Radius Health, Inc. Form S-3 September 02, 2014

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As filed with the Securities and Exchange Commission on September 2, 2014

Registration No. 333-

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

RADIUS HEALTH, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

80-0145 732

(I.R.S. Employer Identification Number)

950 Winter Street Waltham, Massachusetts 02451 (617) 551-4700

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Robert E. Ward
President and Chief Executive Officer
Radius Health, Inc.
950 Winter Street
Waltham, Massachusetts 02451
(617) 551-4700

(Address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Peter N. Handrinos B. Shayne Kennedy Latham & Watkins LLP John Hancock Tower 200 Clarendon Street Boston, Massachusetts 02116 (617) 948-6000

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. o

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. ý

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective on filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. o

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o

Accelerated filer o

Non-accelerated filer o

(Do not check if a smaller reporting company ý smaller reporting company)

CALCULATION OF REGISTRATION FEE

	Title of each class of securities to be registered	Amount to be registered/proposed maximum offering price per unit/ proposed maximum aggregate offering price	Amount of registration fee
Common Stock		(1)(2)	
Preferred Stock		(1)(2)	
Warrants		(1)	
Units		(1)	
Total		\$150,000,000(3)	\$19,320(4)

- (1) An unspecified number of securities is being registered as may from time to time be offered at unspecified prices.
- (2)
 Includes rights to acquire common stock or preferred stock of the Company under any shareholder rights plan then in effect, if applicable under the terms of any such plan.
- Estimated solely for the purpose of calculating the registration fee. No separate consideration will be received for shares of common stock that are issued upon conversion of preferred stock or upon exercise of common stock warrants registered hereunder. The aggregate maximum offering price of all securities issued pursuant to this registration statement will not exceed \$150,000,000.
- (4) The registration fee has been calculated in accordance with Rule 457(o) under the Securities Act of 1933, as amended.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated September 2, 2014.

PROSPECTUS

Radius Health, Inc.

\$150,000,000

Common Stock Preferred Stock Warrants Units

We may offer and sell up to \$150,000,000 in the aggregate of the securities identified above from time to time in one or more offerings. This prospectus provides you with a general description of the securities.

Each time we offer and sell securities, we will provide a supplement to this prospectus that contains specific information about the offering and the amounts, prices and terms of the securities. The supplement may also add, update or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus and the applicable prospectus supplement before you invest in any of our securities.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers and agents, or directly to purchasers, or through a combination of these methods. If any underwriters, dealers or agents are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus entitled "About this Prospectus" and "Plan of Distribution" for more information. No securities may be sold without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE "RISK FACTORS" ON PAGE 5 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Our common stock is listed on The NASDAQ Global Market under the symbol "RDUS." On August 29, 2014, the last reported sale price of our common stock on The NASDAQ Global Market was \$13.68 per share.

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

The date of this prospectus is

, 2014.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, using a "shelf" registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings up to a total dollar amount of \$150,000,000 as described in this prospectus. Each time that we offer and sell securities, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the heading "Where You Can Find More Information; Incorporation by Reference."

We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates.

When we refer to "Radius," "we," "our," "us" and the "Company" in this prospectus, we mean Radius Health, Inc. and its consolidated subsidiaries, unless otherwise specified. When we refer to "you," we mean the holders of the applicable series of securities.

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WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

Available Information

We file reports, proxy statements and other information with the SEC. Information filed with the SEC by us can be inspected and copied at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of this information by mail from the Public Reference Section of the SEC at prescribed rates. Further information on the operation of the SEC's Public Reference Room in Washington, D.C. can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains a web site that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is http://www.sec.gov.

Our website address is www.radiuspharm.com. The information on our web site, however, is not, and should not be deemed to be, a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C. or through the SEC's website, as provided above.

Incorporation by Reference

The SEC's rules allow us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus modifies or replaces that statement.

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, which we refer to as the "Exchange Act" in this prospectus, between the date of this prospectus and the termination of the offering of the securities described in this prospectus. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed "filed" with the SEC, including our Compensation Committee report and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

Our Annual Report on Form 10-K for the year ended December 31, 2013, filed with the SEC on February 26, 2014, as amended by Amendment No. 1 to Annual Report on Form 10-K/A for the year ended December 31, 2013, filed with the SEC on April 3, 2014.

Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2014, filed with the SEC on May 14, 2014, and our Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, filed with the SEC on August 12, 2014.

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Our Current Reports on Form 8-K filed with the SEC on January 7, 2014, January 8, 2014, February 3, 2014, February 11, 2014, February 21, 2014, February 28, 2014, March 10, 2014, April 1, 2014, April 30, 2014, May 20, 2014, June 2, 2014, June 13, 2014 and July 11, 2014.

The description of our Common Stock contained in our Registration Statement on Form 8-A, dated and filed with the SEC on May 2, 2014, and any amendment or report filed with the SEC for the purpose of updating the description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus (other than exhibits, unless they are specifically incorporated by reference in the documents) by writing or telephoning us at the following address:

Radius Health, Inc. 950 Winter St. Waltham, MA 02451 (617) 551-4700 Attention: Investor Relations

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus and any accompanying prospectus supplement.

THE COMPANY

We are a science-driven biopharmaceutical company focused on developing novel differentiated therapeutics for patients with osteoporosis as well as other serious endocrine-mediated diseases. Our lead product candidate is abaloparatide (BA058), a bone anabolic for the treatment of osteoporosis delivered via subcutaneous injection, which we refer to as Abaloparatide-SC. We are currently in Phase 3 development of Abaloparatide-SC and expect to announce top-line data from this study in late 2014. If the results are positive, we plan to submit a new drug application, or NDA, in the United States, and a marketing authorization application, or MAA, in Europe, in mid-2015. We hold worldwide commercialization rights to Abaloparatide-SC, other than in Japan, and with a favorable regulatory outcome, we anticipate our first commercial sales of Abaloparatide-SC will take place in 2016. We are leveraging our investment in Abaloparatide-SC to develop Abaloparatide-TD. We expect this line extension will provide improved patient convenience by enabling administration of abaloparatide through a short-wear-time transdermal patch. We have recently completed a successful Phase 2 proof of concept study of Abaloparatide-TD.

Our current clinical product portfolio also includes a novel oral agent, RAD1901, a selective estrogen receptor down-regulator/degrader, or SERD. We are developing RAD1901 at higher doses, for the treatment of metastatic breast cancer, including breast cancer brain metastases, or BCBM, and intend to advance its development with the initiation of two Phase 1 clinical trials, including a maximum tolerated dose study that has commenced patient screening, and a Phase 1b clinical trial in metastatic breast cancer, which is expected to commence in late 2014. We expect that patients enrolled in the Phase 1b clinical trial will include patients with metastatic breast cancer and patients with metastatic breast cancer that has spread to the central nervous system. The precise population will be defined in the study protocol and determined in conjunction with our investigators. At low doses, RAD1901 acts as a selective estrogen-receptor modulator, or SERM. Low-dose RAD1901 has shown efficacy for the treatment of vasomotor symptoms such as hot flashes in a successful Phase 2 proof of concept study.

We were incorporated in Delaware on February 4, 2008 under the name MPM Acquisition Corp. In May 2011, we entered into a reverse merger transaction, or the Merger, with our predecessor, Radius Health, Inc., a Delaware corporation formed on October 3, 2003, or the Former Operating Company. Pursuant to the Merger, the Former Operating Company became a wholly-owned subsidiary of ours. Immediately following the Merger, we merged the Former Operating Company with and into us, and we assumed the business of the Former Operating Company and changed our name to "Radius Health, Inc."

Our principal executive offices are located at 950 Winter Street, Waltham, Massachusetts 02451, and our telephone number is (617) 551-4700. Our website address is *www.radiuspharm.com*. The information on our web site, however, is not, and should not be deemed to be, a part of this prospectus.

RISK FACTORS

Investment in any securities offered pursuant to this prospectus and the applicable prospectus supplement involves risks. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference in this prospectus and any prospectus supplement or free writing prospectus include forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements other than statements of historical fact included in this prospectus that address activities, events or developments that we expect, believe or anticipate will or may occur in the future are forward-looking statements including, in particular, the statements about our plans, objectives, strategies and prospects regarding, among other things, our financial condition, operating results and business.

We have identified some of these forward-looking statements with words like "believe," "may," "will," "should," "could," "expect," "intend," "plan," "predict," "anticipate," "estimate," "continue" or other words and terms of similar meaning and the use of future dates. These forward-looking statements are based on current expectations about future events affecting us and are subject to uncertainties and factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control and could cause our actual results to differ materially from those matters expressed or implied by our forward-looking statements. Forward-looking statements are only predictions or statements of current plans and can be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties, including the risks described under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2013, which is incorporated herein by reference in its entirety, any amendment or update thereto reflected in subsequent filings with the SEC, and all other annual, quarterly and other reports that we file with the SEC after the date of this prospectus and that also are incorporated herein by reference. Such risks and uncertainties are not exclusive and further information concerning us and our business, including factors that potentially could materially affect our financial results or condition, may emerge from time to time. We assume no obligation to update, amend or clarify forward-looking statements to reflect actual results or changes in factors or assumptions affecting such forward-looking statements, except as otherwise required by law. We advise you, however, to consult any further disclosures we make on related subjects in our future annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K we file with or furnish to the SEC.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of the securities as set forth in the applicable prospectus supplement.

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SELECTED FINANCIAL DATA

You should read the following selected financial data together with our financial statements and the related notes contained in Item 8 of Part II of our Annual Report on Form 10-K/A for the fiscal year ended December 31, 2013 and our financial statements and the related notes contained in Item 1 of Part I of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, which are incorporated by reference into this prospectus, except that share and per share information for the periods ended December 31, 2013, 2012, 2011, 2010 and 2009 have been revised to reflect the one-for-2.28 reverse stock split for our outstanding shares of common stock effective April 24, 2014. The selected data in this section is not intended to replace the consolidated financial statements included in our Annual Report on Form 10-K/A, except that share and per share information for the periods ended December 31, 2013, 2012, 2011, 2010 and 2009 have been revised to reflect the one-for-2.28 reverse stock split.

We have derived the statements of operations data for each of the three years ended December 31, 2011, 2012 and 2013 and the balance sheet data as of December 31, 2012 and 2013 from the audited financial statements contained in Item 8 of Part II of our Annual Report on Form 10-K/A for the year ended December 31, 2013. The selected balance sheet data as of December 31, 2009, 2010 and 2011 and the statement of operations data for the years ended December 31, 2009 and 2010 has been derived from the audited financial statements for such years not included in our Annual Report on Form 10-K/A for the year ended December 31, 2013. The consolidated statement of operations data set forth below for the six months ended June 30, 2014 and the consolidated balance sheet data as of June 30, 2014 have been derived from our financial statements included in Item 1 of Part I of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, which is incorporated by reference into this prospectus.

The financial information set forth below for the years ended December 31, 2009, 2010 and 2011 have been recast to reflect the adoption of Accounting Standards Update No. 2011-05, Presentation of Comprehensive Income.

The historical financial information set forth below may not be indicative of our future performance and should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our historical financial statements and notes to those statements included in Item 7 of Part II and Item 8 of Part II, respectively, of our Annual Report on Form 10-K/A for the year ended December 31, 2013, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our historical financial statements and notes to those statements included in Item 2 of Part I and Item 1 of Part I, respectively, of our Quarterly Report on Form 10-Q for the quarter ended June 30, 2014, and any amendment or update thereto reflected in subsequent filings with the SEC, and all other annual, quarterly and other reports that we file with the SEC after the date of this prospectus and that also are incorporated herein by reference.

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Statement of Operations and Comprehensive Loss Data		2013	Year Ended December 2012 2011 (in thousands)		r 31, 2010	2009	Six Mon Ended Jur 2014	
							(unaudited)	
Revenue:								
Option fee	\$	\$	\$	\$	\$	1,616 \$	\$	
Operating expenses:								
Research and development		60,536	54,961	36,179	11,692	14,519	20,335	33,527
General and administrative		6,829	9,469	5,330	3,630	2,668	5,209	3,022
Restructuring					217			
Loss from operations		(67,365)	(64,430)	(41,509)	(15,539)	(15,571)	(25,544)	(36,549)
Other income (expense):								
Other income (expense), net		9,085	(2,095)	(236)	824	(7)	(709)	10,072
Interest (expense) income, net		(2,410)	(2,603)	(731)	85	489	(844)	(1,340)
Net loss		(60,690)	(69,128)	(42,476)	(14,630)	(15,089)	(27,097)	(27,817)
Other comprehensive loss, net of tax: Unrealized (loss) gain from available-for-sale securities			(5)	8	(18)	(232)	1	3
Comprehensive loss	\$	(60,690) \$	(69,133) \$	(42,468) \$	(14,648) \$	(15,321) \$	(27,096) \$	(27,814)
·								
Net (loss) earnings attributable to common stockholders	\$	(78,161) \$	(83,120) \$	113 \$	(26,773) \$	(26,494) \$	(36,097) \$	(35,767)
(Loss) earnings per share basic	\$	(203.91) \$	(225.71) \$	0.51 \$	(190.20) \$	(188.52) \$	(9.11) \$	(93.89)