ACTION Heart Failure Quality Improvement Project

Please read this packet with your teams.

This packet includes:

- Project Charter
- Quality Improvement Tools
- FAQ Documents
- Data Entry Links & Codes

January 26, 2021

ADVANCED CARDIAC THERAPIES IMPROVING OUTCOMES NETWORK

HEART FAILURE QUALITY IMPROVEMENT PROJECT

DESIGN PHASE	MARCH 2020 – JANUARY 2021	DATE	01/26/2021

AIM	**Communication Checklist:** To standardize language usage and team communication for inpatient heart failure patients via a daily bedside checklist tool in an effort to improve outcomes in patients during acute heart failure admission. **Discharge Plan:** To standardize the internal discharge planning process for patients in an effort to reduce readmission and effectively transition to outpatient care, while also providing insight for future quality improvement efforts pertaining to children with acute heart failure.
PROJECT CHARTER	This charter includes all the necessary information to participate in the project, such as the background, aims, measures, patient inclusion/exclusion criteria, scope, intervention/QI tool descriptions, and data entry expectations.
INTERVENTIONS / QI TOOLS	**1. Communication Checklist:** This tool is meant to be used as a daily rounding checklist to improve communication amongst providers, patients, and family members. We are tracking frequency of use of this tool. • ***The recommended method*** of tracking the frequency of daily checklist use is to scan the QR code each day you use the checklist. When you use the checklist, simply scan the QR code, enter the data for the 3 fields, and submit. **Do this each day you use the checklist.** **2. Discharge Plan**: This tool is meant to be used before the patient is discharged from the heart failure hospital admission. The tool can be completed by hand on paper, electronically filled out and exported to PDF, or built into the Epic EMR (if sites have this option). The expectation is that providers share a copy of the discharge plan with other providers, the patient, and family members to improve discharge planning and communication. • ***The recommended method*** of completing/populating the discharge plan is to click the link above or scan the QR code and electronically complete the plan. After filling in the form, **you must download the PDF** or enter your email address to receive a copy of the PDF. Then you can share the PDF plan with others.

FAQ DOCUMENTS	These documents outline and answer frequently asked questions for using the interventions/QI tools.
DATA ENTRY	**Patient-level Heart Failure Data:** The expectation is for patient data to be entered into REDCap once the patient has been discharged from the heart failure hospital admission (and consented for ACTION!). You must have a login to the CCHMC REDCap in order to enter data for this project (per the emails that have been sent out). **Use this link to access the PROSPECTIVE REDCap database:** https://redcap.research.cchmc.org/index.php?action=myprojects • Please contact the operations/data team if you are having trouble accessing this REDCap. • FYI – If you have completed the Discharge Plan via the electronic fillable form, you do not need to upload your Discharge Plan to this REDCap. However, if you completed the Discharge Plan by hand on paper, or some other method, please upload a PDF copy of your Discharge Plan to this patient-level REDCap. **Retrospective Baseline / PHIS Data:** We are encouraging sites to enter baseline Heart Failure patient data into the retrospective HF REDcap. Ideally, we are asking teams to submit retrospective data back to October 1, 2019. **Use this link to access the RETROSPECTIVE REDCap database:** https://redcap.research.cchmc.org/surveys/?s=8PJKL4M8JM
QUESTIONS?	Reach out the project leaders or data/operations team! Heart Failure Committee Leadership: • Ryan Butts, MD • Danielle Burstein, MD • Christopher Almond, MD Communication Checklist Leadership: • Kathleen Simpson, MD • Kristen George, NP Discharge Plan Leadership: • Joseph Spinner, MD • Brian Feingold, MD Operations / Data / Project Team: • Chloe Stegeman, MBA, Project Management • Kenton Reason, MHA, Project Management • Lauren Smyth, MHA, Program Manager • Chloe Connelly, MA, Data Analyst • Karina Tabar, Data Management Specialist

A. General Information	
Project Title & Project #:	Heart Failure Communication Checklist & Discharge Plan
Department/Division/Team:	Heart Failure Committee
Population:	All children hospitalized with ADHF where the patient is either admitted to the HF service or the HF service has formally consulted. HF and ADHF are defined using the ACTION clinical definitions.[1]
Brief Project Description (AIM):	**Communication Checklist:** To standardize language usage and team communication for inpatient heart failure patients via a daily bedside checklist tool in an effort to improve outcomes in patients during acute heart failure admission. **Discharge Plan:** To standardize the internal discharge planning process for patients in an effort to reduce readmission and effectively transition to outpatient care, while also providing insight for future quality improvement efforts pertaining to children with acute heart failure.
Measures:	**1) Communication Checklist:** a. Adoption of checklist usage on daily team rounds (average days per week completed) b. Hospital length of stay for acute heart failure admission c. Heart failure score trend during admission while using checklist **2) Discharge Plan:** a. Adoption of discharge plan b. Decrease percentage of patients readmitted within 30 days
Prepared By:	Ryan Butts, Danielle Burstein, Kristen George, Kathleen Simpson, Joseph Spinner, Brian Feingold, & Christopher Almond
Date:	1.23.21

B. Project Background:

Heart failure in children remains a cause of significant morbidity and mortality. Although due to various mechanisms, such as cardiomyopathy and congenital heart disease, there are common heart failure treatment and management pathways across patient population. During an acute heart failure episode admission, whether for a new diagnosis or in a chronic patient, patients are at risk for progressive decompensation. Improving communication about patient status and treatment goals among care team members (including patients) may help improve patient outcomes. Additionally, the inclusion of a formalized discharge plan can aide in a seamless transition from inpatient to outpatient care for children with acute heart failure.

[1]**HF Definition:** *A clinical syndrome that results from any structural or functional impairment of ventricular filling or ejection. Cardinal symptoms include breathing difficulty, feeding intolerance, and decreased activity.*

Acute Decompensated Heart Failure (ADHF) Definition: *HF severe enough to warrant hospitalization. Patients that are inpatient that receive a HF consult* see definition list*

Project Charter

ADVANCED CARDIAC THERAPIES IMPROVING OUTCOMES NETWORK

C. Project Scope (and exclusions):

Inclusion:

1. Meets ACTION definition for ADHF (HF leading to hospitalization) *

* **HF Definition:** *A clinical syndrome that results from any structural or functional impairment of ventricular filling or ejection. Cardinal symptoms include breathing difficulty, feeding intolerance, and decreased activity.*
Acute Decompensated Heart Failure (ADHF) Definition: *HF severe enough to warrant hospitalization.*

2. Cardiac diagnoses: see appendix for full list. Examples include:
   DCM (primary and secondary), RCM (primary and secondary), HCM (primary and secondary), ARVC, LVNC, myocarditis, Failing Single Ventricle CHD regardless of function, Two-Ventricle CHD, Heart transplant graft dysfunction
3. All ages provided admitted to an ACTION hospital
4. If patient receives a VAD during admission they will be eligible for the communication checklist and the discharge plan project.

Exclusions:

1. Patients with history of heart failure admitted for other reason (non-heart failure episode)
2. If a patient is transplanted during their admission they will be eligible for the communication checklist but not the discharge plan.

D. High Level Timeline/Schedule:

October 2020	• Invite teams to participate in project at ACTION Fall 2020 meeting • ACTION Newsletter – Invitation Packet Details
November – December 2020	• Global QI call for questions on application • Teams commit to joining the project • Teams select, resource, and support team members
January 2021	• Project kick-off meeting • Teams develop a project plan • Teams adopt operational definition of measures • Teams adopt Key Driver Diagram • Teams assess their current system focused on discharge • Share progress on setting teams, developing plans, and testing to increase reliability to interventions • Teams develop PDSAs to test
January 2021 – September 2021	• Teams test to increase reliability and achieve 80% (if enough patients) • Share progress during Global QI meetings
October 2021 – March 2022	• Teams test to increase reliability to future factors and share webinars and in-person meetings
March 2022 – Forward	• Sustain reliability and monitor outcomes • Reduction goal achieved • Intervention bundle and change package published • Spread learning to entire network

E. Communication & Expectations:

Project Charter

All ACTION sites with a completed IRB/DUA are welcome to be involved in this project. Chloe Stegeman & Kenton Reason will send a survey to invite centers to participate, and responses will be due by **11/13/20**. We will ask each participating center to identify one point person for the project, but anyone on the project team can enter or view data in REDCap. To set up data access, we will need the following: **1.)** Name of person **2.)** Institutional affiliation **3.)** Email address, and **4.)** The level of permissions needed (i.e. entering data, viewing, etc.). Lastly, a REDCap account will need to be created prior to being able to enter data prospectively.

The designated data team members will need to be added to the IRB and study staff listing. Please email Mary.Berwanger@cchmc.org to update your staff listing. Patients will also be consented for prospective data entry, so anyone consenting or interacting with the data will need to be listed on the ACTION IRB study staff listing.

Communication Checklist

1. HF rounding communication checklist will be completed and discussed daily on team rounds with goal to be inclusive of attending, support staff (PA, APP, etc.), trainees (MS, residents, fellows), bedside RN or RN representative, family member (if bedside), and patient (if age appropriate).
2. Team will identify beforehand which member (typically attending, support staff or trainee) will have primary responsibility for completing checklist daily.
3. Team will likewise identify which member will have primary responsibility for entering certain QI data (daily use, certain measures and trends as specified by study) regarding patients for whom the checklist is utilized.
4. **We are tracking frequency of use of this tool.**
    - ***The recommended method*** of tracking the frequency of daily checklist use is to scan the QR code each day you use the checklist. When you use the checklist, simply scan the QR code, enter the data for the 3 fields, and submit. **Do this each day you use the checklist.**

Discharge Plan

1. Discharge plan is created prior to discharge and reviewed by multi-disciplinary care team (including parents) on day of (or before) discharge.
2. Team will identify beforehand which member (typically nurse coordinator or bedside nurse) will have primary responsibility for completing discharge plan.
3. **The tool can be completed by hand on paper, electronically filled out and exported to PDF, or built into the Epic EMR** (if sites have this option). The expectation is that providers share a copy of the discharge plan with other providers, the patient, and family members to improve discharge planning and communication.
    - ***The recommended method*** of completing/populating the discharge plan is to click the link above or scan the QR code and electronically complete the plan. After filling in the form, **you must download the PDF** or enter your email address to receive a copy of the PDF. Then you can share the PDF plan with others.

Project Charter

ADVANCED CARDIAC THERAPIES IMPROVING OUTCOMES NETWORK

Prospective Data

Prospective data for HF patients, as well as data for our process measures, will be collected via REDCap: https://redcap.research.cchmc.org/index.php?action=myprojects.

The expectation is for patient data to be entered into REDCap once the patient has been discharged from the heart failure hospital admission (and consented for ACTION!). You must have a login to the CCHMC REDCap in order to enter data for this project (per the emails that have been sent out). Please contact the operations/data team if you are having trouble accessing this REDCap.

The REDCap survey asks for an "ACTION ID." You will notice a new method for creating a patient's ACTION ID. This process has been standardized for this project (and will be rolled out to other QI projects soon!). This will allow better tracking of patients between ACTION projects and will be more clear for data analytics on back end. The ACTION ID will be populated each time you enter data. The ID is comprised of the hospital number, the patient's full name initials (First, Middle, Last - **use "x" if patient does not have middle initial*), and the patient's DOB. This creates an ACTION ID with a mathematical equation that de-identifies the ID. For example, if the CCHMC site number was 10, using Lauren Elise Smyth, and DOB: 05/02/1988, the ID would be auto-generated as: **010-LES-5022010**.

FYI – If you have completed the Discharge Plan via the electronic fillable form, you do not need to upload your Discharge Plan to this REDCap. However, if you completed the Discharge Plan by hand on paper, or some other method, please upload a PDF copy of your Discharge Plan to this patient-level REDCap.

Retrospective Baseline Data

Teams joining this project are also encouraged (not required) to enter baseline Heart Failure patient data into the retrospective HF REDcap: https://redcap.research.cchmc.org/surveys/?s=8PJKL4M8JM. Ideally, we are asking teams to submit retrospective data back to October 1, 2019. Please use the same inclusion/exclusion criteria as stated above for entering this retrospective baseline data.

The REDCap survey asks for an "ACTION ID." This process will be the same as outlined above in the prospective data section.

F. Project Risks & Mitigation:

Risk	Level (high/med/low)	Mitigation and Escalation Strategy
Workload burden for staff	low	Simplify data collection on tool and minimize required data entry
Patient confidentiality	low	No identifying data (PHI) will be included on the rounding sheet

G. Roles and Responsibilities

Sponsor/Champion: Provides overall direction on the project.

Project Charter

Name	Title/Role
Angela Lorts	MD/ ACTION leader
David Rosenthal	MD/ ACTION Leader
Team Leader: Leads the team and provides guidance on scope of the project.	
Name	**Title/Role**
Danielle Burstein	MD/ Heart Failure Committee – QI Lead
Ryan Butts	MD/ Heart Failure Committee – QI Lead
Christopher Almond	MD/ Heart Failure Committee - PHIS Lead
Brian Feingold	MD/ Discharge Plan Lead
Joseph Spinner	MD/ Discharge Plan Lead
Kristin George	NP/ Heart Failure Checklist Lead
Kathleen Simpson	MD/ Heart Failure Checklist Lead
Project Support (QIC/QOM/Data Analytics/Project Manager Support): Leads in the planning & development of the project; manages the project to scope and/or provides data analysis and reporting expertise for the project.	
Name	**Title/Role**
Chloe Connelly	MA/ Data Quality Analyst
Clifford Gammon	Sr. Data Quality Analyst
Paige Krack	MBA, MS/ Quality Improvement Consultant
Kenton Reason	MHA/ Project Manager Support
Lauren Smyth	MHA/ Program Manager
Chloe Stegeman	MBA/ Project Manager Support
Team Members: Works toward the deliverables of the project.	
Communication Checklist	**Discharge Plan**
Neha Bansal, MD	Kurt Schumacher, MD
Beth Hawkins, NP	Julie Schmidt, NP
Jillien Lochridge, NP	Colleen Surmay, MSRN/ CPNP
Lindsay May, MD	Lindsay May, MD
Jenna Murray, PN	Neha Bansal, MD
Julie Schmidt, NP	Christopher Almond, MD
Colleen Surmay, MSRN/ CPNP	
Christopher Almond, MD	
Family/Patient Representative:	
Name	**Title/Role**
n/a	

ADVANCED CARDIAC THERAPIES IMPROVING OUTCOMES NETWORK

Heart Failure Daily Checklist

Date: _____ ***Patient Initials:*** _____

This checklist is used as a QI tool for improving outcomes by better communication with providers, patients, and families

Diagnosis (circle): **Cardiomyopathy or Congenital Heart Disease**

1. *My dry weight is:* _____kg. *My weight today*: _____kg
2. *My rhythm is (circle):* **NSR or arrhythmia:** _____
3. *I am (circle):* ***Good Appetite / Tolerating Feeds / My Stomach Hurts / No Appetite / Nausea / Vomiting***
4. *Today I am (circle):*

Dry & Warm	***Wet & Warm***
Dry & Cold	***Wet & Cold***

5. *My fluid goal: minimum* _____ *ml/day AND maximum* _____ *ml/day*
6. *My approximate goal fluid balance is*: _____
7. *My goal blood pressure is*: systolic range _____ or MAP range _____
8. *My goal oxygen saturation is:* _____
9. *I am (circle):* **NO anticoagulation OR anticoagulated (med):** _____ **with goal level** _____
10. *My oral heart failure medications are (circle):* **at goal OR being optimized**
11. *My Heart Failure Score (see back for table):*

Sun _____ ***Mon*** _____ ***Tues*** _____ ***Wed*** _____ ***Thurs*** _____ ***Fri*** _____ ***Sat*** _____

12. *My heart failure plan today is (examples: extubate, ambulate, eat 3 meals*): _____
13. *Barriers to discharge (circle):* **symptoms / medication optimization / discharge logistics**

FILLED OUT, POSTED AT BEDSIDE, AND READ BACK DURING ROUNDS BY: _____

Days Completed (Circle): **Sun Mon Tue Wed Thu Fri Sat**

Scan the QR code to track frequency of use each day you use the checklist.

Heart Failure Score Table

	None 0	Mild 1	Moderate 2	Severe 3	Life-Threatening 4	Sub-Score
Respiratory Insufficiency	*Normal*	*Mild increased WOB but no respiratory support beyond NC*	*Requiring CPAP, BiPAP, HFNC*	*Mechanical Ventilation*	*ECMO*	
Feeding Intolerance	*Full PO Diet*	*Intermittent anorexia, nausea, early satiety* ***OR*** *Feeding tube supplementation*	*Moderate abdominal symptoms OR not tolerating full enteral nutrition*	*Severe abdominal symptoms, unable to tolerate enteral nutrition beyond tropics*	*Active NEC or proven mesenteric ischemia*	
Inactivity/ Immobility	*No limitations*	*Mild inactivity, can participate in play/ambulation or feeding (infants) > 15 minutes*	*Moderate inactivity limiting play/ambulation or feeding (infants) to < 15 minutes*	*Bedridden due to symptoms, mechanical ventilation*	*Deep sedation or paralysis to meet metabolic demands*	

ADVANCED CARDIAC THERAPIES IMPROVING OUTCOMES NETWORK

Heart Failure Communication Checklist FAQ

What should we use to estimate the dry weight?

This is up to each individual provider, but often the most recent clinic visit when the patient was thought to be euvolemic may be a good start. As we know, this may be a moving target for infants and young children who are experiencing expected quick somatic growth, but just do your best to estimate.

What do I use to figure out if they are wet or dry?

Use your clinical exam, radiological findings, vitals (daily weights), or laboratories. Therefore, if a patient is has no edema on exam but has an Xray with pulmonary edema or pleural effusions then they are likely wet. Evidence of renal or hepatic congestion could be used as evidence of being wet. Dry is best thought of absence of any symptoms/signs of congestion. In the end, this is up to your assessment of the patient.

What do I use to figure out if they are cold or warm?

Use your clinical exam, vitals, or laboratories. Some findings could include lactic acidosis, narrowed pulse pressure, poor cap refill or altered mental status. Warm is best thought of as the absence of any symptoms/signs of poor perfusion. In the end, this is up to your assessment of the patient.

What do you want for the daily goal?

This is meant to communicate to the family and the team what your primary goal of the day is. It could include things like “get extubated,” “be more active,” “tolerate meds,” “get ready for going home.” It can be a medical or social goal.

What are data entry expectations?

QI data specifically related to the Communication Checklist will be uploaded daily via an individual QR Code each organization will have access to. The QR code will link to a survey that will prompt specific questions pertaining to Communication Checklist daily usage. It will be important to identify which team member will have primary responsibility for entering QI data.

ADVANCED CARDIAC THERAPIES IMPROVING OUTCOMES NETWORK

Heart Failure Discharge Plan

Date Completed: _____ ***Patient Initials:*** _____

This plan is used as a QI tool for improving outcomes by better discharge planning with providers, patients, and families.

Use the QR code to fill in the plan electronically and download a PDF for sharing.

I. General Patient Information

Admit Date: _____ *Discharge Date:* _____

Admit Weight: _____kg *Discharge Weight*: _____kg *Height:* _____ cm

*Systemic V EF at **admission:*** _____ % or *qualitative function if EF not available (circle below):*

Normal Mildly Decreased Moderately Decreased Severely Decreased

*If applicable: Systemic V EF at **discharge:** ____% or qualitative function if EF not available (circle below):*

Normal Mildly Decreased Moderately Decreased Severely Decreased

Precipitating factor(s) for HF admission (circle all that apply):

Index Admission Fluid Overload Non-adherence to Medications Non-adherence to Fluid/Diet Recommendations

Concurrent Infection Decrease in Ventricular Function No Obvious Inciting Event/Factor for HF Exacerbation

Other:_____

Is this patient going home on a VAD? (circle): Yes / No

II. Follow Up Schedule

Follow up HF appointment (Date): _____ *Follow up labs (Date):* _____

Follow up echocardiogram (Date): _____ *Follow up PCP Appt. (Date):* _____

Physical Activity Recommendations (circle option below):

Routine Daily Activities Recreational Activities (Non-Competitive) Permitted No Restrictions Not Discussed

Vaccines UTD? Yes / No ; if not, plan for updating? _____

Oral Care UTD? Yes / No ; if not, plan for updating? _____

SBE Prophylaxis Recommended? Yes / No

Contact information for HF team provided? Yes / No

III. Heart Failure Medications

ACE/ARB/ARNI

Medication(s), Dose(s), and Frequency **prior to admit**: _____

Medication(s), Dose(s), and Frequency **at discharge**: _____

Goal Dose (mg) and Frequency: _____ (if applicable), goal dose mg/kg/day _____

Reason(s) for Not Meeting Goal Dose Prior to Discharge (circle below all that apply):

Not Applicable (Currently at Goal)

Actively Titrating Now

Actively Titrating Other Medication First

Hypotension

Hyperkalemia

Renal Insufficiency

Adverse Patient Symptoms: _____

Other: _____

Titration Plan:

Beta Blocker

Medication(s), Dose(s), and Frequency **prior to admit**: _____

Medication(s), Dose(s), and Frequency **at discharge**: _____

Goal Dose and Frequency: _____(if applicable), goal dose mg/kg/day _____

Reason(s) for Not Meeting Goal Dose Prior to Discharge (circle below all that apply):

Not Applicable (Currently At Goal)

Actively Titrating Now

Actively Titrating Other Medication First

Hypotension

Bradycardia

Adverse Patient Symptoms: _____

Other: _____

Titration Plan:

Aldosterone Antagonist

Medication(s), Dose(s), and Frequency **prior to admit**: _____

Medication(s), Dose(s), and Frequency **at discharge**: _____

Goal Dose and Frequency: _____(if applicable), goal dose mg/kg/day _____

Reason(s) for Not Meeting Goal Dose Prior to Discharge (circle below all that apply):

- Not Applicable (Currently At Goal)
- Actively Titrating Now
- Actively Titrating Other Medication First
- Hypotension
- Hyperkalemia
- Renal Insufficiency
- Adverse Patient Symptoms: _____
- Other: _____

Titration Plan:

Diuretics

Medication(s), Dose(s), and Frequency **prior to admit**: _____

Medication(s), Dose(s), and Frequency **at discharge**: _____

Congestion/Exacerbation Plan:_____

Anticoagulation

Medication(s), Dose(s), and Frequency **prior to admit**: _____

Medication(s), Dose(s), and Frequency **at discharge**: _____

Goal Anticoagulation Levels (if applicable): _____

Other HF Medications/Inotrope

Medication(s), Dose(s), and Frequency **prior to admit**: _____

Medication(s), Dose(s), and Frequency **at discharge**: _____

IV. Fluid/Diet

Diet: Regular/No Restrictions Other:_____

Fluid Restriction: None/ad lib Other:_____mL

Sodium Restriction: None Other: _____ mg/day

Plan for Outpatient Diet or Fluid Changes: _____

V. Labs

BNP at **admission**: _____ BNP at **discharge:** _____

NT-proBNP at **admission:** _____ NT-proBNP at **discharge**:_____

Creatinine (mg/dL) at **admission**: _____ Creatinine (mg/dL) at **discharge**: _____

Hemoglobin (g/dL) at **admission**: _____ Hemoglobin (g/dL) at **discharge**: _____

Iron Deficient during hospitalization? (circle): Yes/No/Not Assessed

On iron therapy? Yes- Oral Iron Therapy /Yes -Received IV Iron/No

VI. Additional Information or Instructions

Heart Failure Discharge Plan FAQ

Section I: General Patient Information

What do I put in for the weights?

For Admit Weight –utilize the first weight obtained once admitted; it is OK to use the clinic weight if patient is admitted from the clinic.

For Discharge Weight— utilize the last weight obtained within 7 days from discharge; if none obtained, just leave blank

What do I put in for the height?

Any height documented during the admission or ± 1 month of the admission is OK. This will allow us to calculate BSA and to calculate GFR

What if there are no EF's on echo reports?

This is why we have put qualitative ventricular function in the discharge form. We'd prefer to have quantitative EF, but if not available, a qualitative estimate is next best. As a guideline, "Normal" would be an EF >55%, or SF >28%; "Mildly decreased" would be an EF 40-55% or SF 22-28%; "Moderately decreased" would be EF 30-39% or SF 14-21%; and "Severely decreased" would be EF <30% or SF <14%.

What EF calculation would you like me to use?

There are many ways to calculate EF on echocardiogram. We are not recommending one calculation of EF over another. Instead, we recommend you use the EF calculation customary in your institutional—that is the one you typically use in clinical practice or the EF that the echocardiographer thinks best quantifies the patient's ventricular function. Therefore, the EF calculation you choose to report should be determined by your site.

What precipitating factors should we include?

Please circle the precipitating factors listed that apply; if "other" please indicate in the field accordingly.

Section II: Follow Up Schedule

What information do we put in the "Follow Up" section?

In this section, put the date information for HF, echocardiogram, labs, and PCP visits in MM/DD/YYYY form. If timing is known but the exact date not yet set, it is okay to put "2 months" or "2 weeks", etc. If these are not known or have not been determined at discharge, please leave blank.

Section III: HF Medications

Do you want the dose of medications listed in weight-based or absolute dose?

Please input medication dosage in absolute dose (mg). We will use the weight information captured at the top of the form to back-calculate the dose in weight-based formulation; if applicable,

How should goal medication dose be listed?

Please include the absolute dose (mg) and frequency; if applicable (i.e. an infant), please include the mg/kg/day goal dose as well. The absolute dose may change based upon weight gain as an outpatient, but please use the discharge weight. There will also be a difference in practice patterns for goal dose—this is expected.

What information should be included under "Congestion/Exacerbation Plan" under the Diuretic subsection?

If you have a plan to give a PRN dose of diuretic for a specific weight increase or symptoms, etc., this is where you can indicate that. If you do not have a "congestion" plan, then you can leave this blank. There will also be a difference in practice patterns —this is expected.

Section IV: Fluid and Diet

What type of information should I enter for "Diet"?

If the patient goes home with a formula, special diet, or instructions for mechanism of delivery, this section is where this type of information should be entered. "Similac 30kcal/oz, 40cc every 3 hours via NG tube" would be an appropriate entry, as well as "Low sodium diet" or "Normal for age".

What if I do not send a patient home on a fluid restriction?

If you do not send a patient home on a fluid restriction, please select "none/ad lib"; if you send a patient home on a Free Water restriction but not a Total Fluid restriction, please enter the data for Free Water restriction and leave the Total Fluid section blank, or vice versa based upon the individual patient. Same applies for sodium restriction.

Sections V and VI: Labs and Other

What if labs were not obtained at admission?

Labs drawn within 48 hours of admission, or from clinic in the event the patient is admitted from clinic, can suffice. Please indicate if the lab is BNP or NT-proBNP.

What if labs were not obtained at discharge?

Please put the most recent values within 7 days of discharge. Please indicate if the lab is BNP or NT-proBNP. If only 1 value was assessed during the hospitalization (at admission), it is OK to leave the discharge value blank.

What is the time frame for assessment of iron deficiency?

If iron status has not been assessed within 3 months, please circle "Not Assessed"

What should I include in the Additional Information or Instructions section?

Please include any discharge instructions or patient information (e.g. other medications) not captured above.

Section VII: General Information and Data Entry Guidance

How should I complete the Discharge Plan for the patient, and how should I submit a copy of the plan to ACTION?

There are several ways to fill out and submit a copy of the plan to ACTION; you or a member of your team can:

1) Complete the electronic version of the Discharge Plan, save a PDF of the generated document, and share the PDF with other provides, the patient, and family members (data will already be captured in REDCap via this electronic form).

2) Incorporate the Discharge Plan into discharge documentation in the EMR at your respective institution, print off the Discharge Summary from the EMR, and scan/upload the document into the patient-level HF REDCap.

3) Print out a paper version of Discharge Plan, complete the form by hand, and scan/upload the plan to the patient-level HF REDCap.