

SUPPLEMENTAL MATERIAL

Supplemental Table I. Participants for each clinical site for measure development and validation

Site	Location	Region*	Number of focus group participants for measure development	Number of clinician participants for measure development	Number of longitudinal participants for measure validation
Baylor Heart and Vascular Institute	Dallas, TX	South	0	0	30
Dartmouth-Hitchcock Medical Center	Lebanon, NH	Northeast	14	5	0
Maine Medical Center	Portland, ME	Northeast	0	0	7
Mayo Clinic	Rochester, MN	Midwest	16	0	0
Northwestern Memorial Hospital	Chicago, IL	Midwest	16	0	14
Oregon Health & Science University Hospital	Portland, OR	Pacific	15	5	15
University of Alabama at Birmingham Hospital and affiliated outpatient clinics	Birmingham, AL	South	0	0	8
Hospital of the University of Pennsylvania	Philadelphia, PA	Northeast	0	0	1

*Regions are Census Bureau designations.

Supplemental Table II. Survey eligibility windows for longitudinal sample, by treatment type and time point

	Baseline		Follow-up	
	Eligible date	Cut-off	Eligible date*	Cut-off
Initiation of guideline-directed medical therapy after new heart failure diagnosis or first hospitalization	At time of diagnosis of new onset heart failure or date of first hospitalization	2 weeks after diagnosis or discharge	76 days after diagnosis or discharge	4 months after diagnosis or discharge
Cardiac Rehabilitation	2 weeks before first rehab appointment	2 weeks after first rehab appointment	2 weeks before final rehab appointment	1 month after final rehab appointment
Cardiac Resynchronization Therapy	1 month before insertion	Day before insertion	76 days after insertion date	4 months after insertion
Left Ventricular Assist Device				
Hospitalization primarily for Heart Failure	Upon admission	2 weeks after discharge	76 days after discharge	4 months after discharge

*A 76-day follow-up timeline (3 months minus 2 weeks) was selected because many patients were scheduled to return to the clinic for 3-month follow-up, and this allowed some flexibility.

Supplemental Table III. The PROMIS-Plus-HF profile measure

A. Physical

Instrument	Item	Responses and Scores
Dyspnea		
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Walking 50 steps/paces on flat ground at a normal speed without stopping	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Lifting something weighing 10-20 lbs. (about 4.5-9 kg, like a large bag of groceries)	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Walking (faster than your usual speed) for ½ mile (almost 1 km) without stopping	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Walking 10 steps/paces on flat ground at a normal speed without stopping	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Walking up 5 stairs without stopping	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Walking up 10 stairs (1 flight) without stopping	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days

Instrument	Item	Responses and Scores
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Lifting something weighing less than 5 lbs. (about 2 kg, like a houseplant)	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Lifting something weighing 5-10 lbs. (about 2-4.5 kg, like a basket of clothes)	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Lifting something weighing more than 20 lbs. (about 9 kg, like a medium-sized suitcase)	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days
Existing PROMIS	Over the past 7 days, how short of breath did you get with each of these activities?: Carrying something weighing less than 5 lbs. (about 2 kg, like a houseplant) from one room to another	1=No shortness of breath, 2=Mildly short of breath, 3=Moderately short of breath, 4=Severely short of breath, 5=I did not do this in the past 7 days
Fatigue		
Existing PROMIS	In the past 7 days... To what degree did you have to push yourself to get things done because of your fatigue?	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	In the past 7 days... How often did your fatigue make you feel slowed down in your thinking?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Existing PROMIS	In the past 7 days... How often did you have to limit your social activities because of your fatigue?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Existing PROMIS	In the past 7 days... How often were you too tired to do your household chores?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Existing PROMIS	In the past 7 days... How often did you run out of energy?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always

Instrument	Item	Responses and Scores
Existing PROMIS	In the past 7 days... How often did you feel tired?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Existing PROMIS	During the past 7 days... I feel weak all over	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	During the past 7 days... I feel tired	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	During the past 7 days... I have energy	5=Not at all, 4=A little bit, 3=Somewhat, 2=Quite a bit, 1=Very much
Existing PROMIS	During the past 7 days... I am able to do my usual activities	5=Not at all, 4=A little bit, 3=Somewhat, 2=Quite a bit, 1=Very much
New PROMIS	In the past 7 days... How often did you need to take breaks to finish daily tasks?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Health Behavior Outcomes		
New PROMIS	In the past 7 days... Were you able to control your salt intake?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
New PROMIS	In the past 7 days... Were you able to keep a healthy diet?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
New PROMIS	In the past 7 days... Were you able to control your weight?	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Pain Interference		
Existing PROMIS	In the past 7 days... How much did pain interfere with your ability to participate in leisure activities?	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	In the past 7 days... How much did pain interfere with your ability to concentrate?	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Physical Function		
Existing PROMIS	Does your health now limit you in bending, kneeling, or stooping?	5=Not at all, 4=Very little, 3=Somewhat, 2=Quite a lot, 1=Cannot do
Existing PROMIS	Does your health now limit you in doing heavy work around the house like	5=Not at all, 4=Very little, 3=Somewhat, 2=Quite a lot, 1=Cannot do

Instrument	Item	Responses and Scores
	scrubbing floors, or lifting or moving heavy furniture?	
Existing PROMIS	Are you able to push open a heavy door?	5=Without any difficulty, 4=With a little difficulty, 3=With some difficulty, 2=With much difficulty, 1=Unable to do
Existing PROMIS	Are you able to go for a walk of at least 15 minutes?	5=Without any difficulty, 4=With a little difficulty, 3=With some difficulty, 2=With much difficulty, 1=Unable to do
Existing PROMIS	Does your health now limit you in going OUTSIDE the home, for example to shop or visit a doctor's office?	5=Not at all, 4=Very little, 3=Somewhat, 2=Quite a lot, 1=Cannot do
Existing PROMIS	Are you able to walk a block (about 100 m) on flat ground?	5=Without any difficulty, 4=With a little difficulty, 3=With some difficulty, 2=With much difficulty, 1=Unable to do
Existing PROMIS	Are you able to run 100 yards (100 m)?	5=Without any difficulty, 4=With a little difficulty, 3=With some difficulty, 2=With much difficulty, 1=Unable to do
Existing PROMIS	Are you able to walk up and down two steps?	5=Without any difficulty, 4=With a little difficulty, 3=With some difficulty, 2=With much difficulty, 1=Unable to do
Existing PROMIS	Does your health now limit you in climbing one flight of stairs?	5=Not at all, 4=Very little, 3=Somewhat, 2=Quite a lot, 1=Cannot do
Existing PROMIS	Does your health now limit you in walking about the house?	5=Not at all, 4=Very little, 3=Somewhat, 2=Quite a lot, 1=Cannot do
Sleep Disturbance		
Existing PROMIS	In the past 7 days... My sleep quality was...	5=Very poor, 4=Poor, 3=Fair, 2=Good, 1=Very good
Existing PROMIS	In the past 7 days... I got enough sleep.	5=Never, 4=Rarely, 3=Sometimes, 2=Often, 1=Always
Existing PROMIS	In the past 7 days... I had a problem with my sleep.	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much

Instrument	Item	Responses and Scores
Existing PROMIS	In the past 7 days... I had difficulty falling asleep.	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	In the past 7 days... I tried hard to get to sleep.	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	In the past 7 days... I had trouble sleeping.	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Symptoms		
New PROMIS	In the past 7 days... Did you feel dizzy or lightheaded?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
New PROMIS	In the past 7 days... Did you have chest pain?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
New PROMIS	In the past 7 days... Did you have swelling in your feet or legs?	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always

B. Mental

Instrument	Item	Responses and Scores
Anger		
New PROMIS	In the past 7 days... I felt frustrated by my health.	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Anxiety		
New PROMIS	In the past 7 days... I worried about losing my independence.	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
New PROMIS	In the past 7 days... I worried about fainting.	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
New PROMIS	In the past 7 days... I worried that I would get swelling in my feet or legs.	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
New PROMIS	In the past 7 days... I worried that my health would get worse	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
New PROMIS	In the past 7 days... I worried about dying.	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always

Instrument	Item	Responses and Scores
Cognitive Abilities		
Existing PROMIS	In the past 7 days... I have been able to bring to mind words that I wanted to use while talking to someone	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	In the past 7 days... I have been able to concentrate	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	In the past 7 days... My ability to concentrate has been good	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Cognitive Function		
Existing PROMIS	In the past 7 days... My thinking has been slow	5=Never, 4=Rarely (Once), 3=Sometimes (Two or three times), 2=Often (About once a day), 1=Very often (Several times a day)
Existing PROMIS	In the past 7 days... I have had to work really hard to pay attention or I would make a mistake	5=Never, 4=Rarely (Once), 3=Sometimes (Two or three times), 2=Often (About once a day), 1=Very often (Several times a day)
Existing PROMIS	In the past 7 days... I have been upset about my problems with memory, concentration, or making mental mistakes	5=Never, 4=Rarely (Once), 3=Sometimes (Two or three times), 2=Often (About once a day), 1=Very often (Several times a day)
Depression		
Existing PROMIS	In the past 7 days... I felt helpless	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Existing PROMIS	In the past 7 days... I felt sad	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Existing PROMIS	In the past 7 days... I felt that I wanted to give up on everything	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Existing PROMIS	In the past 7 days... I felt depressed	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Existing PROMIS	In the past 7 days... I felt unhappy	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always
Existing PROMIS	In the past 7 days... I felt hopeless	1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always

Instrument	Item	Responses and Scores
Illness Burden		
New PROMIS	In the past 7 days... Did you feel pressure to lose weight?	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
New PROMIS	In the past 7 days... Did you feel burdened by having to monitor you health?	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
New PROMIS	In the past 7 days... Did you feel burdened by having to monitor your weight?	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
New PROMIS	In the past 7 days... Did you feel burdened by restrictions on what you could eat or drink?	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Life Satisfaction		
New PROMIS	Does your health now limit you in achieving your goals?	5=Not at all, 4=A little bit, 3=Somewhat, 2=Quite a bit, 1=Very much
New PROMIS	In the past 7 days... I am able to enjoy life.	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much

C. Social

Instrument	Item	Responses and Scores
Ability to Participate in Social Roles and Activities		
Existing PROMIS	I have trouble doing my regular daily work around the house	5=Never, 4=Rarely, 3=Sometimes, 2=Usually, 1=Always
Existing PROMIS	I have trouble meeting the needs of my family	5=Never, 4=Rarely, 3=Sometimes, 2=Usually, 1=Always
Existing PROMIS	I am limited in doing my work (include work at home)	5=Never, 4=Rarely, 3=Sometimes, 2=Usually, 1=Always
Existing PROMIS	I have trouble doing everything for my family that I feel I should do	5=Never, 4=Rarely, 3=Sometimes, 2=Usually, 1=Always
Existing PROMIS	I have trouble accomplishing my usual work (include work at home)	5=Never, 4=Rarely, 3=Sometimes, 2=Usually, 1=Always
Existing PROMIS	I have trouble doing everything for work that I want to do (include work at home)	5=Never, 4=Rarely, 3=Sometimes, 2=Usually, 1=Always

Instrument	Item	Responses and Scores
Independence		
New PROMIS	In the past 7 days... Were you dependent on others to get things done?	5=Not at all, 4=A little bit, 3=Somewhat, 2=Quite a bit, 1=Very much
New PROMIS	Does your health now limit you in doing things that make you feel independent?	5=Not at all, 4=A little bit, 3=Somewhat, 2=Quite a bit, 1=Very much
New PROMIS	In the past 7 days... I was satisfied with my ability to be independent.	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Satisfaction with Social Roles and Activities		
Existing PROMIS	I am satisfied with my ability to maintain friendships	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	I am satisfied with how much work I can do (include work at home)	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	I am satisfied with my ability to work (include work at home)	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	I am satisfied with my ability to do household chores/tasks	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	I am satisfied with my ability to do things for fun at home (like reading, listening to music, etc.)	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Existing PROMIS	I am satisfied with the amount of time I spend performing my daily routines	1=Not at all, 2=A little bit, 3=Somewhat, 4=Quite a bit, 5=Very much
Social Isolation		
Existing PROMIS	People get the wrong idea about my situation	1=Never, 2=Rarely, 3=Sometimes, 4=Usually, 5=Always
Existing PROMIS	I feel left out	1=Never, 2=Rarely, 3=Sometimes, 4=Usually, 5=Always

Supplemental Table IV. Measure statistics of the cross-sectional sample

Domain Measure	N	Missing	Mean	Median	SD	Skewness	Kurtosis	Observed	
								Minimum	Maximum
PHYSICAL									
Dyspnea	589	11	24.38	25.0	7.32	-0.21	-0.69	10	40
Fatigue	600	0	31.89	32.0	7.60	0.20	0.54	11	55
Health Behavior Outcomes	600	0	9.53	9.0	2.34	0.23	0.29	3	15
Pain Interference	600	0	5.22	5.0	1.84	0.12	-0.06	2	10
Physical Function	600	0	33.18	33.0	7.43	-0.06	0.27	10	50
Sleep Disturbance	598	2	16.86	17.0	4.99	0.09	0.26	6	30
Symptoms	599	1	7.81	8.0	2.37	-0.08	0.00	3	15
MENTAL									
Anger	600	0	2.95	3.0	1.12	0.07	-0.62	1	5
Anxiety	600	0	13.58	14.0	4.41	0.15	-0.21	5	25
Cognitive Abilities	600	0	9.30	9.0	2.44	0.35	0.17	3	15
Cognitive Function	600	0	10.19	10.0	2.86	-0.29	-0.23	3	15
Depression	600	0	15.32	15.0	5.50	0.22	-0.28	6	30
Illness Burden	599	1	11.00	11.0	3.72	0.14	-0.09	4	20
Life Satisfaction	600	0	5.90	6.0	1.77	0.34	-0.09	2	10
SOCIAL									
Ability to Participate in SR&A	600	0	18.63	18.0	4.91	-0.17	0.42	6	30
Independence	600	0	9.45	9.0	2.56	0.04	0.35	3	15
Satisfaction with SR&A	600	0	18.55	18.0	4.95	-0.06	0.13	6	30
Social Isolation	600	0	5.65	6.0	1.81	0.07	0.01	2	10

PROMIS = Patient-Reported Outcomes Measurement Information System, SD = Standard Deviation, SR&A = Social Roles and Activities.

Supplemental Table V. Test-retest reliability of PROMIS-Plus-HF domains and validity measures using cross-sectional data

Domain Measure	# items	ICC: Systematic + Random	ICC: Random
PHYSICAL			
Dyspnea	10	0.98	0.98
Fatigue	11	0.98	0.99
Health Behavior Outcomes	3	0.98	0.98
Pain Interference	2	0.97	0.97
Physical Function	10	0.98	0.98
Sleep Disturbance	6	0.98	0.98
Symptoms	3	0.97	0.97
MENTAL			
Anger	1	0.97	0.97
Anxiety	5	0.99	0.99
Cognitive Ability	3	0.97	0.97
Cognitive Function	3	0.98	0.98
Depression	6	0.97	0.97
Illness Burden	4	0.98	0.98
Life Satisfaction	2	0.96	0.96
SOCIAL			
Ability to Engage in Social Roles and Activities	6	0.97	0.97
Independence	3	0.90	0.90
Satisfaction with Social Roles and Activities	6	0.99	0.99
Social Isolation	2	0.95	0.95

ICC = intraclass correlation coefficient

PROMIS = Patient-Reported Outcomes Measurement Information System

Supplemental Table VI. Categorical confirmatory factor analysis modeling results using cross-sectional data

Domain Measure*	# items	CFI	TLI	RMSEA	WRMR
Ability to Engage in Social Roles and Activities	6	0.99	0.98	0.14	0.93
Anxiety	5	0.99	0.98	0.08	0.55
Depression	6	0.99	0.99	0.11	0.74
Dyspnea	10	0.98	0.97	0.11	1.33
Fatigue	11	0.89	0.86	0.21	2.38
Illness Burden	4	0.99	0.98	0.12	0.45
Physical Function	10	0.91	0.89	0.19	2.26
Satisfaction with Social Roles and Activities	6	0.97	0.96	0.17	1.27
Sleep Disturbance	6	0.92	0.86	0.31	2.78

*Only domains with four or more items were analyzed

CFI = Comparative Fit Index

RMSEA = Root Mean Square Error for Approximation

TLI = Tucker-Lewis Index

WRMR = Weighted Root Mean Square Residual

Supplemental Table VII. Differential item functioning results using cross-sectional data

Domain Measure*	# items	DIF by Sex (Male vs. Female)	DIF by Age (≤55 vs. >55)	DIF by Education (completed college or not)
Ability to Engage in Social Roles and Activities	6	No	No	No
Anxiety	5	No	No	No
Depression	6	No	No	No
Dyspnea	10	No	No	No
Fatigue	11	No	No	No
Illness Burden	4	No	No	No
Physical Function	10	No	No	No
Satisfaction with Social Roles and Activities	6	No	No	No
Sleep Disturbance	6	No	No	No

“No” indicates that there was no impactful DIF

*Only domains with four or more items were analyzed

DIF = Differential Item Functioning

Supplemental Table VIII. ANOVA of PROMIS domains by PROMIS Global Health Physical (Low vs. High) using cross-sectional data

Domain Measure	GH Physical Group	N	Mean	SD	95% CI for Mean		ANOVA p value	Result Interpretation
					Lower Bound	Upper Bound		
PHYSICAL								
Dyspnea	Low	168	28.76	6.38	27.79	29.73	<.001	High GH Physical = better domain status
	High	115	17.27	6.24	16.12	18.42		
Fatigue	Low	174	38.05	6.91	37.01	39.08	<.001	High GH Physical = better domain status
	High	116	24.64	6.35	23.47	25.81		
Health Behavior Outcomes	Low	174	9.56	2.12	9.25	9.88	0.226	No group difference
	High	116	9.94	3.17	9.36	10.52		
Pain Interference	Low	174	6.41	1.74	6.15	6.67	<.001	High GH Physical = better domain status
	High	116	3.83	1.71	3.51	4.14		
Physical Function	Low	174	27.82	6.60	26.83	28.80	<.001	High GH Physical = better domain status
	High	116	40.50	6.89	39.23	41.77		
Sleep Disturbance	Low	174	19.55	4.92	18.81	20.28	<.001	High GH Physical = better domain status
	High	114	13.55	4.94	12.64	14.47		
Symptoms	Low	174	9.22	2.11	8.91	9.54	<.001	High GH Physical = better domain status
	High	115	5.63	2.31	5.21	6.06		
MENTAL								
Anger	Low	174	3.59	1.06	3.43	3.75	<.001	High GH Physical = better domain status
	High	116	2.27	1.12	2.06	2.47		
Anxiety	Low	174	16.26	4.25	15.63	16.90	<.001	High GH Physical = better domain status
	High	116	10.11	3.99	9.38	10.85		
Cognitive Abilities	Low	174	8.92	2.17	8.60	9.24	<.001	High GH Physical = better domain status
	High	116	10.28	3.10	9.71	10.85		
Cognitive Function	Low	174	8.66	3.01	8.20	9.11	<.001	High GH Physical = better domain status
	High	116	12.41	2.18	12.00	12.81		
Depression	Low	174	18.71	4.90	17.98	19.45	<.001	High GH Physical = better domain status
	High	116	10.92	4.70	10.06	11.79		
Illness Burden	Low	174	12.64	3.99	12.04	13.23	<.001	

	High	115	8.81	3.63	8.14	9.48		High GH Physical = better domain status
Life Satisfaction	Low	174	4.95	1.47	4.73	5.17	<.001	High GH Physical = better domain status
	High	116	7.28	1.95	6.93	7.64		
SOCIAL								
Ability to Engage in SR&A	Low	174	15.31	4.65	14.61	16.01	<.001	High GH Physical = better domain status
	High	116	22.50	4.84	21.61	23.39		
Independence	Low	174	7.80	2.49	7.43	8.18	<.001	High GH Physical = better domain status
	High	116	11.51	2.43	11.06	11.96		
Satisfaction with SR&A	Low	174	15.62	4.82	14.90	16.34	<.001	High GH Physical = better domain status
	High	116	22.78	4.75	21.90	23.65		
Social Isolation	Low	174	6.73	1.64	6.48	6.98	<.001	High GH Physical = better domain status
	High	116	4.30	1.72	3.99	4.62		

ANOVA = Analysis of Variance

CI = Confidence Interval

GH = PROMIS Global Health

PROMIS = Patient-Reported Outcomes Measurement Information System

SD = Standard Deviation

SR&A = Social Roles and Activities

Supplemental Table IX. ANOVA of PROMIS domains by PROMIS Global Health Mental (Low vs. High) using cross-sectional data

Domain Measure	GH Mental Group	N	Mean	SD	95% CI for Mean		ANOVA p value	Result Interpretation
					Lower Bound	Upper Bound		
PHYSICAL								
Dyspnea	Low	201	27.55	6.56	26.63	28.46	<.001	High GH Mental = better domain status
	High	140	19.55	7.01	18.38	20.72		
Fatigue	Low	207	36.67	7.15	35.69	37.65	<.001	High GH Mental = better domain status
	High	143	27.45	7.84	26.15	28.74		
Health Behavior Outcomes	Low	207	9.43	2.06	9.14	9.71	<.001	High GH Mental = better domain status
	High	143	10.46	2.81	10.00	10.93		
Pain Interference	Low	207	6.14	1.80	5.89	6.39	<.001	High GH Mental = better domain status
	High	143	4.27	1.92	3.95	4.58		
Physical Function	Low	207	29.00	6.96	28.05	29.95	<.001	High GH Mental = better domain status
	High	143	37.90	7.24	36.70	39.09		
Sleep Disturbance	Low	206	19.21	4.76	18.56	19.87	<.001	High GH Mental = better domain status
	High	142	14.56	5.42	13.66	15.46		
Symptoms	Low	207	8.94	2.18	8.64	9.24	<.001	High GH Mental = better domain status
	High	142	6.46	2.57	6.03	6.88		
MENTAL								
Anger	Low	207	3.54	1.04	3.39	3.68	<.001	High GH Mental = better domain status
	High	143	2.47	1.16	2.28	2.66		
Anxiety	Low	207	15.77	4.36	15.18	16.37	<.001	High GH Mental = better domain status
	High	143	11.24	4.33	10.52	11.95		
Cognitive Abilities	Low	207	8.91	2.19	8.61	9.21	<.001	High GH Mental = better domain status
	High	143	10.33	3.02	9.83	10.83		
Cognitive Function	Low	207	8.64	2.97	8.24	9.05	<.001	High GH Mental = better domain status
	High	143	12.10	2.53	11.69	12.52		
Depression	Low	207	18.96	4.96	18.28	19.64	<.001	High GH Mental = better domain status
	High	143	11.24	4.80	10.45	12.04		
Illness Burden	Low	207	12.67	3.94	12.13	13.21	<.001	

	High	142	9.18	3.57	8.59	9.78		High GH Mental = better domain status
Life Satisfaction	Low	207	5.03	1.48	4.83	5.23	<.001	High GH Mental = better domain status
	High	143	7.18	1.86	6.87	7.49		
SOCIAL								
Ability to Engage in SR&A	Low	207	15.98	4.95	15.30	16.65	<.001	High GH Mental = better domain status
	High	143	20.90	5.15	20.05	21.75		
Independence	Low	207	8.16	2.42	7.83	8.50	<.001	High GH Mental = better domain status
	High	143	10.87	2.68	10.42	11.31		
Satisfaction with SR&A	Low	207	15.92	4.88	15.25	16.59	<.001	High GH Mental = better domain status
	High	143	21.85	4.68	21.08	22.63		
Social Isolation	Low	207	6.57	1.66	6.35	6.80	<.001	High GH Mental = better domain status
	High	143	4.81	1.89	4.50	5.12		

CI = Confidence Interval

GH = PROMIS Global Health

PROMIS = Patient-Reported Outcomes Measurement Information System

SD = Standard Deviation

SR&A = Social Roles and Activities

Supplemental Table X. Confirmatory measure statistics using baseline data from 185 participants in the longitudinal sample

Domain Measure	N	Missing	Mean	Median	SD	Skewness	Kurtosis	Observed	
								Minimum	Maximum
PHYSICAL									
Dyspnea	155	30	26.15	26.0	9.35	-0.12	-1.23	10	40
Fatigue	175	10	37.40	37.0	9.23	-0.23	-0.51	16	55
Health Behavior Outcomes	180	5	10.73	11.0	2.66	-0.37	0.16	3	15
Pain Interference	179	6	5.22	5.0	2.45	0.17	-1.03	2	10
Physical Function	177	8	28.58	27.0	9.53	0.26	-0.82	10	49
Sleep Disturbance	180	5	19.33	19.0	6.43	-0.10	-0.89	6	30
Symptoms	180	5	8.03	8.0	2.88	0.34	-0.38	3	15
MENTAL									
Anger	181	4	3.34	3.0	1.11	-0.29	-0.39	1	5
Anxiety	179	6	13.41	13.0	4.58	0.43	-0.31	5	25
Cognitive Abilities	181	4	10.31	10.0	2.73	-0.08	-0.31	3	15
Cognitive Function	182	3	10.93	12.0	3.28	-0.59	-0.51	3	15
Depression	178	7	13.98	13.5	5.75	0.53	-0.37	6	30
Illness Burden	181	4	9.52	9.0	4.02	0.67	-0.02	4	20
Life Satisfaction	181	4	5.93	6.0	2.07	0.22	-0.70	2	10
SOCIAL									
Ability to Participate in SR&A	175	10	16.62	18.0	6.01	-0.07	-0.65	6	30
Independence	181	4	8.73	9.0	3.37	-0.07	-0.90	3	15
Satisfaction with SR&A	179	6	17.20	17.0	6.16	0.38	-0.66	6	30
Social Isolation	179	6	5.67	6.0	2.03	0.03	-0.40	2	10

PROMIS = Patient-Reported Outcomes Measurement Information System, SD = Standard Deviation, SR&A = Social Roles and Activities.

Supplemental Table XI. Confirmatory internal consistency reliability testing of the PROMIS-Plus-HF measure using baseline data from 185 participants in the longitudinal sample

Domain Measure	# items	alpha	<u>Inter-item Correlation</u>			<u>Item-adjusted Total Correlation</u>	
			Average	Min	Max	Min	Max
PHYSICAL							
Dyspnea	10	0.96	0.68	0.34	0.88	0.66	0.88
Fatigue	11	0.93	0.57	0.30	0.80	0.57	0.83
Health Behavior Outcomes	3	0.67	0.42	0.23	0.57	0.38	0.64
Pain Interference	2	0.88	0.79	0.79	0.79	0.79	0.79
Physical Function	10	0.92	0.55	0.35	0.79	0.58	0.78
Sleep Disturbance	6	0.93	0.70	0.58	0.89	0.72	0.88
Symptoms	3	0.62	0.37	0.23	0.53	0.33	0.55
MENTAL							
Anger	1						
Anxiety	5	0.78	0.42	0.27	0.54	0.48	0.66
Cognitive Abilities	3	0.63	0.39	0.14	0.73	0.23	0.66
Cognitive Function	3	0.90	0.75	0.73	0.76	0.79	0.81
Depression	6	0.92	0.66	0.54	0.81	0.71	0.84
Illness Burden	4	0.80	0.51	0.36	0.67	0.53	0.74
Life Satisfaction	2	0.68	0.53	0.53	0.53	0.53	0.53
SOCIAL							
Ability to Engage in Social Roles and Activities	6	0.94	0.73	0.60	0.90	0.74	0.91
Independence	3	0.74	0.49	0.39	0.58	0.50	0.64

Satisfaction with Social Roles and Activities	6	0.88	0.54	0.32	0.71	0.46	0.76
Social Isolation	2	0.68	0.52	0.52	0.52	0.52	0.52

Alpha = Cronbach's alpha

Supplemental Table XII. Confirmatory convergent validity testing using Pearson *r* and Spearman *rho* Correlations with baseline data from 185 participants in the longitudinal sample

Measures	Pearson <i>r</i>/Spearman <i>rho</i> coefficients[†]
Physical Function* and KCCQ: Physical Limitation	0.74/0.72
Symptoms* and KCCQ: Symptom Severity	-0.60/-0.61
Life Satisfaction* and KCCQ: Quality of Life	0.59/0.61
Satisfaction with SR&A* and KCCQ: Social Limitation	0.64/0.61
Ability to Engage in SR&A* and KCCQ: Social Limitation	0.63/0.59

* Domains from the PROMIS-Plus-HF profile measure

[†] We defined expected convergent validity as *r* or *rho* > 0.60.

SR&A = Social Roles and Activities

KCCQ = Kansas City Cardiomyopathy Questionnaire

Supplemental Table XIII. Confirmatory divergent validity testing using Pearson *r* and Spearman *rho* Correlations with baseline data from 185 participants in the longitudinal sample

Measures	Pearson <i>r</i> /Spearman <i>rho</i> coefficients				
	Physical Function*	Life Satisfaction*	Satisfaction with SR&A*	Ability to Engage in SR&A*	Symptoms*
KCCQ: Self-Efficacy	0.20/0.24	0.23/0.27	0.21/0.19	0.13/0.12	-0.23/.0.22

* Domains from the PROMIS-Plus-HF profile measure

† We defined expected divergent validity as *r* or *rho* < 0.3.

SR&A = Social Roles and Activities

KCCQ = Kansas City Cardiomyopathy Questionnaire

Supplemental Table XIV. ANOVA of PROMIS domains by PROMIS Global Health Physical (Low vs. High) using baseline data from 185 participants in the longitudinal sample

Domain Measure	GH Physical Group	N	Mean	SD	95% CI for Mean		ANOVA p value	Result Interpretation
					Lower Bound	Upper Bound		
PHYSICAL								
Dyspnea	Low	63	30.28	8.18	28.22	32.34	<.001	High GH Physical = better domain status
	High	38	19.32	9.16	16.31	22.33		
Fatigue	Low	80	42.68	7.34	41.04	44.31	<.001	High GH Physical = better domain status
	High	40	28.43	8.11	25.83	31.02		
Health Behavior Outcomes	Low	82	10.61	2.73	10.01	11.21	0.426	No group difference
	High	40	11.05	3.11	10.05	12.05		
Pain Interference	Low	82	6.41	2.21	5.93	6.90	<.001	High GH Physical = better domain status
	High	39	3.38	1.84	2.79	3.98		
Physical Function	Low	82	23.40	7.73	21.70	25.10	<.001	High GH Physical = better domain status
	High	37	38.76	7.01	36.42	41.09		
Sleep Disturbance	Low	82	22.04	5.34	20.86	23.21	<.001	High GH Physical = better domain status
	High	40	14.40	5.86	12.53	16.27		
Symptoms	Low	82	9.07	2.77	8.47	9.68	<.001	High GH Physical = better domain status
	High	40	6.43	2.24	5.71	7.14		
MENTAL								
Anger	Low	81	3.88	0.90	3.68	4.08	<.001	High GH Physical = better domain status
	High	40	2.45	0.99	2.13	2.77		
Anxiety	Low	81	15.47	4.54	14.47	16.47	<.001	High GH Physical = better domain status
	High	39	10.18	3.51	9.04	11.32		
Cognitive Abilities	Low	82	9.41	2.40	8.89	9.94	<.001	High GH Physical = better domain status
	High	39	11.59	2.81	10.68	12.50		
Cognitive Function	Low	82	9.50	3.47	8.74	10.26	<.001	High GH Physical = better domain status
	High	40	12.43	2.70	11.56	13.29		
Depression	Low	81	16.47	6.02	15.14	17.80	<.001	High GH Physical = better domain status
	High	38	10.55	4.15	9.19	11.92		
Illness Burden	Low	81	10.74	4.27	9.80	11.68	<.001	

	High	40	7.53	3.07	6.54	8.51		High GH Physical = better domain status
Life Satisfaction	Low	81	4.81	1.64	4.45	5.18	<.001	High GH Physical = better domain status
	High	40	7.95	1.62	7.43	8.47		
SOCIAL								
Ability to Engage in SR&A	Low	80	13.53	5.48	12.30	14.75	<.001	High GH Physical = better domain status
	High	36	21.72	5.26	19.94	23.50		
Independence	Low	82	7.20	3.19	6.49	7.90	<.001	High GH Physical = better domain status
	High	39	11.21	2.71	10.33	12.08		
Satisfaction with SR&A	Low	80	13.53	4.46	12.53	14.52	<.001	High GH Physical = better domain status
	High	40	23.50	5.47	21.75	25.25		
Social Isolation	Low	82	6.55	1.98	6.11	6.98	<.001	High GH Physical = better domain status
	High	39	4.05	1.65	3.52	4.59		

ANOVA = Analysis of Variance

CI = Confidence Interval

GH = PROMIS Global Health

PROMIS = Patient-Reported Outcomes Measurement Information System

SD = Standard Deviation

SR&A = Social Roles and Activities

Supplemental Table XV. ANOVA of PROMIS domains by PROMIS Global Health Mental (Low vs. High) using baseline data from 185 participants in the longitudinal sample

Domain Measure	GH Mental Group	N	Mean	SD	95% CI for Mean		ANOVA p value	Result Interpretation
					Lower Bound	Upper Bound		
PHYSICAL								
Dyspnea	Low	33	30.54	7.95	27.72	33.35	<.001	High GH Mental = better domain status
	High	52	22.97	9.61	20.30	25.65		
Fatigue	Low	41	44.12	7.10	41.88	46.36	<.001	High GH Mental = better domain status
	High	57	30.61	8.23	28.43	32.80		
Health Behavior Outcomes	Low	42	10.45	2.96	9.53	11.38	0.182	No group difference
	High	57	11.21	2.62	10.51	11.91		
Pain Interference	Low	42	6.81	2.11	6.15	7.47	<.001	High GH Mental = better domain status
	High	57	4.11	2.20	3.52	4.69		
Physical Function	Low	42	24.00	7.89	21.54	26.46	<.001	High GH Mental = better domain status
	High	57	32.91	10.00	30.26	35.57		
Sleep Disturbance	Low	42	23.31	5.23	21.68	24.94	<.001	High GH Mental = better domain status
	High	58	15.28	6.25	13.63	16.92		
Symptoms	Low	42	9.62	3.02	8.68	10.56	<.001	High GH Mental = better domain status
	High	58	6.71	2.51	6.05	7.37		
MENTAL								
Anger	Low	42	4.31	0.72	4.09	4.53	<.001	High GH Mental = better domain status
	High	58	2.72	1.04	2.45	3.00		
Anxiety	Low	42	17.36	3.88	16.15	18.56	<.001	High GH Mental = better domain status
	High	57	10.89	3.79	9.89	11.90		
Cognitive Abilities	Low	42	8.98	2.33	8.25	9.70	<.001	High GH Mental = better domain status
	High	57	11.25	2.79	10.50	11.99		
Cognitive Function	Low	42	8.29	3.34	7.25	9.33	<.001	High GH Mental = better domain status
	High	58	12.40	2.41	11.76	13.03		
Depression	Low	42	19.52	5.07	17.94	21.10	<.001	High GH Mental = better domain status
	High	57	10.33	3.95	9.28	11.38		
Illness Burden	Low	42	11.67	4.22	10.35	12.98	<.001	

	High	58	7.67	3.18	6.84	8.51		High GH Mental = better domain status
Life Satisfaction	Low	42	4.38	1.36	3.96	4.80	<.001	High GH Mental = better domain status
	High	58	7.19	1.92	6.68	7.70		
SOCIAL								
Ability to Engage in SR&A	Low	42	11.69	5.13	10.09	13.29	<.001	High GH Mental = better domain status
	High	55	20.38	5.22	18.97	21.79		
Independence	Low	42	6.76	2.95	5.84	7.68	<.001	High GH Mental = better domain status
	High	57	9.86	2.92	9.09	10.63		
Satisfaction with SR&A	Low	42	12.40	4.70	10.94	13.87	<.001	High GH Mental = better domain status
	High	57	21.95	5.53	20.48	23.42		
Social Isolation	Low	42	7.24	2.06	6.60	7.88	<.001	High GH Mental = better domain status
	High	57	4.47	1.73	4.01	4.93		

CI = Confidence Interval

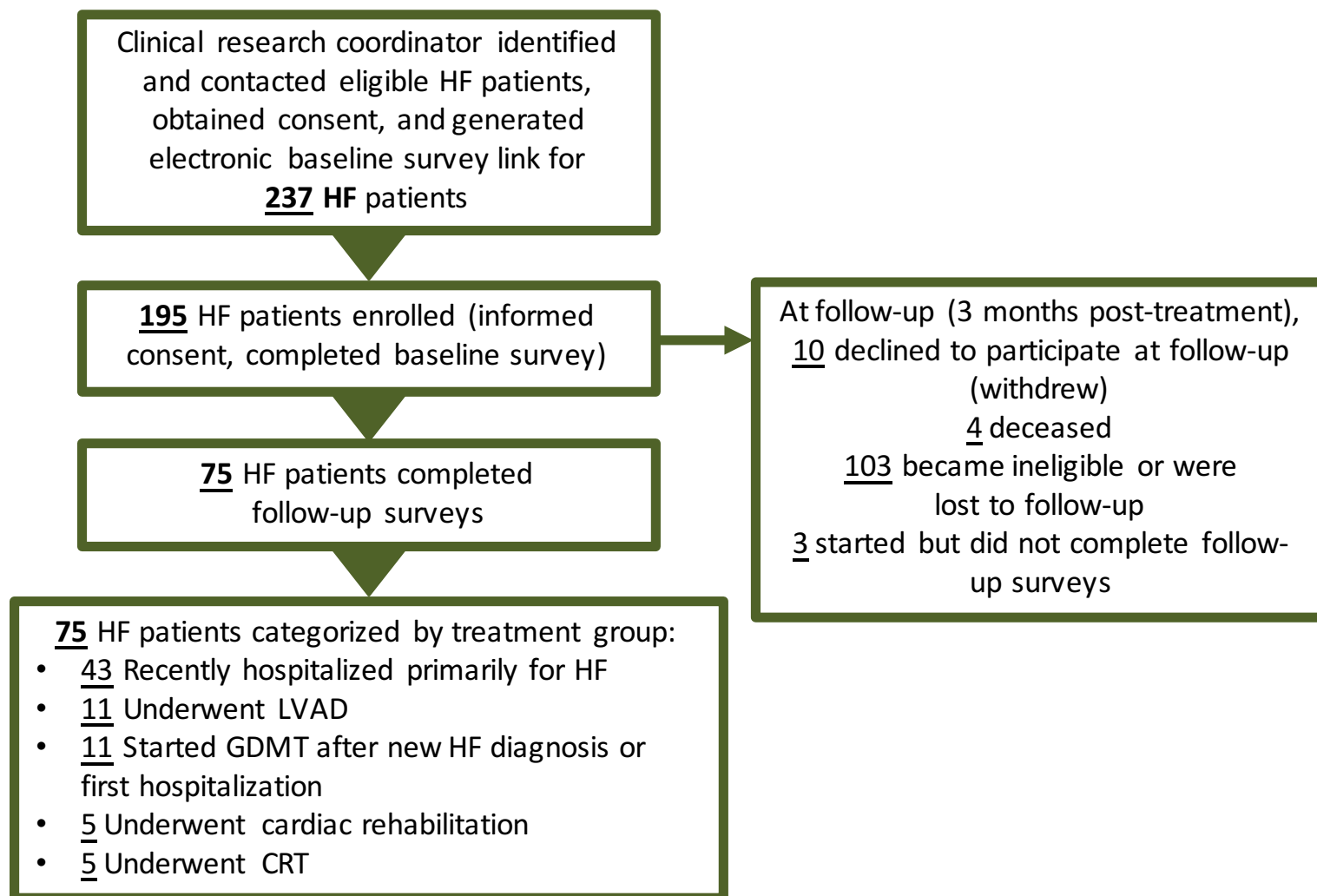
GH = PROMIS Global Health

PROMIS = Patient-Reported Outcomes Measurement Information System

SD = Standard Deviation

SR&A = Social Roles and Activities

Supplemental Figure 1. Flow diagram for longitudinal sample



* Verbal or written consent, depending on the Internal Review Board of record.

CRT = Cardiac resynchronization therapy; GDMT = Guideline-directed medical therapy; HF = Heart failure; LVAD = Left ventricular assist device

Patient Focus Group Guide

(Bold type = Instructions for moderator or observer, not to be read aloud)

A. WELCOME

As participants arrive, invite them to pick up their name tent, help themselves to refreshments and have a seat. Ask them to complete consent form and participant information sheet (i.e., demographics). Collect forms before Introduction.

B. INTRODUCTION

MODERATOR: “I’d like to welcome you to this focus group session. My name is _____. I’ll be leading our discussion today.” **(Moderator says a little more about who she is and introduces anyone assisting her.)**

C. STUDY INFORMATION SHEET (OPTIONAL)

MODERATOR: “Ok, before we get started, I want to make sure everyone received a focus group information sheet. This describes what this focus group is about, and what your participation entails. Are there any questions about this information?”

Answer any question.

E. GROUND RULES FOR DISCUSSION

MODERATOR: “Before we get started, I would like to go over a few ground rules for our discussion:

1. You are the experts and we would like to know what YOU think. There are no right or wrong answers. It is OK to have a different opinion from others. Different opinions can be helpful to us understand multiple perspectives.
2. You don’t need to answer any questions you don’t want to. Your participation today is voluntary.
3. I’d like to turn on the voice recorder to make sure that we can accurately record what you say today. This information will not be matched to your actual name when it is typed. To help us keep track of the different voices, please say your name each time you speak. The name will not be transcribed – we will just use it to help us differentiate voices. The recording will be transcribed and reviewed by the researchers of this project. Later the tape will be erased. Is it OK with you if I record today’s session? I have two recorders

here – one is a backup. Now I am going to turn on the recorders. **[turn on recorders.]** I have just turned on the recorders – to repeat, is it OK if I record our session today? **[record voices saying yes].** Thank you.

5. The bathroom is located _____. If you have other needs, like if the room becomes too warm or too cold, please let us know. We will end at _____ today. Do you have any questions before we get started?

F. ICE BREAKER

Let's start by going around the room and saying your name and say one thing about this item. **[pass out item – a photo of nature or actual pieces of nature (pebble, leaf, twig)]** There are no right or wrong answers, just something that comes to mind.

G. QUESTIONS

1) We are here to learn from you what it is like to have your condition (OA-K/heart failure). Let's each write down how your life has changed since you began to have symptoms related to your condition (OA-K/heart failure). What you write about is up to you. It could include how having your condition has affected you physically, emotionally, socially, or with regard to how you function – at home and/or at work. I will give a few minutes for everyone to do some writing, and then you will have the choice of sharing what you wrote.

- Please take 5 minutes to think about this and write down how your life has changed.
- (Allow time)
- Who would like to share first?
- *Probing questions:* Can you give me an example? Can you explain this more? Have others experienced the same situation? Are there other things that come to mind?
- What would you say changed the most since developing your condition?
- (Additional question for OA-K group that has had surgery) What changed the most since having your surgery for better or worse?
- **Observer will keep track of domains (physical, emotional, social, cognitive, work life) and sub-topics using checklist below. Will share with Moderator after Question #2 for further exploration with participants.**

- **Note: if respondents begin to discuss issues related to healthcare experience (e.g., medication cost, access to care, communication with physician), please redirect conversation back to non-healthcare system issues.**

2) **Ask each participant to respond to following:** Given all the areas we have discussed, what would you say is your top, most important concern related to having your condition and why is it your top concern?

3) We've heard about ___ and _____. How about _____?

Moderator will use checklist to decide on areas to cover in more depth

Preface areas with something like: Others with HF/OA-K have talked about (fill in the blank). What has been your experience with this or thoughts about this?

4) **Ask each person:** We've now discussed many other experiences or concerns. Earlier we heard about everyone's top / major concern. Now I'm interested to know if you still have the same top concern or is it different and why?

5) Thinking about all of the topic areas we have discussed today, do you want to add any other thoughts or comments?

6) Now we are going to do several things on paper. We have given you two forms. On the first form, titled "Focus Groups: Additional Comments" please add any other final thoughts or comments that you may have that you would rather not share with the group today. These can be things that you have experienced that would be helpful for us to know about to better understand the symptoms related to your condition. What you write is up to you. It is OK to leave the paper blank. When you are done, please fold it in half and raise your hand and we will collect it and review at a later time. It will not be discussed today.

On the second piece of paper, please think of one goal you have related to your condition that is important for you to achieve. This might be a long or short term goal. Please write your goal in the space provided.

Moderator will ask the following after everyone has completed both pieces of paper

Do you think it would be helpful to discuss this kind of goal with your doctor? Why or why not?

7) Lastly, we have shared a packet with you. On each page, you will see a domain (e.g., physical function) with a list of items/activities related to the domain. We would like to know how important the items/activities are to you as someone with [heart failure/osteoarthritis].

Please complete two steps: First, in the column labeled Top 10, please put an “X” next to the items that are most important to you. You may select up to 10 items. Next, please review the items you selected and put an “X” in the column labeled Top 5 for the 5 that are the very most important to you as someone with [heart failure/osteoarthritis].

When you have finished, please bring your packet to **[gesture to location]** and we will give you your thank you gift at that time. If you have any questions, please don’t hesitate to ask.

Thank you so much! Your input today has been extremely helpful.

PCORI Patient Focus group checklist: Check in box as topics are covered. Consider if topic has been discussed to sufficient degree—check box if “yes”

Physical

	Covered	Sufficient time spent on topic?	Follow-up questions needed/suggested
Ability to move around (e.g., walking climbing ladder, etc.)			
Activities that require strength (e.g., carrying things)			
Routine daily activities/self-care (e.g., showering, etc.)			
Exercise or sports activities			
Fatigue/tiredness			
Pain (severity)			
Pain (limitations)			
Sleep (quality, quantity)			
Other			

PCORI Patient Focus group checklist: Check in box as topics are covered. Consider if topic has been discussed to sufficient degree—check box if “yes”

Emotional

	Covered	Sufficient time spent on topic?	Follow-up questions needed/suggested
Sadness/depression			
Worry/anxiety			
Frustration			
Fatigue/tiredness			
Dependency			
Self-worth/self-esteem			
Other			

PCORI Patient Focus group checklist: Check in box as topics are covered. Consider if topic has been discussed to sufficient degree—check box if “yes”

Social

	Covered	Sufficient time spent on topic?	Follow-up questions needed/suggested
Ability to socialize/visit with family, friends, co-workers			
Relationship with partner (may include love life/sexual functioning)			
Satisfaction with socialization			
Isolation			
Dependency			
Ability to travel (local or long distance)			
Interest in hobbies, job, etc.			
Other			

PCORI Patient Focus group checklist: Check in box as topics are covered. Consider if topic has been discussed to sufficient degree—check box if “yes”

Cognitive

	Covered	Sufficient time spent on topic?	Follow-up questions needed/suggested
Memory			
Ability to think clearly			
Ability to think quickly			
Fatigue/tiredness			
Other			

PCORI Patient Focus group checklist: Check in box as topics are covered. Consider if topic has been discussed to sufficient degree—check box if “yes”

Work

	Covered	Sufficient time spent on topic?	Follow-up questions needed/suggested
Routine tasks			
Inability to work			
Employer/colleague response			
Other			

Provider Interview Guide

(**Bold type = Instructions for moderator or observer, not to be read aloud**)

Assume that the rating scales for providers who agree to be interviewed will be conducted via an online survey platform prior to the interview. If the provider has not completed this by the time of the interview and the interview is being conducted in person, then the interviewer will bring along a paper copy of the instrument in hopes of having the provider fill it out then. If the interview is being conducted over the phone and the provider has not yet completed the instrument, then the interviewer will remind them to please complete the ratings.

Thank you for agreeing to share your expertise on (OA-K/heart failure). Specifically, we are interested in knowing your thoughts about the impact of this condition on patients' lives.

Intro researcher

Permission to Record -- Assure Confidentiality

- 1) To begin, could you share a bit about your background related to caring for patients with (OA-K/heart failure)?
- 2) How long have you been treating patients with osteoarthritis/heart failure?
- 3) Approximately how many OA-K/Heart failure patients do you see per month?
- 4) Thinking about your patients with (OA-K/heart failure) what would you say are the primary ways in which their daily lives change after developing the condition? This could include how their condition affects them physically, emotionally, socially, or how it impacts their ability to function at home and/or at work. Please list any that you can think of for these patients.
 - Are these different for different patients? In what ways?
 - **For OA-K providers if they don't say:** What would you say are the primary ways their life changes after treatment, such as surgery, particularly during the months just after surgery?
- 3) From your experience, which of the changes that you talked about are most concerning for patients?
 - Are these different for different patients? In what ways?
- 4) As a provider, what patient concerns or daily life changes are most important for you or your healthcare team to know about when caring for these patients?