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

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2021

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission File Number: 001-37627

WAVE LIFE SCIENCES LTD.

(Exact name of registrant as specified in its charter)

Singapore **(State or other jurisdiction of incorporation or organization)**		**Not applicable** **(I.R.S. Employer Identification No.)**
7 Straits View #12-00, Marina One East Tower **Singapore** **(Address of principal executive offices)**		**018936** **(Zip Code)**

+65 6236 3388
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol	Name of each exchange on which registered
$0 Par Value Ordinary Shares	WVE	The Nasdaq Global Market

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of ''large accelerated filer,'' ''accelerated filer,'' ''smaller reporting company,'' and ''emerging growth company'' in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The number of outstanding ordinary shares of the registrant as of July 29, 2021 was 50,766,062.

WAVE LIFE SCIENCES LTD.

QUARTERLY REPORT ON FORM 10-Q

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As used in this Quarterly Report on Form 10-Q, unless otherwise stated or the context otherwise indicates, references to "Wave," the "Company," "we," "our," "us" or similar terms refer to Wave Life Sciences Ltd. and our wholly-owned subsidiaries.

Special Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that relate to future events or to our future operations or financial performance. Any forward-looking statement involves known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by such forward-looking statement. In some cases, forward-looking statements are identified by the words "anticipate," "believe," "continue," "could," "estimate," "expect," "future," "goals," "intend," "likely," "may," "might," "ongoing," "objective," "plan," "potential," "predict," "project," "seek," "should," "strategy," "target," "will" and "would" or the negative of these terms, or other comparable terminology intended to identify statements about the future, although not all forward-looking statements contain these identifying words. Forward-looking statements include statements, other than statements of historical fact, about, among other things: our ability to fund our future operations; our financial position, revenues, costs, expenses, uses of cash and capital requirements; our need for additional financing or the period for which our existing cash resources will be sufficient to meet our operating requirements; the success, progress, number, scope, cost, duration, timing or results of our research and development activities, preclinical studies and clinical trials, including the timing for initiation or completion of or availability of results from any preclinical studies and clinical trials or for submission, review or approval of any regulatory filing; the timing of, and our ability to, obtain and maintain regulatory approvals for any of our product candidates; the potential benefits that may be derived from any of our product candidates; our strategies, prospects, plans, goals, expectations, forecasts or objectives; the success of our collaborations with third parties; any payment that our collaboration partners may make to us; our ability to identify and develop new product candidates; our intellectual property position; our commercialization, marketing and manufacturing capabilities and strategy; our ability to develop sales and marketing capabilities; our estimates regarding future expenses and needs for additional financing; our ability to identify, recruit and retain key personnel; our financial performance; developments and projections relating to our competitors in the industry; our liquidity and working capital requirements; the expected impact of new accounting standards; and our expectations regarding the impact of COVID-19, and variants thereof on our business, including on our research and development activities, preclinical studies and clinical trials, supply of drug product, and our workforce.

Although we believe that we have a reasonable basis for each forward-looking statement contained in this report, we caution you that these statements are based on our estimates or projections of the future that are subject to known and unknown risks and uncertainties and other important factors that may cause our actual results, level of activity, performance or achievements expressed or implied by any forward-looking statement to differ. These risks, uncertainties and other factors include, among other things, our critical accounting policies and: the ability of our preclinical studies to produce data sufficient to support the filing of global clinical trial applications and the timing thereof; our ability to continue to build and maintain the company infrastructure and personnel needed to achieve our goals; the clinical results and timing of our programs, which may not support further development of our product candidates; actions of regulatory agencies, which may affect the initiation, timing and progress of clinical trials; our effectiveness in managing current and future clinical trials and regulatory processes; the success of our platform in identifying viable candidates; the continued development and acceptance of nucleic acid therapeutics as a class of drugs; our ability to demonstrate the therapeutic benefits of our stereopure candidates in clinical trials, including our ability to develop candidates across multiple therapeutic modalities; our ability to obtain, maintain and protect intellectual property; our ability to enforce our patents against infringers and defend our patent portfolio against challenges from third parties; our ability to fund our operations and to raise additional capital as needed; competition from others developing therapies for similar uses; the severity and duration of the COVID-19 pandemic; the COVID-19 pandemic, and variants thereof, may negatively impact the conduct of, and the timing of enrollment, completion and reporting with respect to, our clinical trials; any other impacts on our business as a result of or related to the COVID-19 pandemic, as well as other risks and uncertainties under the caption "Risk Factors" contained in this Quarterly Report on Form 10-Q and in other filings we make with the Securities and Exchange Commission.

Each forward-looking statement contained in this report is based on a combination of facts and factors currently known by us and our expectations of the future, about which we cannot be certain. As a result of these factors, we cannot assure you that the forward-looking statements in this report will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, these statements should not be regarded as representations or warranties by us or any other person that we will achieve our objectives and plans in any specified timeframe, or at all. We caution you not to place undue reliance on any forward-looking statement.

In addition, any forward-looking statement in this report represents our views only as of the date of this report and should not be relied upon as representing our views as of any subsequent date. We anticipate that subsequent events and developments may cause our views to change. Although we may elect to update these forward-looking statements publicly at some point in the future, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

The Wave Life Sciences Ltd. and Wave Life Sciences Pte. Ltd. names, the Wave Life Sciences mark, PRISM and the other registered and pending trademarks, trade names and service marks of Wave Life Sciences Ltd. appearing in this Form 10-Q are the property of Wave Life Sciences Ltd. This Form 10-Q also contains additional trade names, trademarks and service marks belonging to Wave Life Sciences Ltd. and to other companies. We do not intend our use or display of other parties' trademarks, trade names or service marks to imply, and such use or display should not be construed to imply, a relationship with, or endorsement or sponsorship of us by, these other parties. Solely for convenience, the trademarks and trade names in this Form 10-Q are referred to without the ® and ™ symbols, but such reference should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

Item 1. Financial Statements

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED BALANCE SHEETS

(In thousands, except share amounts)

	June 30, 2021	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 143,840	$ 184,497
Current portion of accounts receivable	—	30,000
Prepaid expenses	9,188	10,434
Other current assets	6,403	5,111
Total current assets	159,431	230,042
Long-term assets:		
Property and equipment, net	25,842	29,198
Operating lease right-of-use assets	15,189	16,232
Restricted cash	3,651	3,651
Other assets	2,298	115
Total long-term assets	46,980	49,196
Total assets	$ 206,411	$ 279,238
Liabilities, Series A preferred shares and shareholders' equity		
Current liabilities:		
Accounts payable	$ 8,655	$ 13,795
Accrued expenses and other current liabilities	9,923	11,971
Current portion of deferred revenue	24,177	91,560
Current portion of operating lease liability	3,966	3,714
Total current liabilities	46,721	121,040
Long-term liabilities:		
Deferred revenue, net of current portion	106,088	41,481
Operating lease liability, net of current portion	23,547	25,591
Other liabilities	339	474
Total long-term liabilities	$ 129,974	$ 67,546
Total liabilities	$ 176,695	$ 188,586
Series A preferred shares, no par value; 3,901,348 shares issued and outstanding at June 30, 2021 and December 31, 2020	$ 7,874	$ 7,874
Shareholders' equity:		
Ordinary shares, no par value; 50,576,466 and 48,778,678 shares issued and outstanding at June 30, 2021 and December 31, 2020, respectively	$ 707,714	$ 694,085
Additional paid-in capital	78,358	71,573
Accumulated other comprehensive income	269	389
Accumulated deficit	(764,499)	(683,269)
Total shareholders' equity	$ 21,842	$ 82,778
Total liabilities, Series A preferred shares and shareholders' equity	$ 206,411	$ 279,238

The accompanying notes are an integral part of the unaudited consolidated financial statements.

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(In thousands, except share and per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Revenue	$ 2,776	$ 3,027	$ 2,776	$ 7,188
Operating expenses:				
Research and development	31,635	31,478	65,028	72,636
General and administrative	10,969	10,205	21,047	23,201
Total operating expenses	42,604	41,683	86,075	95,837
Loss from operations	(39,828)	(38,656)	(83,299)	(88,649)
Other income (expense), net:				
Dividend income and interest income, net	8	133	19	521
Other income (expense), net	1,054	(2,005)	2,050	107
Total other income (expense), net	1,062	(1,872)	2,069	628
Loss before income taxes	(38,766)	(40,528)	(81,230)	(88,021)
Income tax provision	—	—	—	—
Net loss	$ (38,766)	$ (40,528)	$ (81,230)	$ (88,021)
Net loss per share attributable to ordinary shareholders—basic and diluted	$ (0.78)	$ (1.15)	$ (1.65)	$ (2.53)
Weighted-average ordinary shares used in computing net loss per share attributable to ordinary shareholders—basic and diluted	49,973,185	35,212,291	49,220,140	34,836,898
Other comprehensive income (loss):				
Net loss	$ (38,766)	$ (40,528)	$ (81,230)	$ (88,021)
Foreign currency translation	—	5	(120)	11
Comprehensive loss	$ (38,766)	$ (40,523)	$ (81,350)	$ (88,010)

The accompanying notes are an integral part of the unaudited consolidated financial statements.

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF SERIES A PREFERRED SHARES AND SHAREHOLDERS' EQUITY

(In thousands, except share amounts)

	Series A Preferred Shares		Ordinary Shares		Additional Paid-In-Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Shareholders' Equity
	Shares	Amount	Shares	Amount				
Balance at December 31, 2019	3,901,348	$ 7,874	34,340,690	$ 539,547	$ 57,277	$ 267	$ (533,359)	$ 63,732
Issuance of ordinary shares pursuant to the at-the-market equity program, net	—	—	59,690	604	—	—	—	604
Share-based compensation	—	—	—	—	3,999	—	—	3,999
Vesting of RSUs	—	—	198,202	—	—	—	—	—
Option exercises	—	—	3,000	10	—	—	—	10
Other comprehensive income	—	—	—	—	—	6	—	6
Net loss	—	—	—	—	—	—	(47,493)	(47,493)
Balance at March 31, 2020	3,901,348	$ 7,874	34,601,582	$ 540,161	$ 61,276	$ 273	$ (580,852)	$ 20,858
Issuance of ordinary shares pursuant to the at-the-market equity program, net	—	—	1,123,156	11,372	—	—	—	11,372
Share-based compensation	—	—	—	—	3,794	—	—	3,794
Vesting of RSUs	—	—	3,569	—	—	—	—	
Option exercises	—	—	3,847	10	—	—	—	10
Other comprehensive income	—	—	—	—	—	5	—	5
Net loss	—	—	—	—	—	—	(40,528)	(40,528)
Balance at June 30, 2020	3,901,348	$ 7,874	35,732,154	$ 551,543	$ 65,070	$ 278	$ (621,380)	$ (4,489)

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF SERIES A PREFERRED SHARES AND SHAREHOLDERS' EQUITY CONTINUED

(In thousands, except share amounts)

	Series A Preferred Shares		Ordinary Shares		Additional Paid-In-Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Shareholders' Equity
	Shares	Amount	Shares	Amount				
Balance at December 31, 2020	3,901,348	$ 7,874	48,778,678	$ 694,085	$ 71,573	$ 389	$ (683,269)	$ 82,778
Issuance of ordinary shares pursuant to the at-the-market equity program, net	—	—	844,796	8,028	—	—	—	8,028
Share-based compensation	—	—	—	—	4,063	—	—	4,063
Vesting of RSUs	—	—	155,184	—	—	—	—	—
Option exercises	—	—	31,957	200	—	—	—	200
Issuance of ordinary shares under the ESPP	—	—	44,036	336	—	—	—	336
Other comprehensive loss	—	—	—	—	—	(120)	—	(120)
Net loss	—	—	—	—	—	—	(42,464)	(42,464)
Balance at March 31, 2021	3,901,348	$ 7,874	49,854,651	$ 702,649	$ 75,636	$ 269	$ (725,733)	$ 52,821
Issuance of ordinary shares pursuant to the at-the-market equity program, net	—	—	718,179	5,065	—	—	—	5,065
Share-based compensation	—	—	—	—	2,722	—	—	2,722
Vesting of RSUs	—	—	3,636	—	—	—	—	—
Net loss	—	—	—	—	—	—	(38,766)	(38,766)
Balance at June 30, 2021	3,901,348	$ 7,874	50,576,466	$ 707,714	$ 78,358	$ 269	$ (764,499)	$ 21,842

The accompanying notes are an integral part of the consolidated financial statements.

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Six Months Ended June 30,	
	2021	2020
Cash flows from operating activities		
Net loss	$ (81,230)	$ (88,021)
Adjustments to reconcile net loss to net cash used in operating activities:		
Amortization of right-of-use assets	1,043	900
Depreciation of property and equipment	3,857	4,063
Share-based compensation expense	6,785	7,793
Changes in operating assets and liabilities:		
Accounts receivable	30,000	20,000
Prepaid expenses	1,246	3,174
Other assets	(3,475)	(151)
Accounts payable	(5,251)	4,762
Accrued expenses and other current liabilities	(2,048)	(7,965)
Deferred revenue	(2,776)	(7,188)
Operating lease liabilities	(1,792)	(1,561)
Other non-current liabilities	(135)	(201)
Net cash used in operating activities	(53,776)	(64,395)
Cash flows from investing activities		
Purchases of property and equipment	(447)	(716)
Net cash used in investing activities	(447)	(716)
Cash flows from financing activities		
Proceeds from issuance of ordinary shares pursuant to the at-the-market equity program, net	13,150	11,976
Proceeds from the exercise of share options	200	20
Proceeds from the employee share purchase plan	336	—
Net cash provided by financing activities	13,686	11,996
Effect of foreign exchange rates on cash, cash equivalents and restricted cash	(120)	11
Net decrease in cash, cash equivalents and restricted cash	(40,657)	(53,104)
Cash, cash equivalents and restricted cash, beginning of period	188,148	150,808
Cash, cash equivalents and restricted cash, end of period	$ 147,491	$ 97,704
Supplemental disclosure of cash flow information:		
At-the-market offering costs in accounts payable at period end	$ 57	$ —

The accompanying notes are an integral part of the unaudited consolidated financial statements.

1. THE COMPANY

Organization

Wave Life Sciences Ltd. (together with its subsidiaries, "Wave" or the "Company") is a clinical-stage genetic medicines company committed to delivering life-changing treatments for people battling devastating diseases. PRISM, Wave's proprietary discovery and drug development platform, enables Wave to target genetically defined diseases with stereopure oligonucleotides across multiple therapeutic modalities.

The Company was incorporated in Singapore on July 23, 2012 and has its principal U.S. office in Cambridge, Massachusetts. The Company was incorporated with the purpose of combining two commonly held companies, Wave Life Sciences USA, Inc. ("Wave USA"), a Delaware corporation (formerly Ontorii, Inc.), and Wave Life Sciences Japan, Inc. ("Wave Japan"), a company organized under the laws of Japan (formerly Chiralgen., Ltd.), which occurred on September 13, 2012. On May 31, 2016, Wave Life Sciences Ireland Limited ("Wave Ireland") was formed as a wholly-owned subsidiary of Wave Life Sciences Ltd. On April 3, 2017, Wave Life Sciences UK Limited ("Wave UK") was formed as a wholly-owned subsidiary of Wave Life Sciences Ltd.

The Company's primary activities since inception have been developing and evolving PRISM to design, develop and commercialize oligonucleotide therapeutics, advancing the Company's differentiated neurology portfolio, as well as exploring other therapeutic areas of interest, building the Company's research and development capabilities, advancing programs into the clinic, furthering clinical development of such clinical-stage programs, building the Company's intellectual property, and assuring adequate capital to support these activities.

Liquidity

Since its inception, the Company has not generated any product revenue and has incurred recurring net losses. To date, the Company has primarily funded its operations through private placements of debt and equity securities, public offerings of its ordinary shares and collaborations with third parties. Until the Company can generate significant revenue from product sales, if ever, the Company expects to continue to finance operations through a combination of public or private equity or debt financings or other sources, which may include collaborations with third parties. Adequate additional financing may not be available to the Company on acceptable terms, or at all. The inability to raise capital as and when needed would have a negative impact on the Company's financial condition and ability to pursue its business strategy.

As of June 30, 2021, the Company had cash and cash equivalents of $143.8 million. The Company expects that its existing cash and cash equivalents, together with committed cash from its existing collaboration, will be sufficient to fund its operations for at least the next twelve months. The Company has based this expectation on assumptions that may prove to be incorrect, and the Company may use its available capital resources sooner than it currently expects. If the Company's anticipated operating results are not achieved in future periods, planned expenditures may need to be further reduced in order to extend the time period over which the then-available resources would be able to fund the Company's operations. In addition, the Company may elect to raise additional funds before it needs them if the conditions for raising capital are favorable due to market conditions or strategic considerations, even if the Company expects it has sufficient funds for its current or future operating plans.

Risks and Uncertainties

The Company is subject to risks common to companies in the biotechnology industry including, but not limited to, new technological innovations, protection of proprietary technology, maintaining internal manufacturing capabilities, dependence on key personnel, compliance with government regulations and the need to obtain additional financing. The Company's therapeutic programs will require significant additional research and development efforts, including extensive preclinical and clinical testing and regulatory approval, prior to commercialization of any product candidates. These efforts require significant amounts of additional capital, adequate personnel infrastructure and extensive compliance-reporting capabilities. There can be no assurance that the Company's research and development efforts will be successful, that adequate protection for the Company's intellectual property will be obtained, that any products developed will obtain necessary government regulatory approval or that any approved products will be commercially viable. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will generate significant revenue from product sales. The Company operates in an environment of rapid change in technology and substantial competition from pharmaceutical and biotechnology companies.

Basis of Presentation

The Company has prepared the accompanying consolidated financial statements in conformity with generally accepted accounting principles in the United States ("U.S. GAAP") and in U.S. dollars.

2. SIGNIFICANT ACCOUNTING POLICIES

The significant accounting policies described in the Company's audited financial statements as of and for the year ended December 31, 2020, and the notes thereto, which are included in the Company's Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission ("SEC") on March 4, 2021, as amended (the "2020 Annual Report on Form 10-K"), have had no material changes during the three and six months ended June 30, 2021.

Unaudited Interim Financial Data

The accompanying interim consolidated balance sheet as of June 30, 2021, the related interim consolidated statements of operations and comprehensive loss for the three and six months ended June 30, 2021 and 2020, the consolidated statements of Series A preferred shares and shareholders' equity for the three months ended March 31, and June 30, 2021 and 2020, the consolidated statements of cash flows for the six months ended June 30, 2021 and 2020, and the related interim information contained within the notes to the consolidated financial statements have been prepared in accordance with the rules and regulations of the SEC for interim financial information. Accordingly, they do not include all of the information and the notes required by U.S. GAAP for complete financial statements. The financial data and other information disclosed in these notes related to the three and six months ended June 30, 2021 and 2020 are unaudited. In the opinion of management, the unaudited interim consolidated financial statements reflect all adjustments, consisting of normal and recurring adjustments, necessary for the fair presentation of the Company's financial position and results of operations for the three and six months ended June 30, 2021 and 2020. The results of operations for the interim periods are not necessarily indicative of the results to be expected for the year ending December 31, 2021 or any other interim period or future year or period.

Principles of Consolidation

The Company's consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Recently Issued Accounting Pronouncements

The recently issued accounting pronouncements described in the Company's audited financial statements as of and for the year ended December 31, 2020, and the notes thereto, which are included in the 2020 Annual Report on Form 10-K, have had no material changes during the six months ended June 30, 2021, except as described below.

Recently Adopted Accounting Pronouncements

In December 2019, the Financial Accounting Standards Board finalized Accounting Standards Update No. 2019-12, Income Taxes (Topic 740): *Simplifying the Accounting for Income Taxes* ("ASU 2019-12"). ASU 2019-12 eliminates certain exceptions in Accounting Standards Codification ("ASC") 740 and generally simplifies existing guidance. The new guidance is effective for fiscal years beginning after December 15, 2020, including interim periods within those fiscal years, but may be adopted earlier by entities. The Company adopted ASU 2019-12 as of January 1, 2021 and it did not have an impact on the Company's consolidated financial statements.

3. SHAREHOLDERS' EQUITY

The Company entered into an open market sales agreement with Jefferies LLC in May 2019, as amended in March 2020, for its "at-the-market" equity program. During the six months ended June 30, 2021, the Company sold 1,562,975 ordinary shares under its at-the-market equity program for aggregate net proceeds of $13.1 million.

4. SHARE-BASED COMPENSATION

The Wave Life Sciences Ltd. 2014 Equity Incentive Plan, as amended (the "2014 Plan"), authorizes the board of directors or a committee of the board of directors to, among other things, grant non-qualified share options, restricted awards, which include restricted shares and restricted share units ("RSUs"), and performance awards to eligible employees and directors of the Company. Options generally vest over periods of one to four years, and any options that are forfeited or cancelled are available to be granted again. The contractual life of options is generally five or ten years from the grant date. RSUs can be time-based or performance-based. Time-based RSUs generally vest over a period of one to four years. The vesting of performance-based RSUs is contingent on the achievement of certain performance milestones. Any RSUs that are forfeited are available to be granted again. In March 2021, the Compensation Committee approved an amendment and restatement of the Company's outstanding 2019 performance-based RSUs to add an additional milestone to the existing milestones. In 2021, the Company also granted performance-based RSUs with the same terms to certain employees who did not receive the 2019 performance-based RSUs. This modification did not result in any incremental expense and the Company did not recognize any expense related to the performance-based RSUs during the three and six months ended June 30, 2021 and 2020, as the related milestones were not considered probable of achievement as of June 30, 2021 and 2020, respectively.

During the six months ended June 30, 2021, the Company granted 959,016 options and 1,057,234 RSUs to employees. Of the RSUs granted during the six months ended June 30, 2021, 886,334 were time-based RSUs and 170,900 were performance-based RSUs.

As of June 30, 2021, 575,552 ordinary shares remained available for future grant under the 2014 Plan.

Employee Share Purchase Plan

The Wave Life Sciences Ltd. Employee Share Purchase Plan ("ESPP") allows all full-time and certain part-time employees to purchase the Company's ordinary shares at a discount to fair market value. Eligible employees may enroll in a six-month offering period beginning on or about January 15th and July 15th every year. Shares are purchased at a price equal to 85% of the lower of the fair market value of the Company's ordinary shares on the first business day or the last business day of an offering period. During the six months ended June 30, 2021, 44,036 ordinary shares were issued under the ESPP. As of June 30, 2021, there were 930,725 ordinary shares available for issuance under the ESPP.

5. COLLABORATION AGREEMENTS

Pfizer Collaboration and Equity Agreements

In May 2016, the Company entered into a Research, License and Option Agreement (as amended in November 2017, the "Pfizer Collaboration Agreement") with Pfizer Inc. ("Pfizer"). Pursuant to the terms of the Pfizer Collaboration Agreement, the Company and Pfizer agreed to collaborate on the discovery, development and commercialization of stereopure oligonucleotide therapeutics for up to five programs, each directed at a genetically-defined hepatic target selected by Pfizer (the "Pfizer Collaboration"). The Company received $10.0 million as an upfront license fee under the Pfizer Collaboration Agreement. Subject to option exercises by Pfizer, the Company was entitled to earn potential research, development and commercial milestone payments.

Simultaneously with the entry into the Pfizer Collaboration Agreement, the Company entered into a Share Purchase Agreement (the "Pfizer Equity Agreement," and together with the Pfizer Collaboration Agreement, the "Pfizer Agreements") with C.P. Pharmaceuticals International C.V., an affiliate of Pfizer (the "Pfizer Affiliate"). Pursuant to the terms of the Pfizer Equity Agreement, the Pfizer Affiliate purchased 1,875,000 of the Company's ordinary shares (the "Shares") at a purchase price of $16.00 per share, for an aggregate purchase price of $30.0 million. The Company did not incur any material costs in connection with the issuance of the Shares.

Under the Pfizer Collaboration Agreement, the parties agreed to collaborate during a four-year research term, which ended by its original terms in May 2020. During the research term, the Company was responsible to use its commercially reasonable efforts to advance up to five programs through to the selection of clinical candidates. Pfizer nominated two hepatic targets upon entry into the Pfizer Collaboration in May 2016. The Pfizer Collaboration Agreement provided Pfizer with options to nominate up to three additional programs by making nomination milestone payments. Pfizer nominated the third, fourth and fifth hepatic targets in August 2016, March 2018 and April 2018, respectively.

During the three and six months ended June 30, 2020, the Company recognized revenue of approximately $0.2 million and $1.5 million, respectively, under the Pfizer Collaboration Agreement. The research term for the Pfizer Collaboration Agreement commenced in May 2016 and ended by its original terms in May 2020, during the research term the Company recognized revenue of $18.5 million under the Pfizer Collaboration Agreement.

Takeda Collaboration and Equity Agreements

In February 2018, Wave USA and Wave UK entered into a global strategic collaboration (the "Takeda Collaboration") with Takeda Pharmaceutical Company Limited ("Takeda"), pursuant to which Wave USA, Wave UK and Takeda agreed to collaborate on the research, development and commercialization of oligonucleotide therapeutics for disorders of the Central Nervous System ("CNS"). The Takeda Collaboration provides Wave with at least $230.0 million in committed cash and Takeda with the option to co-develop and co-commercialize Wave's CNS development programs in (1) Huntington's disease ("HD"); (2) amyotrophic lateral sclerosis ("ALS") and frontotemporal dementia ("FTD"); and (3) Wave's discovery-stage program targeting *ATXN3* for the treatment of spinocerebellar ataxia 3 ("SCA3") (collectively, "Category 1 Programs"). In addition, Takeda will have the right to exclusively license multiple preclinical programs for CNS disorders, including Alzheimer's disease and Parkinson's disease (collectively, "Category 2 Programs"). In April 2018, the Takeda Collaboration became effective and Takeda paid Wave $110.0 million as an upfront payment. Takeda also agreed to fund Wave's research and preclinical activities in the amount of $60.0 million during the four-year research term and to reimburse Wave for any collaboration-budgeted research and preclinical expenses incurred by Wave that exceed that amount.

Simultaneously with Wave USA and Wave UK's entry into the collaboration and license agreement with Takeda (the "Takeda Collaboration Agreement"), the Company entered into a share purchase agreement with Takeda (the "Takeda Equity Agreement," and together with the Takeda Collaboration Agreement, the "Takeda Agreements") pursuant to which it agreed to sell to Takeda 1,096,892 of its ordinary shares at a purchase price of $54.70 per share. In April 2018, the Company closed the Takeda Equity Agreement and received aggregate cash proceeds of $60.0 million. The Company did not incur any material costs in connection with the issuance of shares.

With respect to Category 1 Programs, Wave will be responsible for researching and developing products and companion diagnostics for Category 1 Programs through completion of the first proof of mechanism study for such products. Takeda will have an exclusive option for each target and all associated products and companion diagnostics for such target, which it may exercise at any time through completion of the proof of mechanism study. If Takeda exercises this option, Wave will receive an opt-in payment and will lead manufacturing and joint clinical co-development activities and Takeda will lead joint co-commercial activities in the United States and all commercial activities outside of the United States. Global costs and potential profits will be shared 50:50 and Wave will be eligible to receive development and commercial milestone payments. In addition to its 50% profit share, Wave is eligible to receive option exercise fees and development and commercial milestone payments for each of the Category 1 Programs.

With respect to Category 2 Programs, Wave has granted Takeda the right to exclusively license multiple preclinical programs during a four-year research term (subject to limited extension for programs that were initiated prior to the expiration of the research term, in accordance with the Takeda Collaboration Agreement) ("Category 2 Research Term"). During that term, the parties may collaborate on preclinical programs for up to six targets at any one time. Wave will be responsible for researching and preclinically developing products and companion diagnostics directed to the agreed upon targets through completion of Investigational New Drug application ("IND")-enabling studies in the first major market country. Thereafter, Takeda will have an exclusive worldwide license to develop and commercialize products and companion diagnostics directed to such targets, subject to Wave's retained rights to lead manufacturing activities for products directed to such targets. Takeda will fund Wave's research and preclinical activities in the amount of $60.0 million during the research term and will reimburse Wave for any collaboration-budgeted research and preclinical expenses incurred by Wave that exceed that amount. Wave is also eligible to receive tiered high single-digit to mid-teen royalties on Takeda's global commercial sales of products from each Category 2 Program.

Under the Takeda Collaboration Agreement, each party grants to the other party specific intellectual property licenses to enable the other party to perform its obligations and exercise its rights under the Takeda Collaboration Agreement, including license grants to enable each party to conduct research, development and commercialization activities pursuant to the terms of the Takeda Collaboration Agreement.

The term of the Takeda Collaboration Agreement commenced on April 2, 2018 and, unless terminated earlier, will continue until the date on which: (i) with respect to each Category 1 Program target for which Takeda does not exercise its option, the expiration or termination of the development program with respect to such target; (ii) with respect to each Category 1 Program target for which Takeda exercises its option, the date on which neither party is researching, developing or manufacturing any products or companion diagnostics directed to such target; or (iii) with respect to each Category 2 Program target, the date on which royalties are no longer payable with respect to products directed to such target.

Takeda may terminate the Takeda Collaboration Agreement for convenience on 180 days' notice, in its entirety or on a target-by-target basis. Subject to certain exceptions, each party has the right to terminate the Takeda Collaboration Agreement on a target-by-target basis if the other party, or a third party related to such party, challenges the patentability, enforceability or validity of any patents within the licensed technology that cover any product or companion diagnostic that is subject to the Takeda Collaboration Agreement. In the event of any material breach of the Takeda Collaboration Agreement by a party, subject to cure rights, the other party may terminate the Takeda Collaboration Agreement in its entirety if the breach relates to all targets or on a target-by-target basis if the breach relates to a specific target. In the event that Takeda and its affiliates cease development, manufacturing and commercialization activities with respect to compounds or products subject to the Takeda Collaboration Agreement and directed to a particular target, Wave may terminate the Takeda Collaboration Agreement with respect to such target. Either party may terminate the

Takeda Collaboration Agreement for the other party's insolvency. In certain termination circumstances, Wave would receive a license from Takeda to continue researching, developing and manufacturing certain products, and companion diagnostics.

The Takeda Collaboration is managed by a joint steering committee ("JSC") in which both parties are represented equally. The JSC is tasked with overseeing the scientific progression of each Category 1 Program and the Category 2 Programs.

The Company assessed this arrangement in accordance with ASC Topic 606, Revenue from Contracts with Customers ("ASC 606") and concluded that the contract counterparty, Takeda, is a customer for Category 1 Programs prior to Takeda exercising its option, and for Category 2 Programs during the Category 2 Research Term. The Company identified the following material promises under the arrangement: (1) the non-exclusive, royalty-free research and development license for each Category 1 Program; (2) the research and development services for each Category 1 Program through completion of the first proof of mechanism study; (3) the exclusive option to license, co-develop and co-commercialize each Category 1 Program; (4) the right to exclusively license the Category 2 Programs; and (5) the research and preclinical development services of the Category 2 Programs through completion of IND-enabling studies. The research and development services for each Category 1 Program were determined to not be distinct from the research and development license and should therefore be combined into a single performance obligation for each Category 1 Program. The research and preclinical development services for the Category 2 Programs were determined to not be distinct from the exclusive licenses for the Category 2 Programs and should therefore be combined into a single performance obligation.

Additionally, the Company determined that the exclusive option for each Category 1 Program was priced at a discount, and, as such, provide material rights to Takeda, representing three separate performance obligations. Based on these assessments, the Company identified seven performance obligations in the Takeda Collaboration Agreement: (1) research and development services through completion of the first proof of mechanism and non-exclusive research and development license for HD; (2) research and development services through completion of the first proof of mechanism and non-exclusive research and development license for ALS and FTD; (3) research and development services through completion of the first proof of mechanism and non-exclusive research and development license for SCA3; (4) the material right provided for the exclusive option to license, co-develop and co-commercialize HD; (5) the material right provided for the exclusive option to license, co-develop and co-commercialize ALS and FTD; (6) the material right provided for the exclusive option to license, co-develop and co-commercialize SCA3; and (7) the research and preclinical development services and right to exclusively license the Category 2 Programs.

At the outset of the arrangement, the transaction price included the $110.0 million upfront consideration received and the $60.0 million of committed research and preclinical funding for the Category 2 Programs. The Company determined that the Takeda Collaboration Agreement did not contain a significant financing component. The option exercise fees to license, co-develop and co-commercialize each Category 1 Program that may be received are excluded from the transaction price until each customer option is exercised. The potential milestone payments were excluded from the transaction price, as all milestone amounts were fully constrained at the inception of the Takeda Collaboration Agreement. The Company will reevaluate the transaction price at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur, if necessary, will adjust its estimate of the transaction price.

The Company allocated the transaction price to the performance obligations on a relative standalone selling price basis. For the performance obligations associated with the research and development services through completion of the first proof of mechanism and non-exclusive research and development license for HD; the research and development services through completion of the first proof of mechanism and non-exclusive research and development license for ALS and FTD; the research and development services through completion of the first proof of mechanism and non-exclusive research and development license for SCA3; and the research and preclinical development services and right to exclusively license the Category 2 Programs, the Company determined the standalone selling price using estimates of the costs to perform the research and development services, including expected internal and external costs for services and supplies, adjusted to reflect a profit margin. The total estimated cost of the research and development services reflected the nature of the services to be performed and the Company's best estimate of the length of time required to perform the services. For the performance obligations associated with the material right provided for the exclusive option to license, co-develop and co-commercialize HD; the material right provided for the exclusive option to license, co-develop and co-commercialize ALS and FTD; and the material right provided for the exclusive option to license, co-develop and co-commercialize SCA3, the Company estimated the standalone fair value of the option to license each Category 1 Program utilizing an adjusted market assessment approach, and determined that any standalone fair value in excess of the amounts to be paid by Takeda associated with each option represented a material right.

Revenue associated with the research and development services for each Category 1 Program performance obligation is being recognized as the research and development services are provided using an input method, according to the costs incurred on each Category 1 Program and the total costs expected to be incurred to satisfy each Category 1 Program performance obligation. Revenue associated with the research and preclinical development services for the Category 2 Programs performance obligation is being recognized as the research and preclinical development services are provided using an input method, according to the costs incurred on Category 2 Programs and the total costs expected to be incurred to satisfy the performance obligation. The transfer of control for these performance obligations occurs over time and, in management's judgment, this input method is the best measure of progress towards satisfying the performance obligations. The amount allocated to the material right for each Category 1 Program option will be recognized on the date that Takeda exercises each respective option, or immediately as each option expires unexercised. The amounts received that have not yet been recognized as revenue are recorded in deferred revenue on the Company's consolidated balance sheet.

Through June 30, 2021, the Company had recognized revenue of $39.7 million as collaboration revenue in the Company's consolidated statements of operations and comprehensive loss under the Takeda Collaboration Agreement. During the three and six months ended June 30, 2021, the Company recognized revenue of approximately $2.8 million in the Company's consolidated statements of operations and comprehensive loss under the Takeda Collaboration Agreement. During the three and six months ended June 30, 2020, the Company recognized revenue of $2.8 million and $5.7 million, respectively, in the Company's consolidated statements of operations and comprehensive loss under the Takeda Collaboration Agreement. Certain variable consideration related to additional reimbursements and the related revenue were constrained in accordance with ASC 606 as of June 30, 2021.

The aggregate amount of the transaction price allocated to the Company's unsatisfied and partially unsatisfied performance obligations and recorded in deferred revenue at June 30, 2021 is $130.3 million, of which $24.2 million is included in current liabilities. The Company expects to recognize revenue for the portion of the deferred revenue that relates to the research and development services for each Category 1 Program and the Category 2 Programs as costs are incurred, over the remaining research term. The Company expects to recognize revenue for the portion of the deferred revenue that relates to the material right for each Category 1 Program option upon Takeda's exercise of such option, or immediately as each option expires unexercised.

6. NET LOSS PER ORDINARY SHARE

The Company applies the two-class method to calculate its basic and diluted net loss per share attributable to ordinary shareholders, as its Series A preferred shares are participating securities. The two-class method is an earnings allocation formula that treats a participating security as having rights to earnings that otherwise would have been available to ordinary shareholders.

Basic loss per share is computed by dividing net loss attributable to ordinary shareholders by the weighted-average number of ordinary shares.

The Company's potentially dilutive shares, which include outstanding share options to purchase ordinary shares, RSUs, and Series A preferred shares, are considered to be ordinary share equivalents and are only included in the calculation of diluted net loss per share when their effect is dilutive.

The following ordinary share equivalents, presented based on amounts outstanding at each period end, were excluded from the calculation of diluted net loss per share attributable to ordinary shareholders for the periods indicated because including them would have had an anti-dilutive effect:

	As of June 30,	
	2021	2020
Options to purchase ordinary shares	4,584,490	4,161,671
RSUs	2,027,019	1,204,308
Series A preferred shares	3,901,348	3,901,348

Additionally, for the periods presented, the two-class method does not impact the net loss per ordinary share as the Company was in a net loss position for each of the periods presented and holders of Series A preferred shares do not participate in losses.

7. INCOME TAXES

During the three and six months ended June 30, 2021 and 2020, the Company recorded no income tax provision.

The Company maintained a full valuation allowance for the three and six months ended June 30, 2021 and 2020 in all jurisdictions due to uncertainty regarding future taxable income.

8. GEOGRAPHIC DATA

Substantially all of the Company's long-lived assets were located in the United States as of June 30, 2021 and December 31, 2020.

9. RELATED PARTIES

The Company had the following related party transaction for the periods presented in the accompanying consolidated financial statements:

- In 2012, the Company entered into a consulting agreement for scientific advisory services with Dr. Gregory L. Verdine, one of the Company's founders and a member of the Company's board of directors. The consulting agreement does not have a specific term and may be terminated by either party upon 14 days' prior written notice. Pursuant to the consulting agreement, the Company pays Dr. Verdine approximately $13 thousand per month, plus reimbursement for certain expenses.

10. ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES

Accrued expenses and other current liabilities consist of the following:

	June 30, 2021	December 31, 2020
	(in thousands)	
Accrued compensation	$ 6,051	$ 9,003
Accrued expenses related to CROs and CMOs	3,233	2,143
Accrued expenses and other current liabilities	639	825
Total accrued expenses and other current liabilities	$ 9,923	$ 11,971

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission ("SEC") on March 4, 2021, as amended (the "2020 Annual Report on Form 10-K"). Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk Factors" section of this Quarterly Report on Form 10-Q, our actual results could differ materially from the results described in, or implied by, these forward-looking statements.

Overview

We are a clinical-stage genetic medicines company committed to delivering life-changing treatments for people battling devastating diseases. Using PRISM™, our proprietary discovery and drug development platform that enables the precise design, optimization and production of novel stereopure oligonucleotides, we aspire to develop best in class medicines for genetically defined diseases with a high degree of unmet need.

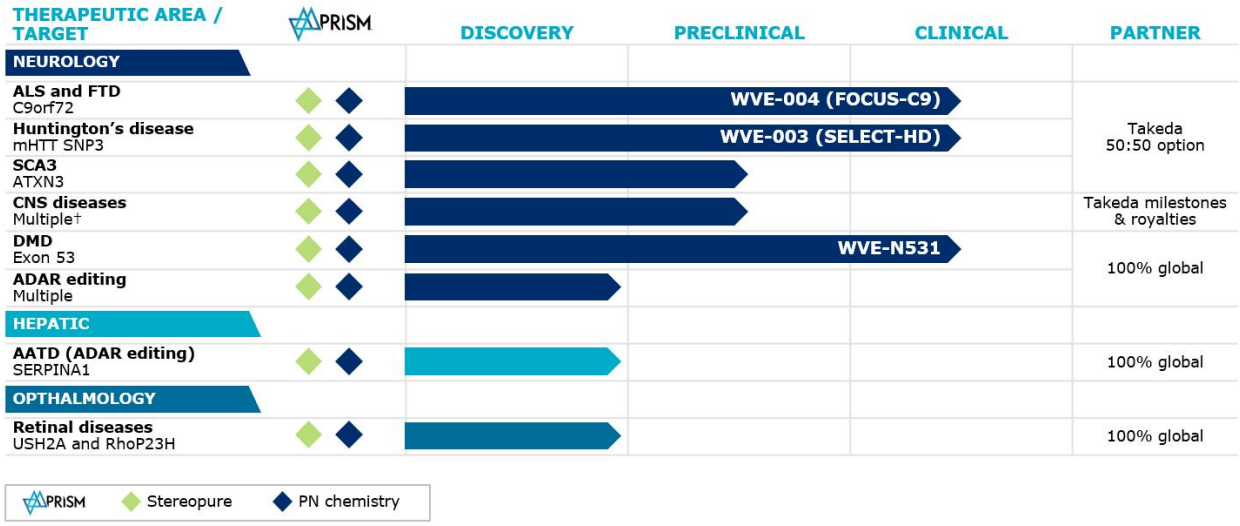
We are developing oligonucleotides that target ribonucleic acid ("RNA") to either reduce the expression of disease-promoting proteins or transform the production of dysfunctional mutant proteins into the production of functional proteins. By intervening at the RNA level, we have the potential to address diseases that have historically been difficult to treat with small molecules or biologics, while retaining the ability to titrate dose and avoid permanent off-target genetic changes and other challenges associated with DNA editing or gene therapy approaches. The mechanisms that we are currently using to target RNA with our oligonucleotides include silencing, splicing, and ADAR (adenosine deaminases acting on RNA)-mediated RNA editing ("ADAR editing"). Oligonucleotides have additional advantages as a therapeutic class, including the ability to access multiple tissue types and the ability to modulate the frequency of dosing to ensure broad distribution within tissues over time. Oligonucleotides also have well-established manufacturing processes and validated test methods based on decades of improvements.

The oligonucleotides we are developing with PRISM are stereopure and differ from the mixture-based oligonucleotides currently on the market or in development by others. A stereopure oligonucleotide is comprised of molecules with atoms precisely arranged in three-dimensional orientations at each linkage. Based on our preclinical studies, we believe that controlling the stereochemistry of each backbone position will allow us to optimize the pharmacological profile of our oligonucleotides by maximizing the potential therapeutic benefit while minimizing the potential for side effects and safety risks. To further mitigate pharmacological risks and potential manufacturing challenges, our approach focuses on designing oligonucleotides without the need for delivery vehicles. Through our work in developing stereopure oligonucleotides, we have created and continue to evolve PRISM, our proprietary discovery and drug development platform.

PRISM enables us to target genetically defined diseases with stereopure oligonucleotides across multiple therapeutic modalities. PRISM combines our unique ability to construct stereopure oligonucleotides with a deep understanding of how the interplay among oligonucleotide sequence, chemistry and backbone stereochemistry impacts key pharmacological properties. By exploring these interactions through iterative analysis of *in vitro* and *in vivo* outcomes and machine learning-driven predictive modeling, we continue to define design principles that we deploy across programs to rapidly develop and manufacture clinical candidates that meet pre-defined product profiles. In August 2020, we introduced our novel PN backbone chemistry modifications, which were discovered through PRISM and have been shown preclinically to increase potency, tissue exposure and durability of effect across various modalities. PN chemistry has been incorporated into all of our next-generation current clinical, preclinical and discovery-stage programs.

Our lead clinical development programs are focused on genetic diseases within neurology, including amyotrophic lateral sclerosis ("ALS"), frontotemporal dementia ("FTD"), Huntington's disease ("HD"), and Duchenne muscular dystrophy ("DMD"). We are advancing three clinical trials with next generation compounds containing our novel PN chemistry. These programs include WVE-004, our C9orf72 program for the treatment of ALS and FTD, WVE-003, our mHTT SNP3 program for the treatment of HD, and WVE-N531, our exon 53 program for the treatment of DMD. We continue to advance our ATXN3 program in SCA3. We are also pursuing additional programs in disorders of the central nervous system ("CNS"), including Alzheimer's disease, Parkinson's disease, and others, in collaboration with Takeda Pharmaceutical Company Limited ("Takeda"). In addition to neurology, our pipeline includes programs in hepatic diseases, including alpha-1 antitrypsin disease ("AATD"), and ophthalmologic disorders, specifically inherited retinal diseases. We continue to invest in PRISM to continue to evolve and apply the expanding capabilities and promise of our unique platform. We have also established and continue to enhance our internal current good manufacturing practices ("cGMP") manufacturing capabilities to increase control and visibility of our drug substance supply chain, while continuing to innovate oligonucleotide manufacturing.

Our Current Programs



†During a four-year term, Wave and Takeda may collaborate on up to six preclinical targets at any one time.
ALS: Amyotrophic lateral sclerosis; FTD: Frontotemporal dementia; SCA3: Spinocerebellar ataxia 3; CNS: Central nervous system;
DMD: Duchenne muscular dystrophy; AATD: Alpha-1 antitrypsin deficiency

Additional details regarding our programs are set forth below.

Neurology

Amyotrophic lateral sclerosis ("ALS") and frontotemporal dementia ("FTD"): ALS is a neurodegenerative disease characterized by the progression and degeneration of motor neurons in the brain and spinal cord. Age of onset is generally in the mid-to-late 50's, and median survival is three years; however, up to 24% of patients survive for five to ten years. While the majority of ALS cases are sporadic, approximately 10% of cases are found to be familial in nature. Hexanucleotide ("G_4C_2")-repeat expansions found in the *C9orf72* gene are one of the most common genetic causes of the sporadic and inherited forms of ALS and are present in approximately 40% of familial ALS patients and 8-10% of sporadic ALS patients.

FTD is a neurodegenerative disorder of the frontal and anterior temporal lobes of the brain. It is characterized by changes in personality, cognition (e.g., language impairment and executive dysfunction), and behavior (e.g., disinhibition, apathy and compulsivity). Diagnostic criteria categorize FTD into either the behavioral variant (approximately 60% of patients) or speech/language variant (approximately 40% of patients) based on the primary symptom observed at presentation; however, FTD results in dementia in all patients. The majority of FTD associated with the G_4C_2 expansion in the *C9orf72* gene is categorized as the behavioral variant. FTD frequently has an onset in mid-life, and death typically occurs within three to 14 years of onset. FTD is the second most common form of early-onset dementia in people under the age of 65, after Alzheimer's disease. G_4C_2-repeat expansions found in the *C9orf72* gene are one of the most common genetic causes of the sporadic and inherited forms of FTD and are present in approximately 38% of familial cases and approximately 6% of sporadic cases.

WVE-004: In ALS and FTD, we are advancing WVE-004, which uses our novel PN chemistry and preferentially targets the transcripts containing the G_4C_2 expansion in the *C9orf72* gene. WVE-004 is designed to minimize the impact on C9orf72 protein in patients, thereby reducing potential on-target risk. *In vitro*, WVE-004 potently and selectively reduced V3 transcripts in iPSC-derived motor neurons, which were derived from a patient carrying a C9orf72-repeat expansion. In C9 BAC transgenic mice, WVE-004 led to substantial reductions in repeat-containing C9orf72 transcripts and dipeptide repeat (DPR) proteins that are sustained for at least six months, without disrupting total C9orf72 protein expression.

FOCUS-C9 Phase 1b/2a clinical trial: In December 2020, we initiated clinical development of WVE-004 with the submission of a clinical trial application ("CTA"). The FOCUS-C9 trial is a global, multicenter, randomized, double-blind, placebo-controlled Phase 1b/2a clinical trial to assess the safety and tolerability of intrathecal doses of WVE-004 for patients with C9-ALS and/or C9-FTD. Additional objectives include measurement of polyGP proteins in the cerebrospinal fluid ("CSF"), plasma and CSF pharmacokinetics and exploratory biomarker and clinical endpoints. The FOCUS-C9 trial is designed to be adaptive and includes single- and multiple-ascending dose portions, with dose escalation and dosing frequency being guided by an independent committee. Preclinical models that have established pharmacologic activity have informed the starting dose for this trial. In July 2021, we announced the initiation of

dosing in the FOCUS-C9 clinical trial. We expect to generate clinical data through 2022 to provide insight into the clinical effects of PN chemistry and enable decision making for WVE-004.

Huntington's Disease ("HD"): HD is a rare hereditary neurodegenerative disease that results in early death and for which there is no cure. HD is caused by a mutation (i.e., an expanded CAG triplet repeat) in the HTT gene, which results in production of mutant HTT ("mHTT") protein. In HD patients, there is a progressive loss of neurons in the brain leading to cognitive, psychiatric and motor disabilities. HD patients still possess wild-type (healthy) HTT ("wtHTT") protein, which is important for neuronal function, and there is increasing evidence that wtHTT may be neuroprotective in an adult brain. Additionally, a dominant gain of function in mHTT protein and a concurrent loss of function of wtHTT protein may be important components of the pathophysiology of HD. Accordingly, suppression of wtHTT may have detrimental long-term consequences. A 2020 *Nature* publication (Poplawski, G.H.D., et al. Injured adult neurons regress to an embryonic transcriptional growth state. *Nature* 581, 77–82 (2020)) described results that involved conditional knockout of huntingtin in 4-month old mice (post-neuronal development), which demonstrated that huntingtin is at the center of the regeneration transcriptome and played an essential role in neural plasticity. In October 2019, at our Analyst and Investor Research Day, key opinion leaders in HD research presented data suggesting that wtHTT is neuroprotective in an adult brain; transport of key neurotrophic factors such as brain-derived neurotrophic factor ("BDNF") are regulated by wtHTT levels; and HD may be caused by a dominant gain of function in mHTT and a loss of function of wtHTT protein. Further, the relative proportion of wtHTT to mHTT is critical based on evidence that suggests increased amount of wtHTT relative to mHTT may result in slower disease progression (measured by age-at-onset). Also, HD patients that lack wtHTT all together have significantly more severe disease, as measured by disease progression after symptom onset.

WVE-003: In HD, we are currently advancing WVE-003, a stereopure antisense oligonucleotide designed to selectively target an undisclosed single nucleotide polymorphism ("SNP"), "mHTT SNP3", associated with the disease-causing mutant huntingtin ("mHTT") mRNA transcript within the *HTT* gene. WVE-003 incorporates our novel PN chemistry, as well as learnings from our first-generation HD programs. Approximately 40% of the HD population carries SNP3. Targeting mRNA with this SNP allows us to lower expression of transcript from the mutant allele, while leaving the healthy transcript relatively intact. The healthy transcript is required to produce wtHTT protein which is important for neuronal function. We commonly refer to this method (or approach) as "allele-selective targeting." SNPs are naturally occurring variations within a given genetic sequence and in certain instances can be used to distinguish between two related copies of a gene where only one is associated with the expression of a disease-causing protein. Our allele-selective approach may also enable us to address the pre-manifest, or asymptomatic, HD patient population in the future. In preclinical studies, WVE-003 showed dose-dependent and selective reduction of mHTT mRNA *in vitro*, and potent and durable knockdown of mHTT mRNA and protein *in vivo*. Based on the modeling of the pharmacokinetic-pharmacodynamic (PK-PD) relationship for WVE-003, the model predicts that WVE-003 will attain sufficient concentrations to engage mHTT transcript in both the cortex and striatum and decrease expression of mHTT protein.

SELECT-HD Phase 1b/2a clinical trial: In December 2020, we initiated clinical development of WVE-003 with the submission of a CTA. The SELECT-HD trial is a multicenter, randomized, double-blind, placebo-controlled Phase 1b/2a trial to assess the safety and tolerability of intrathecally administered WVE-003 for patients with early manifest HD. Additional objectives include measurement of mHTT and wtHTT protein and exploratory pharmacokinetic, pharmacodynamic, clinical and MRI endpoints. The SELECT-HD trial is designed to be adaptive, with dose escalation and dosing frequency being guided by an independent committee. Preclinical models that have established pharmacologic activity have informed the starting dose for this trial. In August 2021, we announced that clinical trial sites have been activated and recruitment is underway for the SELECT-HD trial and we expect to initiate dosing in 2021.

SCA3: In spinocerebellar ataxia 3 ("SCA3"), we are continuing to advance our program targeting *ATXN3*. SCA3 is a rare, hereditary (autosomal dominant), progressive, neurodegenerative disorder that is caused by a CAG-repeat expansion in the *ATXN3* gene.

Additional CNS Disorders: We are collaborating with Takeda to advance genetically defined targets for the treatment of other CNS disorders, including Alzheimer's disease and Parkinson's disease. Under the terms of the agreement, we may collaborate with Takeda on up to six preclinical programs at any one time, during a four-year term. Takeda is entitled to exclusively license multiple preclinical programs from us during the term.

Duchenne Muscular Dystrophy ("DMD"): In DMD, we are advancing WVE-N531, which is designed to target exon 53 within the dystrophin gene. WVE-N531 is designed to cause the cellular splicing machinery to skip over this exon during pre-mRNA processing, which restores the dystrophin mRNA reading frame and enables production of truncated, but functional dystrophin protein. Exon-skipping produces dystrophin from the endogenous dystrophin gene (not micro or mini dystrophin expressed from a vector), under the control of native gene-regulatory elements, resulting in normal temporospatial expression. WVE-N531 will be our first splicing candidate incorporating PN chemistry to be assessed in the clinic.

WVE-N531 clinical trial: In March 2021, Wave initiated clinical development of WVE-N531 with the submission of a CTA. In August 2021, we announced that clinical trial sites have been activated and recruitment is underway in a clinical trial of WVE-N531 in patients with DMD amenable to exon 53 skipping and we expect to initiate dosing in 2021.

Ophthalmology

In ophthalmology, we have generated *in vitro*, *ex vivo* and *in vivo* data in preclinical studies that support the potential of our stereopure oligonucleotides for the treatment of rare, inherited eye diseases. Our preclinical data demonstrate that a single intravitreal injection of stereopure oligonucleotide in the eye of non-human primates ("NHPs") resulted in greater than 95% knockdown of a target RNA in the retina for at least four months. Based on these data, our goal is to design candidates that could achieve a therapeutic effect with only two doses per year. Our pipeline includes two preclinical programs: Usher syndrome type 2A ("USH2A") and retinitis pigmentosa due to a P23H mutation in the *RHO* gene ("RhoP23H"). In September 2020, we presented *in vitro*, *ex vivo*, *and in vivo* preclinical data on our USH2A program, which is designed to promote USH2A exon 13 skipping, and we presented *in vitro* and *in vivo* data on our RhoP23H program, which is designed to selectively silence RhoP23H transcripts. We also presented results from our first achievement of ADAR editing in NHP retina *ex vivo* using stereopure oligonucleotides.

RNA editing

Our leading RNA editing capability leverages widely expressed endogenous ADAR enzymes to achieve highly specific A-to-I RNA editing *in vivo* using only stereopure oligonucleotides, without the need for lipid nanoparticles ("LNPs") or adeno-associated virus ("AAV") vectors and without altering DNA. In May 2021, at the 24th American Society of Gene and Cell Therapy ("ASGCT"), we highlighted in an oral presentation our novel ADAR editing capability, which leverages PN backbone chemistry modifications. This presentation highlighted proof-of-concept data demonstrating potent and durable editing of Beta-actin ("ACTB") *in vivo* in the liver of non-human primates ("NHPs") of up to 50% using conjugated oligonucleotides and potent editing of ACTB *in vivo* in multiple tissues of NHPs using non-conjugated oligonucleotides. The presentation also highlighted data demonstrating potent editing *in vivo* in the CNS of our proprietary humanized ADAR transgenic mouse model. We are evaluating ADAR editing oligonucleotides for different disease targets, including neurology targets, leveraging this proprietary mouse model.

Hepatic

Alpha-1 antitrypsin deficiency ("AATD"): We are leveraging our ADAR editing capability to develop a potentially novel treatment for AATD, which is a rare, inherited genetic disorder that is commonly caused by a G-to-A point mutation in the Z allele of the *SERPINA1* gene. This mutation leads to misfolding and aggregation of alpha-1 antitrypsin ("AAT") protein in hepatocytes and a lack of functional AAT in the lungs. People with AATD typically exhibit progressive lung damage, liver damage or both, leading to frequent hospitalizations and potentially terminal lung disease and/or liver disease. While the few approved therapies for AATD modestly increase circulating levels of AAT in those with the lung pathology, there are no approved therapies to address the liver pathology. Approximately 200,000 people in the United States and Europe are homozygous for the Z allele, which is the most common form of severe disease. In November 2020, we announced that our first ADAR editing program would be for AATD. Our novel RNA editing capability uses endogenous ADAR enzymes of A-to-I (G) base editing oligonucleotides, making this a potentially best-in-class modality for correcting the G-to-A disease-causing mutation in mRNA coded by the *SERPINA1* Z allele. By correcting the single RNA base mutation, ADAR editing may provide an ideal approach for increasing circulating levels of wild-type AAT protein and reducing aggregation in the liver, thus simultaneously addressing both the lung and liver manifestations of the disease.

In a primary hepatocyte *SERPINA1* Z cell model, we demonstrated that editing the Z allele mRNA back to wild-type prevents protein misfolding and increases secretion of edited AAT protein from hepatocytes. In June 2021, we reported proof-of-concept preclinical *in vivo* data that demonstrated up to 40% editing of human *SERPINA1* Z allele mRNA in liver at an initial time point, which resulted in a therapeutically meaningful increase in circulating, functional wild-type AAT protein. This initial *in vivo* study utilized our proprietary transgenic mouse model, which has both the human *SERPINA1* Z-allele, as well as human ADAR that is expressed comparably to human cells. Preclinical studies for our AATD program are ongoing and additional data on durability and dose response are expected in the second half of 2021.

Continuing Impacts of COVID-19

We are closely monitoring developments related to COVID-19, which was declared a pandemic by the World Health Organization on March 11, 2020. In response to this global pandemic, we have concentrated our efforts on the health and safety of our employees and patients, while maintaining business continuity and honoring our commitment to deliver life-changing treatments for people battling devastating diseases.

Our manufacturing operations and lab-based activities continue with social-distancing and updated protocols for accessing our facilities. While we continue to conduct R&D activities, including our ongoing clinical trials, the COVID-19 pandemic has impacted, and may continue to impact, certain of our early-stage discovery efforts and clinical trials. We are working with our clinical investigators, R&D vendors, and supply chain vendors to continually assess and take steps to mitigate the potential impact of COVID-19 on our manufacturing operations and R&D activities.

We will continue to closely monitor the COVID-19 situation as we evolve our business continuity plans. Given the global risks and uncertainties associated with COVID-19, our business, results of operations, and prospects could be materially adversely affected.

Financial Operations Overview

We have never been profitable, and since our inception, we have incurred significant operating losses. Our net loss was $81.2 million and $88.0 million in the six months ended June 30, 2021 and 2020, respectively. As of June 30, 2021 and December 31, 2020, we had an accumulated deficit of $764.5 million and $683.3 million, respectively. We expect to incur significant expenses and operating losses for the foreseeable future.

Revenue

We have not generated any product revenue since our inception and do not expect to generate any revenue from the sale of products for the foreseeable future. Our revenue generating collaboration as of June 30, 2021 was the Takeda Collaboration Agreement (as defined in Note 5 in the notes to the unaudited consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q ("Note 5"). Our revenue during the three and six months ended June 30, 2020 represents revenue earned under the Takeda Collaboration Agreement, which became effective in April 2018, and the Pfizer Collaboration Agreement (as defined in Note 5), which was entered into in May 2016 and ended by its original terms in May 2020.

Operating Expenses

Our operating expenses since inception have consisted primarily of research and development costs and general and administrative costs.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our discovery efforts, and the development of our product candidates, which include:

- compensation-related expenses, including employee salaries, bonuses, share-based compensation expense and other related benefits expenses for personnel in our research and development organization;
- expenses incurred under agreements with third parties, including contract research organizations ("CROs") that conduct research, preclinical and clinical activities on our behalf, as well as contract manufacturing organizations ("CMOs") that manufacture drug product for use in our preclinical studies and clinical trials;
- expenses incurred related to our internal manufacturing of drug substance for use in our preclinical studies and clinical trials;
- expenses related to compliance with regulatory requirements;
- expenses related to third-party consultants;
- research and development supplies and services expenses; and
- facility-related expenses, including rent, maintenance and other general operating expenses.

We recognize research and development costs as incurred. We recognize external development costs based on an evaluation of the progress to completion of specific tasks using information provided to us by our vendors. Payments for these activities are based on the terms of the individual agreements, which may differ from the pattern of costs incurred, and are reflected in our financial statements as prepaid or accrued expenses.

Our primary research and development focus since inception has been the development of our proprietary discovery and drug development platform, PRISM. We are using PRISM, which includes our novel PN backbone chemistry modifications, to design, develop and commercialize a broad pipeline of nucleic acid therapeutic candidates that target RNA using silencing, splicing, and ADAR editing.

Our research and development expenses consist primarily of expenses related to our CROs, CMOs, consultants, other external vendors and fees paid to global regulatory agencies to conduct our clinical trials, in addition to compensation-related expenses, internal manufacturing expenses, facility-related expenses and other general operating expenses. These expenses are incurred in connection with research and development efforts and our preclinical studies and clinical trials. We track certain external expenses on a program-by-program basis. However, we do not allocate compensation-related expenses, internal manufacturing expenses, equipment repairs and maintenance expense, facility-related expenses or other operating expenses to specific programs. These expenses, which are not allocated on a program-by-program basis, are included in the "PRISM and other research and development expenses" category along

with other external expenses related to our discovery and development programs, as well as platform development and identification of potential drug discovery candidates.

The table below summarizes our research and development expenses incurred for the three and six months ended June 30, 2021 and 2020:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
	(in thousands)		(in thousands)	
DMD programs	$ 356	$ 1,558	$ 156	$ 6,068
HD programs	6,911	8,114	15,361	15,627
ALS and FTD programs	3,381	2,624	6,821	4,662
PRISM and other research and development expenses (1)	20,987	19,182	42,690	46,279
Total research and development expenses	$ 31,635	$ 31,478	$ 65,028	$ 72,636

(1) Includes discovery and development programs, identification of potential drug discovery candidates, compensation-related expenses, internal manufacturing expenses, equipment repairs and maintenance expense, facility-related expenses and other operating expenses, which are not allocated to specific programs.

Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect to continue to incur significant research and development expenses in the foreseeable future as we continue to manage our existing clinical trials, initiate additional clinical trials for certain product candidates, pursue later stages of clinical development for certain product candidates, maintain our manufacturing capabilities and continue to discover and develop additional product candidates in multiple therapeutic areas.

General and Administrative Expenses

General and administrative expenses consist primarily of compensation-related expenses, including salaries, bonuses, share-based compensation and other related benefits costs for personnel in our executive, finance, corporate, legal and administrative functions, as well as compensation-related expenses for our board of directors. General and administrative expenses also include legal fees; expenses associated with being a public company; professional fees for accounting, auditing, tax and consulting services; insurance costs; travel expenses; other operating costs; and facility-related expenses.

Other Income (Expense), Net

Other income (expense), net consists primarily of refundable tax credits from tax authorities and dividend income earned on cash and cash equivalents balances. We recognize refundable tax credits when there is reasonable assurance that we will comply with the requirements of the refundable tax credit and that the refundable tax credit will be received.

Income Taxes

We are a Singapore multi-national company subject to taxation in the United States and various other jurisdictions.

Critical Accounting Policies and Significant Judgments and Estimates

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States. The preparation of our financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amount of assets, liabilities, revenue, costs and expenses and related disclosures.

Our significant accounting policies, judgments and estimates are described in Note 2 in the notes to the audited consolidated financial statements included in the 2020 Annual Report on Form 10-K, as well as in Note 2 in the notes to the unaudited consolidated financial statements included in this Quarterly Report on Form 10-Q. We believe that our revenue recognition policy, particularly (a) assessing the number of performance obligations; (b) determining the transaction price; (c) allocating the transaction price to the performance obligations in the contract; and (d) determining the pattern over which performance obligations are satisfied, including estimates to complete performance obligations, and the assumptions and estimates used in our analysis of contracts with CROs and CMOs to estimate the contract expense, involve a greater degree of judgment, and therefore we consider them to be our critical accounting policies. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions and conditions.

Results of Operations

Comparison of the three months ended June 30, 2021 and 2020

	Three Months Ended June 30,		
	2021	2020	Change
	(in thousands)		
Revenue	$ 2,776	$ 3,027	$ (251)
Operating expenses:			
Research and development	31,635	31,478	157
General and administrative	10,969	10,205	764
Total operating expenses	42,604	41,683	921
Loss from operations	(39,828)	(38,656)	(1,172)
Total other income (expense), net	1,062	(1,872)	2,934
Loss before income taxes	(38,766)	(40,528)	1,762
Income tax provision	—	—	—
Net loss	$ (38,766)	$ (40,528)	$ 1,762

Revenue

Revenue of $2.8 million was earned under the Takeda Collaboration Agreement for the three months ended June 30, 2021. Revenue of $3.0 million was earned under the Takeda Collaboration Agreement and the Pfizer Collaboration Agreement for the three months ended June 30, 2020. The decrease in revenue is due to the fact that no revenue was earned under the Pfizer Collaboration Agreement in 2021, as it ended by its original terms in May 2020.

Research and Development Expenses

	Three Months Ended June 30,		
	2021	2020	Change
	(in thousands)		
DMD programs	$ 356	$ 1,558	$ (1,202)
HD programs	6,911	8,114	(1,203)
ALS and FTD programs	3,381	2,624	757
PRISM and other research and development expenses (1)	20,987	19,182	1,805
Total research and development expenses	$ 31,635	$ 31,478	$ 157

(1) Includes discovery and development programs, identification of potential drug discovery candidates, compensation-related expenses, internal manufacturing expenses, equipment repairs and maintenance expense, facility-related expenses and other operating expenses, which are not allocated to specific programs.

Research and development expenses were $31.6 million for the three months ended June 30, 2021, compared to approximately $31.4 million for the three months ended June 30, 2020. The increase of $0.2 million was due to the following:

- a decrease of $1.2 million in external expenses related to our DMD programs driven by decreased external expenses related to our discontinued suvodirsen program, partially offset by increased external expenses for our PN chemistry containing WVE-N531 program;
- a decrease of $1.2 million in external expenses related to our HD programs, including external expenses related to our discontinued WVE-120101 and WVE-120102 programs, and external expenses related to our PN chemistry containing WVE-003 program;
- an increase of $0.8 million in external expenses related to our ALS and FTD programs, including our PN chemistry containing WVE-004 program; and
- an increase of $1.8 million in internal and external research and development expenses that are not allocated on a program-by-program basis and are related to other discovery and development programs, including PRISM and the identification of potential drug discovery candidates, primarily due to increases in other external research and development expenses, as well as increases in compensation-related expenses.

General and Administrative Expenses

General and administrative expenses were $11.0 million for the three months ended June 30, 2021, as compared to $10.2 million for the three months ended June 30, 2020. The increase of $0.8 million was primarily attributable to increases in other external general and administrative expenses, as well as increases in compensation-related expenses.

Other Income (Expense), Net

Other income, net for the three months ended June 30, 2021 was $1.1 million, which consists primarily of estimated refundable tax credits.

Other expense, net for the three months ended June 30, 2020 was $1.9 million. During the three months ended June 30, 2020, we reduced the amount of refundable tax credits we expected to receive based on the results of Her Majesty's Revenue and Customs' ("HMRC") audit of Wave UK's 2017 refundable tax credit claim in the United Kingdom. The change in estimate related to the refundable tax credit for the periods 2017 through the first quarter of 2020 resulted in a decrease in income of $3.1 million, which was partially offset by an additional period of income related to the refundable tax credit for the three months ended June 30, 2020.

Income Tax Provision

During the three months ended June 30, 2021 and 2020, we recorded no income tax provision. We maintained a full valuation allowance for the three months ended June 30, 2021 and 2020 in all jurisdictions due to uncertainty regarding future taxable income.

Comparison of the six months ended June 30, 2021 and 2020

	Six Months Ended June 30,		
	2021	2020	Change
	(in thousands)		
Revenue	$ 2,776	$ 7,188	$ (4,412)
Operating expenses:			
Research and development	65,028	72,636	(7,608)
General and administrative	21,047	23,201	(2,154)
Total operating expenses	86,075	95,837	(9,762)
Loss from operations	(83,299)	(88,649)	5,350
Total other income (expense), net	2,069	628	1,441
Loss before income taxes	(81,230)	(88,021)	6,791
Income tax provision	—	—	—
Net loss	$ (81,230)	$ (88,021)	$ 6,791

Revenue

Revenue of $2.8 million was earned under the Takeda Collaboration Agreement for the six months ended June 30, 2021. Revenue of $7.2 million was earned under the Takeda Collaboration Agreement and the Pfizer Collaboration Agreement for the six months ended June 30, 2020. The decrease in revenue is driven by a decrease in research and development services under the Takeda Collaboration Agreement based on the revenue recognition standard, as well as the fact that no revenue was earned under the Pfizer Collaboration Agreement in 2021, as it ended by its original terms in May 2020.

Research and Development Expenses

	Six Months Ended June 30,		
	2021	2020	Change
	(in thousands)		
DMD programs	$ 156	$ 6,068	$ (5,912)
HD programs	15,361	15,627	(266)
ALS and FTD programs	6,821	4,662	2,159
PRISM and other research and development expenses (1)	42,690	46,279	(3,589)
Total research and development expenses	$ 65,028	$ 72,636	$ (7,608)

(1) Includes discovery and development programs, identification of potential drug discovery candidates, compensation-related expenses, internal manufacturing expenses, equipment repairs and maintenance expense, facility-related expenses and other operating expenses, which are not allocated to specific programs.

Research and development expenses were $65.0 million for the six months ended June 30, 2021, compared to $72.6 million for the six months ended June 30, 2020. The decrease of $7.6 million was due to the following:

- a decrease of $5.9 million in external expenses related to our DMD programs driven by decreased external expenses related to our discontinued suvodirsen program, partially offset by increased external expenses for our PN chemistry containing WVE-N531 program;
- a decrease of $0.3 million in external expenses related to our HD programs driven by decreased external expenses related to our discontinued WVE-120101 and WVE-120102 programs, partially offset by increased external expenses for our PN chemistry containing WVE-003 program;
- an increase of $2.2 million in external expenses related to our ALS and FTD programs, including our PN chemistry containing WVE-004 program; and
- a decrease of $3.6 million in internal and external research and development expenses that are not allocated on a program-by-program basis and are related to other discovery and development programs, including PRISM and the identification of potential drug discovery candidates, primarily due to decreases in compensation-related expenses, as well as decreases in other external research and development expenses.

General and Administrative Expenses

General and administrative expenses were $21.0 million for the six months ended June 30, 2021, as compared to $23.2 million for the six months ended June 30, 2020. The decrease of $2.2 million was primarily due to decreases in compensation-related expenses, as well as decreases in other external general and administrative expenses.

Other Income (Expense), Net

Other income (expense), net for the six months ended June 30, 2021 and 2020 was $2.1 million and $0.6 million, respectively. The increase of approximately $1.5 million was driven by an approximately $2.0 million increase in other income (expense), net primarily related to the increase in the estimated refundable tax credit, partially offset by a $0.5 million decrease in dividend income for the six months ended June 30, 2021.

Income Tax Provision

During the six months ended June 30, 2021 and 2020, we recorded no income tax provision. We maintained a full valuation allowance for the six months ended June 30, 2021 and 2020 in all jurisdictions due to uncertainty regarding future taxable income.

Liquidity and Capital Resources

Since our inception, we have not generated any product revenue and have incurred recurring net losses. To date, we have primarily funded our operations through private placements of debt and equity securities, public offerings of our ordinary shares and collaborations with third parties. Through June 30, 2021, we have received an aggregate of approximately $821.7 million in net proceeds from these transactions. We received $89.3 million in net proceeds from private placements of our debt and equity securities, $100.4 million in net proceeds from our initial public offering, $40.0 million under the Pfizer Agreements (as defined in Note 5), including $10.0 million as an upfront payment under the Pfizer Collaboration Agreement and $30.0 million in the form of an equity investment, $93.5 million in net proceeds from our April 2017 follow-on underwritten public offering, $170.0 million in upfront payments under the Takeda Agreements (as defined in Note 5), including $110.0 million as an upfront payment under the Takeda Collaboration Agreement (as defined in Note 5) and $60.0 million in the form of an equity investment, $161.8 million in net proceeds from our January 2019 follow-on underwritten public offering, $93.7 million in net proceeds from our September 2020 follow-on underwritten public offering and $73.0 million in net proceeds from our at-the-market equity program.

As of June 30, 2021, we had cash and cash equivalents totaling $143.8 million, an accumulated deficit of $764.5 million and restricted cash of $3.7 million for our leased premises in Cambridge, Massachusetts and Lexington, Massachusetts. Our operating lease commitments as of June 30, 2021 total $40.8 million, of which $3.3 million is related to payments in 2021 and $37.5 million is related to payments beyond 2021.

We expect that our existing cash and cash equivalents, together with expected and committed cash from our existing collaboration, will be sufficient to fund our operations for at least the next twelve months. We have based this expectation on assumptions that may prove to be incorrect, and we may use our available capital resources sooner than we currently expect. In addition, we may elect to raise additional funds before we need them if the conditions for raising capital are favorable due to market conditions or strategic considerations, even if we expect we have sufficient funds for our current or future operating plans.

Until we can generate significant revenue from product sales, if ever, we expect to continue to finance our operations through a combination of public or private equity or debt financings or other sources, which may include collaborations with third parties. In May 2019, we filed a shelf registration statement on Form S-3ASR with the SEC pursuant to which we registered for sale an indeterminate amount of any combination of our ordinary shares, debt securities, warrants, rights and/or units from time to time and at prices and on terms that we may determine. Our shelf registration statement on Form S-3ASR also includes a prospectus covering up to an aggregate of $250.0 million in ordinary shares that we may issue and sell from time to time, through Jefferies LLC acting as our sales agent, pursuant to the open market sales agreement that we entered into with Jefferies LLC in May 2019, as amended in March 2020, for our “at-the-market” equity program. Since we no longer qualified as a “well-known seasoned issuer” at the time of the filing of our Annual Report on Form 10-K, for the year ended December 31, 2019, we previously amended the shelf registration statement to register for sale up to $500.0 million of any combination of our ordinary shares, debt securities, warrants, rights and/or units from time to time and at prices and on terms that we may determine, including the $250.0 million in ordinary shares that we may issue and sell from time to time pursuant to our “at-the-market” equity program. During the six months ended June 30, 2021, the Company sold 1,562,975 ordinary shares under its at-the-market equity program for aggregate net proceeds of $13.1 million. As of August 4, 2021, we have approximately $324.6 million in securities available for sale under our shelf registration statement, including approximately $174.6 million in ordinary shares available for sale under our at-the-market equity program. Adequate additional financing may not be available to us on acceptable terms, or at all. Our inability to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy. We will need to generate significant revenue to achieve profitability, and we may never do so.

Cash Flows

The following table summarizes our cash flow activity:

	Six Months Ended June 30,	
	2021	2020
	(in thousands)	
Net cash used in operating activities	$ (53,776)	$ (64,395)
Net cash used in investing activities	(447)	(716)
Net cash provided by financing activities	13,686	11,996
Effect of foreign exchange rates on cash, cash equivalents and restricted cash	(120)	11
Net decrease in cash, cash equivalents and restricted cash	$ (40,657)	$ (53,104)

Operating Activities

During the six months ended June 30, 2021, operating activities used $53.8 million of cash, primarily due to our net loss of $81.2 million, offset by a $30.0 million decrease in accounts receivable.

During the six months ended June 30, 2020, operating activities used $64.4 million of cash, primarily due to our net loss of $88.0 million, offset by a $20.0 million decrease in accounts receivable.

Investing Activities

During the six months ended June 30, 2021, investing activities used $0.4 million of cash, related to purchases of property and equipment.

During the six months ended June 30, 2020, investing activities used $0.7 million of cash, related to purchases of property and equipment.

Financing Activities

During the six months ended June 30, 2021, net cash provided by financing activities was $13.7 million, which was primarily due to the net proceeds from sales of ordinary shares under our at-the-market equity program.

During the six months ended June 30, 2020, net cash provided by financing activities was $12.0 million, which was primarily due to the net proceeds from sales of ordinary shares under our at-the-market equity program.

Funding Requirements

We expect to continue to incur significant expenses in connection with our ongoing research and development activities and our internal cGMP manufacturing activities. Furthermore, we anticipate that our expenses will continue to vary if and as we:

- continue to conduct our clinical trials evaluating our product candidates in patients;
- conduct research and preclinical development of discovery targets and advance additional programs into clinical development;
- file clinical trial applications with global regulatory agencies and conduct clinical trials for our programs;
- evaluate next steps for our programs in rare, inherited eye diseases;
- make strategic investments in continuing to innovate our research and development platform, PRISM, and in optimizing our manufacturing processes and formulations;
- maintain our manufacturing capabilities through our internal facility and our CMOs;
- maintain our intellectual property portfolio and consider the acquisition of complementary intellectual property;
- seek and obtain regulatory approvals for our product candidates;
- respond to the impacts of the COVID-19 global pandemic on our business; and
- establish and build capabilities to market, distribute and sell our product candidates.

We may experience delays or encounter issues with any of the above, including but not limited to failed studies, complex results, safety issues or other regulatory challenges.

Because of the numerous risks and uncertainties associated with the development of drug candidates and because the extent to which we may enter into collaborations with third parties for development of product candidates is unknown, we are unable to estimate the amounts of future capital outlays and operating expenses associated with completing the research and development for our therapeutic programs. Our future capital requirements for our therapeutic programs will depend on many factors, including:

- the progress, results and costs of conducting research and continued preclinical and clinical development for our therapeutic programs and future potential pipeline candidates;
- the number and characteristics of product candidates and programs that we pursue;
- the cost of manufacturing clinical supplies of our product candidates;
- whether and to what extent milestone events are achieved under our collaboration with Takeda or any potential future licensee or collaborator;
- the costs, timing and outcome of regulatory review of our product candidates;
- our ability to obtain marketing approval for our product candidates;
- the impacts of the COVID-19 global pandemic on our business;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- market acceptance of our product candidates, to the extent any are approved for commercial sale, and the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in businesses, products and technologies, including entering into licensing or collaboration arrangements for product candidates.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve product sales. In addition, our product candidates, if approved, may not achieve commercial success. Our product revenue, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if ever. Accordingly, we will need to obtain substantial additional funds to achieve our business objectives.

Adequate additional funds may not be available to us on acceptable terms when we need them, or at all. We do not currently have any committed external source of funds, except for committed funds and possible future payments from Takeda under the Takeda Collaboration Agreement. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our existing shareholders will be diluted, and the terms may include liquidation or other preferences that adversely affect the rights of our shareholders. Additional debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends and may require the issuance of warrants, which could potentially dilute our shareholders' ownership interests.

If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development programs or any future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Off-Balance Sheet Arrangements

We had one off-balance sheet arrangement (as that term is defined in Item 303(a)(4)(ii) of Regulation S-K) as of June 30, 2021, as we exercised our option in December 2020 to lease the remaining office and laboratory space at our Cambridge, Massachusetts facility. The combined space will constitute the entire building. The lease for the additional space is expected to commence on October 1, 2021 with a term of five years. As the lease term for the additional space has not yet commenced, we have not yet recognized rent expense for the additional space. On the commencement date of the lease for the additional space in 2021, we will record a right-of-use asset and corresponding operating lease liability and begin recognizing straight-line rent expense. We have not made any payments to date related to the lease of the additional space. We expect future cash commitments related to this lease for the additional space to total $5.4 million, of which $0.3 million is related to payments in 2021 and $5.1 million is related to payments beyond 2021.

We had no other off-balance sheet arrangements as of June 30, 2021 that have, or are reasonably likely to have, a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Recently Issued Accounting Pronouncements

The recently issued accounting pronouncements described in our audited financial statements as of and for the year ended December 31, 2020, and the notes thereto, which are included in the 2020 Annual Report on Form 10-K, have had no material changes during the six months ended June 30, 2021, except as described below.

Recently Adopted Accounting Pronouncements

In December 2019, the Financial Accounting Standards Board finalized Accounting Standards Update No. 2019-12, Income Taxes (Topic 740): *Simplifying the Accounting for Income Taxes* (“ASU 2019-12”). ASU 2019-12 eliminates certain exceptions in Accounting Standards Codification 740 and generally simplifies existing guidance. The new guidance is effective for fiscal years beginning after December 15, 2020, including interim periods within those fiscal years, but may be adopted earlier by entities. We adopted ASU 2019-12 as of January 1, 2021 and it did not have an impact on our consolidated financial statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily the result of fluctuations in interest rates and foreign exchange rates, as well as, to a lesser extent, inflation and capital market risk.

Interest Rate Risk

We are exposed to interest rate risk in the ordinary course of our business. Our cash and cash equivalents are held in readily available checking and money market accounts.

Foreign Currency Exchange Rate Risk

Due to our operations outside of the United States, we are exposed to market risk related to changes in foreign currency exchange rates. Historically, we have not hedged our foreign currency exposure. For the three and six months ended June 30, 2021 and 2020, changes in foreign currency exchange rates did not have a material impact on our business, financial condition, results of operations or cash flows.

Inflation Risk

We do not believe that inflation had a material effect on our business, financial condition, results of operations or cash flows for the three and six months ended June 30, 2021 and 2020.

Capital Market Risk

We currently have no product revenues and depend on funds raised through other sources. One possible source of funding is through further equity offerings. Our ability to raise funds in this manner depends upon capital market forces affecting our share price, including impacts on the capital markets resulting from the COVID-19 pandemic.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2021. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to its management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of June 30, 2021, our principal executive officer and principal financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation of such internal control required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the three months ended June 30, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

We are not currently a party to any material legal proceedings.

Item 1A. Risk Factors

In addition to the other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the factors discussed under the caption "Risk Factors" that appear in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission on March 4, 2021, as amended.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Recent Sales of Unregistered Equity Securities

None.

Issuer Purchases of Equity Securities

We did not repurchase any of our equity securities during the three months ended June 30, 2021.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File/Reg. Number
31.1	Rule 13a-14(a)/15d-14(a) Certification of Principal Executive Officer	X			
31.2	Rule 13a-14(a)/15d-14(a) Certification of Principal Financial Officer	X			
32*	Section 1350 Certifications of Principal Executive Officer and Principal Financial Officer	X			
101.INS	Inline XBRL Instance Document – The instance document does not appear in the interactive data file because its Inline XBRL tags are embedded within the Inline XBRL document.	X			
101.SCH	Inline XBRL Taxonomy Extension Schema Document	X			
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	X			
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	X			
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	X			
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	X			
104	Cover Page Interactive Data File (formatted in Inline XBRL and contained in Exhibit 101)	X			

(*) The certifications attached as Exhibit 32 that accompany this Quarterly Report on Form 10-Q are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Wave Life Sciences Ltd. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of such Form 10-Q), irrespective of any general incorporation language contained in such filing.

SIGNATURES

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.

WAVE LIFE SCIENCES LTD.

Date: August 5, 2021

By: /s/ Paul B. Bolno, M.D., MBA
Paul B. Bolno, M.D., MBA
President and Chief Executive Officer
(Principal Executive Officer)

Date: August 5, 2021

By: /s/ Kyle Moran
Kyle Moran
Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)

Exhibit 31.1

CERTIFICATIONS UNDER SECTION 302

I, Paul B. Bolno, M.D., MBA, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Wave Life Sciences Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting 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 generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

August 5, 2021

By: /s/ Paul B. Bolno, M.D., MBA
Paul B. Bolno, M.D., MBA
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS UNDER SECTION 302

I, Kyle Moran, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Wave Life Sciences Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting 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 generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

August 5, 2021

By: /s/ Kyle Moran
Kyle Moran
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32

CERTIFICATIONS UNDER SECTION 906

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Wave Life Sciences Ltd. (the "Company"), does hereby certify, to such officer's knowledge, that:

The Quarterly Report for the quarter ended June 30, 2021 (the "Form 10-Q") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 5, 2021

/s/ Paul B. Bolno, M.D., MBA
Paul B. Bolno, M.D., MBA
President and Chief Executive Officer
(Principal Executive Officer)

Dated: August 5, 2021

/s/ Kyle Moran
Kyle Moran
Chief Financial Officer
(Principal Financial Officer)