

REPLIDYNE INC
Form SC 13G/A
February 11, 2009

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 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**

(Amendment No. 1)*

Replidyne, Inc.

(Name of Issuer)

Common Stock, \$.001 par value per share

(Title of Class of Securities)

76028W107

(CUSIP Number)

December 31, 2008

(Date of Event which Requires Filing of this Statement)

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

Rule 13d-1(b)

Rule 13d-1(c)

Rule 13d-1(d)

*

The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

HealthCare Ventures VI, 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

USA

5 SOLE VOTING POWER

0

6 SHARED VOTING POWER

NUMBER OF

3,612,362

SHARES

7 SOLE DISPOSITIVE POWER

BENEFICIALLY

0

OWNED BY

8 SHARED DISPOSITIVE POWER

EACH

3,612,362

REPORTING

PERSON

WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,612,362 (see Item 4 herein)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.33%

12 TYPE OF REPORTING PERSON*

PN

CUSIP No. 76028W107

13G

Page 3 of 21 Pages

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

HealthCare Partners VI, 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

USA

5 SOLE VOTING POWER

0

6 SHARED VOTING POWER

NUMBER OF

3,612,362

SHARES

7 SOLE DISPOSITIVE POWER

BENEFICIALLY

0

OWNED BY

8 SHARED DISPOSITIVE POWER

EACH

3,612,362

REPORTING

PERSON

WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,612,362 (see Item 4 herein)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.33%

12 TYPE OF REPORTING PERSON*

PN

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

HealthCare Ventures VIII, 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

USA

5 SOLE VOTING POWER

0

6 SHARED VOTING POWER

NUMBER OF

746,707

SHARES

7 SOLE DISPOSITIVE POWER

BENEFICIALLY

0

OWNED BY

8 SHARED DISPOSITIVE POWER

EACH

746,707

REPORTING

PERSON

WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

746,707 (see Item 4 herein)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

2.75%

12 TYPE OF REPORTING PERSON*

PN

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

HealthCare Partners VIII, 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

USA

5 SOLE VOTING POWER

0

6 SHARED VOTING POWER

746,707

NUMBER OF

SHARES

7 SOLE DISPOSITIVE POWER

BENEFICIALLY

0

OWNED BY

8 SHARED DISPOSITIVE POWER

EACH

746,707

REPORTING

PERSON

WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

746,707 (see Item 4 herein)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

2.75%

12 TYPE OF REPORTING PERSON*

PN

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

HealthCare Partners VIII, LLC

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a)

(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

USA

5 SOLE VOTING POWER

0

6 SHARED VOTING POWER

NUMBER OF

746,707

SHARES

7 SOLE DISPOSITIVE POWER

BENEFICIALLY

0

OWNED BY

8 SHARED DISPOSITIVE POWER

EACH

746,707

REPORTING

PERSON

WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

746,707 (see Item 4 herein)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

2.75%

12 TYPE OF REPORTING PERSON*

OO

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

James H. Cavanaugh, Ph.D.

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a)

(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

USA

5 SOLE VOTING POWER

0

6 SHARED VOTING POWER

NUMBER OF

4,359,069

SHARES

7 SOLE DISPOSITIVE POWER

BENEFICIALLY

0

OWNED BY

8 SHARED DISPOSITIVE POWER

EACH

4,359,069

REPORTING

PERSON

WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

4,359,069 (see **Item 4 herein**)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

16.08%

12 TYPE OF REPORTING PERSON*

IN

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

Harold R. Werner

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a)

(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

USA

5 SOLE VOTING POWER

0

6 SHARED VOTING POWER

NUMBER OF

4,359,069

SHARES

7 SOLE DISPOSITIVE POWER

BENEFICIALLY

0

OWNED BY

8 SHARED DISPOSITIVE POWER

EACH

4,359,069

REPORTING

PERSON

WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

4,359,069 (see **Item 4 herein**)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

16.08%

12 TYPE OF REPORTING PERSON*

IN

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

William Crouse

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a)

(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

USA

5 SOLE VOTING POWER

0

6 SHARED VOTING POWER

NUMBER OF

3,612,362

SHARES

7 SOLE DISPOSITIVE POWER

BENEFICIALLY

0

OWNED BY

8 SHARED DISPOSITIVE POWER

EACH

3,612,362

REPORTING

PERSON

WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,612,362 (see Item 4 herein)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.33%

12 TYPE OF REPORTING PERSON*

IN

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

John W. Littlechild

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a)

(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

USA

	5	SOLE VOTING POWER
		0
NUMBER OF	6	SHARED VOTING POWER
SHARES		4,359,069
BENEFICIALLY	7	SOLE DISPOSITIVE POWER
OWNED BY		0
EACH	8	SHARED DISPOSITIVE POWER
REPORTING		4,359,069
PERSON		
WITH		

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

4,359,069 (see Item 4 herein)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

16.08%

12 TYPE OF REPORTING PERSON*

IN

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

Christopher Mirabelli, Ph.D.

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a)

(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

USA

5 SOLE VOTING POWER

0

6 SHARED VOTING POWER

4,359,069

7 SOLE DISPOSITIVE POWER

0

8 SHARED DISPOSITIVE POWER

4,359,069

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY
EACH
REPORTING
PERSON
WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

4,359,069 (see **Item 4** herein)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

16.08%

12 TYPE OF REPORTING PERSON*

IN

1 NAME OF REPORTING PERSONS

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

Augustine Lawlor

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a)

(b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

USA

5 SOLE VOTING POWER

24,469

6 SHARED VOTING POWER

NUMBER OF

4,359,069

SHARES

7 SOLE DISPOSITIVE POWER

BENEFICIALLY

24,469

OWNED BY

8 SHARED DISPOSITIVE POWER

EACH

4,359,069

REPORTING

PERSON

WITH

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

4,383,538 (see **Item 4 herein**)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

16.16%

12 TYPE OF REPORTING PERSON*

IN

Item 1.

(a)

The name of the Issuer is Replidyne, Inc. (the Issuer).

(b)

Address of Issuer s Principal Executive Offices is 1450 Infinite Drive, Louisville, CO 80027.

Item 2.

(a)

This statement is being filed by:

HealthCare Ventures VI, L.P. ("HCV VI")

HealthCare Partners VI, L.P. ("HCP VI")

HealthCare Ventures VIII, L.P. ("HCV VIII")

HealthCare Partners VIII, L.P. ("HCP VIII")

HealthCare Partners VIII, LLC (HCP VIII LLC)

James H. Cavanaugh, Ph.D. (Cavanaugh)

Christopher Mirabelli, Ph.D. (Mirabelli)

Harold R. Werner (Werner)

John W. Littlechild (Littlechild)

William Crouse (Crouse)

Augustine Lawlor (Lawlor)

(collectively, the Reporting Persons)

See attached Exhibit A, which is a copy of their agreement in writing to file this statement on behalf of each of them.¹

(b)

The business address for HCV VI, HCP VI, HCV VIII, HCP VIII, HCP VIII LLC, Dr. Cavanaugh and Messrs. Werner and Crouse is 44 Nassau Street, Princeton, New Jersey 08542. The business address for Dr. Mirabelli and Messrs. Littlechild and Lawlor is 55 Cambridge Parkway, Suite 301, Cambridge, Massachusetts 02142.

(c)

HCV VI, HCP VI, HCV VIII and HCP VIII are limited partnerships organized under the laws of the State of Delaware. HCP VIII LLC is a limited liability company organized under the laws of the State of Delaware. Drs. Cavanaugh and Mirabelli and, Messrs. Werner, Littlechild, Crouse and Lawlor are each United States citizens.

(d)

This Schedule 13G relates to the common stock, par value \$0.001 per share (the Common Stock) of the Issuer.

(e)

The CUSIP Number of the Issuer is 76028W107

1.

Drs. Cavanaugh and Mirabelli and, Messrs. Werner, Littlechild, Crouse and Lawlor are General Partners of HCP VI. HCP VI is the General Partner of HCV VI, the record holder of the securities. Drs. Cavanaugh and Mirabelli and, Messrs. Werner, Littlechild and Lawlor are the Managing Directors of HCP VIII LLC. HCP VIII LLC is the General Partner of HCP VIII, which is the General Partner of HCV VIII, the record holder of the securities.

Item 3.

If this statement is filed pursuant to §§240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:
Not applicable.

- (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 adviser 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 associations 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) A non-U.S. institution, in accordance with §240.13d-1(b)(1)(ii)(J);
- (k) Group, in accordance with §240.13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with §240.13d-1(b)(1)(ii)(J), please specify the type of institution:

_____.

Item 4.**Ownership.**

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

(a)

Amount beneficially owned²:

As of December 31, 2008: HCV VI, HCP VI and Crouse beneficially owned 3,612,362 shares of the Issuer's Common Stock; HCV VIII, HCP VIII, and HCP VIII LLC beneficially owned 746,707 shares of the Issuer's Common Stock; Each of Drs. Cavanaugh and Mirabelli and Messrs. Werner and Littlechild beneficially owned the 4,359,069 shares of the Issuer's Common Stock owned by each of HCV VI and HCV VIII; and Mr. Lawlor beneficially owned 4,383,538 shares of the Issuer's Common Stock which includes (i) an aggregate of 4,359,069 shares beneficially owned by HCV VI and HCV VIII; and (ii) immediately exercisable options to purchase 24,469 shares of the Issuer's Common Stock.

(b)

Percent of class: (Taking into consideration that 27,109,556 shares are issued and outstanding as of October 23, 2008 as reported in the Issuer's Form 10-Q filed with the Securities and Exchange Commission on November 6, 2008 for the period ended September 30, 2008)

As of December 31, 2008: The 3,612,362 shares of Common Stock beneficially owned by HCV VI, HCP VI and Mr. Crouse constituted 13.33% of the shares outstanding; the 746,707 shares of Common Stock beneficially owned by HCV VIII, HCP VIII and HCP VIII LLC constituted 2.75% of the shares outstanding; the 4,359,069 shares of Common Stock beneficially owned by Drs. Cavanaugh and Mirabelli and Messrs. Werner and Littlechild constituted 16.08% of the shares outstanding; and the 4,383,538 shares of Common Stock beneficially owned by Mr. Lawlor constituted 16.16% of the shares outstanding.

2.

On November 3, 2008, each of HCV VI and HCV VIII entered into a voting agreement (the "Voting Agreement") with Cardiovascular Systems, Inc. ("CSI") in connection with an Agreement and Plan of Merger and Reorganization (the "Merger Agreement") by and among the Issuer, Responder Merger Sub, Inc., a Minnesota corporation ("Merger Sub") and CSI with respect to 2,964,167 shares of Common Stock of the Issuer owned by them. Pursuant to the Merger Agreement Merger Sub will merge with and into CSI and the outstanding shares of capital stock of CSI will be converted into the right to receive shares of the Common Stock of the Issuer. Pursuant to the Voting Agreement, each of HCV VI and HCV VIII agreed, among other things, (i) not to transfer the 2,964,167 shares of Common Stock owned by them representing approximately 10.9% of the outstanding shares of Common Stock; and (ii) to vote such shares in favor of approval of the transactions contemplated under the Merger Agreement and against the approval or adoption of any alternative transactions. In addition, each of HCV VI and HCV VIII granted to each of David L. Martin, Laurence L. Betterley and CSI a proxy to vote the 2,964,167 shares of Common Stock owned by them in favor of approval of the transactions contemplated under the Merger Agreement. Each of David L. Martin, Laurence L. Betterley and CSI have the sole voting power over these shares solely with respect to the specific matters identified in the Voting Agreement and each of HCV VI and HCV VIII retains sole voting power and beneficial ownership with respect to all other matters. A copy of the form of Voting Agreement is filed as Annex B to the Issuer's Proxy filed with the Securities and Exchange Commission on January 27, 2009.

3.

Does not include options to purchase an additional 8,156 shares of the Issuer's Common Stock, which vest on May 8, 2009.

(c)

Number of shares as to which the person has:

(i)

Sole power to vote or to direct the vote **Mr. Lawlor has the sole power to vote or direct the vote as to the 24,469 shares beneficially owned by him.**

(ii)

Shared power to vote or to direct the vote

HCV VI, HCP VI, Drs. Cavanaugh and Mirabelli and Messrs. Werner, Littlechild, Crouse and Lawlor share the power to vote or direct the vote of those shares owned by HCV VI.

HCV VIII, HCP VIII, HCP VIII LLC, Drs. Cavanaugh and Mirabelli and Messrs. Werner, Littlechild and Lawlor share the power to vote or direct the vote of those shares owned by HCV VIII.

(iii)

Sole power to dispose or to direct the disposition of **Mr. Lawlor has the sole power to dispose of or direct the disposition of the 24,469 shares beneficially owned by him.**

(iv)

Shared power to dispose or to direct the disposition of

HCV VI, HCP VI, Drs. Cavanaugh and Mirabelli and Messrs. Werner, Littlechild, Crouse and Lawlor share the power to dispose of or direct the disposition of those shares owned by HCV VI.

HCV VIII, HCP VIII, HCP VIII LLC, Drs. Cavanaugh and Mirabelli and Messrs. Werner, Littlechild and Lawlor share the power to dispose of or direct the disposition of those shares owned by HCV VIII.

Instruction. For computations regarding securities which represent a right to acquire an underlying security see §240.13d-3(d)(1).

Item 5.

Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following [].

Item 6.

Ownership of More than Five Percent on Behalf of Another Person.

Not Applicable

Item 7.

Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company.

Not Applicable

Item 8.

Identification and Classification of Members of the Group.

Not Applicable

Item 9.

Notice of Dissolution of Group.

Not Applicable

Item 10.

Certification

Not Applicable.

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.

Dated: February 11,
2009

HealthCare Ventures VI, L.P.

By: HealthCare Partners VI, L.P., its General
Partner

By: /s/Jeffrey Steinberg
Jeffrey Steinberg, Administrative Partner

Dated: February 11,
2009

HealthCare Partners VI, L.P.

By: /s/Jeffrey Steinberg
Jeffrey Steinberg, Administrative Partner

Dated: February 11,
2009

HealthCare Ventures VIII, L.P.

By: HealthCare Partners VIII, L.P., its General
Partner

By: HealthCare Partners VIII, LLC, its
General

Partner

By: /s/Jeffrey Steinberg
Jeffrey Steinberg, Administrative Partner

Dated: February 11,
2009

HealthCare Partners VIII, L.P.

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By: HealthCare Partners VIII, LLC, its General Partner

By: /s/Jeffrey Steinberg
Jeffrey Steinberg, Administrative Partner

Dated: February 11,
2009

HealthCare Partners VIII, LLC

By: /s/Jeffrey Steinberg
Jeffrey Steinberg, Administrative Partner

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
James H. Cavanaugh, Ph.D.

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
Harold Werner

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
William Crouse

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
John W. Littlechild

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
Christopher Mirabelli, Ph.D.

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
Augustine Lawlor

EXHIBIT A

AGREEMENT

JOINT FILING OF SCHEDULE 13G

The undersigned hereby agree to jointly prepare and file with regulatory authorities a Schedule 13G and any future amendments thereto reporting each of the undersigned's ownership of securities of Replidyne, Inc. and hereby affirm that such Schedule 13G is being filed on behalf of each of the undersigned.

Dated: February 11,
2009

HealthCare Ventures VI, L.P.

By: HealthCare Partners VI, L.P., its General
Partner

By: /s/Jeffrey Steinberg
Jeffrey Steinberg, Administrative Partner

Dated: February 11,
2009

HealthCare Partners VI, L.P.

By: /s/Jeffrey Steinberg
Jeffrey Steinberg, Administrative Partner

Dated: February 11,
2009

HealthCare Ventures VIII, L.P.

By: HealthCare Partners VIII, L.P., its General
Partner
By: HealthCare Partners VIII, LLC, its
General

Partner

By: /s/Jeffrey Steinberg

Jeffrey Steinberg, Administrative Partner

Dated: February 11,
2009

HealthCare Partners VIII, L.P.

By: HealthCare Partners VIII, LLC, its General
Partner

By: /s/Jeffrey Steinberg

Jeffrey Steinberg, Administrative Partner

Dated: February 11,
2009

HealthCare Partners VIII, LLC

By: /s/Jeffrey Steinberg

Jeffrey Steinberg, Administrative Partner

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
James H. Cavanaugh, Ph.D.

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
Harold Werner

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
William Crouse

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
John W. Littlechild

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
Christopher Mirabelli, Ph.D.

Dated: February 11, 2009

/s/Jeffrey Steinberg, Attorney-in-Fact
Augustine Lawlor