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 March 31, 2017

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

For the transition period from _____ to _____

Commission File No. 001-37627

WAVE LIFE SCIENCES LTD.

(Exact name of registrant as specified in its charter)

Singapore	**Not applicable**
State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
8 Cross Street #10-00, PWC Building Singapore 048424	**+65 6236 3388**
(Address of principal executive offices)	**(Registrant's telephone number)**

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post 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	☐ (Do not check if a smaller reporting company)	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 May 1, 2017 was 27,717,736.

WAVE LIFE SCIENCES LTD.

QUARTERLY REPORT ON FORM 10-Q

TABLE OF CONTENTS

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements.

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED BALANCE SHEETS

(In thousands, except share amounts)

	March 31, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 129,484	$ 150,293
Prepaid expenses and other current assets	3,296	1,483
Deferred tax assets	—	214
Total current assets	132,780	151,990
Property and equipment, net	14,296	8,607
Deferred tax assets	774	560
Restricted cash	3,604	3,601
Other assets	53	53
Total assets	$ 151,507	$ 164,811
Liabilities, Series A preferred shares and shareholders' equity		
Current liabilities:		
Accounts payable	$ 7,397	$ 4,943
Accrued expenses and other current liabilities	3,789	4,434
Current portion of capital lease obligation	62	62
Current portion of deferred revenue	2,705	2,705
Current portion of lease incentive obligation	117	11
Total current liabilities	14,070	12,155
Long-term liabilities:		
Capital lease obligation, net of current portion	—	16
Deferred rent	1,711	680
Deferred revenue, net of current portion	7,635	8,311
Lease incentive obligation, net of current portion	1,075	116
Other liabilities	2,055	796
Total long-term liabilities	12,476	9,919
Total liabilities	$ 26,546	$ 22,074
Series A preferred shares, no par value; 3,901,348 shares issued and outstanding at March 31, 2017 and December 31, 2016	7,874	7,874
Shareholders' equity:		
Ordinary shares, no par value; 23,551,069 and 23,502,169 shares issued and outstanding at March 31, 2017 and December 31, 2016, respectively	215,808	215,602
Additional paid-in capital	13,028	10,029
Accumulated other comprehensive loss	(276)	(291)
Accumulated deficit	(111,473)	(90,477)
Total shareholders' equity	117,087	134,863
Total liabilities, Series A preferred shares and shareholders' equity	$ 151,507	$ 164,811

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

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except share and per share amounts)

	Three Months Ended March 31,	
	2017	2016
Revenue	$ 676	$ —
Operating expenses:		
Research and development	14,740	4,736
General and administrative	5,850	3,216
Total operating expenses	20,590	7,952
Loss from operations	(19,914)	(7,952)
Other income (expense), net:		
Dividend income	290	—
Interest income (expense), net	3	104
Other income (expense), net	(72)	(4)
Total other income (expense), net	221	100
Loss before income tax benefit (provision)	(19,693)	(7,852)
Income tax benefit (provision)	(1,303)	5
Net loss	$ (20,996)	$ (7,847)
Net loss per share attributable to ordinary shareholders—basic and diluted	$ (0.89)	$ (0.36)
Weighted-average ordinary shares used in computing net loss per share attributable to ordinary shareholders—basic and diluted	23,531,788	21,551,423

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

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

(In thousands)

	Three Months Ended March 31,	
	2017	2016
Net loss	$ (20,996)	$ (7,847)
Other comprehensive income (loss):		
Foreign currency translation	15	11
Comprehensive loss	$ (20,981)	$ (7,836)

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

WAVE LIFE SCIENCES LTD.
UNAUDITED CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Three Months Ended March 31,	
	2017	2016
Cash flows from operating activities		
Net loss	$ (20,996)	$ (7,847)
Adjustments to reconcile net loss to net cash flows used in operating activities:		
Amortization of lease incentive obligation	(17)	—
Depreciation of property and equipment	315	153
Share-based compensation expense	2,999	866
Deferred rent	1,031	136
Deferred income taxes	—	(5)
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(1,813)	(414)
Other non-current assets	—	(53)
Accounts payable	1,017	(296)
Accrued expenses and other current liabilities	(537)	329
Deferred revenue	(676)	—
Other non-current liabilities	1,259	(5)
Net cash used in operating activities	(17,418)	(7,136)
Cash flows from investing activities		
Increase in restricted cash	(3)	—
Purchases of property and equipment	(3,635)	(685)
Net cash used in investing activities	(3,638)	(685)
Cash flows from financing activities		
Payments on capital lease obligation	(16)	(16)
Proceeds from the exercise of share options	206	—
Net cash provided by (used in) financing activities	190	(16)
Effect of foreign exchange rates on cash	57	14
Net increase (decrease) in cash and cash equivalents	(20,809)	(7,823)
Cash and cash equivalents at beginning of period	150,293	161,220
Cash and cash equivalents at end of period	$ 129,484	$ 153,397
Supplemental disclosure of cash flow information:		
Increase in the lease incentive obligation during the period	$ 1,082	$ —
Property and equipment purchases in accounts payable and accrued expenses at period end	$ 2,976	$ 185

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," "we" or the "Company") is a genetic medicines company with an innovative and proprietary synthetic chemistry drug development platform that we are using to design, develop and commercialize a broad pipeline of first-in-class or best-in-class nucleic acid therapeutic candidates for genetically defined diseases. We are initially developing oligonucleotides that target genetic defects to either reduce the expression of disease-promoting proteins or transform the production of dysfunctional mutant proteins into the production of functional proteins.

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 12, 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. It was formed as a private company organized under the laws of England and Wales and the company number is 10705375.

The Company's primary activities since inception have been developing a synthetic chemistry drug development platform to design, develop and commercialize nucleic acid therapeutic programs, advancing the Company's neurology franchise, expanding the Company's research and development activities to enter the clinic, building the Company's intellectual property, recruiting personnel and raising capital to support these activities.

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, developing 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. The Company's therapeutic programs are currently in the development or discovery stage. There can be no assurance that the Company's research and development will be successfully completed, 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. In addition, the Company is dependent upon the services of its employees and consultants.

Basis of Presentation

The Company has prepared the accompanying consolidated financial statements in conformity with generally accepted accounting principles in the United States of America ("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, 2016, and the notes thereto, which are included in the Company's 2016 Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on March 16, 2017, have had no material changes during the three months ended March 31, 2017.

Unaudited Interim Financial Data

The accompanying interim consolidated balance sheet as of March 31, 2017, the related interim consolidated statements of operations and comprehensive loss for the three months ended March 31, 2017 and 2016, and cash flows for the three months ended March 31, 2017 and 2016, 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 months ended March 31, 2017 and 2016 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 months ended March 31, 2017 and 2016. The results of operations for the interim periods are not necessarily indicative of the results to be expected for the year ending December 31, 2017 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 significant 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, 2016, and the notes thereto, which are included in the Company's 2016 Annual Report on Form 10-K filed with the SEC on March 16, 2017, have had no material changes during the three months ended March 31, 2017 except as described below.

In November 2015, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update No. 2015-17, Balance Sheet Classification of Deferred Taxes ("ASU 2015-17"), which requires entities to present deferred tax assets and liabilities, along with any related valuation allowance, as noncurrent on the balance sheet. The new standard is effective for annual and interim periods beginning after December 15, 2016. During the three months ended March 31, 2017, we elected to adopt ASU 2015-17 on a prospective basis. The adoption of this standard resulted in the reclassification of short-term deferred tax assets to long-term deferred tax assets.

3. SHARE-BASED COMPENSATION

The WAVE Life Sciences Ltd. 2014 Equity Incentive Plan (the "2014 Plan") authorizes the board of directors or a committee of the board to grant incentive share options, non-qualified share options, share appreciation rights and restricted share awards to eligible employees, outside directors and consultants of the Company. Options generally vest over periods of one to four years, and options that lapse or are forfeited are available to be granted again. The contractual life of all options is generally five or ten years from the grant date.

As of March 31, 2017, 780,813 ordinary shares remained available for future grant under the 2014 Plan.

The Company measures and records the value of options granted to non-employees over the period of time that services are provided and, as such, unvested portions are subject to re-measurement at subsequent reporting periods.

Share Options

Share option activity under the 2014 Plan for the three months ended March 31, 2017 is summarized as follows:

	Number of Shares	Weighted-Average Exercise Price
Options outstanding as of January 1, 2017	3,577,766	$ 10.58
Granted	271,550	$ 28.51
Exercised	(48,900)	$ 4.22
Cancelled or forfeited	(23,844)	$ 20.38
Outstanding as of March 31, 2017	3,776,572	$ 11.89
Options exercisable as of March 31, 2017	1,445,654	$ 3.97
Options unvested as of March 31, 2017	2,330,918	$ 16.80

The Company recorded share-based compensation expense related to options granted to non-employees in the amount of $0.8 million and $0.4 million for the three months ended March 31, 2017 and 2016, respectively. Share-based compensation expense related to non-employees is recorded in research and development expenses.

Restricted Share Units

Restricted share unit ("RSU") activity for the three months ended March 31, 2017 is summarized as follows:

	RSUs	Average Grant Date Fair Value (in dollars per share)
RSUs Outstanding as of January 1, 2017	22,750	$ 21.69
Granted	170,859	$ 29.05
Vested	—	$ —
Forfeited	(1,952)	$ 29.05
RSUs Outstanding at March 31, 2017	191,657	$ 28.18

The RSUs granted in 2016 fully vest upon the first anniversary of the grant date. The RSUs granted in 2017 vest over a four-year period. Any RSUs that are forfeited or canceled are available to be granted again.

Share-based compensation expense for the three months ended March 31, 2017 and 2016 was classified in the consolidated statements of operations as follows:

	Three Months Ended March 31,	
	2017	2016
	(in thousands)	
Research and development expenses	$ 1,956	$ 588
General and administrative expenses	1,043	278
Total share-based compensation	$ 2,999	$ 866

4. PFIZER COLLABORATION AND SHARE PURCHASE AGREEMENT

On May 5, 2016, the Company entered into a Research, License and Option Agreement (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 (the "Pfizer Programs"), each directed at a genetically-defined hepatic target selected by Pfizer (the "Collaboration"). The Company received $10.0 million as an upfront license fee under the Pfizer Collaboration Agreement. Subject to option exercises by Pfizer, assuming five potential products are successfully developed and commercialized, the Company may earn up to $871.0 million in potential research, development and commercial milestone payments, plus royalties, tiered up to low double-digits, on sales of any products that may result from the Collaboration. None of the payments under the Pfizer Collaboration Agreement are refundable.

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 the four-year Research Term. During the Research Term, the Company is responsible to use its commercially reasonable efforts to advance up to five programs through to the selection of clinical candidates. At that stage, Pfizer may elect to license any of these Pfizer Programs exclusively and to have exclusive rights to undertake the clinical development of the resulting clinical candidates into products and the potential commercialization of any such products thereafter. In addition, the Company receives a non-exclusive, royalty-bearing sublicenseable license to use Pfizer's hepatic targeting technology in any of the Company's own hepatic programs that are outside the scope of the Collaboration (the "WAVE Programs"). If the Company uses this technology on the WAVE Programs, Pfizer is eligible to receive potential development and commercial milestone payments from the Company. Pfizer is also eligible to receive tiered royalties on sales of any products that include Pfizer's hepatic targeting technology.

Pfizer nominated two hepatic targets upon entry into the Collaboration in May 2016. In August 2016, Pfizer nominated the third hepatic target under the Collaboration and has the option to nominate two additional targets by November 5, 2017. The Collaboration is managed by a joint steering committee in which both parties are represented equally, which will oversee the scientific progression of each Pfizer Program up to the clinical candidate stage. During the four-year Research Term and for a period of two years thereafter,

the Company has agreed to work exclusively with Pfizer with respect to using any of the Company's stereopure oligonucleotide technology that is specific for the applicable hepatic target which is the basis of any Pfizer Program.

The stated term of the Pfizer Collaboration Agreement commenced on May 5, 2016 and terminates, with respect to each Pfizer Program, on the date of the last to expire payment obligations and expires, with respect to each WAVE Program, on a program-by-program basis accordingly. Pfizer may terminate its rights related to a Pfizer Program under the Pfizer Collaboration Agreement at its own convenience upon 90 days' notice to the Company. The Company may also terminate its rights related to a WAVE Program at its own convenience upon 90 days' notice to Pfizer. The Pfizer Collaboration Agreement may also be terminated by either party in the event of an uncured material breach of the Pfizer Collaboration Agreement by the other party.

During the three months ended March 31, 2017, the Company recognized revenue of $0.7 million under the Pfizer Collaboration Agreement. Deferred revenue amounted to $10.3 million at March 31, 2017, of which $2.7 million is included in current liabilities.

5. 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. However, 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.

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

The Company's potentially dilutive shares, which include outstanding share options to purchase ordinary shares 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 March 31,	
	2017	2016
Options to purchase ordinary shares	3,776,572	2,530,726
Restricted share units	191,657	—
Series A preferred shares	3,901,348	3,901,348

6. INCOME TAXES

The Company is a multi-national company subject to taxation in the United States, Japan, Ireland and Singapore. During the three months ended March 31, 2017 and 2016, the Company recorded a tax provision of $1.3 million and a tax benefit of less than $0.1 million, respectively, the increase in the tax provision is a result of additional income earned in the United States under a contract research agreement between our U.S. and Singapore entities. During the three months ended March 31, 2017 and 2016, the Company recorded no income tax benefits for the net operating losses incurred in Japan, Ireland and Singapore, due to its uncertainty of realizing a benefit from those items.

The Company's reserves related to taxes and its accounting for uncertain tax positions are based on a determination of whether and how much of a tax benefit taken by the Company in its tax filings or positions is more-likely-than-not to be realized following resolution of any potential contingencies present related to the tax benefit.

7. RELATED PARTIES

The Company had the following related party transactions for the periods presented in the accompanying consolidated financial statements, which have not otherwise been discussed in these notes to the consolidated financial statements:

- The Company had cash of $127 thousand and $118 thousand at March 31, 2017 and December 31, 2016, respectively, in depository accounts with Kagoshima Bank, Ltd., an affiliate of one of our shareholders, Kagoshima Shinsangyo Sousei Investment Limited Partnership.
- Pursuant to the terms of various service agreements with Shin Nippon Biomedical Laboratories Ltd. ("SNBL"), one of our shareholders, the Company paid SNBL $5 thousand and $115 thousand for the three months ended March 31, 2017 and 2016, respectively, for contract research services provided to the Company and its affiliates.
- In 2012, the Company entered into a consulting agreement for scientific advisory services with Dr. Gregory L. Verdine, one of our founders and the Chairman of our 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 of certain expenses.

8. GEOGRAPHIC DATA

The Company's long-lived assets consist of property and equipment and are located in the following geographical areas:

	March 31, 2017	December 31, 2016
	(in thousands)	
Asia	$ 107	$ 136
United States	14,189	8,471
Total long-lived assets	$ 14,296	$ 8,607

9. SUBSEQUENT EVENTS

On April 18, 2017, the Company closed a follow-on underwritten public offering of 4,166,667 ordinary shares for gross proceeds of $100.0 million. Net proceeds to the Company from the offering are expected to be approximately $93.4 million, after deducting underwriting discounts and commissions and estimated offering expenses.

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, 2016, filed with the Securities and Exchange Commission ("SEC") on March 16, 2017 (the "2016 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 under the caption "Risk Factors" in our 2016 Annual Report on Form 10-K, our actual results could differ materially from the results described in, or implied by, these forward-looking statements.

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, and Section 21E of the Securities Exchange Act of 1934, as amended, that involve substantial risks and uncertainties. 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," "will" and "would" or the negative of these terms, or other comparable terminology intended to identify statements about the future. Forward-looking statements include statements about our ability to fund our working capital requirements, the success, cost and timing of our product development activities and future clinical trials; the timing of and our ability to obtain and maintain regulatory approvals for any of our product candidates; our ability to identify and develop new product candidates; our intellectual property position; our manufacturing, commercialization and marketing capabilities and strategy; our ability to develop sales and marketing capabilities; our use of proceeds from our equity offerings; our estimates regarding future expenses and needs for additional financing; our ability to identify, recruit and retain key personnel; our financial performance; our competitive position; our liquidity and working capital requirements; and the expected impact of new accounting standards. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these statements, including the following: the ability of our preclinical studies to produce data sufficient to support the filing of investigational new drug 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 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 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 raise additional capital as needed; and competition from others developing therapies for similar uses, as well as the information under the caption "Risk Factors" contained in the 2016 Annual Report on Form 10-K filed with the SEC and in other filings we make with the SEC. 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 time frame, or at all. 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 law.

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.

Overview

We are a genetic medicines company with an innovative and proprietary synthetic chemistry drug development platform that we are using to design, develop and commercialize a broad pipeline of first-in-class or best-in-class nucleic acid therapeutic candidates for genetically defined diseases. Nucleic acid therapeutics are a growing and innovative class of drugs that have the potential to address diseases that have historically been difficult to treat with small molecule drugs or biologics. Oligonucleotides are comprised of a sequence of nucleotides that are linked together by a backbone of chemical bonds. We are initially developing oligonucleotides that target genetic defects to either reduce the expression of disease-promoting proteins or transform the production of dysfunctional mutant proteins into the production of functional proteins.

The nucleic acid therapeutics we are developing are stereopure. A stereopure oligonucleotide is comprised of molecules with atoms precisely arranged in three-dimensional orientations at each linkage. We believe controlling the position of the sulfur atom in the phosphorothioate ("PS") moiety will optimize the pharmacological profile of our therapeutics by maximizing therapeutic effect while minimizing the potential for side effects and safety risks. The stereopure therapies we are developing differ from the mixture-based

nucleic acid therapeutics currently on the market and in development by others. Our preclinical studies have demonstrated that our stereopure nucleic acid therapeutics may achieve superior pharmacologic properties as compared to mixture-based nucleic acid therapeutics. Our platform is designed to enable us to rationally design, optimize and produce stereopure nucleic acid therapeutics, which were previously thought to be too difficult to make and too expensive to manufacture. Further, our platform has the potential to design therapies that use any of the major molecular mechanisms employed by nucleic acid therapeutics, including antisense, ribonucleic acid interference ("RNAi") splicing, and exon skipping.

Our goal is to develop disease-modifying drugs for indications with a high degree of unmet medical need in genetically defined diseases. We are focused on designing single-stranded nucleic acid therapeutics that can distribute broadly within the human body, allowing us to target diseases across multiple organ systems and tissues, through both systemic and local administration. In addition to our current programs in development, we are also leveraging our platform to explore the next generation of stereopure nucleic acid therapeutics that have the potential to selectively target certain cell types.

Our core focus for our wholly-owned proprietary programs is neurology, which we broadly define as genetic diseases within the central nervous system (the "CNS") and neuromuscular system. We expect to initiate six development programs by the end of 2018. These programs include our three most advanced programs, which are in Huntington's disease ("HD"), and Duchenne Muscular Dystrophy ("DMD"), and three additional development candidates which we expect to select by the end of 2017. Further details regarding our programs are set forth below.

- In HD, we have two separate programs, WVE-120101 and WVE-120102, each targeting a different disease-associated single nucleotide polymorphism ("SNP"), within the *huntingtin* gene: rs362307 ("HTT SNP-1") and rs362331 ("HTT SNP-2"). 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 responsible for causing production of a defective protein which causes disease. It has been shown that by targeting HTT SNP-1 or HTT SNP-2, the production of disease-causing proteins associated with HD can be reduced. We expect to initiate clinical development of both WVE-120101 and WVE-120102 in mid-2017.
- In DMD, we have developed WVE-210201, which targets exon 51, a region within the ribonucleic acid, ("RNA"), transcribed from the *dystrophin* gene. DMD is a genetic disorder caused by mutations in the *dystrophin* gene that results in dysfunctional dystrophin protein. We expect to initiate clinical development of WVE-210201 in the second half of 2017.
- In May 2016, we entered into a collaboration with Pfizer focused on the advancement of genetically defined targets for the treatment of metabolic diseases, bringing together our proprietary drug development platform, across antisense and single-stranded RNAi modalities, along with GalNAc and Pfizer's hepatic targeting technology for delivery to the liver. The collaboration seeks to leverage our stereochemistry platform across antisense and RNAi modalities and may incorporate GalNAc and Pfizer's hepatic targeting technology. Under the terms of the agreement, Pfizer will select, and we will advance, up to five targets from discovery through to the selection of clinical candidates, at which point Pfizer may elect to exclusively license the programs and undertake further development and potential commercialization. Two targets were declared upon initiation of the agreement, including Apolipoprotein C-III. In the third quarter of 2016, Pfizer nominated its third target. Per the terms of the agreement, Pfizer is entitled to nominate the remaining two targets by November 2017.

We have never been profitable, and since our inception, we have incurred significant operating losses. Our net loss was $21.0 million and $7.8 million in the three months ended March 31, 2017 and 2016, respectively. As of March 31, 2017 and December 31, 2016, we had an accumulated deficit of $111.5 million and $90.5 million, respectively. We expect to incur significant expenses and increasing operating losses for the foreseeable future.

Recent Developments

On April 18, 2017, we closed a follow-on underwritten public offering of 4,166,667 ordinary shares for gross proceeds of $100.0 million. Net proceeds to us from the offering are expected to be approximately $93.4 million, after deducting underwriting discounts and commissions and estimated offering expenses. We intend to use the proceeds from this offering to further advance our three lead programs in HD and DMD; advance the development of our next three therapeutic candidates into the clinic; increase internal cGMP manufacturing capacity; support continued investment in the platform to drive the discovery and advancement of additional therapeutic candidates; and for general corporate purposes.

Financial Operations Overview

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 during the three months ended March 31, 2017 represents revenue earned under the Pfizer Collaboration Agreement that we entered into in May 2016.

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:

- employee salaries, benefits and other related costs, including share-based compensation expense, for personnel in our research and development organization;
- expenses incurred under agreements with third parties, including contract research organizations ("CROs") that conduct research and preclinical activities on our behalf, as well as contract manufacturing organizations ("CMOs") that manufacture drug products for use in our preclinical trials;
- costs of third-party consultants, including fees, share-based compensation and related travel expenses;
- the cost of sponsored research, which includes laboratory supplies and facility-related expenses, including rent, maintenance and other operating costs; and
- costs related to compliance with regulatory requirements.

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 research and development expenses.

Our primary research and development focus since inception has been the development of our innovative and proprietary synthetic chemistry drug development platform. We are using our platform to design, develop and commercialize a broad pipeline of nucleic acid therapeutic candidates.

Our direct research and development expenses are tracked on a program-by-program basis and consist primarily of CROs, CMOs, consultants, and other external costs incurred in connection with our preclinical studies and regulatory fees. However, we do not allocate the cost of sponsored research on a program-by-program basis because these costs are deployed across multiple product programs under development and, as such, are classified as costs of our research. The cost of sponsored research includes laboratory supplies, equipment repairs and maintenance and facility-related expenses.

The table below summarizes our research and development expenses incurred on our platform and by program:

	Three Months Ended March 31,	
	2017	2016
	(in thousands)	
HD programs	$ 1,239	$ 477
DMD program	4,736	235
Other discovery programs, platform development and identification of potential drug discovery candidates	8,765	4,024
Total research and development expenses	$ 14,740	$ 4,736

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 that our expenses related to salaries, bonuses and other related benefits costs will increase in the future as we attract and maintain additional personnel. We

expect that our research and development expenses will continue to increase in the foreseeable future as we initiate clinical trials for certain of our product candidates, continue to discover and develop additional product candidates, and pursue later stages of clinical development of our product candidates.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries, bonuses and other related benefits costs, including share-based compensation, for personnel in our executive, finance, corporate, business development, legal and administrative functions. General and administrative expenses also include legal fees relating to intellectual property and general corporate matters; 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.

We anticipate that our general and administrative expenses will increase in the future, primarily due to additional compensation, including salaries, benefits, incentive arrangements and share-based compensation awards, as we increase our employee headcount to support the expected growth in our research and development activities and the potential commercialization of our product candidates. Additionally, we expect our facility-related expenses to increase related to the lease we entered into in 2016 for space in Lexington, Massachusetts, which we intend to use primarily for our cGMP manufacturing, as well as for additional laboratory and office space.

Other Income (Expense), net

Other income (expense), net consists primarily of dividend and interest income earned on cash and cash equivalents balances for the three months ended March 31, 2017 and 2016.

Income Taxes

We are a multi-national company subject to taxation in the United States, Japan, Ireland and Singapore. During the three months ended March 31, 2017 and 2016, we recorded a tax provision of $1.3 million and a tax benefit of less than $0.1 million, respectively. The increase in the tax provision is a result of additional income earned in the United States under a contract research agreement between our U.S. and Singapore entities.

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 of America. The preparation of our financial statements and related disclosures requires us to make estimates, assumptions and judgments that affect the reported amount of assets, liabilities, costs and expenses, revenue, and related disclosures.

Our critical accounting policies are described under the caption “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Significant Judgments and Estimates” in our 2016 Annual Report on Form 10-K filed with the SEC on March 16, 2017. We believe that of our critical accounting policies, the accounting policies with respect to revenue recognition and income taxes involve the most judgment and complexity. During the three months ended March 31, 2017, there were no material changes to our critical accounting policies.

Accordingly, we believe these identified policies are critical to fully understanding and evaluating our financial condition and results of operations. If actual results or events differ materially from the estimates, judgments and assumptions used by us in applying these policies, our reported financial condition and results of operations could be materially affected.

Results of Operations

Comparison of the three months ended March 31, 2017 and 2016:

	Three Months Ended March 31,		Increase (Decrease)
	2017	2016	
	(in thousands)		
Revenues	$ 676	—	$ 676
Operating expenses			
Research and development	14,740	4,736	10,004
General and administrative	5,850	3,216	2,634
Total operating expense	20,590	7,952	12,638
Loss from operations	(19,914)	(7,952)	(11,962)
Other income (expense), net	221	100	121
Loss before income taxes	(19,693)	(7,852)	(11,841)
Income tax benefit (provision)	(1,303)	5	(1,308)
Net loss	$ (20,996)	$ (7,847)	$ (13,149)

Revenue

There was $0.7 million in revenue for the three months ended March 31, 2017, and there was no revenue for the three months ended March 31, 2016. The $0.7 million in revenue for the three months ended March 31, 2017 was earned under the Pfizer Collaboration Agreement, which was entered into in May 2016.

Research and Development Expenses

	Three Months Ended March 31,		Increase
	2017	2016	
	(in thousands)		
HD programs	$ 1,239	$ 477	$ 762
DMD program	4,736	235	4,501
Other discovery programs, platform development and identification of potential drug discovery candidates	8,765	4,024	4,741
Total research and development expenses	$ 14,740	$ 4,736	$ 10,004

Research and development expenses were $14.7 million for the three months ended March 31, 2017, compared to $4.7 million for the three months ended March 31, 2016. The increase of $10.0 million was due primarily to the following:

- an increase of $0.8 million in preclinical research and development expenses related to our two HD programs, WVE-120101 and WVE-120102;
- an increase of $4.5 million in preclinical research and development expenses related to our DMD program, WVE-210201; and
- an increase of $4.7 million in research and development expenses related to other discovery programs, platform development and identification of potential drug discovery candidates, due to an increase of $2.2 million in salary and related benefits costs and an increase of $1.4 million in share-based compensation expense, both of which are the result of an increase in employee headcount, and an increase of $1.1 million in research and development supplies and services expenses and facility-related expenses.

Foreign currency translation did not have a significant impact on changes in our consolidated research and development expenses from the three months ended March 31, 2016 to the three months ended March 31, 2017.

General and Administrative Expenses

General and administrative expenses were approximately $5.9 million for the three months ended March 31, 2017, compared to $3.2 million for the three months ended March 31, 2016. The year-over-year increase was due to an increase of $0.7 million in salary and related benefits costs and an increase of approximately $0.8 million in share-based compensation expense, both of which are the result of an increase in employee headcount, as well as an increase of $1.2 million in general and administrative supplies and services expenses and facility-related expenses.

Foreign currency translation did not have a significant impact on changes in our consolidated general and administrative expenses from the three months ended March 31, 2016 to the three months ended March 31, 2017.

Income Tax Benefit (Provision)

During the three months ended March 31, 2017 and 2016, we recorded a tax provision of $1.3 million and a tax benefit of less than $0.1 million, respectively, the increase in the tax provision is a result of additional income earned by in the United States under a contract research agreement between our U.S. and Singapore entities. During the three months ended March 31, 2017 and 2016, we recorded no income tax benefits for the net operating losses incurred in Japan, Ireland and Singapore, due to uncertainty regarding future taxable income in these jurisdictions.

Liquidity and Capital Resources

To date we have primarily funded our operations through private placements of debt and equity securities, public offerings of our ordinary shares and collaborations. Through March 31, 2017, we have received an aggregate of approximately $229.7 million 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 ($111.9 million gross proceeds) from our initial public offering, inclusive of the over-allotment exercise, and $40.0 million under the Pfizer Agreements, including $10.0 million as an upfront payment under the Pfizer Collaboration Agreement and $30.0 million in the form of an equity investment.

On April 18, 2017, we closed a follow-on underwritten public offering of 4,166,667 ordinary shares for gross proceeds of $100.0 million. Net proceeds to us from the offering are expected to be approximately $93.4 million, after deducting underwriting discounts and commissions and estimated offering expenses.

Since our inception, we have not generated any product revenue and have incurred recurring net losses.

As of March 31, 2017, we had cash and cash equivalents totaling $129.5 million and an accumulated deficit of $111.5 million and restricted cash of $3.6 million related to letters of credit for our leased premises in Cambridge, Massachusetts and Lexington, Massachusetts.

We expect that the capital resources available to us as of March 31, 2017 along with the net proceeds from our April 18, 2017 public offering, together with anticipated milestone payments under our existing collaboration with Pfizer, will be sufficient to fund our operating expenses and capital expenditure requirements into mid-2019. We have based this estimate 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 believe 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 finance our operations through a combination of public or private equity or debt financings or other sources, which may include collaborations with third parties. On January 4, 2017, we filed a universal shelf registration statement on Form S-3, which was declared effective by the SEC on February 6, 2017, on which we registered for sale up to $500.0 million of any combination of our ordinary shares, debt securities, warrants, rights, purchase contracts and/or units from time to time and at prices and on terms that we may determine. After the closing of our follow-on underwritten public offering on April 18, 2017, approximately $400.0 million of securities remains available for issuance under this shelf registration. This shelf registration statement will remain in effect for up to three years from the date it was declared effective. 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 sources and uses of cash and cash equivalents for the three months ended March 31, 2017 and 2016:

	Three Months Ended March 31,	
	2017	**2016**
	(in thousands)	
Cash used in operating activities	$ (17,418)	$ (7,136)
Cash used in investing activities	(3,638)	(685)
Cash provided by (used in) financing activities	190	(16)
Effect of foreign exchange rates of cash	57	14
Net increase (decrease) in cash and cash equivalents	$ (20,809)	$ (7,823)

Operating Activities

During the three months ended March 31, 2017, operating activities used approximately $17.4 million of cash, which was the result of our net loss of $21.0 million and changes in operating assets and liabilities of $0.8 million, partially offset by non-cash charges of $4.3 million. The non-cash charges were mainly due to share-based compensation expense of $3.0 million and an increase in deferred rent of $1.0 million.

During the three months ended March 31, 2016, operating activities used $7.1 million of cash, which was the result of our net loss of $7.8 million and changes in operating assets and liabilities of less than $0.5 million, offset by non-cash charges of $1.2 million. The non-cash charges were related primarily to share-based compensation of $0.9 million.

Investing Activities

During the three months ended March 31, 2017, investing activities used $3.6 million of cash, consisting primarily of purchases of property and equipment.

During the three months ended March 31, 2016, investing activities used $0.7 million of cash, consisting of purchases of property and equipment.

Financing Activities

During the three months ended March 31, 2017, net cash provided by financing activities was $0.2 million, consisting primarily of proceeds from the exercise of share options of $0.2 million partially offset by payment on our capital lease obligation.

During the three months ended March 31, 2016, net cash used in financing activities was less than $0.1 million, consisting of payment on our capital lease obligation.

Effect of Foreign Exchange Rates on Cash

During the three months ended March 31, 2017, the effect of changes in foreign exchange rates on cash was $0.1 million, primarily due to changes in the Japanese yen from December 31, 2016 to March 31, 2017.

During the three months ended March 31, 2016, the effect of changes in foreign exchange rates on cash was less than $0.1 million, primarily due to changes in the Japanese yen from December 31, 2015 to March 31, 2016.

Funding Requirements

We expect our expenses to increase substantially in connection with our ongoing research and development activities and the establishment of our internal cGMP manufacturing capabilities. We anticipate that our expenses will increase substantially if and as we:

- file clinical trial applications with global regulatory agencies and initiate clinical studies for our two programs in Huntington's disease and our program in Duchenne Muscular Dystrophy;
- conduct research and continue preclinical development of the discovery targets and advance additional programs into development;
- make strategic investments in expanding our R&D platform capabilities and in optimizing our manufacturing processes and formulations;
- develop manufacturing capabilities through outsourcing and establishing a scalable manufacturing facility;
- maintain our intellectual property portfolio and consider the acquisition of complementary intellectual property;
- seek and obtain regulatory approvals for our product candidates; and
- establish and build capabilities to market, manufacture and distribute 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 or follow-on programs, 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 increased 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 and results of conducting research and preclinical and clinical development within our therapeutic programs and with respect to future potential pipeline candidates;
- the cost of manufacturing clinical supplies for our product candidates;
- the costs, timing and outcome of regulatory review for our product candidates;
- 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;
- the revenue, if any, received from commercial sales for 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 possible future payments from Pfizer if milestones under the Pfizer Collaboration Agreement are achieved. On January 4, 2017, we filed a universal shelf registration statement on Form S-3, which was declared effective by the SEC on February 6, 2017 (the "2017 Shelf"), on which we registered for sale up to $500.0 million of any combination of our ordinary shares, debt securities, warrants, rights, purchase contracts and/or units from time to time and at prices and on terms that we may determine. On April 18, 2017, we closed a follow-on underwritten public offering of 4,166,667 for gross proceeds of $100.0 million under the 2017 Shelf. Following that closing, approximately $400.0 million of securities remains available for issuance under the 2017 Shelf. This registration statement will remain in effect for up to three years from the date it was declared effective. 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.

Contractual Obligations and Commitments

There have been no material changes to our contractual obligations and commitments set forth under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations- Contractual Obligations and Commitments" in the Company's 2016 Annual Report on Form 10-K filed with the SEC on March 16, 2017.

Off-Balance Sheet Arrangements

We had no off-balance sheet arrangements (as that term is defined in Item 303(a)(4)(ii) of Regulation S-K) as of March 31, 2017 that had or were 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

For detailed information regarding recently issued accounting pronouncements and the expected impact on our consolidated financial statements, see Note 2, "Significant Accounting Policies" in the notes to the consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

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 Risk

We are exposed to market risk related to changes in the value of the Japanese yen, which is the currency in which our Japanese subsidiary conducts its business. As of March 31, 2017 and December 31, 2016 0.3% and 0.2% of our assets, respectively, were located in Japan. Additionally, 0.7% and 1.2% of our general and administrative expenses were transacted in Japanese yen during the three months ended March 31, 2017 and 2016, respectively. Furthermore, 1.3%, and 3.5% of our research and development expenses were transacted in Japanese yen during the three months ended March 31, 2017 and 2016, respectively. When the U.S. dollar strengthens relative to the yen, our U.S. dollar reported revenue and expense from non-U.S. dollar denominated income and operating costs will decrease. Conversely, when the U.S. dollar weakens relative to the yen, our U.S. dollar reported revenue and expenses from non-U.S. dollar denominated income and operating costs will increase. Changes in the relative values of currencies occur regularly and, in some instances, could materially adversely affect our business, results of operations, financial condition or cash flows. Our foreign currency sensitivity is affected by changes in the Japanese yen, which is impacted by economic factors both locally in Japan and worldwide. A hypothetical 10% change in foreign currency rates would not have a material impact on our historical financial position or results of operations.

Inflation Risk

We do not believe that inflation had a material effect on our business, financial condition or results of operations for the three months ended March 31, 2017 and 2016.

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 in part upon capital market forces affecting our share price.

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 March 31, 2017. 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, or 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 March 31, 2017, 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 required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the fiscal quarter ended March 31, 2017 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" in our 2016 Annual Report on Form 10-K, which could materially affect our business, financial condition or results of operations. There have been no material changes in or additions to the risk factors included in our 2016 Annual Report on Form 10-K.

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

(a) ***Recent Sales of Unregistered Equity Securities***

None.

(b) ***Use of Proceeds***

On November 10, 2015, the SEC declared our registration statement on Form S-1 (Registration No. 333-207379) effective for our initial public offering and we registered additional ordinary shares for our initial public offering on a registration statement on Form S-1 (Registration No. 333-207940) filed pursuant to Rule 462(b) of the Securities Act of 1933, as amended. The aggregate net proceeds to us from the offering, inclusive of the over-allotment exercise, were approximately $100.4 million, after deducting underwriting discounts and commissions and offering expenses payable by us. There has been no material change in the planned use of proceeds from our initial public offering as described in our final prospectus filed with the SEC on November 12, 2015 pursuant to Rule 424(b). We have been using and will continue to use the net offering proceeds to advance our product candidates through clinical trial programs and for working capital and general corporate purposes. As of March 31, 2017, we have used approximately $74.5 million of the net initial public offering proceeds.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

Not applicable

Item 6. Exhibits.

The exhibits listed in the Exhibit Index to this Quarterly Report on Form 10-Q are incorporated herein by reference.

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.

Date: May 10, 2017

WAVE LIFE SCIENCES LTD.

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

By: /s/ Keith C. Regnante
Keith C. Regnante
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

EXHIBIT INDEX

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	XBRL Instance Document	X			
101.SCH	XBRL Taxonomy Extension Schema Document	X			
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	X			
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	X			
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	X			
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	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.

Exhibit 31.1

CERTIFICATIONS UNDER SECTION 302

I, Paul B. Bolno, M.D., 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.

May 10, 2017

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

Exhibit 31.2

CERTIFICATIONS UNDER SECTION 302

I, Keith C. Regnante, 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.

May 10, 2017

By: /s/ Keith C. Regnante
Keith C. Regnante
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32

WAVE LIFE SCIENCES LTD.
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 March 31, 2017 (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: May 10, 2017

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

Dated: May 10, 2017

/s/ Keith C. Regnante
Keith C. Regnante
Chief Financial Officer
(Principal Financial Officer)