Online Supplement

BETH ISRAEL DEACONESS MEDICAL CENTER INTERVENTION SUPPLEMENTAL INFORMATION:

eFigure 1: Sample Script and Frequently Asked Questions Used in Training Staff

Sample Scripts for PROMs Administration

"Hi, (name). In order for the doctor to know how you feel after this procedure, we would like you to fill out this brief questionnaire about how you are feeling today. We will contact you by phone or e-mail again later to see how your symptoms change over time. You can read more about this initiative on the first page of the questionnaire."

Frequently Asked Questions from Patients

Q: What is this questionnaire?
A: It is a way for you to provide patient reported outcomes about your chest pain and shortness of breath symptoms. This information isn't routinely collected, so often your doctor doesn't know if your procedure actually helped your symptoms after you leave the hospital.

Q: How long will this questionnaire take to complete?
A. The questionnaire takes about 5 minutes to complete.

Q: Do I have to complete this questionnaire?
A: You can choose not to, but it would be very helpful to us if you do complete it. It is a priority here at BIDMC to make sure that we are providing the best care we can to our patients, and this will help us evaluate ourselves and how we can best improve.

Q: Will I be contacted if I provide my e-mail address and phone number?
A: Yes, you will be contacted after 1 month, 6 months, and 1 year by e-mail or phone to follow-up on how your symptoms have changed. Your contact information will only be used for this purpose.

Q: How often will I be contacted about this study?
A: You will be contacted after 1 month, 6 months, and 1 year by e-mail or phone to follow-up on how your symptoms have changed since your procedure by asking the same questions.

Q: Will this information be available to my doctor?
A: Yes, this will become a part of your medical record, so your doctor will have access to this information.

Q: Will my personal information be shared with anyone?
A: No, your information will only be used to evaluate the effectiveness of the procedure you are having on your symptoms, and will only be shared with those who are already accessing your medical record.

Q: What is PatientSite?

A: PatientSite is a free website where you can manage your health care any time of day or night, whether it's from a smartphone, tablet or home computer. It is a confidential website for you to view your medical records, e-mail your clinicians' offices, request or cancel appointments, request prescription refills, update registration information and more.

Q: My PCP is not at BIDMC, should I still sign up for PatientSite?
A: Yes, you can sign up and enter Dr. Robert Yeh as your provider. In the future, these types of questionnaires may be answered before your visit through links provided in PatientSite.

Notes

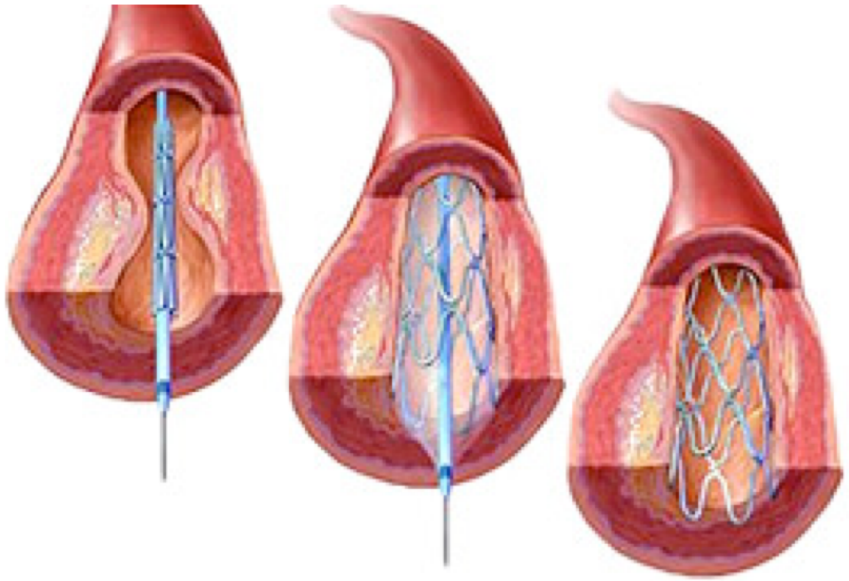
- The survey contains a cover sheet with the details about what information we are collecting and why we are collecting it.
- The survey takes about 3-5 minutes to complete, and can be done independently or with the help of a family member.
- **Reception area staff** will administer iPad surveys to elective patients who arrive through the waiting room.
- **Holding area staff** will administer the iPad survey to non-urgent patients arriving directly to the holding area as inpatients or transfers.
- **After a patient completes the survey,** collect the iPad, make sure the internet browser is closed, wipe the iPad with a germicidal wipe, and return the iPad to the configurator cart for storage.
- **Reception area staff** will be responsible for reconfiguring the iPads at the end of each day to wipe all data from the device.
- If there are any problems with the iPad (e.g. wifi connectivity), give the patient the option to complete the survey using their own device. Short URLs will be provided on laminated cards.

eFigure 2: Powerpoint Document Used for Training Staff

(Please refer to following page for slides)

Treatment of Coronary Artery Disease Often Includes Angioplasty and Stenting

- Angioplasty and stent placement (percutaneous coronary intervention) performed in nearly ~1 million pts each year.
- > 1000 each year at BIDMC.
- 50% are in heart attack patients, 50% are in the elective setting.



Elective PCI Has One Proven Benefit

- Elective PCI reduces angina compared to medical therapy, but does not decrease the risk of death or future heart attack.

- Any assessment of whether we are effectively treating these patients depends on systematically understanding the level of anginal improvement after PCI.

Few, if any, physicians and institutions systematically collect information on angina before and after cardiac procedures

Central Questions That We Should Understand About Our Patients

- Are patients who undergo elective PCI at BIDMC having improvement in their angina? To what extent? Who are the ones who improve the most or the least?
- Does a physician's report of a patient's symptoms match the patient's report?

- **Problem**: Patient reported symptoms after PCI are rarely measured in a rigorous, standardized way

Innovation Grant

- Innovation Grant awarded to Smith Center from Center for Healthcare Delivery Sciences to begin collection of PROMs in the cardiac cath lab among elective patients

Team

- **PI**: Robert Yeh, MD, MSc, MBA, Director, Smith Center for Outcomes Research in Cardiology
- **Co-Investigator**: Jordan Strom, MD
- **Research Assistant**: Linda Valsdottir, MS
- **Smith Center Manager**: Joanne Healy, MBS

Goal of Innovation Grant

- To implement a program to collect patient-reported outcomes related to angina and dyspnea on patients undergoing elective cath
  - Prior to procedure on iPad
  - Follow up 30 days, 6 months and 1 year after procedure – email via REDCap backed up by telephone call

Validated Measures

Standardized Outcome Measurement for Patients With Coronary Artery Disease: Consensus From the International Consortium for Health Outcomes Measurement (ICHOM)

Robert L. McNamara, MD, MHS;* Erica S. Spatz, MD, MHS;* Thomas A. Kelley, MD, MBA; Caleb J. Stowell, MD; John Beltrame, MD, PhD; Paul Heidenreich, MD, MS; Ricard Tresserras, MD, PhD, MPH; Tomas Jernberg, MD, PhD; Terrance Chua, MD; Louise Morgan, MSN; Bishnu Panigrahi, MD; Alba Rosas Ruiz, PhB, MPharm; John S. Rumsfeld, MD, PhD; Lawrence Sadwin, BS; Mark Schoeberl, MPA; David Shahian, MD; Clive Weston, MD; Robert Yeh, MD, MBA; Jack Lewin, MD

Patient- reported health status (All)	Angina, dyspnea, depression, functional status, health-related quality of life	SAQ-7, PHQ-2, Rose Dyspnea	30 days+then annually to 5 years after index event	Patient reported

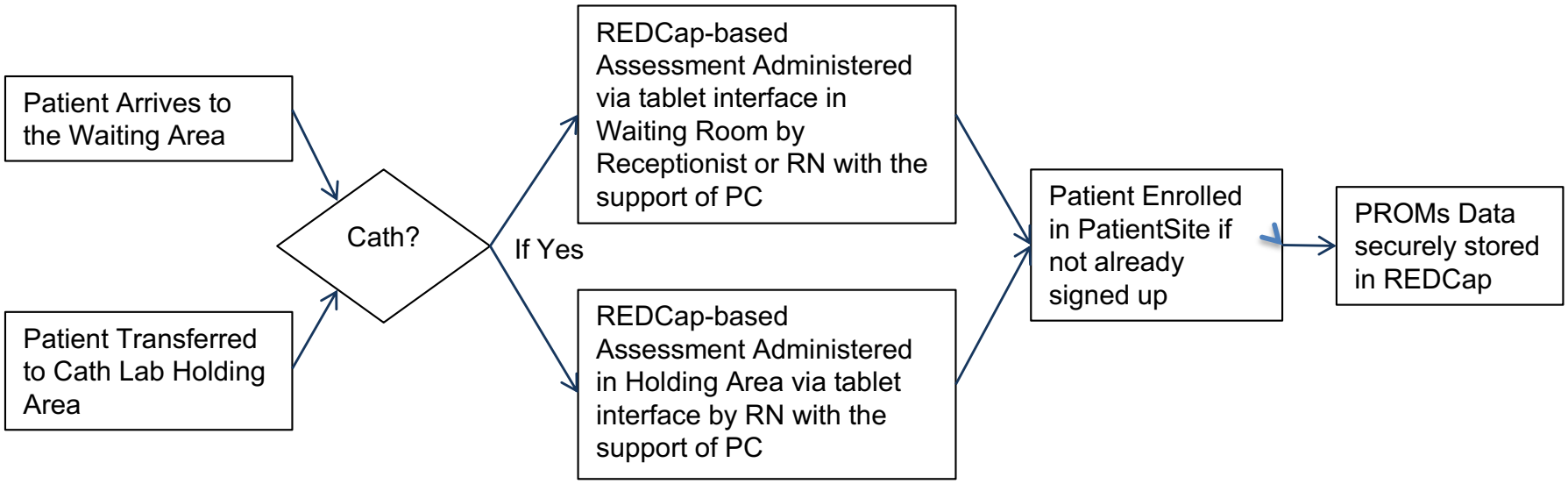
Seattle Angina Questionnaire – Short Form 7
Patient Health Questionnaire – screens for depression using 2 simple questions
Rose Dyspnea Scale – assesses shortness of breath with 4 simple questions

Journal of the American Heart Association, 2015.

Value for Clinicians and Patients

- Show clinicians how PROMs can *save time and improve care*
- Make PROMs *actionable* – give clinicians insight into a patient's symptoms and quality of life before and after treatment
- *Focus on the patient* - help patients see how PROMs improve their care

Workflow


Patient Arrives to the Waiting Area
Patient Transferred to Cath Lab Holding Area
Cath?
If Yes
REDCap-based Assessment Administered via tablet interface in Waiting Room by Receptionist or RN with the support of PC
REDCap-based Assessment Administered in Holding Area via tablet interface by RN with the support of PC
Patient Enrolled in PatientSite if not already signed up
PROMs Data securely stored in REDCap

What is PatientSite?

- Confidential site where patients can access their medical information and contact their provider
- BIDMC wants to use it to communicate with patients and collect PROMs in the future
- For this study, they should select Dr. Yeh as their provider if their PCP is elsewhere

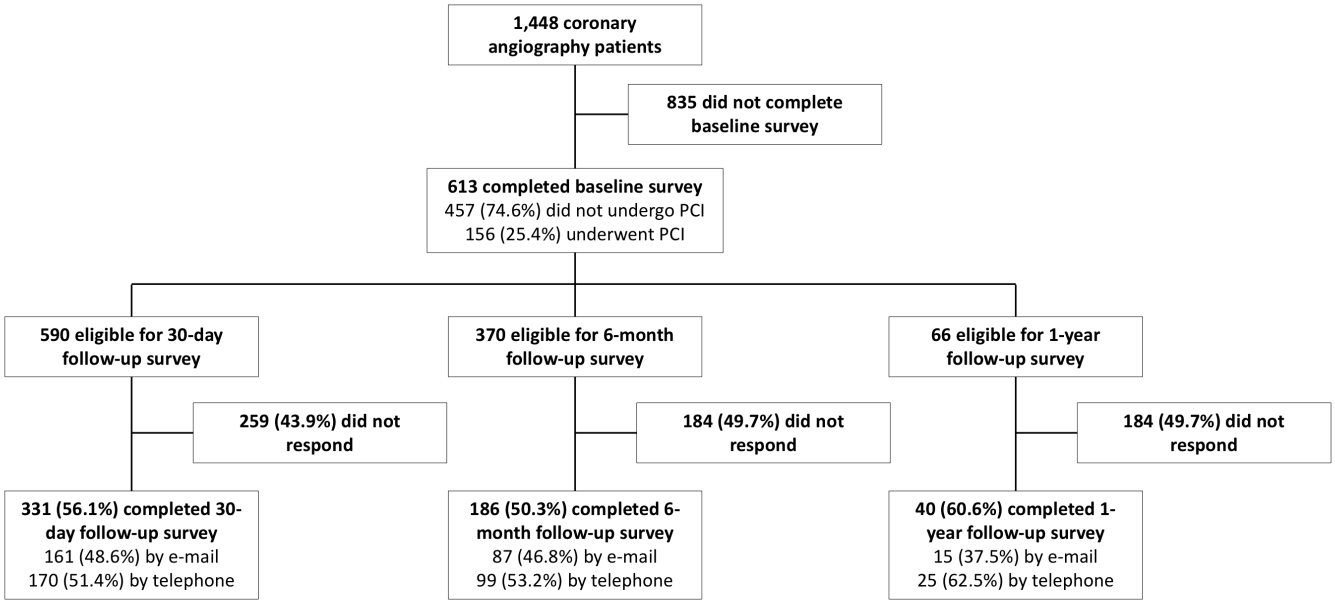
What do we need to do?

- In holding area (transfers and inpatients)
  - Identify patients undergoing coronary angiography or planned PCI (not urgent cases)
  - Patient completes questionnaire on iPad or on their own device, signs up for Patient Site
  - Patient returns iPad to holding area staff
  - **Close iPad browser**, clean iPad with germicidal wipe, open new browser session for next patient
  - Store in the configurator

Using Survey Responses

- Questionnaires uploaded weekly to webOMR
- Appears under “Outside Records” as Patient Reported Outcomes
- Encouraged to use in office with patients to discuss symptom improvement and save time

eFigure 3: Flowsheet demonstrating responses to survey by follow-up time



eTable 1: Characteristics of Subset of Respondents versus Nonrespondents in Strategy #1 Receiving PCI and Listed as Undergoing "Elective" Catheterization*

	Baseline Survey Participants (N = 159)	**Baseline Survey Non-Participants (N = 328)**	**P-value****
DEMOGRAPHIC CHARACTERISTICS			
Mean Age – years (SD)	67.9 (10.6)	69.3 (10.3)	0.17
Female - no. (%)	30 (18.9)	84 (25.6)	0.10
Race - no. (%)			0.54
Caucasian	144 (90.6)	281 (85.7)	
Hispanic	4 (2.5)	11 (3.4)	
Black	3 (1.9)	11 (3.4)	
Asian	1 (0.6)	7 (2.1)	
Other	4 (2.5)	14 (4.3)	
Unable to obtain	3 (1.9)	3 (0.9)	
Insurance - no. (%)			
Private	**100 (62.9)**	**163 (49.7)**	**0.01**
Medicare	**58 (36.5)**	**154 (47.0)**	**0.03**
Medicaid	**1 (0.6)**	**8 (2.4)**	**0.13**
Other	**0 (0.0)**	**3 (0.9)**	**0.23**
Preoperative Evaluation for Non-Cardiac Surgery - no. (%)	8 (5.0)	30 (9.2)	0.11
CLINICAL COMORBIDITIES			
Angina Type - no. (%)			0.78
Unstable angina	83 (52.2)	170 (51.8)	
Stable angina	54 (40.3)	128 (39.0)	
Unlikely to be ischemic	7 (4.4)	13 (4.0)	
Asymptomatic	5 (3.1)	17 (5.2)	
Angina CCS Class - no. (%)			0.30
I	8 (5.0)	10 (3.1)	
II	43 (27.0)	92 (28.1)	
III	44 (34.6)	135 (41.2)	
IV	44 (27.7)	68 (20.7)	
Recent Smoker - no. (%)	13 (8.2)	35 (10.7)	0.39
Hypertension - no. (%)	143 (89.9)	294 (89.6)	0.92
Hypercholesterolemia - no. (%)	151 (95.0)	314 (95.7)	0.70
Family history of CHD - no. (%)	52 (33.3)	88 (26.8)	0.14
Prior MI - no. (%)	72 (45.3)	161 (49.1)	0.43
Heart Failure - no. (%)	21 (13.2)	62 (18.9)	0.12
New York Heart Association Class - no. (%)			0.82
I	1 (3.5)	4 (5.1)	
II	10 (34.5)	34 (43.0)	
III	15 (51.7)	34 (43.0)	
IV	3 (10.3)	7 (8.9)	
Prior Valvular Surgery - no. (%)	5 (3.1)	14 (4.3)	0.55
Prior Percutaneous Coronary Intervention - no. (%)	98 (61.6)	199 (60.7)	0.84
Prior Coronary Artery Bypass Grafting - no. (%)	39 (24.5)	78 (23.8)	0.86
History of Renal Failure - no. (%)	5 (3.1)	11 (3.4)	0.90

History of Cerebrovascular Disease - no. (%)	24 (15.1)	58 (17.7)	0.51
History of Peripheral Vascular Disease - no. (%)	18 (11.3)	59 (18.0)	0.06
Chronic Lung Disease - no. (%)	21 (13.2)	51 (15.6)	0.49
Diabetes Mellitus - no. (%)	**48 (30.2)**	**135 (41.2)**	**0.02**
Diabetes Therapy - no. (%)			**0.02**
Diet	**9 (18.8)**	**12 (8.9)**	
Insulin	**8 (16.7)**	**54 (40.0)**	
Oral	**31 (64.6)**	**68 (50.4)**	
None	**0 (0.0)**	**1 (0.7)**	
Cardiogenic Shock within 24 hours - no. (%)	0 (0.0)	1 (0.3)	0.49
Creatinine (mg/dL)– mean (SD)	1.3 (1.5)	1.3 (1.2)	0.92
Hemoglobin (mg/dL) – mean (SD)	13.7 (1.6)	13.5 (1.8)	0.24
Left ventricular dysfunction - no. (%)	**22 (13.8)**	**78 (23.8)**	**0.01**
Pre-procedure LVEF – mean (SD)	52.8 (10.7)	51.3 (12.6)	0.36
MEDICATIONS AND STRESS TESTING			
Number on Antianginals - no. (%)	138 (86.8)	293 (89.3)	0.41
Beta Blocker	124 (89.2)	258 (87.5)	0.60
Calcium Channel Blocker	34 (24.5)	84 (28.5)	0.38
Nitrates	41 (29.5)	82 (27.8)	0.71
Ranolazine	9 (6.5)	16 (5.4)	0.66
Other	1 (0.7)	1 (0.3)	0.56
Stress testing - no. (%)	106 (66.7)	219 (66.8)	0.98
Non-imaging	23 (21.7)	41 (18.7)	0.53
Stress echo	27 (25.5)	61 (27.9)	0.65
SPECT	57 (53.8)	114 (52.1)	0.77
CMR	0 (0.0)	0 (0.0)	>0.99
CTA	5 (4.7)	6 (2.7)	0.37
Non-imaging Stress Test Result - no. (%)			0.17
Positive	21 (91.3)	30 (73.2)	
Negative	0 (0,0)	4 (9.8)	
Indeterminate	2 (8.7)	7 (17.1)	
Non-imaging Stress Test Degree of Ischemia - no. (%)			0.48
Low	0 (0.0)	0 (0.0)	
Intermediate	12 (57.1)	15 (50.0)	
High	7 (33.3)	14 (46.7)	
Unavailable	2 (9.5)	1 (3.3)	
Stress Echo result - no. (%)			**0.02**
Positive	**26 (96.3)**	**42 (68.9)**	
Negative	**0 (0.0)**	**8 (13.1)**	
Indeterminate	**1 (3.7)**	**11 (18.0)**	
Stress Echo Degree of Ischemia - no. (%)			0.22
Low	1 (3.9)	0 (0.0)	
Intermediate	10 (38.5)	11 (26.2)	

High	15 (57.7)	31 (73.8)	
SPECT Stress Result - no. (%)			0.15
Positive	47 (82.5)	97 (85.1)	
Negative	2 (3.5)	10 (8.8)	
Indeterminate	7 (12.3)	7 (6.1)	
Unavailable	1 (1.8)	0 (0.0)	
SPECT Degree of Ischemia - no. (%)			0.14
Low	2 (4.3)	5 (5.2)	
Intermediate	16 (34.0)	42 (43.3)	
High	25 (53.2)	49 (50.5)	
CTA Result - no. (%)			0.66
1 vessel disease	1 (20.0)	1 (16.7)	
2 vessel disease	2 (40.0)	4 (66.7)	
3 vessel disease	1 (20.0)	1 (16.7)	
Unavailable	1 (20.0)	0 (0.0)	
PROCEDURAL CHARACTERISTICS			
Diagnostic coronary angiography – no. (%)	135 (97.8)	262 (98.1)	0.84
Right heart catheterization – no. (%)	**5 (3.1)**	**29 (8.8)**	**0.02**
Left heart catheterization – no. (%)	42 (30.4)	87 (32.5)	0.68
Intra-aortic balloon pump inserted – no. (%)	1 (0.6)	0 (0.0)	0.15
Arterial access Site – no. (%)			0.36
Femoral	53 (33.3)	126 (38.4)	
Radial	106 (66.7)	201 (61.3)	
Other	0 (0.0)	1 (0.3)	
PCI Indication- no. (%)			0.15
High risk NSTE-ACS	59 (37.1)	120 (36.6)	
Staged	12 (7.6)	44 (13.4)	
Other	88 (55.4)	164 (50.0)	
Coronary dominance – no (%)			0.87
Right	145 (91.2)	295 (89.9)	
Left	10 (6.3)	25 (7.6)	
Codominant	4 (2.5)	8 (2.4)	
Maximal Native Coronary Stenosis (%) – mean (SD)			
Left Main Coronary Artery	8.6 (22.5)	11.0 (24.7)	0.30
Proximal LAD	33.0 (39.0)	34.7 (38.8)	0.67
Distal LAD	50.9 (37.8)	52.4 (38.4)	0.70
Right Coronary Artery	62.2 (36.7)	59.8 (39.0)	0.54
Left Circumflex Artery	44.6 (41.0)	48.0 (40.3)	0.41
Ramus Intermedius	44.0 (33.6)	50.0 (37.9)	0.73
Maximal Graft Coronary Stenosis – mean (SD)			
Proximal LAD	9.1 (29.4)	9.7 (24.4)	0.94
Mid LAD	39.2 (47.5)	25.2 (41.5)	0.25
Left Circumflex Artery	67.6 (42.0)	57.2 (46.9)	0.40
Right Coronary Artery	69.5 (41.3)	60.0 (43.8)	0.43
Fluoroscopy Time (minutes) – mean (SD)	27.8 (24.3)	29.9 (25.2)	0.39
Radiation dose (mGy) – mean (SD)	1138.6 (795.2)	1128.6 (777.3)	0.90

Post-Diagnostic Cath Recommendation – no. (%)			0.18
CABG	1 (0.7)	0 (0.0)	
Medical Therapy	3 (2.2)	2 (0.8)	
PCI	134 (97.1)	265 (99.3)	

*Data is extracted from information submitted to the National Cardiovascular Disease Registry (NCDR) CathPCI registry. All variables were collected immediately prior to the procedure. Represents participants completing a baseline survey during 2017, listed as "elective" in the NCDR registry, and undergoing PCI. Data is unreliably reported for those undergoing diagnostic catheterization alone and is thus not reported. Those listed as "elective" may represent a subset of overall elective catheterization due to misclassification of some elective PCIs as "urgent" or "emergent." Responses are bolded if significant at at $p < 0.05$ level. PCI = Percutaneous Coronary Intervention. SPECT = single-photon emission computed tomography. CTA = computed tomography angiography. LVEF = left ventricular ejection fraction. CMR = cardiac magnetic resonance imaging. MI = myocardial infarction. STEMI = ST-elevation myocardial infarction. CHD = coronary heart disease. CCS = Canadian Cardiovascular Society. SD = standard deviation. LAD = Left Anterior Descending. CBAG = Coronary Artery Bypass Grafting. **Variables significant at a $p < 0.05$ level were included in a logistic regression model predicting response to the baseline survey. No variables were significantly associated with response to the baseline survey on multivariable adjusted analysis. Sensitivity analysis using all variables and stepwise forward selection with $p < 0.05$ for entry and remaining in the model did not alter results.

MASSACHUSETTS GENERAL HOSPITAL INTERVENTION SUPPLEMENTAL INFORMATION:

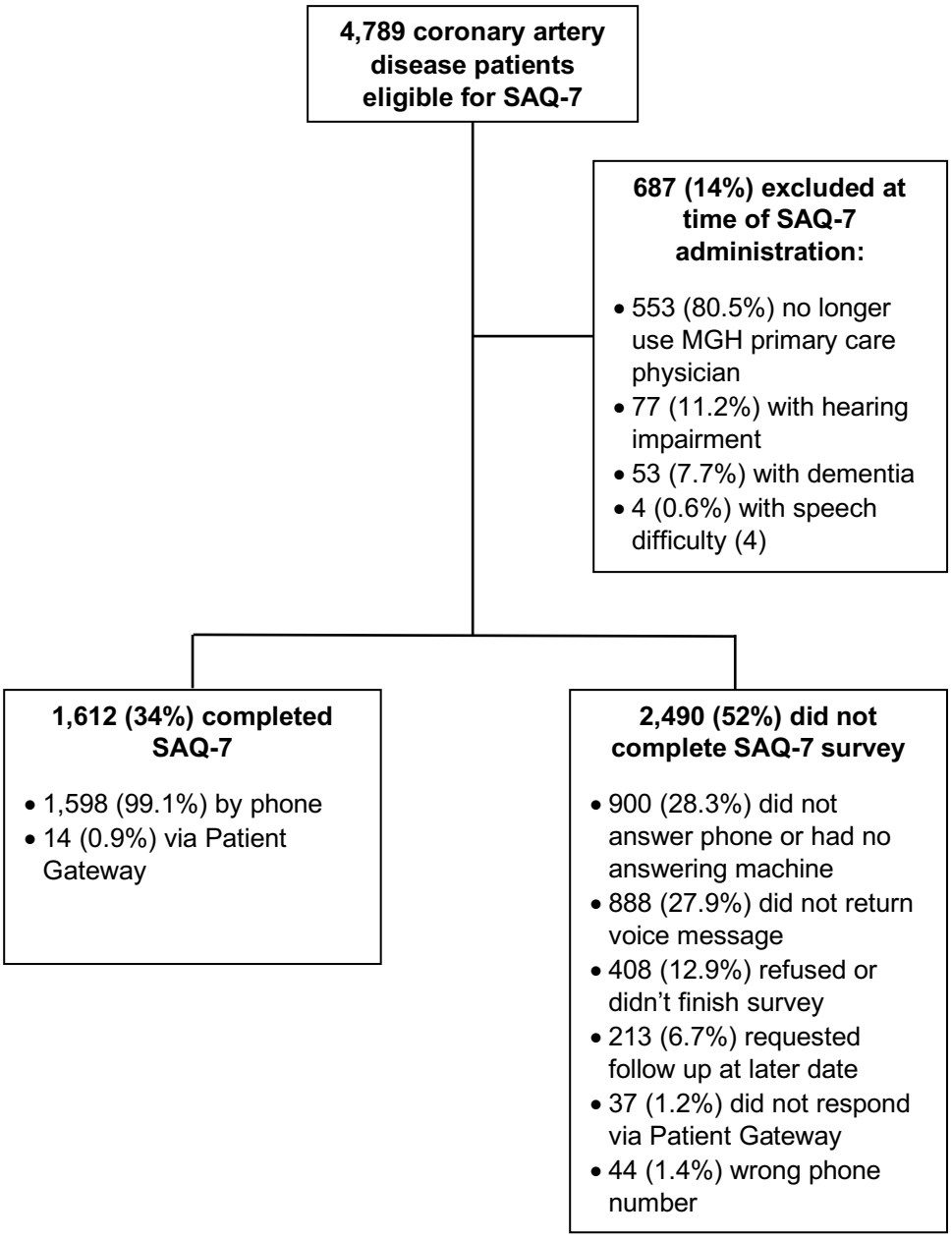
eTable 2: Characteristics of Participants and Non-Participants Invited to Complete the Seattle Angina Questionnaire-7 as Part of Strategy 2

	Respondents (N= 1612)	Non-Respondents (N=3177)	P-Value[1]
DEMOGRAPHIC CHARACTERISTICS			
Mean Age—years (SD)	71.8 (11.0)	73.2 (11.8)	<.0001
Female—% (N)	35.8 (577)	35.5 (1126)	0.82
Primary Language—% (N)			
English	89.8 (1447)	90.7 (2881)	<.0001
Spanish	9.1 (147)	5.3 (168)	
Other	1.1 (18)	4.0 (128)	
Race/Ethnicity—% (N)			
White	82.3 (1326)	83.4 (2648)	
Black	4.5 (73)	4.6 (146)	0.14
Hispanic	2.7 (43)	1.7 (53)	
Other	10.6 (170)	10.4 (329)	
Insurance—% (N)			
Commercial	33.8 (545)	32.0 (1017)	
Medicaid	5.2 (83)	4.2 (132)	0.051
Medicare	60.4 (974)	62.6 (1989)	
Self	0.6 (10)	1.2 (38)	
Median income—% (N)[2]			
≤ $40,000	20.4 (329)	20.8 (661)	0.67
$40,001-$80,000	39.5 (637)	40.2 (1276)	
$80,001-$120,000	25.0 (403)	23.5 (745)	
> $120,000	15.1 (243)	15.6 (495)	
Clinic Affiliation—% (N)[3]			
Community Health Center	40.0 (644)	40.5 (1285)	0.74
Not Community Health Center	60.1 (968)	59.6 (1892)	
Education—% (N)			
Eighth Grade or less	5.7 (90)	6.3 (194)	
Some High School	6.3 (99)	6.7 (207)	0.01
High School or GED[4]	33.7 (531)	36.5 (1127)	
Some College, Vocational, or Technical School	10.7 (168)	10.3 (318)	
College Graduate	43.7 (690)	40.2 (1240)	
CLINICAL COMORBIDITIES			
Peripheral Vascular Disease—% (N)	25.3 (407)	22.9 (727)	0.07
Cerebrovascular Disease—% (N)	18.0 (290)	18.6 (592)	0.58
Congestive Heart Failure—% (N)	29.2 (471)	31.6 (1004)	0.09
Atrial Fibrillation—% (N)	26.1 (420)	28.0 (888)	0.16
Hypertension—% (N)	90.3 (1456)	90.2 (2865)	0.90
Diabetes Mellitus—% (N)	39.8 (642)	37.0 (1174)	0.054
Previous Acute Myocardial Infarction—% (N)	12.3 (199)	9.9 (314)	0.01
Chronic Obstructive Pulmonary Disease—% (N)	38.4 (619)	38.5 (1223)	0.94
Human Immunodeficiency Virus—% (N)	0.6 (10)	0.7 (23)	0.68
Dementia—% (N)	4.9 (79)	9.4 (297)	<.0001
Mean Hemoglobin A1c Among Diabetics—mg/dl (SD)[5]	6.3 (1.2)	6.4 (1.4)	0.10
Mean Low Density Lipoprotein Level—mg/dl (SD)[6]	80 (31)	82 (31)	0.07
Mean Creatinine—Mg/dl (SD)[7]	1.14 (0.6)	1.15 (0.7)	0.41
PRESCRIBED MEDICATIONS			
Any Statin—% (N)	92.5 (1491)	89.4 (2838)	<.001
Aspirin—% (N)	77.4 (1248)	74.2 (2358)	0.02

Beta Blocker—% (N)	78.7 (1269)	77.3 (3455)	0.26
Calcium Channel Blocker—% (N)	9.1 (147)	8.8 (279)	0.70
Long-Acting Nitrate—% (N)	15.7 (253)	13.8 (438)	0.08
Short-Acting Nitrate—% (N)	38.3 (617)	36.3 (1153)	0.18
Ranolazine—% (N)	1.7 (28)	1.4 (45)	0.39
UTILIZATION MEASURES			
Inpatient Admission in 2016—% (N)[8]	18.2 (294)	19.9 (631)	0.18
Mean number of Outpatient Clinic Appointments, 2014-2016—N (SD)[9]	19.9 (13)	19.0 (13)	0.02
Mean number of Missed Outpatient Clinic Appointments, 2014-16—N (SD)[10]	2.2 (2)	2.4 (2.6)	0.054
Mean missed Appointment ratio—% (SD)[11]	3.8 (7.1)	5.1 (8.9)	<.0001

NOTES: [1] P-values calculated using T tests, Chi Square tests, and Mann Whitney U tests as appropriate. [2]Median income was estimated using median household income for each patient's zip code. Zip code-level household income data was obtained from the 2010 U.S. Census. [3] Clinic affiliation refers to the clinic where each patient received primary care, and were divided into two categories: four community health centers, which are predominately located in lower income, underserved neighborhoods, and 11 non-community health center primary care clinics. [4]GED: General Educational Development Test. [5] Calculated using most recent available hemoglobin A1c level. [6] Calculated using most recent available low-density lipoprotein level. [7] Calculated using most recent creatinine level. Patients without a creatinine value in 2015-16 were excluded. [8] The proportion of members with an inpatient admission documented in the electronic health record during 2016. May not include inpatient hospitalizations at facilities outside of Partners Healthcare, the health system which owns the Massachusetts General Hospital. [9]Ascertained using billing and appointment data from Partners Healthcare. Does not include clinic appointments with physicians who aren't affiliated with Partners Healthcare. [10] Ascertained using billing and appointment data from Partners Healthcare. Does not include missed clinic appointments with physicians who aren't affiliated with Partners Healthcare. [11] Calculated in the following way: The ratio of missed outpatient clinic appointments/ outpatient clinic appointments was calculated for each patient. Then, the mean and the standard deviation of these ratios were calculated for both respondents and non-respondents.

eFigure 4: Consort Diagram



eFigure 5: Script for Introducing Project to Survey Participant:

1. Hello! My name is XXXX, and I work at the Massachusetts General Hospital.
2. I'm calling to see if you have five minutes to answer a survey for a quality improvement project that we're doing on chest pain. Our hope is that this project will help us to improve the quality of care that we provide to our patients.
3. Do you have time to help us with this project right now?
    i. If "Yes"--> continue to 4., below.
    ii. If "No"--> I understand. Is there a time later today that would be more convenient for you to complete this survey? If not, how about later this week?
    Note: PHC can also offer to have someone call the patient on a weeknight or weekend morning.
        a. If patient provides alternative date/time→record this date/time in excel spreadsheet and call patient then.

4. Great! Before we get started, I'd like to tell you just a bit more about the survey**.**

5. Talking points before introducing survey:

- The survey includes seven questions, and should take about five minutes to complete.
- This survey was developed to help health care providers diagnose and assess angina. Angina is a type of chest discomfort that is caused by blockages of one or more heart arteries.

- Please interrupt me if you have questions about the survey, or don't fully understand something that I say.

- Your answers to these questions will be stored securely in your electronic medical record.
- **The results of this survey may not be shown to your primary care doctor or cardiologist. So, completing this survey is NOT the same as telling your doctor about any symptoms—including chest discomfort—that you may be experiencing.**

- **If you develop new chest pain, shortness of breath, your chest discomfort gets worse, or any other new symptoms that concern you, please call your primary care doctor or cardiologist (if you have one) or go to the nearest emergency room.**

6. Do you have any questions?
    i. Yes→answer questions as able and then start survey
    ii. No-->Wonderful. We're now going to start the survey.

The PHC should then start administering the survey.

Note: Before starting the survey, PHCs should be sure that they have opened the patient's electronic health record in EPIC and navigated to the SAQ-7 in the patient's flowsheet (instructions for how to find the SAQ-7 in the patient's flowsheet will be provided separately).

eFigure 6: Script for Concluding Call After Survey Completion

1. That ends our survey.
2. Before we end, I'd like to stress two points:
   - **The results of this survey may not be shown to your primary care doctor or cardiologist. So, completing this survey is NOT the same as telling your doctor about any symptoms—including chest discomfort—that you may be experiencing.**
   - **If you develop new chest pain, shortness of breath, your chest discomfort gets worse, or any other new symptoms that concern you, please call your primary care doctor or cardiologist (if you have one) or go to the nearest emergency room**
3. Thank you very much for your time and help today.
   We at the MGH are very hopeful that this work will improve the quality of care we provide to our patients.

If a patient:

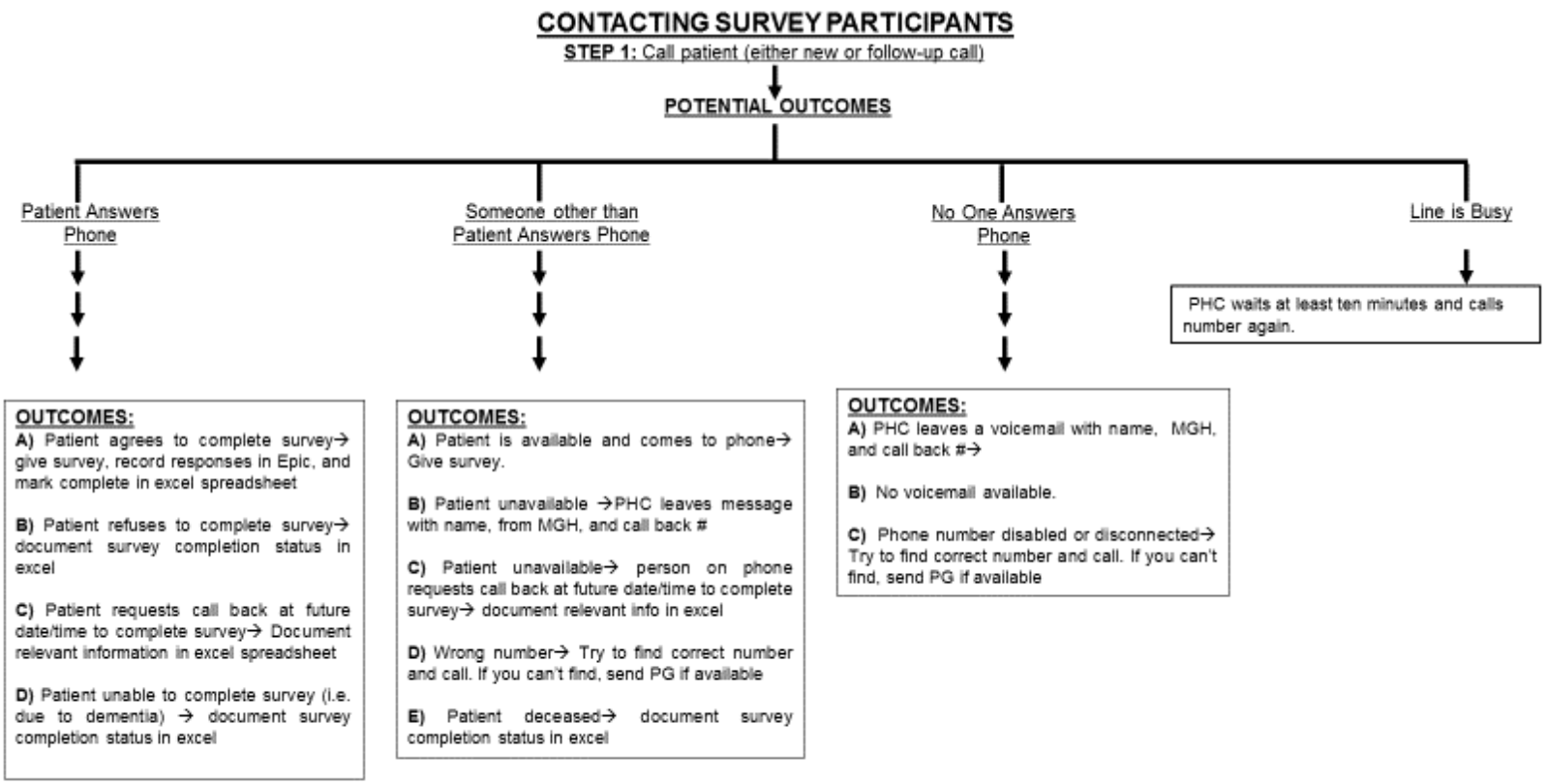
- Answers question 4 with 1-3 times per day or 4 or more times per day
- Has a total score of 25 or LESS (lower scores = worse symptoms)
- Tells you they have had any of the following:
  - New chest discomfort or pain over the last month
  - Worsening chest pain or discomfort (an increase in how often they have chest pain or increased pain)
  - Chest pain or discomfort at rest

Introduce a follow up call using the following statement (or something similar): "Because you told us that you were having frequent symptoms, we're going to have a doctor call you sometime today to check in and gather some additional information about how you're feeling. If you don't speak with or receive a message from this person today, please contact me tomorrow to let me know."

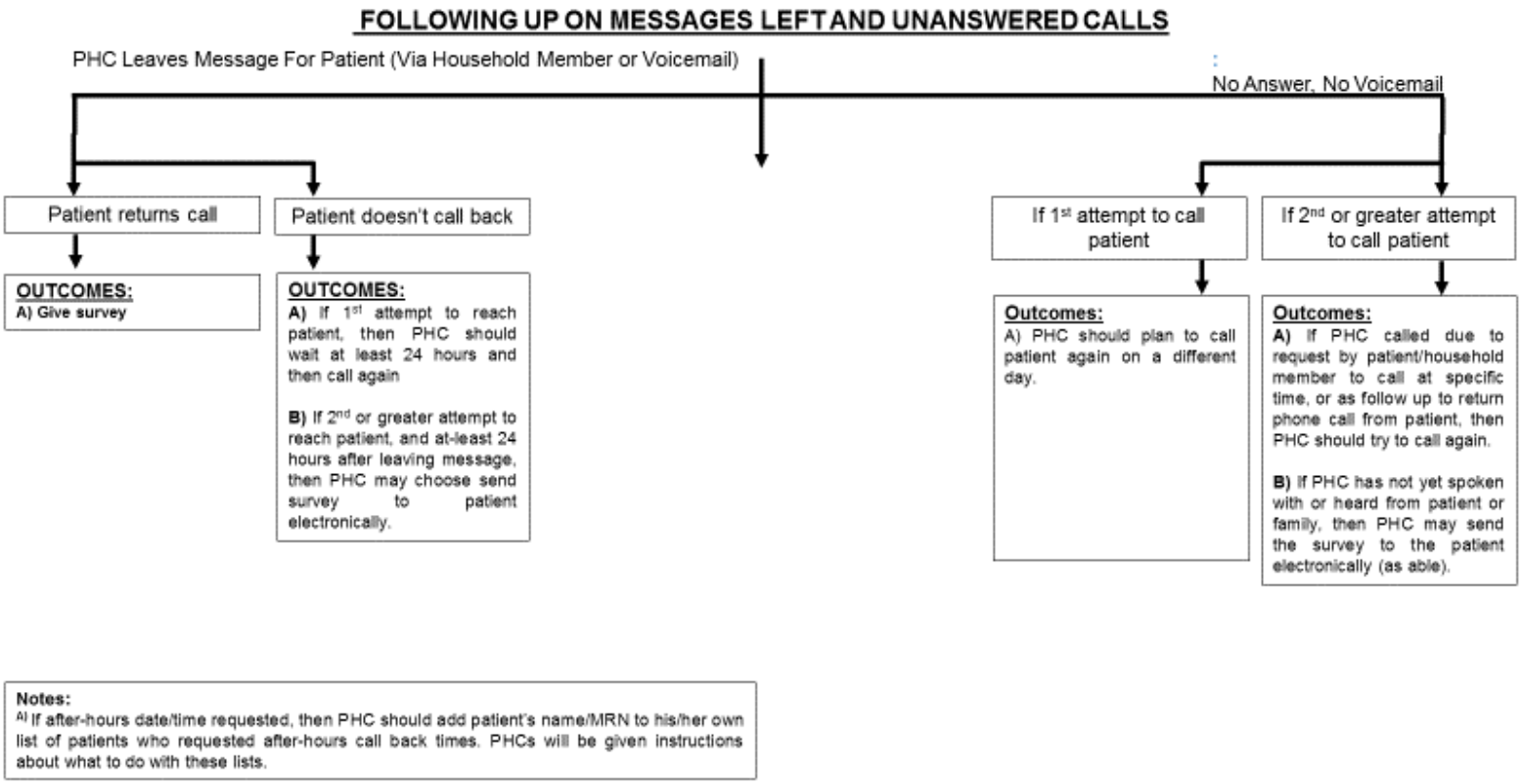
And

Ask if there is a **specific time when the doctor should call back.**

eFigure 7: Script for Contacting Survey Participants at the Massachusetts General Hospital



eFigure 8: Script for Follow-Up on Messages and Unanswered Calls at the Massachusetts General Hospital



eFigure 9: Guidelines for Documenting Phone Calls and Survey Completion Results

Guidelines for Documenting Phone Calls and Survey Completion Status

For each phone call made to a survey participant, the following information should be documented in the excel spreadsheet:

a. Date of call
b. Approximate length of call
c. Survey completion status using appropriate code in **Figure 1**(either temporary or final, depending on the outcome of the call)
d. Relevant information for follow up plan (e.g. date and time of future call back, plan to send survey to patient via gateway, need for after-hours call by clinician)

FIGURE 1: DOCUMENTING SURVEY COMPLETION STATUS

Survey Completion Status	Corresponding Code
Survey Completed	Y
Participant refused to complete survey	R
Patient reported no chest pain (either verbally or in response(s) to one or more questions) but refused to complete survey	RNP
Participant unavailable (not home or busy); left message with member of household or on voicemail to have patient return call.	LM
No Answer	NA
Participant unavailable; member of household requested call back at specific date and time ("Future call")	F
Wrong phone number (e.g. outdated or listed incorrectly).	W
Participant unable to complete survey via phone due to: i) Hearing impairment ii) Cant speak iii) Dementia iv) Other (please specify in notes section)	 i) UH ii) US iii) UD iv) UO
Patient deceased	D
Survey sent via Patient Gateway	G
Patient does not have coronary artery disease, or is being surveyed in error	M

eFigure 10: Script for Responding to Concerning SAQ-7 Survey Responses