total |
|---------------------------------|---------------------------|------------------|----------------|
| | \$ | \$ | \$ |
| Balance, December 31, 2022 | 38,195 | 2,748 | 40,943 |
| Amortization | 65,480 | 7,582 | 73,062 |
| Balance, December 31, 2023 | 103,675 | 10,330 | 114,005 |
| Amortization | 18,296 | 1,950 | 20,246 |
| Balance, March 31, 2024 | 121,971 | 12,280 | 134,251 |

| Carrying values | Right-of-use asset | Equipment | Total |
|--------------------------|---------------------------|------------------|---------------|
| | \$ | \$ | \$ |
| At December 31, 2023 | 10,913 | 13,014 | 23,927 |
| At March 31, 2024 | 11,089 | 11,064 | 22,153 |

The Company entered into an office lease during the year ended December 31, 2022 for which a right-of-use asset was recognized (Note 11). The \$18,472 right-of-use asset addition recognized in the three months ended March 31, 2024 relates to an extension of the office lease. There was a corresponding \$18,472 increase to the lease liability.

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XORTX THERAPEUTICS INC.

Notes to the Condensed Interim Consolidated Financial Statements For the three months ended March 31, 2024 and 2023 (Unaudited - expressed in U.S. Dollars)

10. Accounts payable and accrued liabilities

| | March 31, 2024 | December 31, 2023 |
|---------------------|---------------------------|------------------------------|
| | \$ | \$ |
| Trade payables | 185,065 | 195,814 |
| Accrued liabilities | 141,826 | 87,614 |
| Total | 326,891 | 283,428 |

11. Lease obligation

The Company has entered into an office lease expiring in 2024, with an imputed interest rate of 8% per annum. A reconciliation of the outstanding lease obligation as at March 31, 2024 is as follows:

| | |
|--------------------------------|---------------|
| | \$ |
| Balance, December 31, 2022 | - |
| Additions | 77,599 |
| Lease payments | (66,089) |
| Balance, December 31, 2023 | 11,510 |
| Additions | 18,472 |
| Lease payments | (15,945) |
| Balance, March 31, 2024 | 14,037 |

The following is a schedule of the Company's future minimum lease payments related to the office lease obligation:

| | March 31, 2024 | December 31, 2023 |
|---|-----------------------|--------------------------|
| | \$ | |
| \$2024 | 14,182 | 11,628 |
| Total minimum lease payments | 14,182 | 11,628 |
| Less: imputed interest | (145) | (118) |
| Total present value of minimum lease payments | 14,037 | 11,510 |
| Less: current portion | (14,037) | (11,510) |
| Non-current portion | - | - |

12. Share capital and reserves

a) Authorized and issued

Unlimited common shares – 2,903,565 issued at March 31, 2024 (December 31, 2023 – 1,998,848).

b) Issuances

Three months ended March 31, 2024:

On February 15 and March 4, 2024, the Company closed two tranches of a non-brokered offering of 899,717 common share units ("Common Share Units") at a price of CAD \$3 per Common Share Unit for aggregate gross proceeds of \$2,000,549 (CAD \$2,699,151). Each Common Share Unit consists of one common share and one warrant ("Warrant") to purchase one common share at CAD \$4.50 per common share for a period of two years. The Warrants will be immediately exercisable and may be exercised for two years from the date of issuance, provided, however that, if, the common shares on the TSXV trade at greater than CAD \$6.00 for 10 or more consecutive trading days, the Warrants will be accelerated and the Warrants will expire on the 30th business day following the date of notice.

XORTX THERAPEUTICS INC.
Notes to the Condensed Interim Consolidated Financial Statements
For the three months ended March 31, 2024 and 2023
(Unaudited - expressed in U.S. Dollars)

12. Share capital and reserves (continued)

b) Issuances (continued)

The proceeds were allocated \$968,000 to the derivative warrant liability (Note 12(g)) and the residual \$1,032,549 was allocated to common shares.

In connection with the offering, the Company paid finder's fees of \$97,241, representing a 5% finder's fee on certain subscriptions to qualified finders. The Company incurred additional cash share issuance costs of \$366,710. The costs were allocated between common shares and derivative warrant liability in proportion to their initial carrying amounts with \$239,465 recorded as a reduction of equity and \$224,486 recorded as transaction costs on derivative warrant liability.

On March 25, 2024, the Company issued 5,000 common shares for the exercise of warrants at CAD \$4.50 per share in the amount of \$16,570 (CAD \$22,500). An amount of \$5,244 was transferred from derivative warrant liability to share capital as a result.

Year ended December 31, 2023:

On January 19, 2023, the Company issued 328,777 common shares for the exercise of pre-funded warrants at \$0.0009 per share in the amount of \$296. An amount of \$531,885 was transferred from reserves to share capital as a result.

c) Diluted Weighted Average Number of Shares Outstanding

| | Three months ended | |
|---|--------------------|----------------|
| | March 31, 2024 | March 31, 2023 |
| Basic weighted average shares outstanding | 2,429,268 | 1,929,445 |
| Effect of outstanding securities | - | - |
| Diluted weighted average shares outstanding | 2,429,268 | 1,929,445 |

During the three months ended March 31, 2024 and 2023, the Company had a net loss, as such, the diluted loss per share calculation excludes any potential conversion of options and warrants that would decrease loss per share.

d) Common Share Purchase Warrants

A summary of the changes in warrants for the three months ended March 31, 2024 and the year ended December 31, 2023 is presented below:

| | Number of Warrants | Weighted Average Exercise price |
|-------------------------------------|--------------------|---------------------------------|
| Balance, December 31, 2023 and 2022 | 1,125,210 | \$ 22.31 |
| Granted – February 15, 2024 | 824,767 | 3.32 ⁽¹⁾ |
| Granted – March 4, 2024 | 74,950 | 3.32 ⁽¹⁾ |
| Exercised | (5,000) | 3.32 ⁽¹⁾ |
| Balance, March 31, 2024 | 2,019,927 | \$ 13.82 |

⁽¹⁾ Exercise price of CAD \$4.50.

XORTX THERAPEUTICS INC.
Notes to the Condensed Interim Consolidated Financial Statements
For the three months ended March 31, 2024 and 2023
(Unaudited - expressed in U.S. Dollars)

12. Share capital and reserves (continued)

d) Common Share Purchase Warrants (continued)

At March 31, 2024, the weighted average contractual remaining life of the unexercised warrants was 2.45 years (December 31, 2023 – 3.15 years).

The following table summarizes information on warrants outstanding at March 31, 2024:

| Exercise Price | Number Outstanding | Expiry date | Remaining Contractual Life |
|----------------|--------------------|-------------------|----------------------------|
| CAD\$42.26 | 198,333 | February 9, 2026 | 1.86 years |
| \$42.93 | 270,211 | October 15, 2026 | 2.54 years |
| \$10.53 | 101,111 | October 15, 2026 | 2.54 years |
| \$10.98 | 555,555 | October 7, 2027 | 3.52 years |
| CAD \$4.50 | 819,767 | February 15, 2026 | 1.88 years |
| CAD \$4.50 | 74,950 | March 4, 2026 | 1.93 years |
| Total | 2,019,927 | | 2.45 years |

e) Finders' and Underwriters Warrants

A summary of the changes in finders' and underwriters warrants for the three months ended March 31, 2024 and the year ended December 31, 2023 is presented below:

| | Number of Warrants | Weighted Average Exercise price |
|---|--------------------|---------------------------------|
| Balance, March 31, 2024 and December 31, 2023 | 50,298 | \$ 23.80 |

At March 31, 2024, the weighted average contractual remaining life of the unexercised finders' and underwriters warrants was 3.00 years (December 31, 2023 – 3.25 years).

The following table summarizes information on finders' and underwriters warrants outstanding at March 31, 2024:

| Exercise Price | Number Outstanding | Expiry date | Remaining Contractual Life |
|----------------|--------------------|------------------|----------------------------|
| CAD\$42.30 | 6,377 | February 9, 2026 | 1.86 years |
| \$42.93 | 16,144 | October 15, 2026 | 2.54 years |
| \$10.98 | 27,777 | October 7, 2027 | 3.52 years |
| Total | 50,298 | | 3.00 years |

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XORTX THERAPEUTICS INC.

Notes to the Condensed Interim Consolidated Financial Statements

For the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

12. Share capital and reserves (continued)

f) Stock Options

The Company has an incentive Stock Option Plan (the "Plan") for directors, officers, employees, and consultants, under which the Company may issue stock options to purchase common shares of the Company provided that the amount of incentive stock options which may be granted and outstanding under the Plan at any time shall not exceed 10% of the then issued and outstanding common shares of the Company.

The fair value of stock options granted was estimated on the date of grant using the Black-Scholes option pricing model with the following data and assumptions:

| | 2024 | 2023 |
|-------------------------|---------|---------|
| Dividend yield | Nil | Nil |
| Annualized volatility | 100% | 100% |
| Risk-free interest rate | 3.57% | 3.25% |
| Expected life | 5 years | 5 years |

The risk-free interest rate is the yield on zero-coupon Canadian Treasury Bills of a term consistent with the assumed option life. The expected life of the option is the average expected period to exercise.

Volatility is based on available historical volatility of the Company's share price, excluding specific time frames in which volatility was affected by specific transactions that are not considered to be indicative of the Company's expected share price volatility. The Company has not declared dividends in the past.

During the three months ended March 31, 2024, the Company recorded share-based payments of \$53,134 (2023 - \$39,550), in respect of the vesting of newly granted options and options issued in prior years.

A summary of the changes in stock options for the three months ended March 31, 2024 and the year ended December 31, 2023 is presented below:

| | Number of Options | Weighted Average Exercise price (CAD) |
|---|-------------------|---------------------------------------|
| Balance, December 31, 2022 | 128,240 | \$ 21.75 |
| Granted – December 31, 2023 | 8,000 | 2.90 |
| Expired | (32,318) | 33.65 |
| Balance, December 31, 2023 | 103,922 | \$ 16.60 |
| Granted – March 4, 2024 | 39,483 | 4.50 |
| Expired | (8,887) | 22.61 |
| Balance, March 31, 2024 | 134,518 | \$ 12.65 |
| Vested and exercisable, March 31, 2024 | 93,204 | \$ 14.78 |

The weighted average contractual remaining life of the unexercised options was 3.45 years (December 31, 2023 - 3.04 years).

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Notes to the Condensed Interim Consolidated Financial Statements

For the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

12. Share capital and reserves (continued)

f) Stock Options (continued)

The following table summarizes information on stock options outstanding at March 31, 2024:

| Exercise Price (CAD) | Number Outstanding | Number Exercisable | Expiry Date | Remaining Contractual Life |
|----------------------|--------------------|--------------------|------------------|----------------------------|
| \$14.76 | 14,669 | 14,669 | June 23, 2025 | 1.23 years |
| \$29.61 | 3,312 | 3,312 | January 11, 2026 | 1.78 years |
| \$16.92 | 2,366 | 2,366 | May 12, 2026 | 2.12 years |

| | | | | |
|---------|----------------|---------------|-------------------|------------|
| \$21.69 | 4,732 | 4,206 | July 14, 2026 | 2.29 years |
| \$22.86 | 7,262 | 7,262 | December 21, 2026 | 2.73 years |
| \$22.86 | 11,940 | 8,623 | January 12, 2027 | 2.79 years |
| \$14.40 | 37,200 | 32,810 | June 6, 2027 | 3.18 years |
| \$12.42 | 5,554 | 2,468 | November 25, 2027 | 3.65 years |
| \$2.90 | 8,000 | 8,000 | December 31, 2028 | 4.76 years |
| \$4.50 | 39,483 | 9,488 | March 4, 2029 | 4.93 years |
| | 134,518 | 93,204 | | |

g) Derivative Warrant Liability

During the years ended December 31, 2022 and 2021, the Company issued warrants which were recorded as derivative financial liabilities as the exercise price was denominated in a currency other than the functional currency of the Company and in certain situations allow the holder to exercise the warrants on a cashless basis and therefore may be settled other than by the exchange of a fixed amount of cash. Under the cashless exercise option, the holders of these warrants may elect to settle the warrants on a cashless basis if the common shares are not subject to an effective registration statement at the time the holder wishes to exercise them. A contract that may be settled by a single net payment (generally referred to as net cash settled or net equity settled) is a financial liability and not an equity instrument.

These warrants are revalued at each reporting period and any gain or loss is recorded in profit or loss.

Effective January 1, 2023, with the change in functional currency of the Company to USD, the exercise price of warrants previously denominated in Canadian Dollars is now denominated in a currency different than the functional currency of the Company and therefore these warrants now meet the definition of a derivative warrant liability. Accordingly, all Canadian Dollar denominated warrants recorded as equity instruments on January 1, 2023, were reclassified to derivative financial liabilities at their estimated fair value as of that date.

The fair value of the warrants issued during the three months ended March 31, 2024 was estimated at \$968,000 on the date of grant using the Black-Scholes option pricing model with the following data and assumptions:

| | 2024 |
|-------------------------|----------------|
| Dividend yield | Nil |
| Annualized volatility | 130-135% |
| Share price | CAD \$3.10 |
| Risk-free interest rate | 4.17% – 4.36 % |
| Expected life | 2 years |

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XORTX THERAPEUTICS INC.

Notes to the Condensed Interim Consolidated Financial Statements For the three months ended March 31, 2024 and 2023 (Unaudited - expressed in U.S. Dollars)

12. Share capital and reserves (continued)

g) Derivative Warrant Liability (continued)

The balance of the derivative warrant liabilities (level 3) is as follows:

| | |
|-------------------------------------|---------------------|
| Balance at December 31, 2022 | \$ 3,854,403 |
| Reclassified from reserves | 318,000 |
| Fair value adjustment | (3,641,403) |
| Balance at December 31, 2023 | \$ 531,000 |
| Warrants issued February 15, 2024 | 865,000 |
| Warrants issued March 4, 2024 | 103,000 |
| Warrants exercised | (5,244) |
| Fair value adjustment | 1,724,792 |
| Balance at March 31, 2024 | \$ 3,218,548 |

Significant weighted average assumptions used in determining the fair value of the derivative warrant liabilities at March 31, 2024 and December 31, 2023 are as follows:

| | March 31, 2024 | December 31, 2023 |
|---------------------------|-------------------|----------------------|
| Share price | \$ 3.70 | \$ 2.31 |
| Risk-free interest rate | 3.57%-4.20% | 3.25%-3.91% |
| Dividend yield | 0% | 0% |
| Expected volatility | 100-133% | 100% |
| Remaining term (in years) | 1.9-3.5 | 2.1-3.8 |

The fair value is classified as level 3 as expected volatility is determined using historical volatility and is therefore not an observable input.

13. Related party transactions

All related party transactions were measured at fair value. All amounts due from/payable to related parties are unsecured, non-interest bearing and have no fixed terms of repayment.

During the three months ended March 31, 2024 and 2023, the Company incurred the following transactions with related parties:

- Wages and benefits and professional fees were paid or accrued to Allen Davidoff, the Chief Executive Officer (“CEO”), in the amount of \$84,447 (2023 - \$84,081).
- Fees were paid or accrued to 1282803 Ontario Inc., a company owned by James Fairbairn, the Chief Financial Officer (“CFO”) of the Company in the amount of \$38,017 (2023 - \$41,148 (paid or accrued to former Chief Financial Officer.))

c) Research and development fees were paid or accrued to Haworth Biopharmaceutical, a company owned by Stephen Haworth, the Chief Medical Officer (“CMO”) of the Company in the amount of \$24,000 (2023 - \$52,979).

d) Consulting fees were paid or accrued to Stacy Evans, the Chief Business Officer (“CBO”) of the Company in the amount of \$45,000 (2023 - \$75,000).

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XORTX THERAPEUTICS INC.

Notes to the Condensed Interim Consolidated Financial Statements

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13. Related party transactions (continued)

e) Directors’ fees were paid or accrued to the directors of the Company in the amount of \$39,161 (2023 - \$47,089). The amount includes director fees payment of \$30,663 for the three months ended March 31, 2024 (2023 - \$35,842) to Anthony Giovinazzo, Chairman of the Company.

f) As at March 31, 2024, \$17,934 (2023 - \$11,084) was payable to directors of the Company, \$nil (2023 - \$28,846) was accrued to the CEO of the Company for CEO services, \$nil (2023 - \$10,913) was accrued to the former CFO of the Company for CFO services, \$14,281 (2023 - \$nil) was accrued to the CFO of the Company for CFO services, \$8,000 (2023 - \$18,750) was payable and accrued to the CMO of the Company for consulting services, and \$15,000 (2023 - \$25,000) was payable and accrued to the CBO of the Company for consulting services. The balances are unsecured, non-interest bearing, and have no fixed terms of repayment.

g) Management and directors’ compensation transactions for the three months ended March 31, 2024 and 2023 are summarized as follows:

| | Management Compensation | Directors’ fees | Share-based payments | Total |
|-----------------------------------|----------------------------|--------------------|-------------------------|---------|
| | \$ | \$ | \$ | \$ |
| Three months ended March 31, 2023 | | | | |
| Directors and officers | 256,060 | 44,237 | 24,654 | 324,951 |
| Three months ended March 31, 2024 | | | | |
| Directors and officers | 191,464 | 39,161 | 38,103 | 271,388 |

14. Financial instruments and risk management

The Company’s financial instruments consist of cash, accounts payable and accrued liabilities, lease obligation and derivative warrant liability. Cash is classified as a financial asset at FVTPL, accounts payable and accrued liabilities and lease obligation are classified as financial liabilities at amortized cost and derivative warrant liability is classified as a financial liability at FVTPL.

The fair values of these financial instruments approximate their carrying values at March 31, 2024, due to their short-term nature.

The Company thoroughly examines the various financial instruments and risks to which it is exposed and assesses the impact and likelihood of those risks. These risks include foreign currency risk, interest rate risk, market risk, credit risk, and liquidity risk. Where material, these risks are reviewed and monitored by the Board of Directors

There have been no changes in any risk management policies since December 31, 2023.

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XORTX THERAPEUTICS INC.

Notes to the Condensed Interim Consolidated Financial Statements

For the three months ended March 31, 2024 and 2023

(Unaudited - expressed in U.S. Dollars)

15. Capital management

The Company defines capital that it manages as shareholders’ 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.

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. There were no changes during the three months ended March 31, 2024. The Company is not exposed to external requirements by regulatory agencies regarding its capital.

16. Commitments

The Company has long-term arrangements with commitments that are not recognized as liabilities as at March 31, 2024 and December 31, 2023 are as follows:

a) Employment Agreements

| | March 31, 2024 | December 31, 2023 |
|--------------------------------|-------------------|----------------------|
| | \$ | \$ |
| Management services – officers | 321,000 | 321,000 |

The President, CEO, and a director of the Company has a long-term employment agreement with the Company. The agreement has a termination clause whereby he is entitled to the equivalent of 12 times his then current monthly salary which, as of March 31, 2024 and December 31, 2023, equated to an annual salary of \$321,000.

b) Payments

In the normal course of business, the Company has committed to payments totaling \$365,190 (December 31, 2023 - \$446,000) for activities related to its clinical trial,

manufacturing, collaboration programs, and other regular business activities which are expected to occur over the next two years.

17. Segmented information

The Company operates in one reportable operating segment, being the development and commercialization of therapies to treat progressive kidney disease. As the operations comprise a single reporting segment, amounts disclosed also represent segment amounts. All long-term assets of the Company are located in Canada.

18. Subsequent events

Subsequent to March 31, 2024, the Company granted 8,000 stock options to a director of the Company. The stock options are exercisable into common shares at CAD \$5.00 per share for a period of five years.

On April 22, 2024, the TSXV consented to the decrease in the exercise price of the following warrants:

- 198,333 were issued pursuant to a private placement that closed in February 2021. The warrants had an original exercise price of CAD \$42.26 per share.
- 270,211 were issued pursuant to a private placement that closed in October 2021. The warrants had an original exercise price of \$42.93 per share.
- 555,555 were issued pursuant to a private placement that closed in October 2022. The warrants had an original exercise price of \$10.98 per share.

Pursuant to the policies of the TSXV the terms of the warrants, as amended, will be subject to an acceleration expiry provision such that if for any 10 consecutive trading dates during the unexpired term of the warrants, the closing price of the Company's shares on the exchange exceeds \$6.50, the exercise period of the warrants will be reduced to 30 days, starting seven days after the last premium trading day. The Company will announce any such accelerated expiry date by press release. All other terms of the warrants remain unchanged.

XORTX THERAPEUTICS INC. **Management Discussion and Analysis** **For the three months ended March 31, 2024**

This management discussion and analysis of financial position and results of operations (“**MD&A**”) is prepared as at May 15, 2024 and should be read in conjunction with the unaudited condensed interim consolidated financial statements for the three months ended March 31, 2024 and 2023 of XORTX Therapeutics Inc. (the “**Company**” or “**XORTX**”), together with the audited financial statements of the Company for the years ended December 31, 2023 and 2022, as well as the accompanying MD&A for the period then ended (the “**Annual MD&A**”).

All dollar figures in this MD&A are expressed in US dollars unless stated otherwise.

The referenced unaudited condensed interim consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (“**IFRS**”), including International Accounting Standard 34, Interim Financial Reporting, as issued by the International Accounting Standards Board (“**IASB**”) and Interpretations of the IFRS Interpretations Committee (“**IFRIC**”). All dollar amounts included therein and in the following MD&A are expressed in United States 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. The Company changed its functional and presentation currency as detailed in the notes to the condensed interim consolidated financial statements.

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

CORPORATE INFORMATION

XORTX was incorporated under the laws of Alberta, Canada on August 24, 2012, under the name ReVasCor Inc. and continued under the Canada Business Corporations Act on February 27, 2013, under the name of XORTX Pharma Corp. Upon completion of a reverse take-over transaction on January 10, 2018, with APAC Resources Inc., a company incorporated under the laws of British Columbia, the Company changed its name to “XORTX Therapeutics Inc.” and XORTX Pharma Corp. became a wholly-owned subsidiary. The Company's operations and mailing address is 3710 – 33rd Street NW, Calgary, Alberta, Canada T2L 2M1 and its registered address is located at 550 Burrard Street, Suite 2900, Vancouver, British Columbia, V6C 0A3. The Company's shares trade on the TSX Venture Exchange (“**TSXV**”), on the Nasdaq Stock Exchange (“**Nasdaq**”) under the symbol “**XRTX**”, and on the Börse Frankfurt under the symbol “**ANU**”.

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 MD&A, 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 “XORLOM”, XORTX’s proprietary formulation of oxypurinol for use in the Company’s XRx-008 program to treat ADPKD, and any other product candidates we may develop, and the labeling under any approval we may obtain;
- regulatory approvals and other regulatory developments in the United States and other countries;
- the performance of third-party manufacturers and contract research organizations;
- our plans to develop and commercialize our product candidates;
- our plans to advance research in other kidney disease applications;
- 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 on acceptable terms 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:

- the availability of capital on acceptable terms;
- incorrect assessments of the value of acquisitions, licenses and development programs;
- technical, manufacturing and processing problems;
- actions by governmental authorities, including increases in taxes;
- 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.sedarplus.ca.



BUSINESS OVERVIEW

XORTX is a late-stage clinical pharmaceutical company, focused on developing and potentially commercializing innovative therapies to treat progressive kidney disease modulated by aberrant purine and uric acid metabolism in orphan (rare) disease indications such as autosomal dominant polycystic kidney disease (“ADPKD”) and larger, more prevalent type 2 diabetic nephropathy (“T2DN”) as well as acute kidney injury (“AKI”) associated with respiratory virus infection.

Our focus is on developing three unique therapeutic products to:

- 1/ slow or reverse the progression of chronic kidney disease in patients at risk of end stage kidney failure;
- 2/ address the immediate need of individuals facing AKI associated with respiratory virus infection; and
- 3/ identify other opportunities where our existing and new intellectual property can be leveraged to address health issues.

We believe that our technology is underpinned by well-established research and insights into the underlying biology of aberrant purine metabolism, chronically high serum uric acid and its health consequences. Our aim is to advance novel proprietary formulations of oxypurinol, a uric acid lowering agent that works by effectively inhibiting xanthine oxidase. We are developing product candidates that include new or existing drugs that can be adapted to address different disease indications where aberrant purine metabolism and/or elevated uric acid is a common denominator, including polycystic kidney disease, pre-diabetes, insulin resistance, metabolic syndrome, diabetes, diabetic nephropathy, and infection. We are focused on building a pipeline of assets to address the unmet medical needs for patients with a variety of serious or life-threatening diseases using our innovative formulation of oxypurinol, and our proprietary pipeline-in-a-product strategy supported by our intellectual property, established exclusive manufacturing agreements, and proposed clinical trials with experienced clinicians.

Our three unique product development programs are:

- **XRx-008**, a program for the treatment of ADPKD;
- **XRx-101**, a program to treat AKI associated with respiratory virus infection, AKI and associated health consequences; and
- **XRx- 225**, a program for the treatment of T2DN.

At XORTX, we aim to redefine the treatment of kidney diseases by developing medications to improve the quality of life of patients with life threatening diseases by modulating aberrant purine and uric acid metabolism, including lowering elevated uric acid as a therapy.

Our Proprietary Therapeutic Platforms

Our expertise and understanding of the pathological effects of aberrant purine metabolism combined with our understanding of uric acid lowering agent structure and function, has enabled the development of our proprietary therapeutic platforms. These are a complementary suite of therapeutic formulations and new chemical entities designed to provide unique solutions for acute and chronic disease. Our therapeutic platforms can be used alone, or in combination, with synergistic activity to develop a multifunctional tailored approach to a variety of indications that can address disease in multiple body systems through management of chronic or acute hyperuricemia, immune modulation, and metabolic disease. We continue to leverage these therapeutic platforms to expand our pipeline of novel and next generation drug-based product candidates that we believe could represent significant improvements to the standard of care in multiple acute and chronic cardiovascular diseases and specifically kidney disease.

We believe our in-house drug design and formulation capabilities confer a competitive advantage to our therapeutic platforms and are ultimately reflected in our programs. Some of these key advantages are:



Highly Modular and Customizable

Our platforms can be combined in multiple ways and this synergy can be applied to address acute, intermittent or chronic disease progression. For example, our XRx-101 program for AKI associated with respiratory virus infection is designed to produce rapid suppression of hyperuricemia and then maintain purine metabolism at a low level during viral infection and target management of acute organ injury. Our XRx-008 program is designed for longer term stable chronic oral dosing of xanthine oxidase inhibitors ("XOI"). We believe that the capabilities of our formulation technology allow us to manage the unique challenges of cardiovascular and renal disease by modulating purine metabolism, inflammatory and oxidative state.

Fit-for-purpose

Our platforms can also be utilized to engineer new chemical entities and formulations of those agents that have enhanced properties. For example, our XRx-225 product candidate program, some of the intellectual property for which we license from third parties, represents a potential new class of xanthine oxidase inhibitor(s) with a targeted design to enhance anti-inflammatory activity. The capability of tailoring the potential therapeutic benefit of this class of new agents permits us to identify targets and disease that we wish to exploit and then, through formulation design, optimize those small molecules and proprietary formulations to maximize potentially clinically meaningful therapeutic effect.

Readily Scalable and Transferable

Our in-house small molecule and formulations design expertise is positioned to create a steady succession of drug product candidates that are scalable, efficient to manufacture (by us or a partner or contract manufacturing organization) and produce large scale and high purity active pharmaceutical drug product. We believe this will provide a competitive advantage, new intellectual property and opportunity to provide first-in-class products that target unmet medical needs and clinically meaningful quality of life.

Our team's expertise in uric acid lowering agents, specifically in the development and use of xanthine oxidase inhibitors, has enabled the development of our therapeutic product candidates to treat the symptoms of, and potentially delay the progression of ADPKD, AKI associated with respiratory virus infection, and T2DN. We note that there is no guarantee that the United States Food and Drug Administration ("FDA") will approve our proposed uric acid lowering agent product candidates for the treatment of kidney disease or the health consequences of diabetes.

Product Candidate Pipeline

Our lead product candidates are XRx-008, XRx-101, and XRx-225. The XRx-008 program has reported topline results for the XRX-OXY-101 Bridging Pharmacokinetic Study of XORLO™ (the "XRX-OXY-101 PK Clinical Trial") in advance of initiating Phase 3 registration clinical trial testing, the last stage of clinical development before application for FDA approval. Recent FDA discussions confirmed that a single clinical trial with a one-year treatment period would be sufficient to make this program eligible for accelerated approval once the benefit of XORLO™ on decreasing the rate of decline of glomerular filtration rate was demonstrated. Our recently reported study XRX-OXY-101 supports both the XRx-008 and XRx-101 programs. Future late-stage clinical studies targeting attenuation or reversal of AKI in hospitalized individuals with respiratory virus infection are planned. XRx-225 is a non-clinical stage program advancing new chemical entities toward the clinical development stage.

Products

The Company's most advanced development program, XRx-008, is a late clinical stage program focused on demonstrating the potential of our novel product candidate for ADPKD. XRx-008 is the development name given to XORTX's therapeutics program and associated proprietary oral formulation of oxypurinol, XORLO™. XORLO™ has shown increased oral bioavailability compared to a control formulation and demonstrates the potential for an expanded use across a broad therapeutic range. XORTX is also developing a drug product combination therapy that includes both intravenous uric acid lowering therapy combined with an oral anti-hyperuricemic with a xanthine oxidase inhibitor, XRx-101, for use in treating patients with AKI associated with respiratory virus infection and/or associated co-morbidities including sepsis.



XORTX is currently evaluating novel XOI candidates for the XR_x-225 program to potentially treat T2DN as well as developing new chemical entities to address other orphan and large market unmet medical need.

Patents

XORTX is the exclusive licensee of two U.S. granted patents with claims to the use of all uric acid lowering agents to treat insulin resistance or diabetic nephropathy, and two U.S. patent applications with similar claims for the treatment of metabolic syndrome, diabetes, and fatty liver disease. Counterparts for some of these patent applications have also been submitted in Europe. In both the US and Europe, XORTX owns composition of matter patent applications for unique proprietary formulations of xanthine oxidase inhibitors – U.S. and European patents have been granted. XORTX has also submitted two patent applications to cover the use of uric acid lowering agents for the treatment of the health consequences of respiratory virus infection. Recently, XORTX filed a third provisional patent application covering formulations and methods of dosing xanthine oxidase inhibitors in individuals with kidney disease.

OUR STRATEGY

The Company's goal is to apply our interdisciplinary expertise and pipeline-in-a-product strategy to further identify, develop and commercialize novel treatments in orphan indications, with an initial focus on renal and significant unmet medical needs.

Our ability to implement our business strategy is subject to numerous risks. These risks include, among others (see "Risks Related to the Business"):

- we have incurred significant losses since inception and anticipate that we will continue to incur losses for the foreseeable future;
- we will require substantial additional funding, which may not be available to us on acceptable terms, or at all, and, if not available, may require us to alter, delay, scale back, or cease our product development programs or operations;
- we have not generated any revenue to date and may never be profitable;
- we have a limited number of product candidates, all of which are still in preclinical or clinical development, and we may fail to obtain regulatory approval or experience significant delays in doing so;
- our product candidates may have undesirable side effects that may delay or prevent marketing approval or, if approved, require them to be taken off the market, require them to include contraindications, warnings and precautions, limitations of use, or otherwise limit their sales;
- we may be unable to obtain regulatory approval for our product candidates under applicable regulatory requirements, and the denial or delay of any such approval would delay commercialization of our product candidates, if approved, and adversely impact our potential to generate revenue, our business and our results of operations;
- security breaches, loss of data and other disruptions could compromise sensitive information related to our business or protected health information or prevent us from accessing critical information and expose us to liability, which could adversely affect our business and our reputation;
- our existing strategic partnerships are important to our business, and future strategic partnerships may also be important to us; if we are unable to maintain any of these strategic partnerships, or if these strategic partnerships are not successful, we may not realize the anticipated benefits of our strategic partnerships and our business could be adversely affected;



- we rely on third parties to monitor, support, conduct and oversee clinical trials of the product candidates that we are developing and, in some cases, to maintain regulatory files for those product candidates;
- our commercial success depends significantly on our ability to operate without infringing the patents and other proprietary rights of third parties;
- our patents covering one or more of our products or product candidates could be found invalid or unenforceable if challenged;
- if we are unable to obtain, maintain and enforce patent and trade secret protection for our product candidates and related technology, our business could be materially harmed; and
- if we are unable to protect the confidentiality of our proprietary information, the value of our technology and products could be adversely affected.

Funding Requirements

The Company has not generated any revenue from product sales to date and does not expect to do so until such time as XORTX obtains regulatory approval for and commercializes one or more of our product candidates. As the Company is currently in clinical and preclinical stages of development, it will be some time before we expect to achieve this, and it is uncertain that we ever will. We expect that we will continue to increase our operating expenses in connection with ongoing clinical trials and preclinical activities and the development of product candidates in our pipeline. We also expect to continue our strategic partnerships and we continue to seek additional collaboration opportunities. Further, we expect to continue our efforts to pursue additional grants and refundable tax credits from the Canadian government in order to further our research and development. Although it is difficult to predict our funding requirements, based upon our current operating plan, the Company anticipates that our existing cash and cash equivalents as of March 31, 2024, combined with the net proceeds of future financings, will enable us to advance the clinical development of XR_x-008 and XR_x-101 product candidates. XORTX may also be eligible to receive certain research, development, and commercial milestone payments in the future. However, because successful development of our product candidates and the achievement of milestones by our strategic partners is uncertain, we are unable to estimate the actual funds we will require to complete the research, development, and commercialization of product candidates.

RECENT DEVELOPMENTS

Financing Activities

On February 15 and March 4, 2024, the Company closed two tranches of a non-brokered offering of 899,717 common share units at a price of CAD \$3 per common share unit for aggregate gross proceeds of CAD \$2,699,151. Each common share unit consisted of one common share and one warrant to purchase one common share at CAD \$4.50 per common share for a period of two years. The warrants were immediately exercisable, and may be exercised for two years from the date of issuance, provided, however that, if, the common shares on the TSXV trade at greater than CAD \$6.00 for 10 or more consecutive trading days, the warrants will be accelerated and the warrants will expire on the 30th business day following notice. In connection with the non-brokered offering, the Company paid finder's fees of CAD \$132,551, representing a 5% finder's fee on certain subscriptions to qualified finders.

On April 30, 2024, the Company announced it had received TSXV approval to amend the terms of an aggregate of 1,024,099 outstanding common share purchase warrants as follows:

- 198,333 of the warrants issued pursuant to the private placement that closed on February 9, 2021 and which had an original exercise price of CAD \$42.26 per share (CAD \$0.40 per share, adjusted to reflect the 2021 and 2023 Share Consolidations), the TSXV has approved an amended exercise price of \$5.00.

270,211 of the warrants issued pursuant to the prospectus offering that closed on October 15, 2021 and which had an original exercise price of \$42.93 per share (\$4.77 per share, adjusted to reflect the 2023 Share Consolidation), the TSXV has approved an amended exercise price of \$5.00.



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555,555 of the warrants issued pursuant to the prospectus offering that closed on October 7, 2022 and which had an original exercise price of \$10.98 per share (\$1.22 per share, adjusted to reflect the 2023 Share Consolidation), the TSXV has approved an amended exercise price of \$5.00.

If the volume weighted average price for the Company's common shares on TSXV is greater than \$6.50 (approximately CAD \$8.7562) per common share for a period of ten (10) consecutive trading days, then the Company may give notice to the Holders of the Warrant by way of a news release (the "Notice") notifying such Holder that the warrants must be exercised within thirty (30) calendar days from the date of delivery of such Notice, otherwise the warrants will expire at 4:30 p.m. (Calgary time) on the 30th day after the date of delivery of the Notice (the "Forced Conversion Right"). Notwithstanding anything herein to the contrary, the Forced Conversion Right shall only be available to the Company on or after such time in which such forced exercise of the warrants will result in the issuance of free trading shares to the Holder.

Regulatory Advancements

On January 3, 2024, the Company announced the submission of a new patent for the treatment of chronic kidney disease ("CKD"). This patent is designed to protect new discoveries and strategies for the treatment of individuals with varied degrees of kidney function in the setting of CKD.

Changes in Officers and Directors

On March 27, 2024, the Company announced Dr. Ronald Perrone has joined the Company's Clinical Advisory Board.

On April 8, 2024, the Company announced the appointment of Ms. Abigail Jenkins to the Board of Directors.

FUTURE PLANS AND OUTLOOK

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

For the balance of 2024, XORTX will continue its focus of advancing XORLOTM for the XR_x-008 program for ADPKD into a Phase 2/3 "registration" clinical trial program – XR_x-OXY-201, ODD in the EU, discussion with the US FDA regarding the XR_x-OXY-301 clinical trial and possible initiation of special protocol assessment ("SPA") discussions with the FDA and initiation of commercialization activities, if approved, for XORLOTM as well as advancing research in other kidney disease applications. To achieve these objectives, XORTX's action plan includes:

1. **Under the XR_x-008 program, initiate the Phase 3 clinical trial named "XR_x-OXY-201", to support an application for "Accelerated Approval" of XORLOTM for individuals with ADPKD.** The XR_x-OXY-201 Clinical Trial is a Phase 2b/3a, Multi-Centre, Double-Blind, Placebo Controlled, Randomized Withdrawal Design Study to Evaluate the Efficacy and Safety of a Novel Oxypurinol Formulation in Patients with Progressing Stage 3-4 ADPKD and Coexistent Hyperuricemia. The XR_x-OXY-201 Clinical Trial will provide data for future "Accelerated Approval" NDA submissions to the FDA and MAA to the EMA. The XR_x-OXY-201 Clinical Trial is planned to start in the second half of 2024 and will enroll individuals with stage 3 or 4 ADPKD and presenting with chronically high uric acid. The objective of the XR_x-OXY-201 Clinical Trial is to evaluate the ability of XORLOTM to slow rate of decline of glomerular filtration rate and/or the expansion of total kidney volume over a 12-month treatment period. An estimated 150 patients will be enrolled with 120 patients completing the study.



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2. **Under the XR_x-008 program, prepare and communicate with the FDA and EMA regarding a second phase clinical trial named "XR_x-OXY-301", a Full Registration trial in ADPKD.** The XR_x-OXY-301 Clinical Trial is a Phase 3, Multi-Centre, Double-Blind, Placebo Controlled, Randomized Withdrawal Design Study to Evaluate the Efficacy and Safety of a Novel Oxypurinol Formulation in Patients with Progressing Stage 2-4 ADPKD and Coexistent Hyperuricemia with progressing stage 2, 3, or 4 kidney disease. The objective of the XR_x-OXY-301 Clinical Trial is to evaluate the safety and effectiveness of XORLOTM for the XR_x-008 program over a 24-month treatment period and obtain "full FDA marketing approval". The aim of the XR_x-OXY-301 Clinical Trial is to characterize the ability of XORLOTM to potentially decrease the rate of decline of glomerular filtration rate. An estimated 300 patients will be enrolled. The XR_x-OXY-301 Clinical Trial is planned to start in 2025, and may be subject to SPA review by FDA.
3. **Ongoing CMC Work.** In parallel with the XR_x-OXY-201 and XR_x-OXY-301 Clinical Trials, XORTX will focus on scale-up, validation and stability testing of clinical drug product supplies of XORLOTM under the Company's granted IND, as well as building, validating and characterization of stability of future clinical and commercial supplies. All development will be performed according to current GMP methodology. This work will be ongoing throughout 2024 to 2026.
4. **Activities Related to Potential Commercial Launch.** In preparation for a possible "Accelerated Approval" NDA filing in 2027 for XORLOTM for XR_x-008, XORTX will conduct commercialization studies to support in-depth analysis of pricing and/or reimbursement, as well as evaluate product brand name selection and prepare related filings and conduct other launch preparation activities. This work will be ongoing from 2024 to 2027.
5. **Activities Related to European Registration.** XORTX will continue to work with and seek out guidance from the EMA to facilitate the path to potential approval of XORLOTM in the EU, including required clinical studies and reimbursement conditions. This work will be ongoing from 2024 through 2027 and will include continued pursuit of orphan drug status. In addition, XORTX is updating an information dossier to support an orphan drug designation from the EMA.

To achieve the above goals, XORTX will continue to pursue non-dilutive and dilutive funding and expand discussions to partner with major pharma / biotech companies with a global reach. XORTX will also increase financial and healthcare conference participation to further strengthen and expand its investor base.

SUMMARY OF QUARTERLY RESULTS

The following table sets forth unaudited quarterly results prepared by management for the eight previous quarters to March 31, 2024:

| (unaudited) | 2024 Q1 | 2023 Q4 | 2023 Q3 | 2023 Q2 |
|---|-------------|-------------|-------------|-------------|
| Research and development | 73,643 | 134,132 | 569,713 | 667,913 |
| Consulting, wages and benefits | 224,721 | 260,607 | 249,033 | 343,606 |
| Directors' fees | 39,161 | 45,495 | 46,469 | 43,204 |
| Investor relations | 439,405 | 278,934 | 236,934 | 223,334 |
| Professional fees | 120,210 | 56,363 | 102,617 | 214,425 |
| General and administrative | 74,920 | 93,567 | 90,140 | 90,299 |
| Public company costs | 29,683 | 29,630 | 45,822 | 47,371 |
| Travel | 1,607 | 31,771 | 14,267 | 68,765 |
| Amortization of intangible and capital assets | 32,132 | 24,360 | 16,467 | 32,020 |
| Share based payments ⁽¹⁾ | 53,134 | 28,815 | 21,850 | 30,769 |
| Loss/(gain) on derivative warrant liability | 1,724,792 | (3,641,403) | - | - |
| Foreign exchange loss | 12,644 | 8,320 | 3,668 | 3,494 |
| Interest income | (31,602) | (49,815) | (63,614) | (73,312) |
| Transaction costs on derivative warrant liability | 224,486 | - | - | - |
| Total (loss) income | (3,018,936) | 2,699,224 | (1,333,366) | (1,691,888) |
| (Loss) income per share | (1.24) | 1.38 | (0.67) | (0.85) |



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| (unaudited) | 2023 Q1 | 2022 Q4 | 2022 Q3 | 2022 Q2 |
|---|-------------|-------------|-------------|-------------|
| Research and development | 1,046,957 | 1,903,204 | 1,472,856 | 1,458,077 |
| Consulting, wages and benefits | 184,312 | 219,183 | 244,122 | 26,717 |
| Directors' fees | 44,238 | 42,077 | 45,495 | 23,153 |
| Investor relations | 180,288 | 182,192 | 100,706 | 407,138 |
| Professional fees | 140,858 | 92,434 | 56,244 | 221,038 |
| General and administrative | 101,499 | 88,226 | 117,236 | 123,467 |
| Public company costs | 47,361 | 31,280 | 25,105 | 37,903 |
| Travel | 55,384 | 11,041 | 84 | 11,413 |
| Amortization of intangible assets | 66,847 | 22,557 | 22,057 | 9,756 |
| Share based payments ⁽¹⁾ | 39,550 | 67,682 | 19,268 | 332,912 |
| Gain on derivative warrant liability | - | (1,579,802) | (362,688) | (1,128,101) |
| Foreign exchange (gain) loss | (8,457) | 626,369 | (507,859) | (272,869) |
| Interest income | (66,802) | (53,716) | (35,460) | (11,764) |
| Transaction costs on derivative warrant liability | - | 926,456 | - | - |
| Total loss | (1,832,035) | (2,579,183) | (1,197,166) | (1,238,840) |
| Loss per share | (0.95) | (1.62) | (0.83) | (0.86) |

Notes:

(1) Share based payments relate to the vesting of options over the period.

Three months ended March 31, 2024

The Company incurred a loss of \$3,018,936 (\$1.24 per share) for the three months ended March 31, 2024, compared to a loss of \$1,832,035 (\$0.95 per share) in the three months ended March 31, 2023.

Variances within the loss items are as follows:

Consulting, wages and benefits - \$224,721 (2023 - \$184,312) – Consulting expenses increased during the three months ended March 31, 2024, as more consultants were engaged during the current quarter due to an increase in Company activity with respect to corporate development.

General and administrative - \$74,920 (2023 - \$101,499) – General and administrative expenses decreased due to lower directors' and officers' insurance premiums.

Investor relations - \$439,405 (2023 - \$180,288) – Investor relations expense increased during the three months ended March 31, 2024 as the Company entered into various engagements to provide information to investors.

Research and development - \$73,643 (2023 - \$1,046,957) – Research and development expenses decreased in the three months ended March 31, 2024, compared to the same period last year as detailed in the following table (future expenditures will depend upon financial resources available):

The table below presents combined research and development costs for XRx-008, XRx-101, and XRx-225 as the Company's projects are presently run concurrently and in combination.

| | Q1 2024 | Q1 2023 | Change \$ | Change % |
|---|-----------|--------------|--------------|----------|
| Clinical trials expenses ¹ | 6,652 | 467,987 | (461,335) | (99%) |
| Manufacturing and related process expenses ² | 32,363 | 197,596 | (165,233) | (84%) |
| Intellectual property expenses ³ | 5,138 | 1,570 | 3,568 | 227% |
| Translational science expenses ⁴ | - | 97,684 | (97,684) | (100%) |
| External consultants expenses ⁵ | 29,490 | 282,120 | (252,630) | (90%) |
| Total Research and development | \$ 73,643 | \$ 1,046,957 | \$ (973,314) | (93%) |

Notes:

- (1) Clinical trials expenses include those costs associated with our clinical trial program which primarily included expenses related to the XRx-008 and XRx-101 projects. Included in clinical trials expenses are regulatory and consulting activities, contract research organization expenses, data management expenses, and other costs associated with our clinical trial program. In Q1 2024, clinical trials expense decreased mainly as the bridging pharmacokinetics study was mostly completed at the end of 2022 as compared to the comparative period when the XRx-OXY-101 PK Clinical Trial was starting as a new expense.
- (2) Manufacturing and related process expenses includes third party direct manufacturing costs, quality control testing and packaging costs. In Q1 2024, manufacturing costs primarily related to the Company's oxypurinol quality control and stability related costs.
- (3) Intellectual property expenses include legal and filing fees associated with our patent portfolio. Submission of new patents in Q1 2024 resulted in an increase in intellectual property expenses.
- (4) Translational science expenses include various research studies conducted to expand our intellectual knowledge base related to oxypurinol and our proprietary formulations of oxypurinol, pharmacokinetic testing, non-clinical bioavailability studies, pharmacology and toxicology testing and identify potential licensing opportunities.
- (5) External consultants expenses include third party consultants engaged in the activities of research and development, including chemistry, manufacturing, drug product development, regulatory, non-clinical and clinical study execution. The decrease in external consultants expenses in Q1 2024 as compared to Q1 2023 was attributed to decreased activity associated with completion of the XRx-OXY-101 PK Clinical Trial versus the previous year quarter the activities were attributed to the initiation of the Company's bridging study and thereafter a single registration trial associated to the XRx-008 program in individuals.

Travel - \$1,607 (2023 - \$55,384) – Travel decreased during the three months ended March 31, 2024, as compared with the 2023 period due to a decrease in travel to investor conferences.

Loss on derivative warrant liability - \$1,724,792 (2023 - \$nil) – During the period ended March 31, 2024, the loss was primarily due to an increase in the Company's share price and an increase in the remaining terms of the warrants which increase the value of the derivative warrant liability. The warrants included in the units issued under the offering in Q1-2024 have an exercise price in CAD dollars and have a derivative financial liability as the exercise price is in a different currency than the functional currency of the entity. The warrants are initially recognized at fair value and subsequently measured at fair value with changes recognized through profit or loss.

Comparison of cash flows for the three months ended March 31, 2024 and 2023

The Company realized a net cash inflow of \$387,775 for the three months ended March 31, 2024, compared to a cash outflow of \$2,525,735 for the three months ended March 31, 2023. The variances in the cash flow for the three months ended March 31, 2024, compared to March 31, 2023 were as follows:

Operating activities – Cash used in operating activities for the three months ended March 31, 2024, was \$1,303,852 (2023 - \$2,485,187). The cash used in operating activities was primarily due to the net loss during the period.

Investing activities – Cash used in investing activities for the three months ended March 31, 2024, was \$2,623 (2023 - \$19,731). The cash used was related to the acquisition of intangible assets during the period.

Financing activities – Cash provided by financing activities in the three months ended March 31, 2024, was \$1,703,567 (2023 – cash used in \$21,977). The cash provided was mostly related to the non-brokered offerings that took place in February and March raising gross proceeds of CAD \$2,699,151 through the issuance of 899,717 units at a subscription price of CAD \$3.00 per unit.

LIQUIDITY AND CAPITAL RESOURCES

As at March 31, 2024, the Company had a cash balance of \$3,835,440 and working capital of \$4,321,526 as compared to a cash balance of \$3,447,665 and working capital of \$3,773,845 as at December 31, 2023. During the three months ended March 31, 2024, the Company closed two offerings that consisted of 899,717 common share units at CAD \$3.00 per unit for aggregate gross proceeds of CAD \$2,699,151.

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, corporate initiatives may be affected or postponed.

USE OF FINANCING PROCEEDS

The proceeds that the Company has used have been for funding operations and general corporate purposes, which has included further research and development and manufacture of active pharmaceutical ingredients and drug product to support clinical trials. The Company intends to continue to use the remaining net proceeds of the Offering, together with existing cash, for funding operations and general corporate purposes, which may include further research and development, clinical trials, manufacture of active pharmaceutical ingredients and drug product to support clinical trials and intends to use the proceeds in approximately the following proportions: XRx-008: 90%; XRx-101: 5%; XRx-225: 5%.

COMMITMENTS

The Company has long-term arrangements with commitments that are not recognized as liabilities as at March 31, 2024 and December 31, 2023 are as follows:

Employment Agreements

| | March 31, 2024 | December 31, 2023 |
|--------------------------------|-------------------|----------------------|
| | \$ | \$ |
| Management services – officers | 321,000 | 321,000 |

The President, CEO and a director of the Company has a long-term employment agreement with the Company. The agreement has a termination clause whereby he is entitled to the equivalent of 12 times his current monthly salary which, as of March 31, 2024 and December 31, 2023, equated to an annual salary of \$321,000.

Payments

In the normal course of business, the Company has committed to payments totaling \$365,190 (December 31, 2023 - \$446,000) for activities related to its clinical trials, manufacturing, collaboration programs and other regular business activities which are expected to occur over the next two years.

OFF BALANCE SHEET ARRANGEMENTS

The Company has no off-balance sheet arrangements.

TRANSACTIONS WITH RELATED PARTIES

All related party transactions were measured at fair value. All amounts due from/payable to related parties are unsecured, non-interest bearing and have no fixed terms of repayment.

During the three months ended March 31, 2024 and 2023, the Company incurred the following transactions with related parties:

- a) Wages and benefits and professional fees were paid or accrued to Allen Davidoff, the Chief Executive Officer (“CEO”), in the amount of \$84,447 (2023 - \$84,081).



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- b) Fees were paid or accrued to 1282803 Ontario Inc., a company owned by James Fairbairn, the Chief Financial Officer (“CFO”) of the Company in the amount \$38,017 (2023 - \$41,148 (paid or accrued to former Chief Financial Officer.))
- c) Research and development fees were paid or accrued to Haworth Biopharmaceutical, a company owned by Stephen Haworth, the Chief Medical Officer (“CMO”) of the Company in the amount of \$24,000 (2023 - \$52,979).
- d) Consulting fees were paid or accrued to Stacy Evans, the Chief Business Officer (“CBO”) of the Company in the amount of \$45,000 (2023 - \$75,000).
- e) Directors’ fees were paid or accrued to the directors of the Company in the amount of \$39,161 (2023 - \$47,089). The amount includes director fees payment of \$30,663 for the three months ended March 31, 2024 (2023 - \$35,842) to Anthony Giovinazzo, Chairman of the Company.
- f) As at March 31, 2024, \$17,934 (2023 - \$11,084) was payable to directors of the Company, \$nil (2023 - \$28,846) was accrued to the CEO of the Company for CEO services, \$nil (2023 - \$10,913) was accrued to the former CFO of the Company for CFO services, \$14,281 (2023 - \$nil) was accrued to the CFO of the Company for CFO services, \$8,000 (2023 - \$18,750) was payable and accrued to the CMO of the Company for consulting services, and \$15,000 (2023 - \$25,000) was payable and accrued to the CBO of the Company for consulting services. The balances are unsecured, non-interest bearing, and have no fixed terms of repayment.
- g) Management and directors’ compensation transactions for the three months ended March 31, 2024 and 2023 are summarized as follows:

| | Management Compensation | Directors’ fees | Share- based payments | Total |
|-----------------------------------|----------------------------|--------------------|-----------------------------|----------------|
| | \$ | \$ | \$ | \$ |
| Three months ended March 31, 2023 | | | | |
| Directors and officers | 256,060 | 44,237 | 24,654 | 324,951 |
| Three months ended March 31, 2024 | | | | |
| Directors and officers | 191,464 | 39,161 | 38,103 | 271,388 |

FINANCIAL AND CAPITAL RISK MANAGEMENT

The Company’s financial instruments consist of cash, accounts payable and accrued liabilities, lease obligation and derivative warrant liability. Cash is classified as a financial asset at FVTPL, accounts payable and accrued liabilities and lease obligation are classified as financial liabilities at amortized cost and derivative warrant liability is classified as a financial liability at FVTPL.

The fair values of these financial instruments approximate their carrying values at March 31, 2024, due to their short-term nature.

The Company thoroughly examines the various financial instruments and risks to which it is exposed and assesses the impact and likelihood of those risks. These risks include foreign currency risk, interest rate risk, market risk, credit risk, and liquidity risk. Where material, these risks are reviewed and monitored by the Board of Directors

There have been no changes in any risk management policies since December 31, 2023.

Capital Management

The Company defines capital that it manages as shareholders' 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:

| Equity is comprised of: | March 31, 2024 | December 31 2023 |
|--------------------------------------|---------------------------|-----------------------------|
| | \$ | \$ |
| Share capital | 17,871,433 | 17,056,535 |
| Reserves | 5,521,391 | 5,468,257 |
| Obligation to issue shares | 24,746 | 24,746 |
| Accumulated other comprehensive loss | (52,605) | (52,605) |
| Deficit | (20,873,843) | (17,854,907) |

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. There were no changes during the three months ended March 31, 2024. The Company is not exposed to external requirements by regulatory agencies regarding its capital.

OUTSTANDING SHARE DATA

The Company has an unlimited number of unauthorized common shares without par value.

| Type of Security | Common shares |
|----------------------------------|----------------------|
| As of May 15, 2024 | (number) |
| Issued and outstanding | 2,903,565 |
| Stock options | 142,518 |
| Share purchase warrants | 2,070,225 |
| Fully diluted shares outstanding | 5,116,308 |

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.

For additional discussion on XORTX's risks, refer to the "Risk Factors" section of the Company's Annual Information Form ("AIF") and the Form 20-F for the year ended December 31, 2023, and the "Forward Looking Statements" section of this MD&A.

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.

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 to 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; 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 efficiently and properly conduct clinical trials in accord with contracted arrangements and regulations, 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 subsidiary, 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 subsidiary, 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 favorable 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 favorable 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.

International Conflict

International conflict and other geopolitical tensions and events, including war, military action, terrorism, trade disputes and international responses thereto have historically led to, and may in the future lead to, uncertainty or volatility in financial markets and supply chains. Russia's invasion of Ukraine in early 2022 has led to sanctions being levied against Russia by the international community and may result in additional sanctions or other international action, any of which may have a destabilizing effect on supply chain disruptions which may adversely affect the Company's business, financial condition and results of operations. The extent and duration of the current Russia-Ukraine conflict

and related international action cannot be accurately predicted at this time and the effects of such conflict may magnify the impact of the other risks identified in this document, including those relating to global financial conditions. The situation is rapidly changing and unforeseeable impacts, including on our shareholders and counterparties on which we rely and transact, may materialize and may have an adverse effect on the Company's business, results of operations and financial condition.



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. The level of the financial risk exposure related to 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 CEO, 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.

SEGMENT REPORTING

We view our operations and manage our business in one segment, which is the development and commercialization of biopharmaceuticals, initially focused on the treatment of progressive kidney disease.

TREND INFORMATION

Other than as disclosed elsewhere we are not aware of any trends, uncertainties, demands, commitments, or events that are reasonably likely to have a material effect on our net revenues, income from continuing operations, profitability, liquidity or capital resources, or that would cause reported financial information not necessarily to be indicative of future operating results or financial condition.

MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL STATEMENTS

The Company's management is responsible for the 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.

DISCLOSURE CONTROLS AND PROCEDURES

Disclosure controls and procedures are designed to provide reasonable assurance that material information required to be disclosed in the prescribed filings and reports filed with the Canadian securities regulatory authorities is recorded, processed, summarized and reported on a timely basis. Controls are also designed to provide reasonable assurance that information required to be disclosed is assimilated and communicated to senior management in a timely manner so that appropriate decisions can be made regarding public disclosure. The Company's CEO and CFO have evaluated the effectiveness of the Company's disclosure controls and procedures and concluded that they provide reasonable assurance that material information relating to the Company was made known to them and reported as required.



FORM 52-109F2
CERTIFICATION OF INTERIM FILINGS
FULL CERTIFICATE

I, Allen Davidoff, Chief Executive Officer of XORTX Therapeutics Inc., certify the following:

1. **Review:** I have reviewed the interim financial report and interim MD&A (together, the "interim filings") of XORTX Therapeutics Inc. (the "issuer") for the interim period ended March 31, 2024.
2. **No misrepresentations:** Based on my knowledge, having exercised reasonable diligence, the interim filings do not contain any untrue statement of a material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it was made, with respect to the period covered by the interim filings.

3. **Fair presentation:** Based on my knowledge, having exercised reasonable diligence, the interim financial report together with the other financial information included in the interim filings fairly present in all material respects the financial condition, financial performance and cash flows of the issuer, as of the date of and for the periods presented in the interim filings.
 4. **Responsibility:** The issuer's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (DC&P) and internal control over financial reporting (ICFR), as those terms are defined in *National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings*, for the issuer.
 5. **Design:** Subject to the limitations, if any, described in paragraphs 5.2 and 5.3, the issuer's other certifying officer(s) and I have, as at the end of the period covered by the interim filings:
 - (a) designed DC&P, or caused it to be designed under our supervision, to provide reasonable assurance that:
 - (i) material information relating to the issuer is made known to us by others, particularly during the period in which the interim filings are being prepared; and
 - (ii) information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and
 - (b) designed ICFR, or caused it to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer's GAAP.
 - 5.1 **Control framework:** The control framework the issuer's other certifying officer(s) and I used to design the issuer's ICFR is COSO Financial Controls Framework.
 - 5.2 **ICFR - material weakness relating to design:** N/A
 - 5.3 **Limitation on scope of design:** N/A
-

6. **Reporting changes in ICFR:** The issuer has disclosed in its interim MD&A any change in the issuer's ICFR that occurred during the period beginning on January 1, 2024 and ended on March 31, 2024 that has materially affected, or is reasonably likely to materially affect, the issuer's ICFR.

Date: May 15, 2024

/s/ Allen Davidoff

Allen Davidoff
Chief Executive Officer

Exhibit 99.4

FORM 52-109F2
CERTIFICATION OF INTERIM FILINGS
FULL CERTIFICATE

I, James Fairbairn, Chief Financial Officer of XORTX Therapeutics Inc., certify the following:

1. **Review:** I have reviewed the interim financial report and interim MD&A (together, the "interim filings") of XORTX Therapeutics Inc. (the "issuer") for the interim period ended March 31, 2024.
2. **No misrepresentations:** Based on my knowledge, having exercised reasonable diligence, the interim filings do not contain any untrue statement of a material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it was made, with respect to the period covered by the interim filings.
3. **Fair presentation:** Based on my knowledge, having exercised reasonable diligence, the interim financial report together with the other financial information included in the interim filings fairly present in all material respects the financial condition, financial performance and cash flows of the issuer, as of the date of and for the periods presented in the interim filings.
4. **Responsibility:** The issuer's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (DC&P) and internal control over financial reporting (ICFR), as those terms are defined in *National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings*, for the issuer.
5. **Design:** Subject to the limitations, if any, described in paragraphs 5.2 and 5.3, the issuer's other certifying officer(s) and I have, as at the end of the period covered by the interim filings:
 - (a) designed DC&P, or caused it to be designed under our supervision, to provide reasonable assurance that:
 - (i) material information relating to the issuer is made known to us by others, particularly during the period in which the interim filings are being prepared; and
 - (ii) information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and

(b) designed ICFR, or caused it to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer's GAAP.

5.1 **Control framework:** The control framework the issuer's other certifying officer(s) and I used to design the issuer's ICFR is COSO Financial Controls Framework.

5.2 **ICFR - material weakness relating to design:** N/A

5.3 **Limitation on scope of design:** N/A

6. **Reporting changes in ICFR:** The issuer has disclosed in its interim MD&A any change in the issuer's ICFR that occurred during the period beginning on January 1, 2024 and ended on March 31, 2024 that has materially affected, or is reasonably likely to materially affect, the issuer's ICFR.

Date: May 15, 2024

/s/ James Fairbairn

James Fairbairn
Chief Financial Officer
