



ADVANCES IN QUALITY & OUTCOMES:
A Data Managers Meeting

SEPTEMBER 26-29, 2023 ■ VIRTUAL



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ADVANCES IN QUALITY & OUTCOMES:
A Data Managers Meeting

SEPTEMBER 26-29, 2023 ■ VIRTUAL

Boston Children's Hospital Cardiac Surgery DisCo (**Dis**charge **Comm**unication)

Automated Postoperative Follow Up Post Discharge from Cardiac Surgery

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HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL



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No Disclosures



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DisCo

- ❑ Developed internally at BCH
- ❑ Initial intent: as a post-discharge communication project that replaced the phone call made by the nurses post discharge to check on status
- ❑ DisCo
 - Based on parent/patient preference an automatic message is sent either via text or email a week post discharge
 - Adopted in several in patient floors, out patient procedural units (Gastroenterology Procedure Unit), Clinics (Asthma), treatment and research (Center for ambulatory Treatment and Clinical Research), ER

Cardiac Surgery DisCo

- ❑ Modification of existing DisCo for automated postop survey at 30 days and 1 year following cardiac surgery
- ❑ STS-CHSD requirement for 30 day and long term follow-up post DC
- ❑ Questionnaires have no patient identification information thus meet HIPAA requirements.

Cardiac Surgery DisCo

- ❑ Enrollment of patients in preop clinic for SDA admits
- ❑ Prior to DC home from stepdown unit, final enrollment check and additional enrollment of patients directly admitted to the floor (neonates, emergency admissions)
- ❑ Parents/patients will be provided with a one page summary reminding them that they will receive text or email at 30 days and 1 year with a link to a short 1 page survey
 - As part of preop package emailed/mailed a few weeks before surgery
 - In preop clinic
 - As part of DC paperwork

Cardiac Surgery DisCo

- ❑ Enrollment page automatically self populates existing phone number and email from EPIC
 - administrative staff will confirm accuracy and fill in gaps
- ❑ Patient enrolled based on cardiac surgery inpatient encounter
 - Every inpatient cardiac surgery encounter will have 30 day and 1 year FU

Cardiac Surgery DisCo

- ❑ Data from FU questionnaire to automatically populate EHR and internal Cardiac database used to push data to STS-CHSD
- ❑ Before 30 day and 1 year FU is sent out, automatic check of EHR and other internal databases for vital status
 - Additional manual check by RA for vital status and deregistration of patient if deceased performed 2 days (for 30 day) and 2 weeks (for 1 year) prior to anticipated date of questionnaire release
 - Check for recent heart center clinic visit (< 1 week) for 1 year follow-up

Cardiac Surgery DisCo

- ❑ Requires at least 1 dedicated FTE (for centers with ~1000 index operations/year) and cross coverage by an additional coordinators
- ❑ Currently in addition to our STS coordinators, we have one person dedicated to DisCo with 2 others pinch hitting when needed.

Cardiac Surgery DisCo

- ❑ Currently questionnaires are in English and Spanish
 - other language translations being considered
- ❑ Future plan
 - transition DisCo questionnaire to EPIC “care companion” module once our EHR transitioned from CERNER to EPIC
 - Add a 5 year neurodevelopmental questionnaire for neonates and infants on their 5th birthday
 - Addition of annual surveys (to be sent on birthday) once the initial 1-year follow-up survey completed

Family Education Sheet

Automated follow-up instructions for children after cardiac surgery



Boston Children's Hospital
Cardiac Surgery

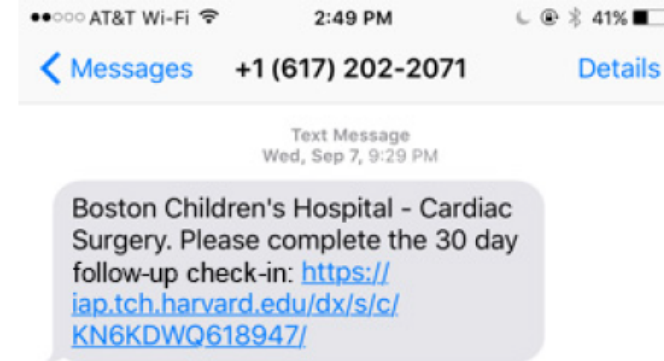
Cardiac Surgery **Discharge** **Communications (DisCo)**

We have instituted an automatic follow-up system to communicate with patients after heart surgery.

You will be contacted either by text or email (based on your preference) **30 days** and **1 year** following discharge after your child's heart surgery.

The text or email will include a link to a brief, 1-page questionnaire about your child's condition following

Appearance of text



Appearance of Email

From: [noreply2@childrens.harvard....](mailto:noreply2@childrens.harvard.edu) > [Hide](#)

To:

**Boston Children's Hospital: Post-Discharge
Check-in**

September 26, 2016 at 12:00 PM



The text or email will include a link to a brief, 1-page questionnaire about your child's condition following discharge. The questionnaire will not contain any identifying information, and your health information remain confidential.

We thank you in advance for participating in this automated follow-up initiative. Your feedback is instrumental in supporting our commitment to patient care.

**Boston Children's Hospital: Post-Discharge
Check-in**

September 26, 2016 at 12:00 PM



Boston Children's Hospital
Cardiac Surgery

Hello [name] !

You are receiving this email as a part of post-operative follow-up quality initiative at the Heart Center at Boston Children's Hospital.

This system allows you to securely submit your follow-up questionnaire to a healthcare provider at the Boston Children's Hospital Department of Cardiac Surgery. This is a brief, 1-page questionnaire which should take you no more than 2 minutes to complete.

Please access the post-discharge check-in here:
[Post-Discharge Check-In](#)

Contact Us & Questions

If you have any questions, please contact the Boston Children's Department of Cardiac Surgery directly, at [+1-617-355-7932](tel:+16173557932). For technical support or if you believe you've received this email in error, [send us an email](mailto:fasttracksoftware@childrens.harvard.edu) (fasttracksoftware@childrens.harvard.edu)

Cardiac Surgery 30 day DisCo text

●●○○○ AT&T Wi-Fi

2:49 PM

🌙 🔒 📶 41% 🔋

⏪ Messages

+1 (617) 202-2071

Details

Text Message
Wed, Sep 7, 9:29 PM

Boston Children's Hospital - Cardiac Surgery. Please complete the 30 day followup check-in: <https://iap.tch.harvard.edu/dx/s/c/KN6KDWQ618947/>

From: [noreply2@childrens.harvard....](mailto:noreply2@childrens.harvard.edu) > [Hide](#)

To:

**Boston Children's Hospital: Post Discharge
Check-in**

September 26, 2016 at 12:00 PM



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[Post Discharge Check-in](#)

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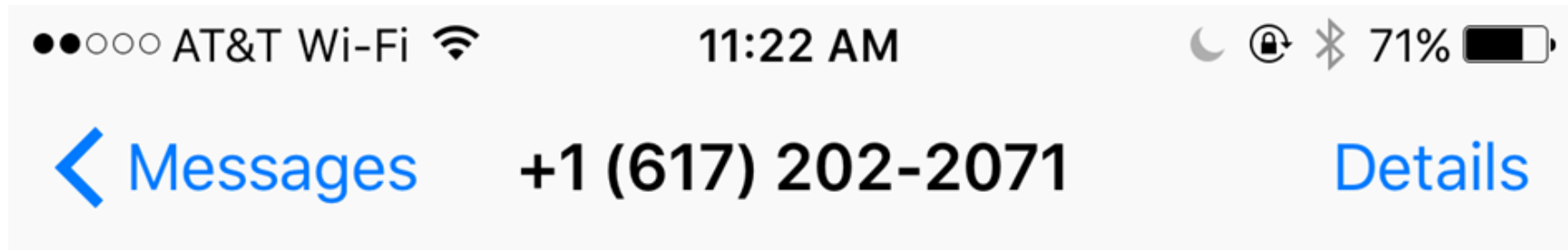
[Boston Children's Hospital](#) | [Notice of Privacy Practices](#)

****THIS ADDRESS IS NOT MONITORED. DO NOT
REPLY TO THIS EMAIL****

****FOR ANY HEALTH RELATED QUESTIONS
PLEASE CONTACT YOUR PRIMARY
CARDIOLOGIST or PRIMARY CARE
PHYSICIAN/PEDIATRICIAN****

Cardiac
Surgery 30
day DisCo
email

Cardiac Surgery 1 year DisCo text



Text Message

Today 10:57 AM

Boston Children's Hospital - Cardiac Surgery. Please complete the annual followup check-in: <https://iap.tch.harvard.edu/dx/s/c/759D1LJT18947/>

From: noreply2@childrens.harvard... > [Hide](#)

To:

**Boston Children's Hospital: Post Discharge
Check-in**

September 26, 2016 at 12:00 PM



Hello !

You are receiving this email as a part of post-operative follow-up quality initiative at the Heart Center at Boston Children's Hospital.

This system allows you to securely submit your follow-up questionnaire to a healthcare provider at the Boston Children's Hospital Department of Cardiac Surgery. This is a brief one page questionnaire which should take you no more than 2 minutes to complete.

Please access the Annual Postoperative Check-in here
[Annual Postoperative Check-in](#)

Contact Us & Questions

If you have any questions, please contact the Boston Children's Department of Cardiac Surgery directly, at [+1-617-355-7932](tel:+16173557932). For technical support or if you believe you've received this email in error, [send us an email](mailto:fasttracksoftware@childrens.harvard.edu) (fasttracksoftware@childrens.harvard.edu)

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PLEASE CONTACT YOUR PRIMARY
CARDIOLOGIST or PRIMARY CARE
PHYSICIAN/PEDIATRICIAN****


Cardiac Surgery 1 year DisCo email

← Back to Mail 3:26 PM 39%

iap.tch.harvard.edu

 Boston Children's Hospital

Discharge Follow Up Questionnaire



Postoperative follow-up for cardiac surgery. Please complete the information to the best of your ability. We may contact you for further information. Please follow-up with your pediatrician and cardiologist as scheduled.

Your /Your Child's weight?

Your /Your Child's height?

How are you /your child recovering after heart surgery?

Explain:

DisCo-CV Surgery - 30d questionnaire

Have you /your child seen a physician after heart surgery?

Yes

No

Were you /your child readmitted to any hospital for any reason since discharge from the hospital after heart surgery?

Yes

No

Is there anything else you would like to inform us about your /your child's health?

Yes

No

During the hospitalization for heart surgery did you /your child receive medication or treatment for pain

Yes

No

Submit

Please call [617-355-2079](tel:617-355-2079) if you need to schedule an appointment with your Boston Children's Hospital Cardiologist. To update contact information please call [617-355-2079](tel:617-355-2079) and select option 1.

Disclaimer

Your responses are not continually monitored and this communication is not to be used in an emergency.

If this is an emergency, please dial 9-1-1.

DisCo-CV Surgery - 30d questionnaire

 Boston Children's Hospital
Discharge Follow Up Questionnaire



Postoperative follow-up for cardiac surgery. Please complete the information to the best of your ability. We may contact you for further information. Please follow-up with your pediatrician and cardiologist as scheduled.

Your /Your Child's weight?

kg lb

34.5

Your /Your Child's height?

inch cm

112

How are you /your child recovering after heart surgery?

Better than before surgery
 Back to baseline Still recovering
 Other

Have you /your child seen a physician after heart surgery?

Yes No

Select

Pediatrician Cardiologist Both

Approximate visit date with Pediatrician

09/10/2016

Approximate visit date with Cardiologist

09/18/2016

Were you /your child readmitted to any hospital for any reason since discharge from the hospital after heart surgery?

Yes No

Reason

Fluid around heart

Approximate date

09/12/2016

Is there anything else you would like to inform us about your /your child's health?

Yes No

During the hospitalization for heart surgery did you /your child receive medication or treatment for pain

Yes No

If yes how often was your/your child's pain controlled

Always Usually Sometimes Never

Submit

Please call 617-355-2079 if you need to schedule an appointment with your Boston Children's Hospital Cardiologist. To update contact information please call 617-355-2079 and select option 1.

Disclaimer

Your responses are not continually monitored and this communication is not to be used in an emergency.

If this is an emergency, please dial 9-1-1.



Annual follow-up for cardiac surgery. Please complete the information to the best of your ability. We may contact you for further information. Please follow-up with your pediatrician and cardiologist as scheduled.

Your /Your Child's weight?

kg

lb

Your /Your Child's height?

inch

cm

Explain:

How are you /your child recovering after heart surgery?

Have you /your child seen a physician after heart surgery?

Yes

No

DisCo-CV Surgery- 1year questionnaire

Were you /your child readmitted to any hospital for any reason since discharge from the hospital after heart surgery?

Yes

No

Have you /your child had any cardiac catheterizations since discharge from the hospital after heart surgery?

Yes

No

Have you /your child had any further cardiac surgery since discharge from the hospital for after heart surgery?

Yes

No

Have you /your child had any other surgery since discharge from hospital for after heart surgery?

Yes

No

Is there anything else you would like to inform us about your /your child's health?

Yes

No

Submit

Please call [617-355-2079](tel:617-355-2079) if you need to schedule an appointment with your Boston Children's Hospital Cardiologist. To update contact information please call [617-355-2079](tel:617-355-2079) and select option 1.

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DisCo-CV Surgery- 1year questionnaire

 Boston Children's Hospital
Discharge Follow Up Questionnaire



Annual follow-up for cardiac surgery. Please complete the information to the best of your ability. We may contact you for further information. Please follow-up with your pediatrician and cardiologist as scheduled.

Your /Your Child's weight?

kg lb

Your /Your Child's height?

inch cm

Your /Your Child's height?

inch

cm

76

How are you /your child recovering after heart surgery?

Better than before surgery

Back to baseline

Still recovering

Other

Explain:

Have you /your child seen a physician after heart surgery?

Yes

No

Select

Pediatrician

Cardiologist

Both

Approximate visit date with Cardiologist

01/20/2016

Approximate visit date with Pediatrician

05/20/2016

Were you /your child readmitted to any hospital for any reason since discharge from the hospital after heart surgery?

Yes

No

Reason

Pneumonia

Approximate date

01/08/2016

Have you /your child had any cardiac catheterizations since discharge from the hospital after heart surgery?

Yes No

Reason

Shortness of breath

Approximate date

05/20/2016

Have you /your child had any further cardiac surgery since discharge from the hospital for after heart surgery?

Yes No

Reason

2 nd stage

Approximate date

04/20/2016

Which Hospital

Boston Children's Hospital

Have you /your child had any other surgery since discharge from hospital for after heart surgery?

Yes

No

Reason

G tube

Approximate date

03/20/2016

Which Hospital

South Shore

Is there anything else you would like to inform us about your /your child's health?

Yes

No

Submit

Please call [617-355-2079](tel:617-355-2079) if you need to schedule an appointment with your Boston Children's Hospital Cardiologist. To update contact information please call [617-355-2079](tel:617-355-2079) and select option 1.

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If this is an emergency, please dial 9-1-1.

v2.0.0

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DisCo-CV Surgery- 1year questionnaire

Additional Questions if child < 1 year at index surgery

10	Do you have any concerns about your child's development, behavior, or learning?	Yes _____ No _____ If yes, explain: _____
11	Is your child receiving services/therapy to support their development, behavior or learning either through their school system, Early Intervention (EI), or privately (such as PT, OT, speech, learning, mental health counselor)	Yes _____ No _____ If yes, explain: _____ If yes: Do you feel the services you are receiving are helpful? Yes No



Department of Cardiac Surgery 30 Day Follow Up Form

Attached to a message from Brianna Z received 8/29/2023

Hello Peppa! You received this survey as it has been 30 days since you were discharged after heart surgery at Boston Children's Hospital.

This system allows you to securely submit your follow up questionnaire to your provider at Boston Children's Hospital's Department of Cardiac Surgery.

* Indicates a required field.

* Today's date:

MM/DD/YYYY



* Peppa's weight

Please enter in the format kg or lbs and oz

* Peppa's height

Please enter in format of inches or cms

* How is Peppa recovering after heart surgery?

Better than before surgery

Back to baseline

Still recovering

Other

1

* Please explain how recovery is going

2

30-Day Child Questionnaire

Question logic:

If 'Other' is chosen as the response, an additional question (2) will appear

* Has Peppa seen a physician after heart surgery?

1

2 * Which physician did Peppa see after heart surgery?

3 * Approximate Date of Service with Pediatrician:

4 * Approximate date of service with Cardiologist:

Question logic:

- If 'Yes' is chosen for question 1, an additional question (2) appears.
- Based on the selection for question 2, date of service for Peds (3), Cards (4), or Both (3&4) will appear

30-Day Child Questionnaire

* Has Peppa been readmitted to any hospital for any reason since discharge from the hospital after heart surgery?

1

2 * Reason: * Approximate date:

* Which hospital:

Question logic:

- If 'Yes' is chosen for question 1, all questions in box 2 will appear

* Is there anything else you would like to inform us about Peppa's health?

1

2 * If yes, explain:

Question logic:

- If 'Yes' is chosen as the response, an additional question (2) will appear

* During the hospitalization for heart surgery did Peppa receive medications or treatment for pain?

1

2 * If yes, how often was Peppa's pain controlled:

Question logic:

- If 'Yes' is chosen as the response, an additional question (2) will appear

* Do you have any concerns about Peppa's development, behavior, or learning?

1

Yes

No

2

* If yes, explain:

* Is Peppa receiving services/therapy to support their development, behavior or learning either through their school system, Early Intervention (EI), or privately (such as PT, OT, speech, learning, mental health counselor)?

1

Yes

No

2

* If yes, explain:

* If yes: Do you feel the services Peppa is receiving are helpful?

Yes

No

Continue

Finish later

Cancel

Those are the only interview questions. Thank you for your time.

If this is an emergency please contact 911.

Please call 617-355-2079 if you need to schedule an appointment with your Boston Children's Hospital Cardiologist.

Question logic:

If 'Yes' is chosen for question 1, an additional question (2) appears.

Question logic:

If 'Yes' is chosen for question 1, additional questions (2) appear

30-Day Child Questionnaire

Department of Cardiac Surgery 30 Day Follow Up Form

Attached to a message from Brianna Z received 8/29/2023

Hello Mummy! You received this survey as it has been 30 days since you were discharged after heart surgery at Boston Children's Hospital.

This system allows you to securely submit your follow up questionnaire to your provider at Boston Children's Hospital's Department of Cardiac Surgery.

* Indicates a required field.

* Today's date:

MM/DD/YYYY

* Mummy's weight

Please enter in the format kg or lbs and oz

* Mummy's height

Please enter in format of inches or cms

* How is Mummy recovering after heart surgery?

Better than before surgery Back to baseline Still recovering **1** Other

* Please explain how recovery is going

2

* Has Mummy seen a physician after heart surgery?

1 Yes No

* Which physician did Mummy see after heart surgery?

2 Primary care physician Cardiologist **3** Both

* Approximate Date of Service with Primary care physician:

MM/DD/YYYY

* Approximate date of service with Cardiologist:

4 MM/DD/YYYY

30-Day Adult Questionnaire

Question logic:

If 'Other' is chosen as the response, an additional question (2) will appear

Question logic:

-If 'Yes' is chosen for question 1, an additional question (2) appears.

-Based on the selection for question 2, date of service for PC (3), Cards (4), or Both (3&4) will appear

*Has Mummy been readmitted to any hospital for any reason since discharge from the hospital after heart surgery?

1 Yes No

2

*Reason:

*Approximate date:

*Which hospital:

Question logic:
If 'Yes' is chosen for question 1, all questions in box 2 will appear

*Is there anything else you would like to inform us about Mummy's health?

1 Yes No

2

*If yes, explain:

Question logic:
If 'Yes' is chosen as the response, an additional question (2) will appear

*During the hospitalization for heart surgery did Mummy receive medications or treatment for pain?

1 Yes No

2

*If yes, how often was Mummy's pain controlled:

Always Usually Sometimes Never

Question logic:
If 'Yes' is chosen as the response, an additional question (2) will appear

Those are the only interview questions. Thank you for your time.

If this is an emergency please contact 911.

Please call 617-355-2079 if you need to schedule an appointment with your Boston Children's Hospital Cardiologist.

30-Day Adult Questionnaire

Cardiac Surgery Neurodevelopmental Information Follow Up Form


Attached to a message from **Brianna Z** received 8/29/2023

Hello Peppa! You received this survey as part of follow-up after heart surgery at Boston Children's Hospital.

This system allows you to securely submit your follow up questionnaire to your provider at Boston Children's Hospital's Department of Cardiac Surgery.

* Indicates a required field.

* Today's date:

MM/DD/YYYY 

* Peppa's weight

Please enter in the format kg or lbs and oz

* Peppa's height

Please enter in format of inches or cms

* How is Peppa recovering after heart surgery?

Better than before surgery Back to baseline Still recovering Other ¹

* Please explain how recovery is going

²

5-Year ND Questionnaire

Question logic:

If 'Other' is chosen as the response, an additional question (2) will appear

* Has Peppa seen a physician after heart surgery?

1 Yes No

2 * Which physician did Peppa see after heart surgery?

Pediatrician Cardiologist Both

3 * Approximate Date of Service with Pediatrician:

MM/DD/YYYY

4 * Approximate date of service with Cardiologist:

MM/DD/YYYY

Question logic:

-If 'Yes' is chosen for question 1, an additional question (2) appears.

-Based on the selection for question 2, date of service for Peds (3), Cards (4), or Both (3&4) will appear

* Has Peppa been readmitted to any hospital for any reason since discharge from the hospital after heart surgery?

1 Yes No

2 * Reason:

* Approximate date:

MM/DD/YYYY

* Which hospital:

Question logic:

If 'Yes' is chosen for question 1, all questions in box 2 will appear

* Is there anything else you would like to inform us about Peppa's health?

1 Yes No

2 * If yes, explain:

Question logic:

If 'Yes' is chosen as the response, an additional question (2) will appear

5-Year ND Questionnaire

*Do you have any concerns about Peppa's development, behavior, or learning?

1 Yes No

2 *If yes, explain:

Question logic:
If 'Yes' is chosen for question 1, an additional question (2) appears.

*Is Peppa receiving services/therapy to support their development, behavior or learning either through their school system, Early Intervention (EI), or privately (such as PT, OT, speech, learning, mental health counselor)?

1 Yes No

2 *If yes, explain:

*If yes: Do you feel the services Peppa is receiving are helpful?

Yes No

Question logic:
If 'Yes' is chosen for question 1, additional questions (2) appear

*Do you have any concerns about any of the following for Peppa's development?
Select all that apply.

1 Motor Skills Language Behavior Learning Mood Anxiety Attention Activity Level Feeding Other

No Concerns

*Other concerns (please specify):

2

*Please describe Peppa's current educational setting

1 At home with caregiver Day care Public Preschool Private Preschool/Montessori Other

*Other (please specify):

2

*Does Peppa have an Individual Education Plan (IEP)/504 plan?

Yes No N/A as child not receiving any services through the public school system

Question logic:
If 'Other' is chosen as the response, an additional question (2) will appear

Question logic:
If 'Other' is chosen as the response, an additional question (2) will appear

5-Year ND Questionnaire

* Does Peppa have an Individual Education Plan (IEP)/504 plan?

Yes **No** N/A as child not receiving any services through the public school system

* Is Peppa receiving any services/therapy to support their developmental behavior or learning either through their school system or privately?

1

Select all that apply.

Feeding Therapy Occupational Therapy Physical Therapy Speech Therapy
Therapy for Social/Emotional/Behavioral Concerns **Other** No therapies

* Other (please specify):

2

* Are you satisfied with the overall services Peppa is receiving to support their developmental?

1

Yes **No** N/A - child not receiving services

* If No, explain:

2

Continue

Finish later

Cancel

Those are the only interview questions. Thank you for your time.

If this is an emergency please contact 911.

Please call 617-355-2079 if you need to schedule an appointment with your Boston Children's Hospital Cardiologist.

Question logic:

If 'Other' is chosen as the response, an additional question (2) will appear

Question logic:

If 'No' is chosen as the response, an additional question (2) will appear

5-Year ND Questionnaire

30 day Follow up 2016-2023

Surveys Sent
5631

Responses
5196 (92%)

No Response
435 (8%)

Pediatrics
4664 (90%)

Adults
532 (11%)

International
90 (21%)

United States
345 (79%)

Linked: 3378 (72%)
Parents Called: 860 (18%)
Chart Review: 350 (8%)
Cardiology/PCP: 76 (2%)

Linked: 429 (81%)
Patients Called: 73 (14%)
Chart Review: 27 (5%)
Cardiology/PCP: 3 (1%)

One Year Follow up 2016-2021

Surveys Sent
4518

Responses
3383 (74.88%)

No Response
1135 (25%)

Pediatrics
2972 (88%)

Adults
411 (12%)

International
170 (15%)

United States
965 (85%)

Linked: 2474 (83%)
Parents Called: 170 (6%)
Chart Review: 318 (11%)
Cardiology/PCP: 10 (< 1%)

Linked: 342 (83%)
Patients Called: 18 (4%)
Chart Review: 48 (12%)
Cardiology/PCP: 3 (1%)