

SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549

**SCHEDULE 13G**  
(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO  
RULES 13d-1(b), (c) AND (d) AND AMENDMENTS THERETO FILED  
PURSUANT TO RULE 13d-2

UNDER THE SECURITIES EXCHANGE ACT OF 1934

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**MediciNova, Inc.**

(Name of Issuer)

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Common Stock, par value \$0.001 per share

(Title of Class of Securities)

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58468P206

(CUSIP Number)

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December 31, 2011

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

S Rule 13d-1(b)

Rule 13d-1(c)

Rule 13d-1(d)

1	NAME OF REPORTING PERSONS Pyxis Long/Short Healthcare Fund (f/k/a Highland Long/Short Healthcare Fund)	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) £ (b) £	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 843,369**
	6	SHARED VOTING POWER 0
	7	SOLE DISPOSITIVE POWER 843,369**
	8	SHARED DISPOSITIVE POWER 0
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 843,369**	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES* £	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 5.2%**	
12	TYPE OF REPORTING PERSON* IV, OO	

\*SEE INSTRUCTIONS BEFORE FILLING OUT

\*\*SEE ITEM 4.

1	NAME OF REPORTING PERSONS Pyxis Capital, L.P. (f/k/a Highland Funds Asset Management, L.P.)	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) £ (b) £	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0
	6	SHARED VOTING POWER 843,369**
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 843,369**
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 843,369**	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES* £	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 5.2%**	
12	TYPE OF REPORTING PERSON* IA, PN	

\*SEE INSTRUCTIONS BEFORE FILLING OUT

\*\*SEE ITEM 4.

1	NAME OF REPORTING PERSONS Strand Advisors XVI, Inc.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) £ (b) £
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0
	6	SHARED VOTING POWER 843,369**
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 843,369**
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 843,369**	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*	£
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 5.2%**	
12	TYPE OF REPORTING PERSON* HC, CO	

\*SEE INSTRUCTIONS BEFORE FILLING OUT

\*\*SEE ITEM 4.

1	NAME OF REPORTING PERSONS  Cummings Bay Capital Management, L.P.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*		(a) £ (b) £
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 913,030**	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 913,030**	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  913,030**		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*		£
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9  5.6%**		
12	TYPE OF REPORTING PERSON*  IA, PN		

\*SEE INSTRUCTIONS BEFORE FILLING OUT

\*\*SEE ITEM 4.

1	NAME OF REPORTING PERSONS  Cummings Bay Capital Management GP, LLC		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*		(a) £ (b) £
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 913,030**	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 913,030**	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  913,030**		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*		£
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9  5.6%**		
12	TYPE OF REPORTING PERSON*  HC, OO		

\*SEE INSTRUCTIONS BEFORE FILLING OUT

\*\*SEE ITEM 4.

1	NAME OF REPORTING PERSONS  Highland Capital Management Services, Inc.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) £ (b) £
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER  0
	6	SHARED VOTING POWER  913,030**
	7	SOLE DISPOSITIVE POWER  0
	8	SHARED DISPOSITIVE POWER  913,030**
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  913,030**	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*	£
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9  5.6%**	
12	TYPE OF REPORTING PERSON*  HC, CO	

\*SEE INSTRUCTIONS BEFORE FILLING OUT

\*\*SEE ITEM 4.

1	NAME OF REPORTING PERSONS	
	James D. Dondero	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) £ (b) £
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION	
	United States	
	5	SOLE VOTING POWER
		0
	6	SHARED VOTING POWER
		913,030**
	7	SOLE DISPOSITIVE POWER
		0
	8	SHARED DISPOSITIVE POWER
		913,030**
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	
	913,030**	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*	£
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9	
	5.6%**	
12	TYPE OF REPORTING PERSON*	
	HC, IN	

\*SEE INSTRUCTIONS BEFORE FILLING OUT

\*\*SEE ITEM 4.



## SCHEDULE 13G

This Schedule 13G (this "Schedule 13G") is being filed on behalf of Pyxis Long/Short Healthcare Fund (f/k/a Highland Long/Short Healthcare Fund), a series of Pyxis Funds I (f/k/a Highlands Funds I), a Delaware statutory trust (the "Long/Short Fund"), Pyxis Capital, L.P. (f/k/a Highland Funds Asset Management, L.P.), a Delaware limited partnership ("Pyxis"), Strand Advisors XVI, Inc., a Delaware corporation ("Strand XVI"), Cummings Bay Capital Management, L.P., a Delaware limited partnership (the "Adviser"), Cummings Bay Capital Management GP, LLC, a Delaware limited liability company (the "GP"), Highland Capital Management Services, Inc., a Delaware corporation ("Highland Services"), and James D. Dondero (collectively, the "Reporting Persons").

R. Joseph Dougherty is the President of Strand XVI, and James D. Dondero is the President of Highland Services. Strand XVI is the general partner of Pyxis. Pyxis is the investment advisor to the Long/Short Fund. Highland Services is the sole member of the GP. The GP is the general partner of the Adviser. The Adviser serves as the sub-advisor to the Long/Short Fund and the advisor and/or sub-advisor to certain other private investment funds and managed accounts (together with the Long/Short Fund, the "Funds"). This Schedule 13G relates to shares of Common Stock, par value \$0.001 per share (the "Common Stock"), of MediciNova, Inc., a Delaware corporation (the "Issuer"), held by the Funds.

**Item 1(a) Name of Issuer.**

MediciNova, Inc.

**Item 1(b) Address of Issuer's Principal Executive Offices.**

4350 La Jolla Village Drive, Suite 950  
San Diego, CA 92122

**Item 2(a) Name of Person Filing.**

- (1) Pyxis Long/Short Healthcare Fund (f/k/a Highland Long/Short Healthcare Fund)
- (2) Pyxis Capital, L.P. (f/k/a Highland Funds Asset Management, L.P.)
- (3) Strand Advisors XVI, Inc.
- (4) Cummings Bay Capital Management, L.P.
- (5) Cummings Bay Capital Management GP, LLC
- (6) Highland Capital Management Services, Inc.
- (7) James D. Dondero

**Item 2(b) Address of Principal Business Office, or, if none, Residence.**

For all Filers:  
13455 Noel Rd., Suite 800  
Dallas, Texas 75240

**Item 2(c) Citizenship or Place of Organization.**

- (1) Pyxis Long/Short Healthcare Fund (f/k/a Highland Long/Short Healthcare Fund), a series of Pyxis Funds I (f/k/a Highlands Funds I), a Delaware statutory trust.
- (2) Pyxis Capital, L.P. (f/k/a Highland Funds Asset Management, L.P.) is a Delaware limited partnership.
- (3) Strand Advisors XVI, Inc. is a Delaware corporation.
- (4) Cummings Bay Capital Management, L.P. is a Delaware limited partnership.
- (5) Cummings Bay Capital Management GP, LLC is a Delaware limited liability company.
- (6) Highland Capital Management Services, Inc. is a Delaware corporation.
- (7) James D. Dondero is a U.S. citizen.

**Item 2(d) Title of Class of Securities.**

Common Stock, par value \$0.001 per share.

**Item 2(e) CUSIP Number.**

58468P206

**Item 3 Reporting Person.**

**If this statement is filed pursuant to Rule 13d-1(b), or 13d-2(b), check whether the person filing is a:**

- (a)  Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).
- (b)  Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c)  Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d)  Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8).
- (e)  An investment advisor in accordance with §240.13d-1(b)(1)(ii)(E).
- (f)  An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(1)(ii)(F).
- (g)  A parent holding company or control person in accordance with §240.13d-1(b)(1)(ii)(G).
- (h)  A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813).
- (i)  A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3).
- (j)  Group, in accordance with §240.13d-1(b)(1)(ii)(J).

**Ownership.**

- (a) The Long/Short Fund may be deemed the beneficial owner of 843,369 shares of Common Stock that it holds directly. Pyxis and Strand XVI may be deemed the beneficial owners of the 843,369 shares of Common Stock held by the Long/Short Fund. These amount consists of (i) 721,553 shares of Common Stock and (ii) 121,816 shares of Common Stock issuable upon exercise of presently exercisable warrants.

The Adviser, the GP, Highland Services and Mr. Dondero may be deemed the beneficial owners of the 913,030 shares of Common Stock held by the Funds. This amount consists of (i) 774,942 shares of Common Stock and (ii) 138,088 shares of Common Stock issuable upon exercise of presently exercisable warrants.

- (b) The Long/Short Fund, Pyxis and Strand XVI may be deemed the beneficial owners of 5.2% of the outstanding shares of Common Stock. This percentage was determined by dividing 843,369, the number of shares of Common Stock held directly by the Long/Short Fund, by the sum of (i) 16,088,015, which is the number of shares of Common Stock outstanding as of November 9, 2011, according to the Issuer's Form 10-Q filed on November 14, 2011 with the Securities and Exchange Commission, plus (ii) the 121,816 shares of Common Stock issuable upon exercise of presently exercisable warrants held by the Long/Short Fund.

The Adviser, the GP, Highland Services and Mr. Dondero may be deemed the beneficial owners of 5.6% of the outstanding shares of Common Stock. This percentage was determined by dividing 913,030, the number of shares of Common Stock held directly by the Funds, by the sum of (i) 16,088,015, which is the number of shares of Common Stock outstanding as of November 9, 2011, according to the Issuer's Form 10-Q filed on November 14, 2011 with the Securities and Exchange Commission, plus (ii) the 138,088 shares of Common Stock issuable upon exercise of presently exercisable warrants held by the Funds.

- (c) The Long/Short Fund has the sole power to vote and dispose of the 843,369 shares of Common Stock that it holds directly. Pyxis and Strand XVI have the shared power to vote and dispose of the 843,369 shares of Common Stock held by the Long/Short Fund. The Adviser, the GP, Highland Services and Mr. Dondero have the shared power to vote and dispose of the 913,030 shares of Common Stock held by the Funds.

**Item 5            Ownership of Five Percent or Less of a Class.**

Inapplicable.

**Item 6            Ownership of More Than Five Percent on Behalf of Another Person.**

Inapplicable.

**Item 7            Identification and Classification of the Subsidiary which Acquired the Security Being Reported On by the Parent Holding Company.**

Inapplicable.

**Item 8            Identification and Classification of Members of the Group.**

Inapplicable.

**Item 9            Notice of Dissolution of Group.**

Inapplicable.

**Item 10          Certification.**

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

**Exhibits        Exhibit 99-1**

Joint Filing Agreement, dated February 9, 2012, between Pyxis Long/Short Healthcare Fund (f/k/a Highland Long/Short Healthcare Fund), Pyxis Capital, L.P. (f/k/a Highland Funds Asset Management, L.P.), Strand Advisors XVI, Inc., Cummings Bay Capital Management, L.P., Cummings Bay Capital Management GP, LLC, Highland Capital Management Services, Inc., James D. Dondero.

**SIGNATURE**

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: February 9, 2012

PYXIS FUNDS I, on behalf of its series Pyxis Long/Short Healthcare Fund

By: /s/ Alan Head  
Name: Alan Head  
Title: CCO and AMLO

PYXIS CAPITAL, L.P.

By: Strand Advisors XVI, Inc., its general partner

By: /s/ Thomas Surgent  
Name: Thomas Surgent  
Title: Secretary

STRAND ADVISORS XVI, INC.

By: /s/ Thomas Surgent  
Name: Thomas Surgent  
Title: Secretary

CUMMINGS BAY CAPITAL MANAGEMENT, L.P.

By: Cummings Bay Capital Management GP,  
LLC, its general partner

By: /s/ James D. Dondero  
Name: James D. Dondero  
Title: President

CUMMINGS BAY CAPITAL MANAGEMENT GP, LLC

By: /s/ James D. Dondero  
Name: James D. Dondero  
Title: President

HIGHLAND CAPITAL MANAGEMENT SERVICES, INC.

By: /s/ James D. Dondero  
Name: James D. Dondero  
Title: President

/s/ James D. Dondero  
James D. Dondero

**EXHIBIT 99-1**

**JOINT FILING AGREEMENT**

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, the undersigned agree to the joint filing on behalf of each of them of a Statement on Schedule 13G (including any and all amendments thereto) with respect to the Common Stock, par value \$0.001 per share, of MediciNova, Inc., and further agree that this Joint Filing Agreement shall be included as an Exhibit to such joint filings.

The undersigned further agree that each party hereto is responsible for the timely filing of such Statement on Schedule 13G and any amendments thereto, and for the accuracy and completeness of the information concerning such party contained therein; provided, however, that no party is responsible for the accuracy or completeness of the information concerning any other party, unless such party knows or has reason to believe that such information is inaccurate.

This Joint Filing Agreement may be signed in counterparts with the same effect as if the signature on each counterpart were upon the same instrument.

[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of February 9, 2012.

PYXIS FUNDS I, on behalf of its series Pyxis Long/Short Healthcare Fund

By: /s/ Alan Head  
Name: Alan Head  
Title: CCO and AMLO

PYXIS CAPITAL, L.P.

By: Strand Advisors XVI, Inc., its general partner

By: /s/ Thomas Surgent  
Name: Thomas Surgent  
Title: Secretary

STRAND ADVISORS XVI, INC.

By: /s/ Thomas Surgent  
Name: Thomas Surgent  
Title: Secretary

CUMMINGS BAY CAPITAL MANAGEMENT, L.P.

By: Cummings Bay Capital Management GP,  
LLC, its general partner

By: /s/ James D. Dondero  
Name: James D. Dondero  
Title: President

CUMMINGS BAY CAPITAL MANAGEMENT GP, LLC

By: /s/ James D. Dondero  
Name: James D. Dondero  
Title: President



HIGHLAND CAPITAL MANAGEMENT SERVICES, INC.

By: /s/ James D. Dondero  
Name: James D. Dondero  
Title: President

/s/ James D. Dondero  
James D. Dondero