UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of report (Date of earliest event reported): August 9, 2017

WAVE LIFE SCIENCES LTD.

(Exact name of registrant as specified in its charter)

Singapore (State or other jurisdiction of incorporation) 001-37627 (Commission File Number) Not Applicable (IRS Employer Identification No.)

8 Cross Street #10-00, PWC Building Singapore 048424 (Address of principal executive offices)

048424 (Zip Code)

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

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Dere-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Dere-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company X

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.

Item 2.02 Results of Operations and Financial Condition.

On August 9, 2017, WAVE Life Sciences Ltd. (the "Company") announced its financial results for the quarter ended June 30, 2017. The full text of the press release issued in connection with the announcement is furnished as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated by reference herein.

The information in this Current Report on Form 8-K, including Exhibit 99.1 attached hereto, is intended to be furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

The following exhibit relating to Item 2.02 of this Current Report on Form 8-K shall be deemed to be furnished and not filed:

Exhibit No.	Description
99.1	Press release issued on August 9, 2017

SIGNATURE

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

Date: August 9, 2017

WAVE LIFE SCIENCES LTD.

/s/ Keith C. Regnante

Keith C. Regnante Chief Financial Officer



Wave Life Sciences Reports Second Quarter 2017 Financial Results and Provides Business Update

CAMBRIDGE, Mass., August 9, 2017 – Wave Life Sciences Ltd. (NASDAQ: WVE), a biotechnology company focused on delivering transformational therapies for patients with serious, genetically-defined diseases, today announced financial results for the second quarter ended June 30, 2017.

"We recently achieved two major milestones: transitioning to a clinical stage company, with the commencement of our two phase 1b/2a trials in Huntington's Disease, PRECISION-HD1 and PRECISION-HD2; and the opening of our new cGMP manufacturing facility," said Paul Bolno, M.D., MBA, President and Chief Executive Officer of Wave Life Sciences. "Our lead DMD Exon 51 program is on track to enter the clinic later this year, and I am excited to announce our next development program targeting C9orf72 mutations in ALS and FTD. Our collaboration with Pfizer continues to advance with multiple programs progressing through *in-vivo* lead optimization. Within our discovery engine, we continue to generate compelling data for new modalities such as single-stranded RNAi, as well as splice correction. With the progression of our pipeline and advancement in our platform capabilities, we are closer to potentially bringing new hope and precision medicines to patients living with serious, genetically-defined diseases."

Business Update

• Huntington's disease allele selective programs (WVE-120101, WVE-120102) clinical trials initiated

In July, Wave announced the initiation of the Company's PRECISION-HD program, which includes PRECISION-HD1 and PRECISION-HD2, two Phase 1b/2a global clinical trials evaluating WVE-120101 and WVE-120102, respectively, for patients with Huntington's disease (HD). Both PRECISION-HD trials will follow the same protocol, and each will target a single nucleotide polymorphism (SNP), that marks a separate and distinct location on the mutant huntingtin (HTT) gene transcript. Both trials are multicenter, randomized, double-blind, placebo-controlled, and will primarily evaluate the safety and tolerability of single and multiple doses of WVE-120101 and WVE-120102, administered intrathecally in HD patients. PRECISION-HD1 and PRECISION-HD2are the first two clinical trials in the company's history. Completion of the trials is anticipated for 2H 2019.

• DMD Exon 51 (WVE-210201) on track to initiate clinical trials 2H 2017

WVE-210201, Wave's lead program for Duchenne muscular dystrophy (DMD), is expected to enter the clinic in the second half of 2017 as planned. At the end of the second quarter, Wave presented additional pre-clinical data at the Parent Project Muscular Dystrophy conference, which included additional Western blot data as well as further *in-vivo* stability data. These data supported previously reported pre-clinical findings, and demonstrated efficient exon 51 skipping, dystrophin protein restoration and high tissue stability.

Expansion of pipeline with C9orf72 targeting program addressing amyotrophic lateral sclerosis (ALS) and frontotemporal dementia (FTD)

Today, Wave is announcing C9orf72 as its next program, aimed at treating the fatal, complex neurodegenerative disorders ALS and FTD. Wave is targeting pathological C9orf72 mutations resulting from repeat expansions in the gene. These expansions are currently known as the largest genetic cause of familial ALS and FTD, accounting for approximately one-third and one-quarter of patients, respectively. Mutations of C9orf72 are also considered to be a strong genetic risk factor for the more common, non-inherited, sporadic forms of ALS and FTD. Wave anticipates clinical trial initiation of ALS and FTD programs in late 2018. Further information on each of these programs will be disclosed and presented later this year.

• Lexington, Massachusetts manufacturing facility opens

In July, Wave began occupying its new 90,000 square foot facility in nearby Lexington, MA. The facility will provide Wave with the ability to produce active pharmaceutical ingredient under current good manufacturing practice (cGMP). This capability will give Wave and its current and future partners increased control and visibility of its drug product supply chain as well as greater capacity and flexibility in bringing multiple products to market.

• Advancements in nucleic acid research and discovery platform update

In the second quarter, Wave disclosed progress in its single-strand RNAi (ssRNAi) capabilities, with and without GalNAc conjugates. Optimized with Wave chemistry, ssRNAi exhibits comparable or greater potency than double-stranded RNAi formats and has demonstrated improved stability and pharmacology *in vitro* and *in vivo*. This progress is expected to extend RNAi mediated silencing to tissues beyond those accessible to double-stranded formats. Wave has also made advancements in applying GalNAc conjugated antisense oligonucleotides, with *in vivo* data demonstrating improved duration of activity and continued suppression of protein at 80 days compared to stereorandom.

In June, Wave announced its collaboration with ReadCoor, Inc. aimed at developing a cellular map of the mouse brain through in situ transcriptomics. We expect this collaboration will enable a highly detailed characterization of the impact of nucleic acid based therapies in different cell types, across cellular compartments, and the role of stereochemistry in optimizing silencing and splicing therapies in the brain.

Second Quarter 2017 Financial Results and Financial Guidance

Wave reported a net loss of \$24.7 million for the second quarter of 2017, as compared to a net loss of \$11.6 million for the second quarter of 2016. The increase in net loss for the second quarter was mainly due to increases in direct research, discovery and development expenses as well as increases in compensation-related expenses as Wave continues to grow its employee headcount to support its corporate goals.

Research and development expenses were \$19.1 million for the second quarter of 2017 as compared to \$8.4 million for the second quarter of 2016. This increase was largely due to increases in supplies and services expenses, related to the continued development of Wave's three lead programs as well as its discovery and platform activities, along with increases in its compensation-related expenses, due to the increase in headcount.

General and administrative expenses were \$6.7 million for second quarter of 2017, as compared to \$3.7 million for the second quarter of 2016. This increase was driven by increases in compensation-related expenses, due to an increase in headcount, as well as increases in facility-related expenses and other general operating expenses.

As of June 30, 2017, Wave had cash and cash equivalents totaling \$197.4 million as compared to \$150.3 million as of December 31, 2016. The increase in cash and cash equivalents was mainly due to the \$93.5 million in net proceeds from the April 2017 follow-on offering, partially offset by Wave's year-to-date net loss of \$45.7 million.

Wave expects that the cash and cash equivalents available as of June 30, 2017, together with anticipated milestone payments under its existing collaboration with Pfizer, will be sufficient to fund its operating expenses and capital expenditure requirements into mid-2019.

About Wave Life Sciences

Wave Life Sciences is a biotechnology company focused on delivering transformational therapies for patients with serious, genetically-defined diseases. Our chemistry platform enables the creation of highly specific, well characterized oligonucleotides designed to deliver superior efficacy and safety across multiple therapeutic modalities. Our pipeline is initially focused on neurological disorders and extends across several other therapeutic areas.

Forward Looking Information

This press release contains forward-looking statements concerning our goals, beliefs, expectations, strategies, objectives and plans, and other statements that are not necessarily based on historical facts, including statements regarding the following: the anticipated commencement and duration of our clinical trials; the protocol, design and endpoints of our clinical trials; the future performance and results of our programs in clinical trials; the progress and potential benefits of our collaborations with partners; our identification of future candidates and their therapeutic potential; the anticipated therapeutic benefits of our therapies; our

advancing of therapies across multiple modalities and the anticipated benefits of that strategy; the anticipated benefits of our internal manufacturing facility; our future growth; the potential benefits of our stereochemistry compared with stereorandom compounds, our drug discovery platform and nucleic acid therapeutics generally; and the anticipated duration of our cash runway. Actual results may differ materially from those indicated by these forward-looking statements as a result of various important factors, including the following: the ability of our preclinical programs to produce data sufficient to support our 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 of our programs, which may not support further development of 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 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 finance our drug discovery efforts and to raise additional capital when needed; and competition from others developing therapies for similar uses, as well as the information under the caption "Risk Factors" contained in our most recent Annual Report on Form 10-K filed with the Securities and Exchange Commission (SEC) and in other filings we make with the SEC from time to time. We undertake no obligation to update the informatio

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WAVE LIFE SCIENCES LTD. UNAUDITED CONSOLIDATED BALANCE SHEETS

(In thousands, except share amounts)

	June 30, 2017	Dece	ecember 31, 2016	
Assets				
Current assets:				
Cash and cash equivalents	\$ 197,394	\$	150,293	
Prepaid expenses and other current assets	3,830		1,483	
Deferred tax assets			214	
Total current assets	201,224		151,990	
Property and equipment, net	20,775		8,607	
Deferred tax assets	774		560	
Restricted cash	3,606		3,601	
Other assets	53		53	
Total assets	\$ 226,432	\$	164,811	
Liabilities, Series A preferred shares and shareholders' equity				
Current liabilities:				
Accounts payable	\$ 7,983	\$	4,943	
Accrued expenses and other current liabilities	4,589		4,434	
Current portion of capital lease obligation	47		62	
Current portion of deferred revenue	2,705		2,705	
Current portion of lease incentive obligation	231		11	
Total current liabilities	15,555		12,155	
Long-term liabilities:				
Capital lease obligation, net of current portion	_		16	
Deferred rent	2,864		680	
Deferred revenue, net of current portion	6,959		8,311	
Lease incentive obligation, net of current portion	2,197		116	
Other liabilities	2,071		796	
Total long-term liabilities	14,091		9,919	
Total liabilities	\$ 29,646	\$	22,074	
Series A preferred shares, no par value; 3,901,348 shares issued and outstanding at June 30, 2017 and				
December 31, 2016	\$ 7,874	\$	7,874	
Shareholders' equity:				
Ordinary shares, no par value; 27,731,412 and 23,502,169 shares issued and outstanding at June 30, 2017				
and December 31, 2016, respectively	\$ 309,355	\$	215,602	
Additional paid-in capital	15,996		10,029	
Accumulated other comprehensive loss	(273)		(291)	
Accumulated deficit	(136,166)		(90,477)	
Total shareholders' equity	\$ 188,912	\$	134,863	
Total liabilities, Series A preferred shares and shareholders' equity	\$ 226,432	\$	164,811	

WAVE LIFE SCIENCES LTD. UNAUDITED CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except share and per share amounts)

	Three Months Ended June 30,				Six Months Ended June 30,			
	2	2017	-	2016	+	2017	-	2016
Revenue	\$	676	\$	417	\$	1,352	\$	417
Operating expenses:								
Research and development		19,103		8,401		33,843		13,137
General and administrative		6,667		3,654		12,517		6,870
Total operating expenses		25,770		12,055		46,360		20,007
Loss from operations		(25,094)		(11,638)		(45,008)		(19,590)
Other income (expense):								
Dividend income		482		—		772		—
Interest income (expense), net		1		106		4		210
Other income (expense), net		(64)		15		(136)		11
Total other income (expense), net		419		121		640		221
Loss before income tax provision		(24,675)		(11,517)		(44,368)		(19,369)
Income tax provision		(18)		(48)		(1,321)		(43)
Net loss	\$	(24,693)	\$	(11,565)	\$	(45,689)	\$	(19,412)
Net loss per share attributable to ordinary shareholders—basic and diluted	\$	(0.92)	\$	(0.51)	\$	(1.81)	\$	(0.88)
Weighted-average ordinary shares used in computing net loss per share attributable to ordinary shareholders—basic and diluted	26,8	899,058	2	2,708,022	2	5,224,725	2	2,126,562