

Electronic Referral and Consultation Systems (eCR): Improving Primary and Specialty Care Collaboration

May 28, 2014



CALIFORNIA
HEALTHCARE
FOUNDATION

California
Improvement
Network Better Ideas
for Care Delivery

Today's Speakers - UCSF/SFGH



Alice Chen
Chief Integration Officer
San Francisco General Hospital



Delphine Tuot
Assistant Professor of Medicine
UCSF Division of Nephrology, San Francisco
General Hospital

Today's Speakers - CHCI



Nicole Jepeal
Project Manager
The Community Health Center, Inc.



J. Nwando Olayiwola
Associate Director
Center for Excellence in Primary Care, UCSF

Today's Speakers – Brigham and Women's



Jeffrey Greenberg,
Associate Medical Director, Brigham and
Women's Physicians Organization



123,500 patients/clients

14 primary care health centers

70,000 primary care patients

**comprehensive ambulatory
specialty and diagnostic services
332,000 visits in 2012-2013**

behavioral health services

acute and trauma care

jail health services

long term care

State of PC-SC Interface Circa 2005

- Paper, telephone, and fax based referral system
- Clerical process of first referred, first scheduled
- Significant inefficiencies
 - referral to wrong clinic
 - unnecessary referrals
 - premature referrals
 - inability to discern referral question
 - lack of equitable triage
- Wait times up to 11 mo

COMMUNITY HEALTH NETWORK OF SAN FRANCISCO
 OUTPATIENT CONSULTATION REQUEST

CONSULT APPT. DATE: NOV-13 APPT. TIME: 9:30 AM 106022100431 11/01/06

PATIENT PHONE: 415 308-2448 VALAQAQ, ROSA M.
 GENERAL MEDICINE CLINIC

TO: (Clinic or Consultant) General Surgery (ASAP) Location/Svc. SFGHMC, 1001 Potrero, San Francisco
 Other:

REFERRING PROVIDER: (print) R. Kelley SIGN: R. Kelley Location/Svc. onc CHN # 021681 Phone 206 2407 FAX 443 8037
 REFERRING ATTENDING: (if different from Referring Provider) (print) Sach, Natalie SIGN: _____ Location/Svc. CHN # _____ Phone 206 2407 FAX _____

PRIMARY PROVIDER: (if different from Referring Provider) (print) Rosa Valdao Location/Svc. CHN # _____ Phone _____ FAX _____

Reason for Consultation: (Include pertinent history, physical laboratory findings, medications) See LCR progress notes, date(s)
57yo ♂ w metastatic colorectal CA, cecal lesion & recurrent pain, intussusception on CT 10/1/06. Pls eval for palliative resection for recurrent partial obstruction by mass. **ASAP.**

REFERRED FOR: OPINION TREATMENT/PROCEDURES REPLY REQUESTED BY: Y P PH F FAX D LCR
 URGENT (within 48 hrs) NOT URGENT NO. OF VISITS REQUESTED: 1 2 3 4 5 6 7 8 9 10 OTHER: _____

PLEASE CALL PRIMARY PROVIDER AND ME (IF NOT PRIM. PROV.) IF ANY PROCEDURES, SURGERY OR ADMISSION PLANNED

CONSULTANT'S REPORT: DATE SEEN: _____ FINDINGS/ASSESSMENT AND PLAN: _____ See LCR progress notes, date(s)
TRAUMA
NOV 13 2006
 Pain education handout given: No Yes
 P.H.H.: S/P laparotomy & cholecystectomy = clean 57yo ♂ = recanal cancer of likely liver mets, & small bowel/cecal masses causing obstruction ex - pain for surgical resection of tumor
 HTN. Re: had S/P resection of tumor
 med: Cedexin & Tylenol
 AT: S/P laparotomy & LGA resection SB/cecal lesion & metastatic disease

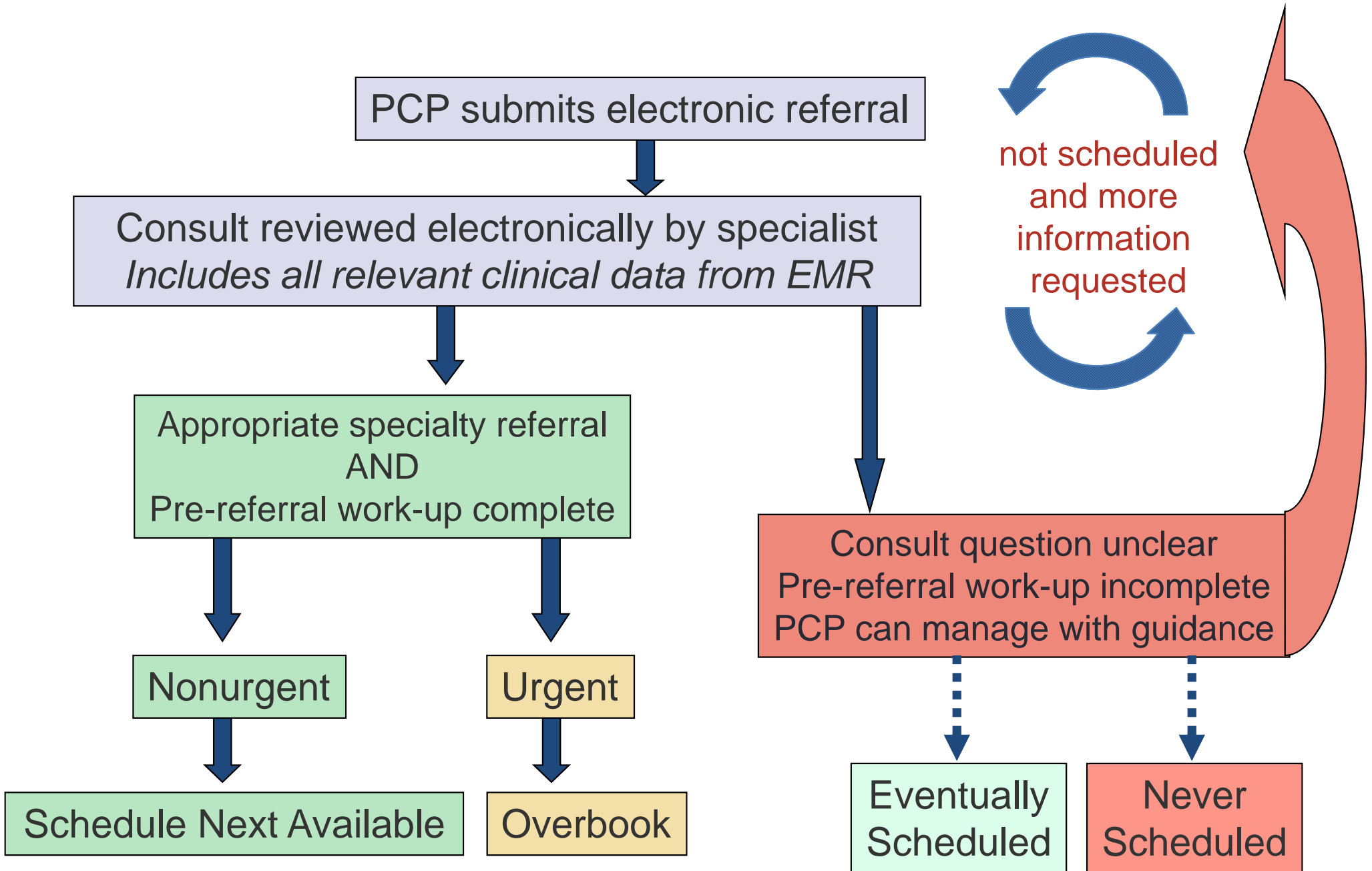
DATE INFORMATION SENT TO REFERRING/PRIMARY PROVIDER: _____ BY: PHONE: _____ FAX: _____
 Consultant: complete form; file original in patient's chart; return copy to referring provider or primary provider by fax.

NOV 13 2006

White Copy - Referring Provider • Yellow Copy - Clinic Use • Pink Copy - Patient

5771019, F710A (Rev. 07/04)

eReferral Workflow



PCP initiates referral request

July 2011-June 2012
27,604 new submissions (excluding diagnostics)

Specialist reviews

Appropriate and complete consults
60%
(16,466)

Consult inappropriate or incomplete or clinic visit not needed
40%
(11,138)

Scheduled
need to be seen in clinic

Not initially scheduled
specialist responds to request more information and/or make recommendations

50%
(13,783)

10%
(2,683)

Iterative communication as needed

Non –urgent
routine
appointment

Urgent
overbook
appointment

PCP provides information, initial evaluation complete, visit needed

No appointment 6 months after last exchange

20%
(5,641)

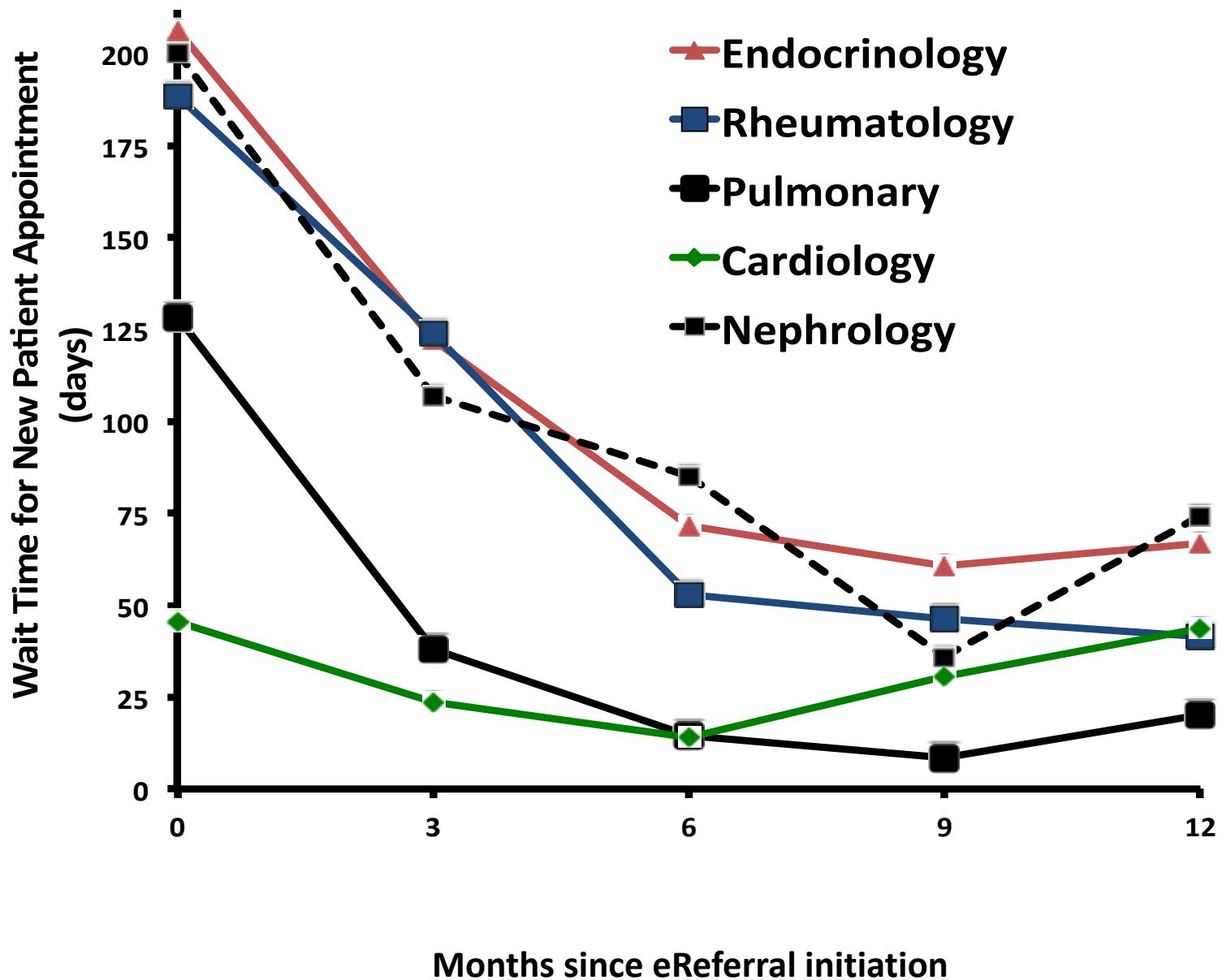
20%
(5,397)

Scheduled

Never Scheduled

Adapted from Chen AH, Murphy EJ, Yee HF, "eReferral – A New Model for Integrated Care." *NEJM* 2013;368(26):2450-3.

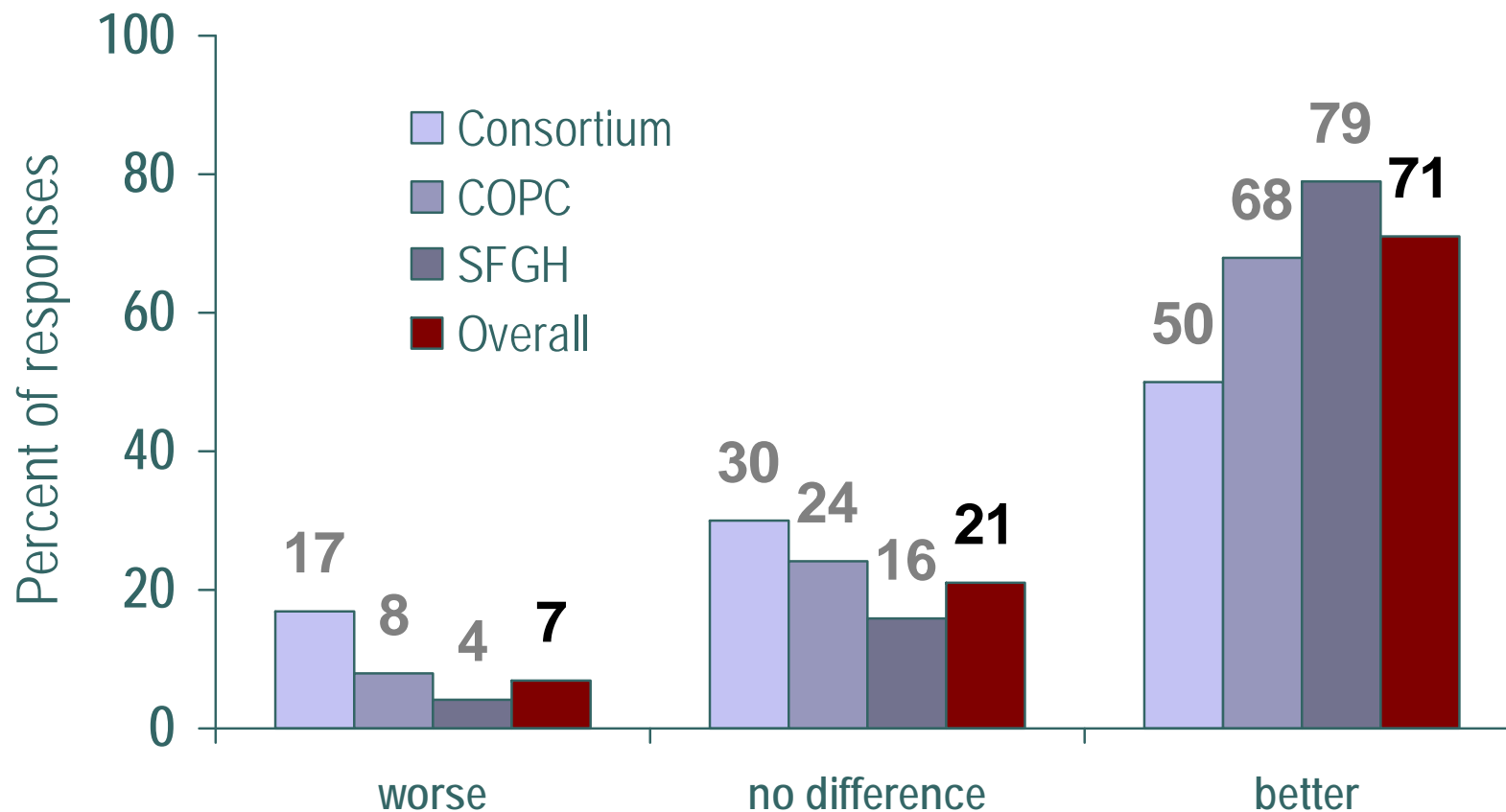
eReferral Impact on Wait Times



Primary Care Satisfaction with eReferral

Overall, how has eReferral changed clinical care for your patients?

81% response rate (298 of 368)



Kim Y, Chen AH, Keith E, Yee HF, Kushel MB. "Not perfect, but better: primary care providers' experiences with electronic referrals in a safety net health system." *Journal of General Internal Medicine* 2009; 24(5):614-619.

Bidirectional Feedback for Improvement

survey SFGH·UCSF

Your Reason for Consult:
Please evaluate my patient

Reviewer Response:
7/2/2012 3:24:10 PM entered by alice chen
Can you provide more information?

Not appropriate for survey

Does this referral have a clear consultative reason for referral?

Yes No

On a scale of 1 to 5, please rate the **QUALITY** of the history provided. Please consider qualities such as the sufficiency and conciseness of the information provided. (1=lowest quality to 5=highest quality)

★ ★ ★ ★ ★

On a scale of 1 to 5, how **APPROPRIATE** was the pre-referral evaluation/work-up (e.g. appropriate laboratory and radiological studies ordered)? (1=incomplete/excessive to 5=appropriate)

★ ★ ★ ★ ★

Click here if you think this referral would have been more appropriately managed by a page to the on-call fellow (i.e. urgent patient safety issue).

Click here if you think that the referring provider should have been able to manage this patient without specialty guidance.

Submit

eReferral SFGH·UCSF
survey

Specialists Reviewer's Response
7/2/2012 3:24:10 PM entered by alice chen
Can you provide more information?

Your Reason for Consultation
Please evaluate my patient

On a scale of 1 to 5, how **HELPFUL** was this response in guiding the evaluation or ongoing management of the patient? (1=not at all helpful to 5=extremely helpful)

★ ★ ★ ★ ★

On a scale of 1 to 5, how would you rate the **EDUCATIONAL VALUE** of the specialist reviewer's response? (1=no education value to 5=high educational value)

★ ★ ★ ★ ★

To what extent do you agree with the specialist reviewer's decision to not schedule an appointment at this time? (1=completely disagree to 5=completely agree)

★ ★ ★ ★ ★

Submit Cancel

Widespread Interest in eCR

- Specialty visits comprise >50% of all ambulatory visits
 - For patients <65, 1/3 patients referred to specialist/year
 - For patients ≥ 65 average of 2 referrals per person/year
- On average, for every 100 Medicare patients a PCP takes care of, s/he has to interact with 99 other physicians in 53 different practices
- Lack of timely specialty care can result in adverse outcomes, unnecessary ED visits and hospitalizations, and potentially higher health care costs

Key Informant Interviews

Goals

- Drivers
- Facilitators/barriers to eCR implementation
- Best practices
- Evaluation metrics



Study Participants

California

- AccessOC
- Alameda Health System
- L.A. Care Health Plan
- Los Angeles County
Department of Health Services
- Marin Community Clinics
- Riverside County
Regional Medical Center
- San Mateo Medical Center
- UCLA Health
- UCSF Medical Center
- Ventura County Health Care Agency

United States

- Brigham and Women's Hospital
- Community Health Center, Inc
- Denver Health
- Harborview Medical Center
- Hawaii Medical Service Association
- University of Massachusetts
Memorial Health Care

International

- Bruyere Research Institute
(Ottawa, Canada)
- National Health Service
(England)

Drivers of Implementation

eReferral

- Enhance clinical efficiency
 - Triage
 - Legibility
 - Communication between providers
 - Efficient first visit
- Enhance operational efficiency
 - Referral tracking for PCPs

eConsult

- Improve access to specialty care
 - Supply/demand mismatch
 - Desire to enhance PCP capacity
- Delivery of coordinated care
- Patient satisfaction
- Patient retention; decrease leakage to other delivery systems

Facilitators/Barriers to eCR Implementation

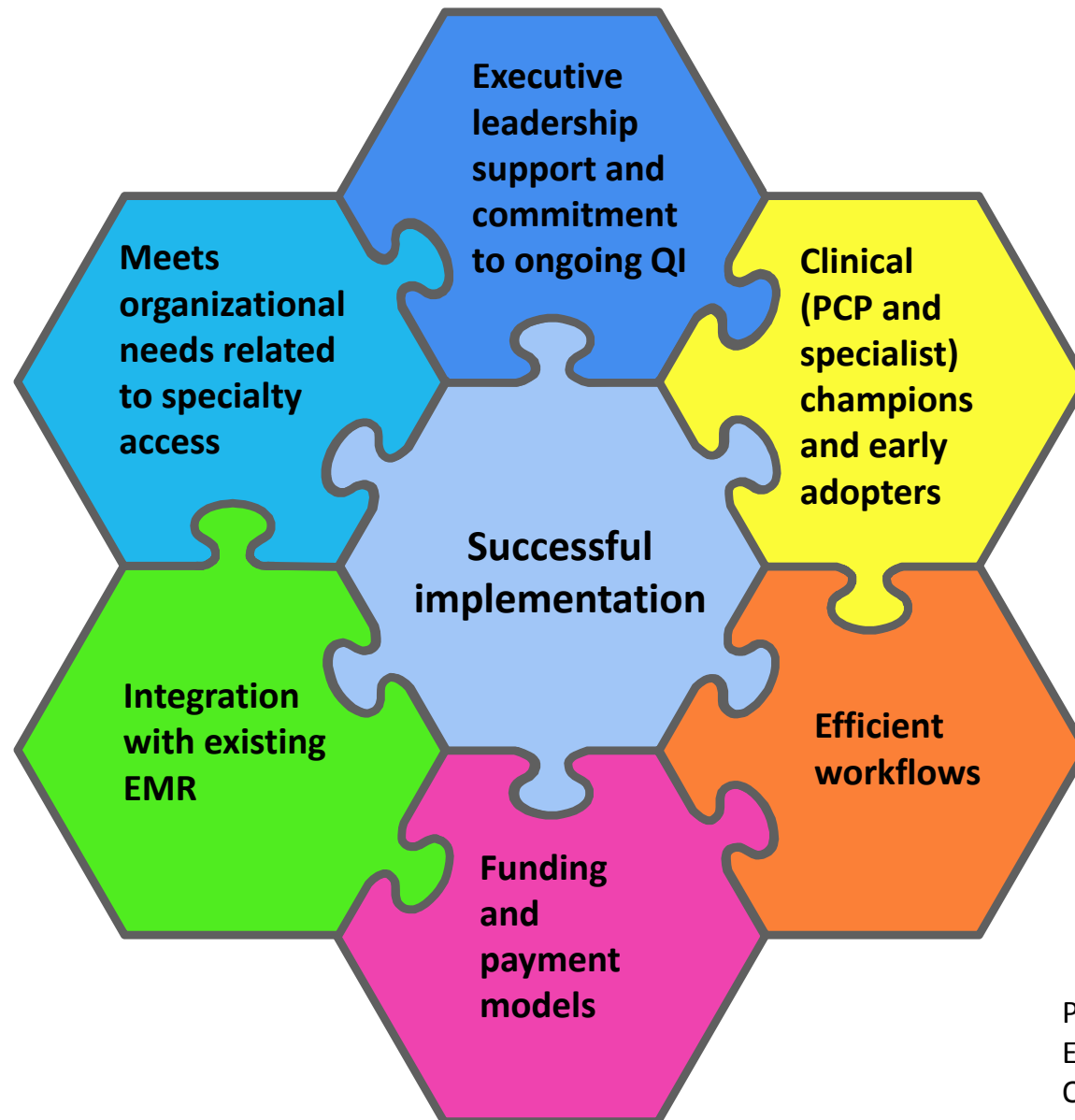
Facilitators

- Engaged leadership
 - Executives
 - Clinician leaders
- System responds to organizational challenges
- Strong partnerships with stakeholders
- User-friendly technology integrated into clinician workflows
- Reimbursement mechanisms for clinicians
- Dedicated program staff for outreach/marketing

Barriers

- Clinician resistance to change
 - PCP workload
 - Changes in PCP workflow
 - Specialist workload
- Lack of integration with EMR
- Inadequate funding
 - vendor platform and on-going support
 - Specialist compensation
- Liability concerns

Elements of Successful Implementation of Electronic Consultation Systems



PCP = primary care provider
EMR = electronic medical record
QI = quality improvement

eReferral Team



Alice Chen, eReferral Director

Peter Cheng, DPH Senior Software Engineer

Kiren Leeds, CIAQ Manager

Tekeshe Mekonnen, eReferral Program Manager

Kjeld Molvig, DPH Internal Application Manager

Lisa Murphy, eReferral Specialty Lead

Justin Sewell, CIAQ/evaluation faculty

Delphine Tuot, CIAQ/eReferral faculty, lead evaluator

www.ciaqsf.org

THANK YOU!

Blue Shield of California Foundation

California HealthCare Foundation

Kaiser Permanente Community Benefit

San Francisco Health Plan

SFGH Foundation

Community Health Center, Inc Middletown, CT

J. Nwando Olayiwola, MD, MPH, FAAFP
Nicole Jepeal, BA

weitzman  **institute**
inspiring primary care innovation

Community Health Center, Inc.

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Overview

1. Organizational Background & Demographics
2. The Problem
3. The Solution
4. eConsult Model & Workflow
5. Results
 1. Visits and access
 2. Clinical
 3. Provider satisfaction
6. Conclusions & Next Steps

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Study funded by the Connecticut Health Foundation



Community Health Center, Inc.

Organizational Background and Demographics



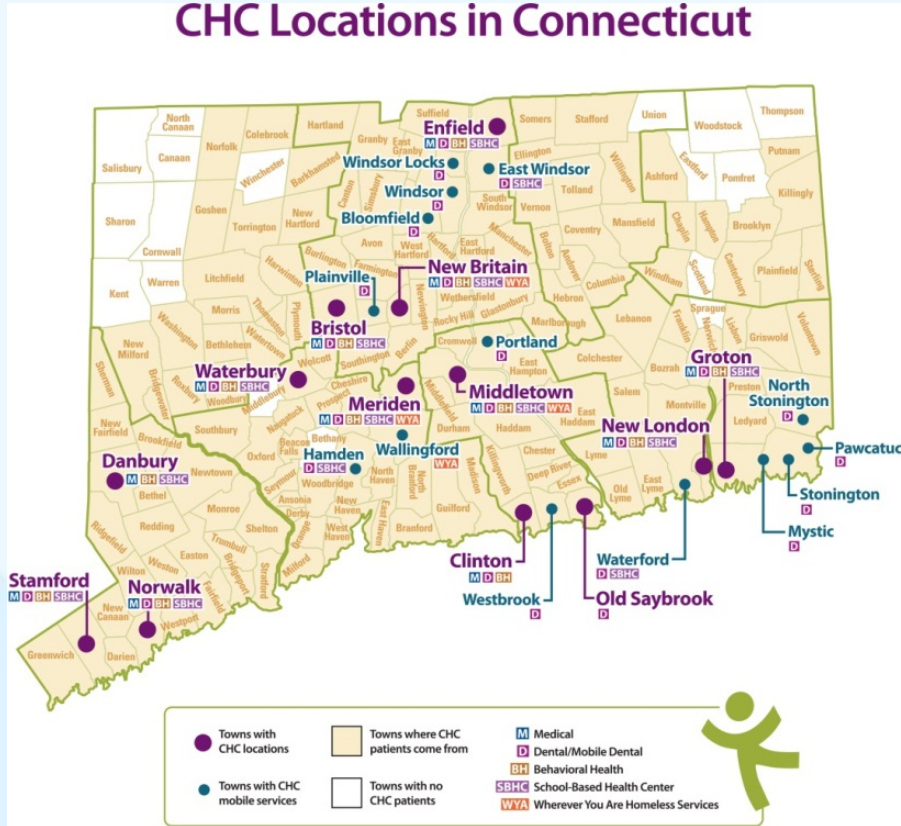
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Our Vision: Since 1972, Community Health Center, Inc. has been building a world-class primary health care system committed to caring for underserved and uninsured populations and focused on improving health outcomes, as well as building healthy communities.

CHC Locations in Connecticut



CHC Inc. Profile:

- Founding Year – 1972
- FQHC Designation
- Primary Care Hubs – 13
- No. of Service Locations - 218
- Licensed SBHC locations – 24
- Organization Staff – 500+
- Patients who consider CHCI their health care home – 130,000
- Health care visits – 410,000 per year

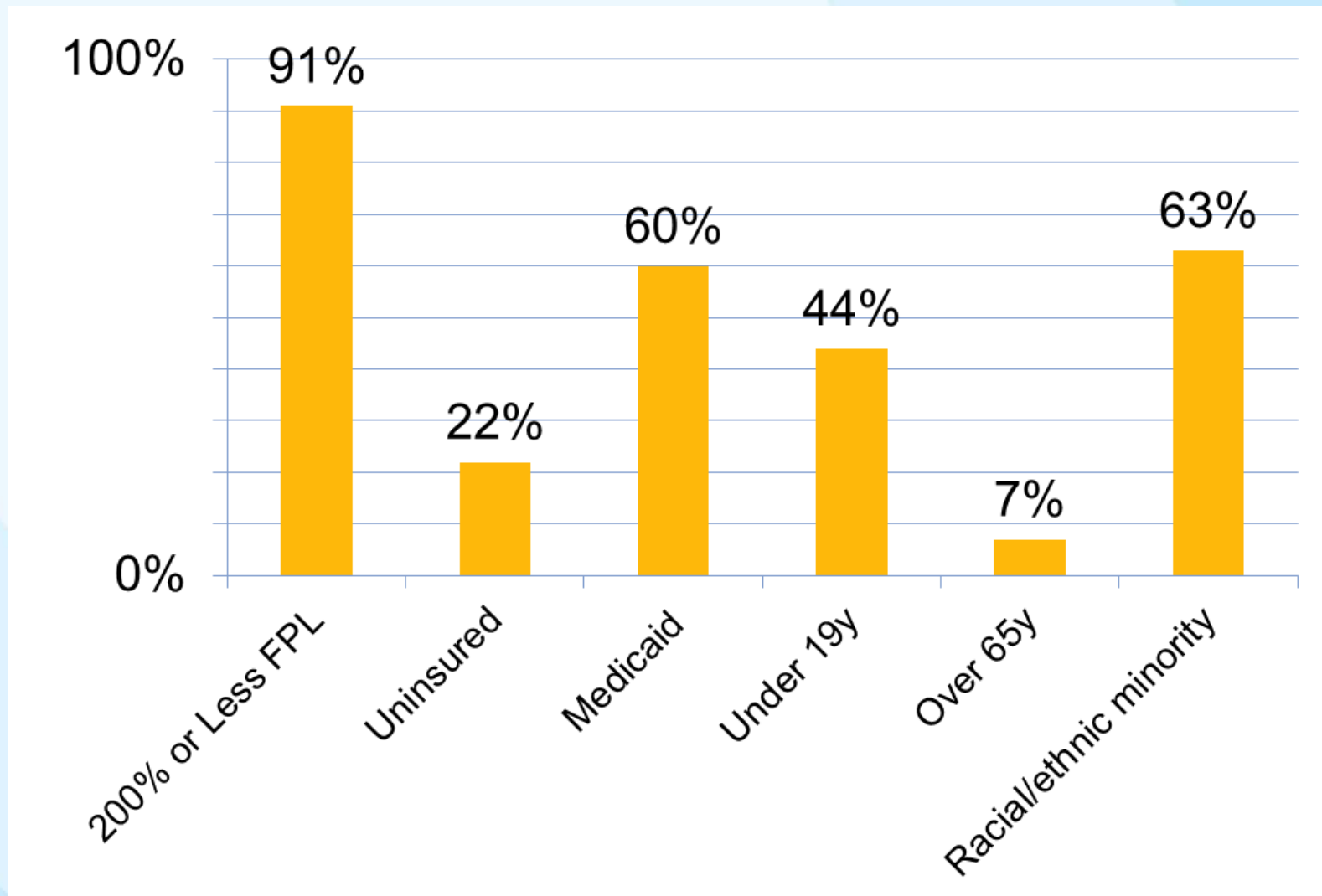
Innovations

- Integrated medical, dental and behavioral health services
- Fully integrated EHR
- Patient portal and HIE
- Extensive school-based care system
- “Wherever You Are” Health Care
- Level 3 PCMH-NCQA
- Joint Commission PCMH
- Centering Pregnancy model
- Residency training for new nurse practitioners and post doc psychologists

CHCI’s Weitzman Institute is a community-based research institute focused on quality improvement and innovation in primary care



CHCI Patient Demographics



FPL = Federal Poverty Level
Y = Years

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From:
Sent: Wednesday, June 13, 2012 3:20 PM
To:
Subject: RE: Orthopaedic and Dermatology

Here is the latest greatest news:

Dr. [redacted] Orthopaedics—states that ALL orthopaedic referrals from the Shoreline Area are to be scheduled locally. If no local orthopaedics, then they are to be referred to [redacted].

Dr. [redacted] —Dermatology—states that he will only see patients that live in the following areas, New London, Groton, Mystic, Gales Ferry and Ledyard. No where else.

For me, this means I have no where to send a managed healthcare patient when they need to see an Orthopaedic. (Unless they have Medicare as the primary coverage, then [redacted] Orthopaedics will see them.)

As for dermatology, patients that live in Waterford have no where to go at this time.

Can my job get any harder to do??????????????



The Problem: Primary Care-Specialty Care Access



From:

Sent: Thursday, May 10, 2012 12:51 PM

To:

Cc:

Subject: ENT

I just spoke with [redacted] at [redacted] ENT and as of today they are no longer accepting ENT patients. The doctor there is not renewing his contract. She does not know if they will be accepting patients in the future.



From:

Sent: Friday, January 20, 2012 10:08 AM

To:

Cc:

Subject: ophthalmology

Just as an FYI ophthalmology is not currently taking any new
husky patients.



JUN-20-2012 09:58 FROM:

TO: 18602242760

P. 1

Director of Endoscopy Department at Hospital

November 6, 2008 1-31-12

RE: GI COVERAGE FOR AND AND

To all GI doctors:

There has been a revision in the coverage below. I am writing to announce as of January 1, 2009, that we are all going to be on the same schedule coverage to the clinics doctors, and , and patient birthday month coverage for GI specialists. The list below confirms the yearly schedule is as follows:

January:
February:

March:
April:
May:
June:
July:
August:
September:
October:
November:
December:

Can you please let me know if this is not the correct schedule we are to use for GI referrals? Thank you for your help in this important matter.

Sincerely,

Director of Endoscopy



The Current Specialty Care Paradigm



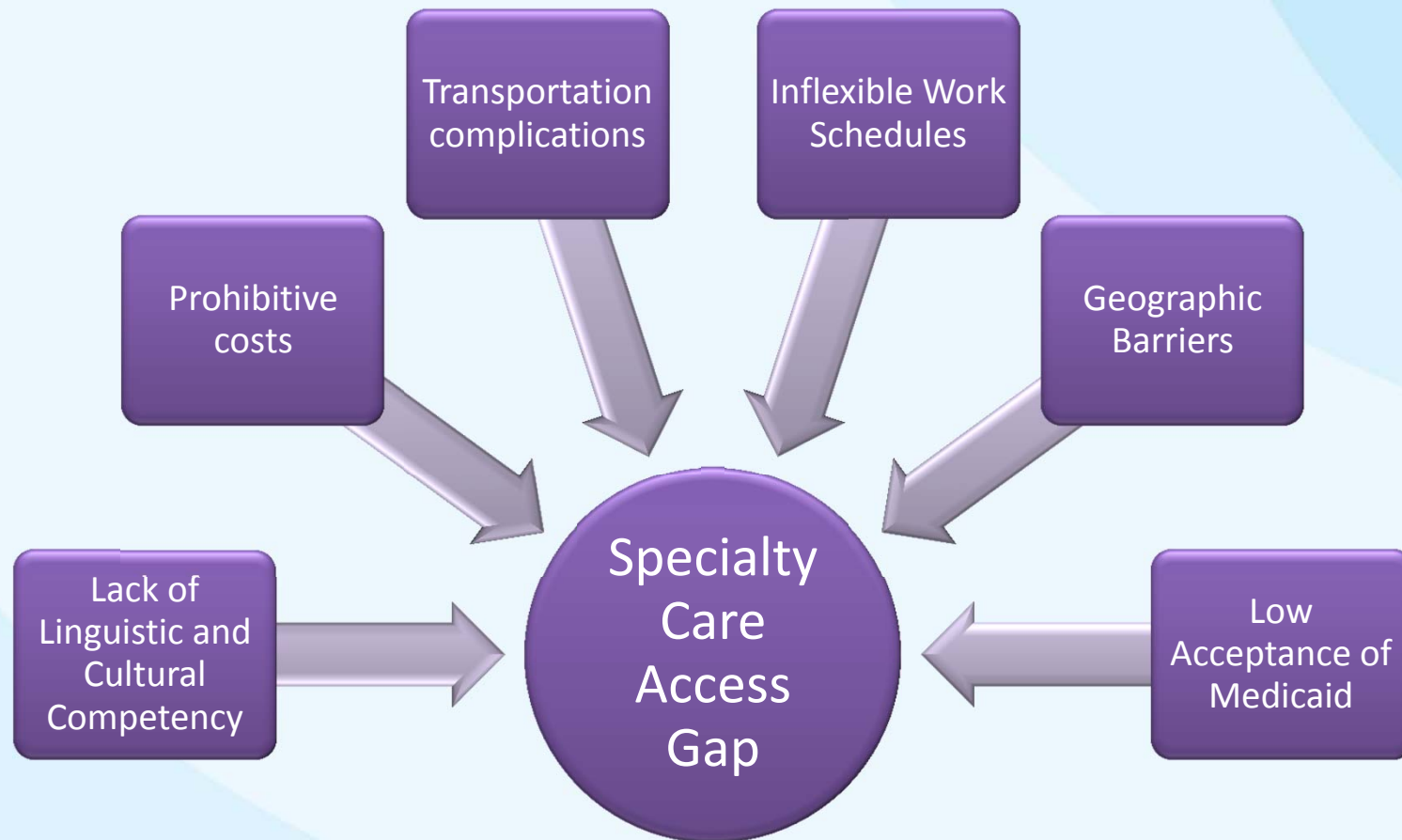
Wait Times & Costs for Specialty Care

Specialty	Average Wait Time (days)	Average Cost (\$/visit)
Allergy/Immunology	36	224
Cardiology	18	470
Colorectal Surgery	30	305
Dermatology	48	157
Endocrinology	51	266
Gastroenterology	31	206
General Surgery	19	150
Neurology	35	278
Ophthalmology	17	130
Orthopedic Surgery	15	295

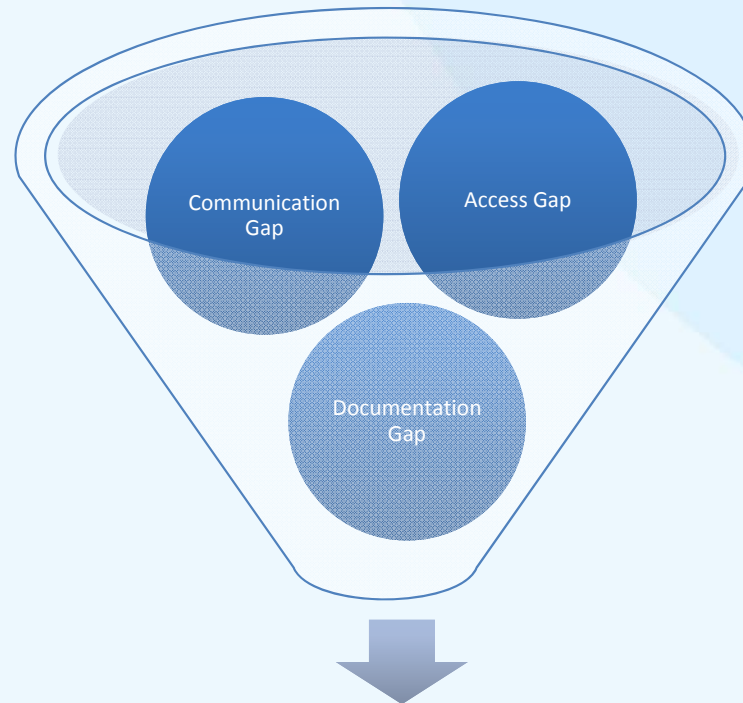
CHC Referral Data – February 2011
 Community Health Center, Inc.



Contributors to Access Issues



Pilot Data – Cardiology Referrals – Care Gaps



Incomplete Referrals

39% of cardiology referrals were confirmed as completed in pilot data

Wait time to completion over 50 days



The Solution – eConsult Model



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The CHCI eConsult Model

Based out of an FQHC not an academic health center

Contract with UCONN Health Center

Utilized a secure messaging module within EHR

Providers had the ability to attach relevant pieces of patients' chart

The process was invisible to the primary care provider

Response within 2 business days

If a F2F visit was required, the patient could be seen by the specialist of their choice



Referral (Outgoing)

Patient Test, Adult Imz1 (863359)

Sel Info Hub

Insurance [] Sel POS 11



* Ref From Test, Test

* Ref To
Provider Carter, Shanti

Specialty Cardiology Send to eHX

Facility From []

Facility To [] Clear

Auth Code []

Start Date 02/21/2012

Auth Type []

Referral Date 02/21/2012

End Date 02/21/2013

Open Cases []

* Assigned To []

Appt Date 02/21/2012

Unit Type V (VISIT)

Received Date 02/21/2012

Status Open Consult Pending Addressed

Priority Routine

Diagnosis / Reason

Reason [Add] [Browse] [Remove]

Sl. No	Description
1	Econsult for patient with identified test pain. The EKG, medical summary and CCD are attached.

Diagnosis [Previous Dx] [Add] [Remove]

Code	Name
428.0	CHF [Congestive heart failure], unspecified

Procedures [Add] [Remove]

Code	Name
------	------

How would you like to send the referral?



Print



Print with Attachments (5)



Fax



Fax with Attachments (5)



Send (EHX)



Send instantly to Carter, Shanti via eCW P2P

Scan Attachments (5) Logs

OK Cancel

Send Referral



Attachments [X]

Attach Medical Summary **Attach CCR/CCD** (available only when sending via eCW P2P)

Progress Notes + Attach - Remove

Date	Reason

Lab Reports + Attach - Remove

Name	Reason	Result
CBC (H/H,RBC,Indices,WBC,Plt)		

X-Rays + Attach - Remove

Name	Reason	Result
RECG		
chest xray	sob, decreased lung sounds	

Patient Documents + Attach - Remove

Document Name	Document Description

OK Cancel



Facilitators



- Multi-level stakeholder engagement
- Grant funded
- Process did not increase workload of PCP
- Centralized Referral Coordinator
- eConsult first pass mandate

Barriers



- Provider willingness to change
- Interoperability – ease of use on specialty end, browser compatibility
- Documentation process
- No sustainable payment model



eConsult Workflow and Consort Diagram



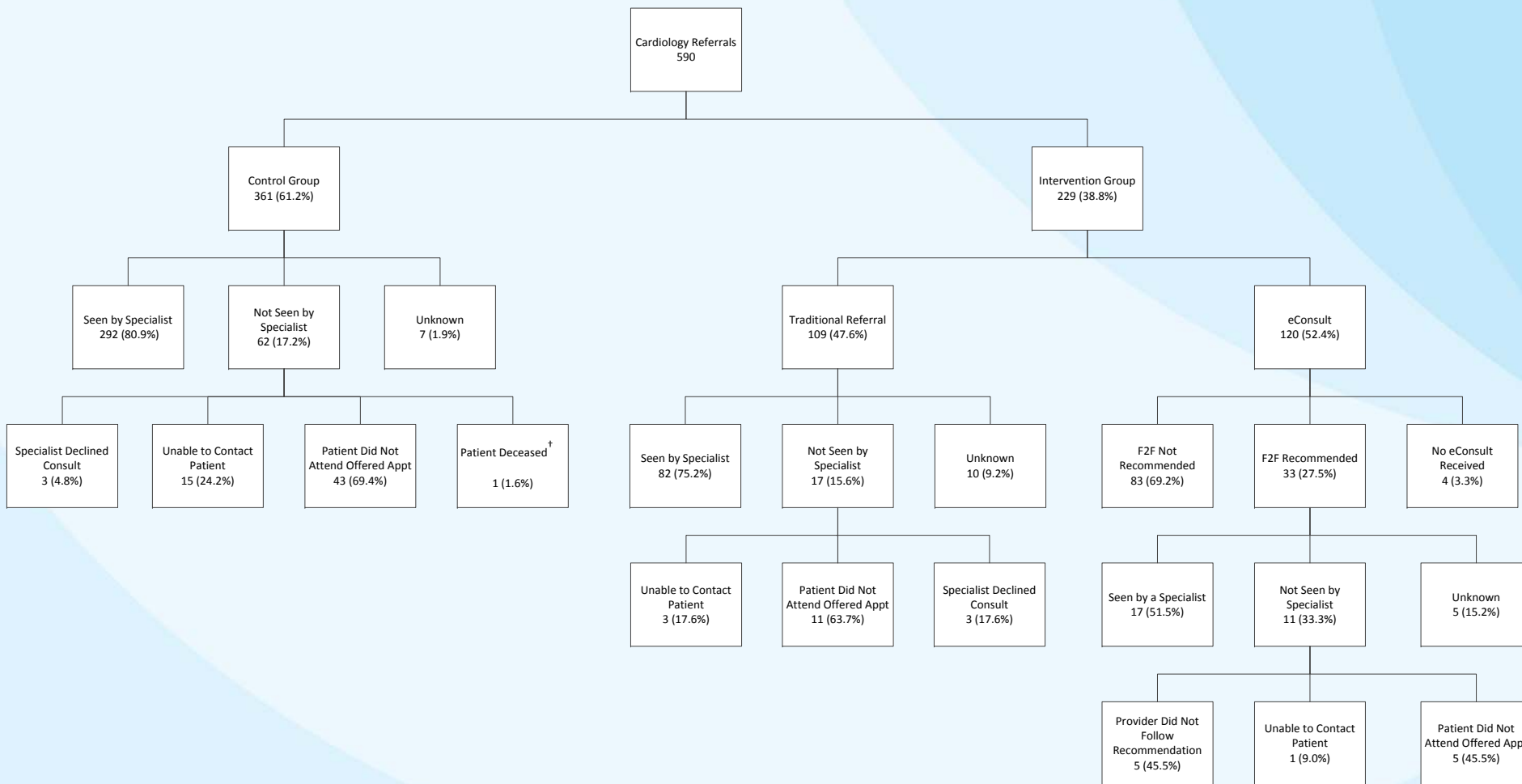
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eConsult Flow Diagram

Figure 1. Workflow and Volume of Cardiology Referrals, August 1, 2012 through July 31, 2013



The flow chart illustrates the result of every cardiology referral during the 1 year study period.

*F2F is a face to face appointment

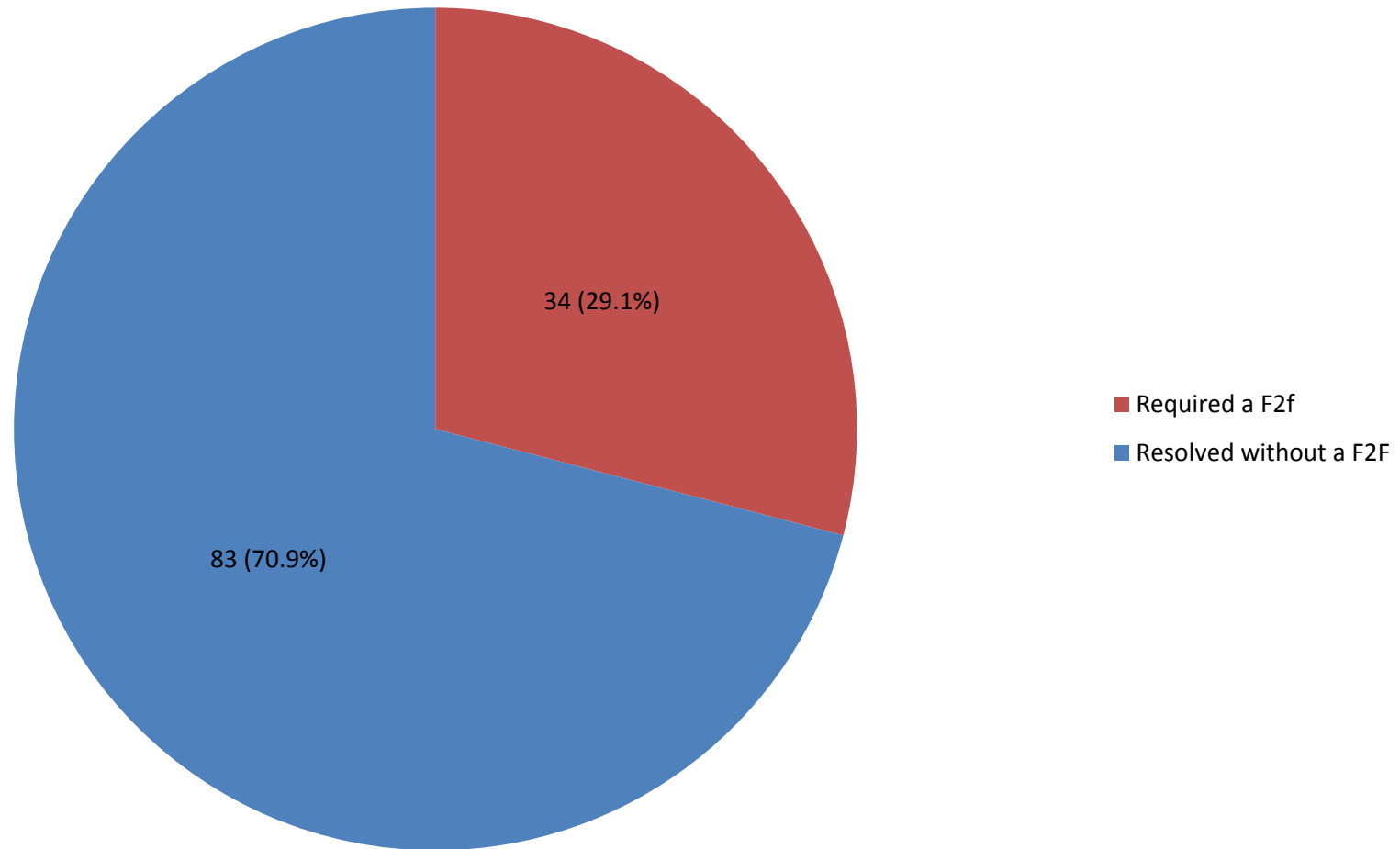
**Appt is an appointment

†Patient deceased due to a non-cardiac related event



Reduction in F2F visits

eConsults



Results



Cox Regression Model Comparing Time to Visit with Cardiologist among Intervention Groups (N = 590).

		Model 1				Model 2			
	Variable	Exp(Coeff)	Lower CI	Upper CI	Pr(> z)	Exp(Coeff)	Lower CI	Upper CI	Pr(> z)
Analysis 1^a									
	Intervention	1.45	1.21	1.74	<0.001	--	--	--	--
	Intervention eConsult	--	--	--	--	3.49	2.78	4.38	<0.001
	Intervention Traditional	--	--	--	--	0.80	0.63	1.03	0.080
Analysis 2^b									
	Intervention	1.25	1.03	1.5	0.021	--	--	--	--
	Intervention eConsult	--	--	--	--	2.24	1.77	2.82	<0.001
	Intervention Traditional	--	--	--	--	0.81	0.63	1.03	0.089



Comparing Time to Visit with Cardiologist among Intervention Groups (N = 590).

		A.	B.	A.	B.	A.	B.
	Time to visit with cardiologist	Median time to visit with cardiologist	Median time to visit with cardiologist	Patients not seeing a cardiologist within 31 days of referral	Patients not seeing a cardiologist within 31 days of referral	Patients never seeing cardiologist face to face	Patients never seeing cardiologist face to face
	Range (days)	Median (days)	Median (days)	%	%	%	%
Intervention -eConsults	0 – 65	4	5	10	19	3	17
Intervention -Traditional	0 – 294	29	29	48	48	25	25
Control	0 – 153	24	24	38	38	19	19

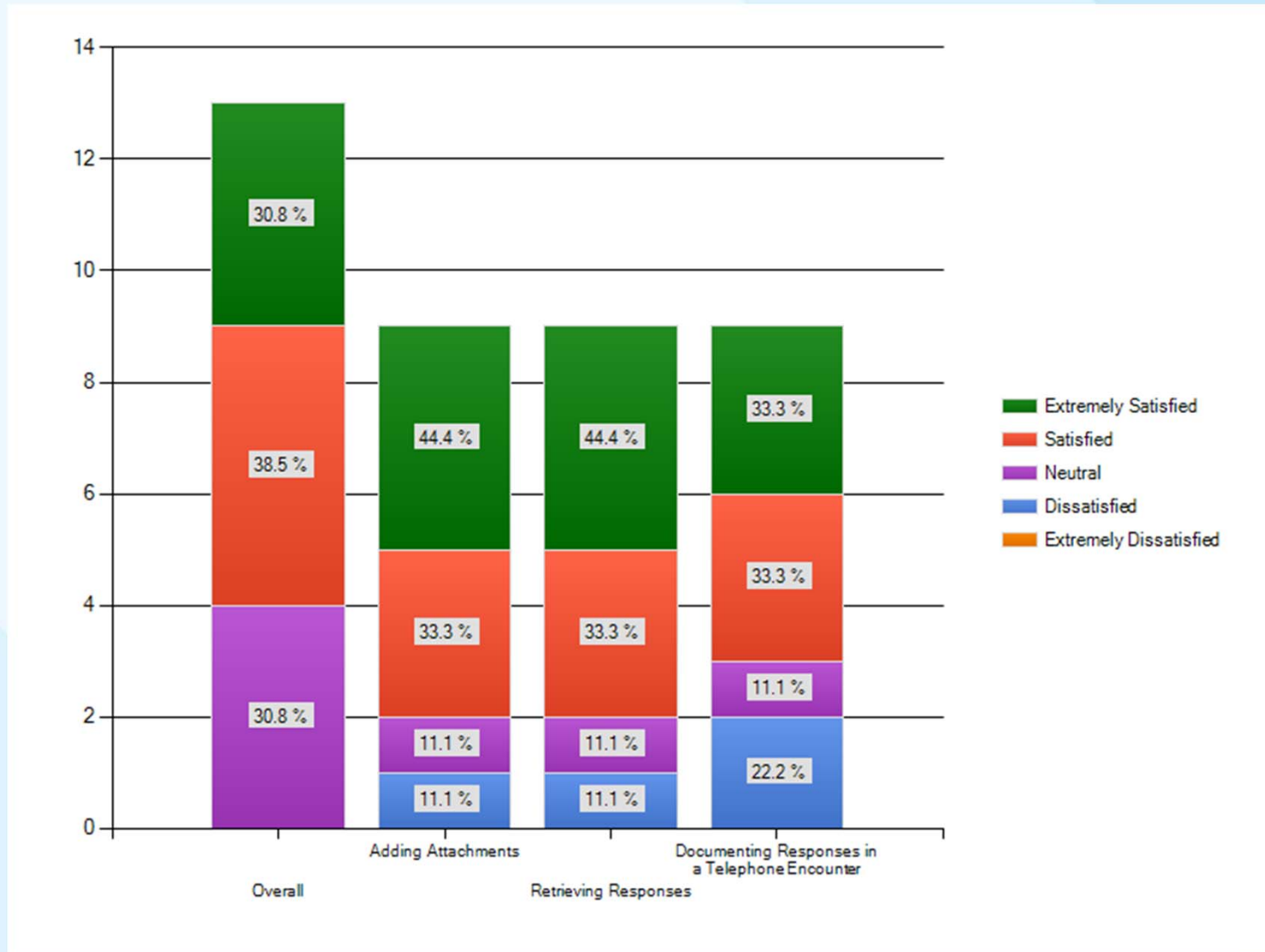


Clinical End Points				
	Intervention			Control
	Total N=229	Traditional Pathway N=109	eConsults Pathway N=120	N=361
	no. (%)			no. (%)
Death from any Cause	0	0	0	1 (0.3)
Death from Cardiovascular Causes	0	0	0	0
Myocardial Infarction	0	0	0	0
Coronary Artery Bypass Surgery	0	0	0	0
Catheterization with Stenting or Angioplasty	3 (1.3)	1 (0.9)	2 (1.7)	2 (0.6)
Diagnostic Catheterization	1 (0.4)	1 (0.9)	0	6 (1.7)
ED Visits with possible Cardiac Symptoms*	4 (1.7)	3 (2.8)	1 (0.8)	21 (5.8)
Hospitalization for Arrhythmia	2 (0.9)	2 (1.8)	0	5 (1.4)
Hospitalization for Atypical Chest Pain	6 (2.6)	4 (3.7)	2 (1.7)	10 (2.8)
Hospitalization for Syncope or Near Syncope	0	0	0	4 (1.1)
Hospitalization for Congestive Heart Failure	2 (0.9)	1 (0.9)	1 (0.8)	0

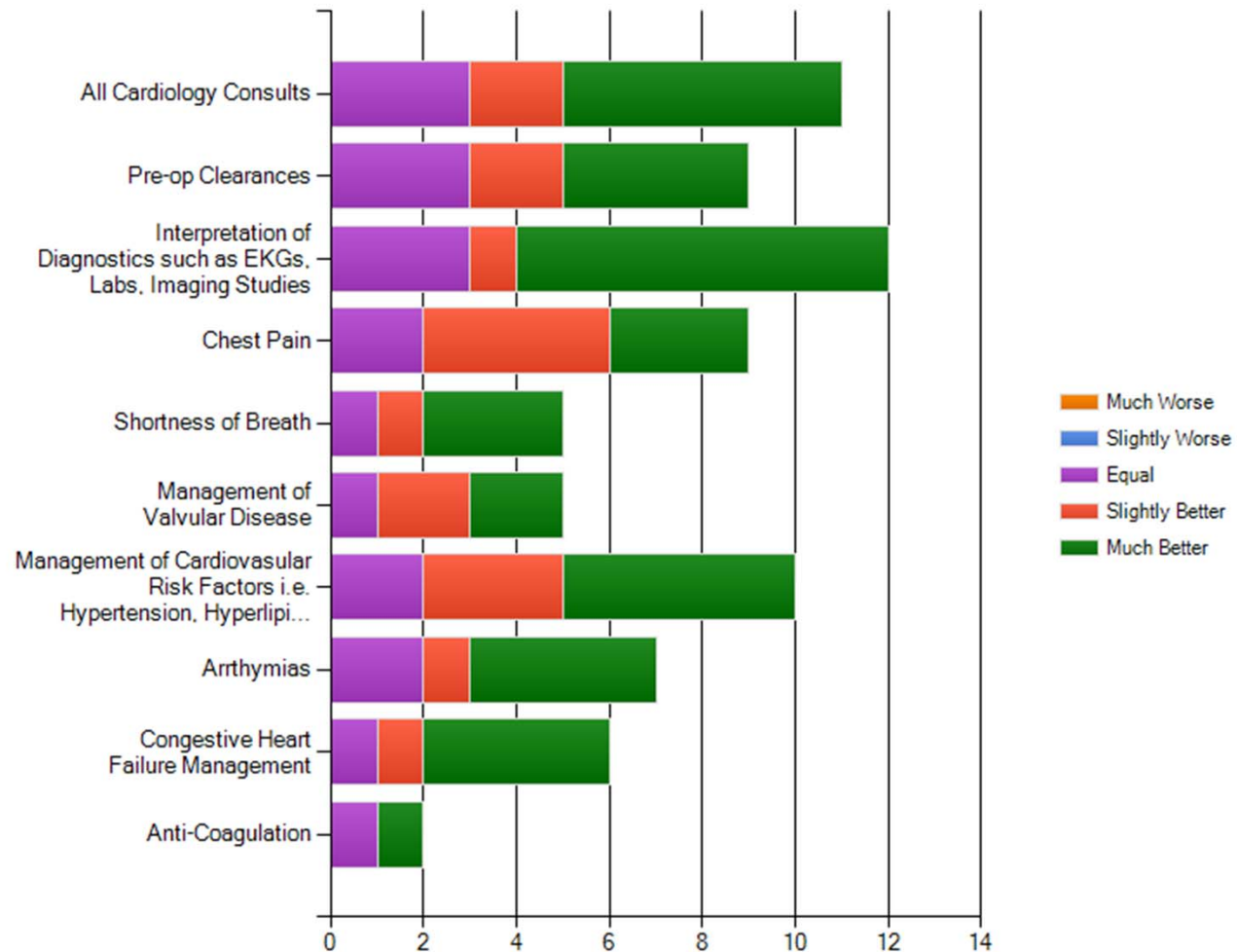
* p= 0.02 for ED Visits with Possible Cardiac Symptom. No other end points were statistically different.



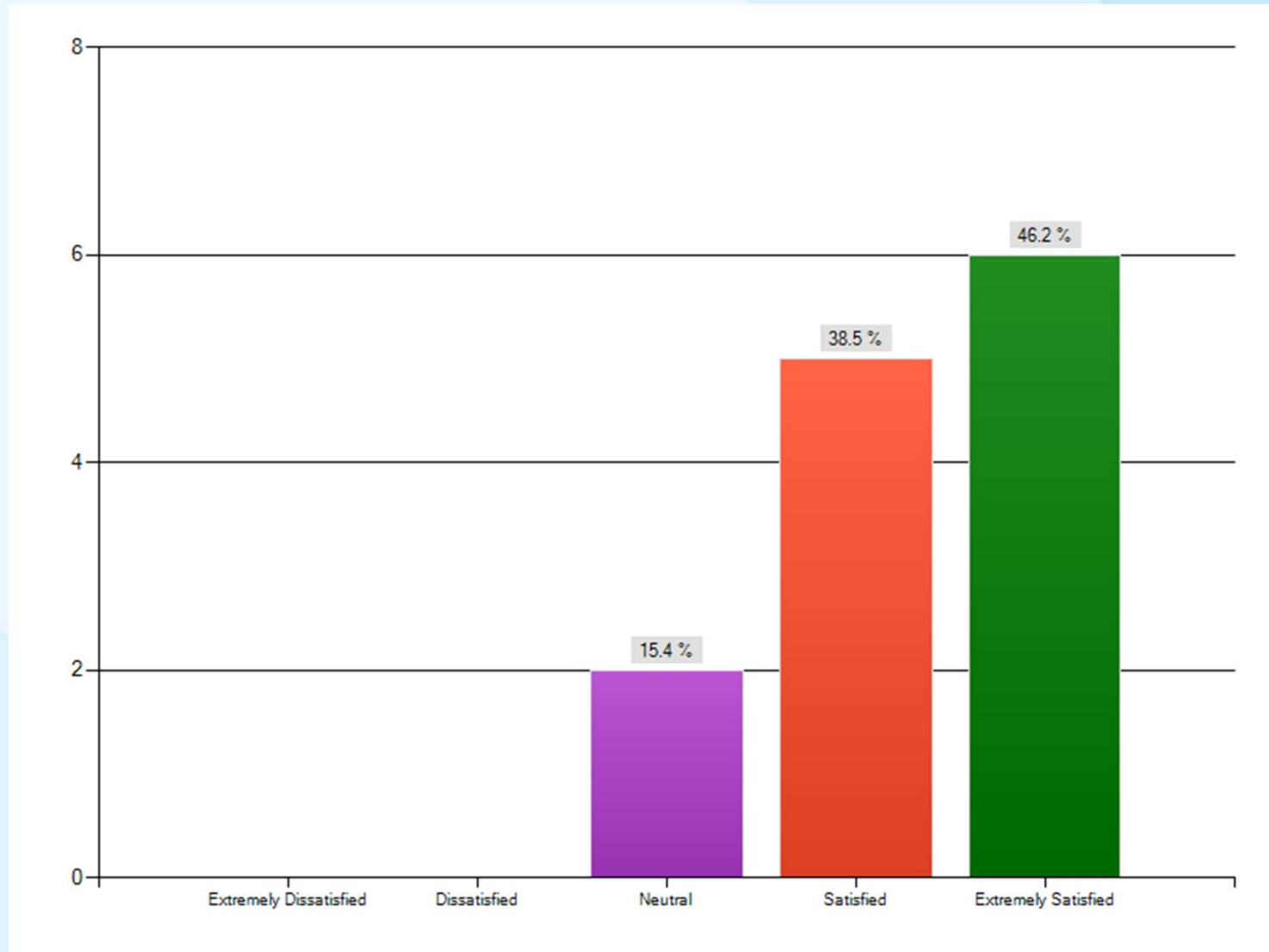
How Satisfied Are You with the Ease of the eConsult Process?



Compared to a Traditional Cardiology Referral How Would You Rate the Quality of the Content of eConsult Responses?



How Satisfied Are You with the eConsult Response Time?



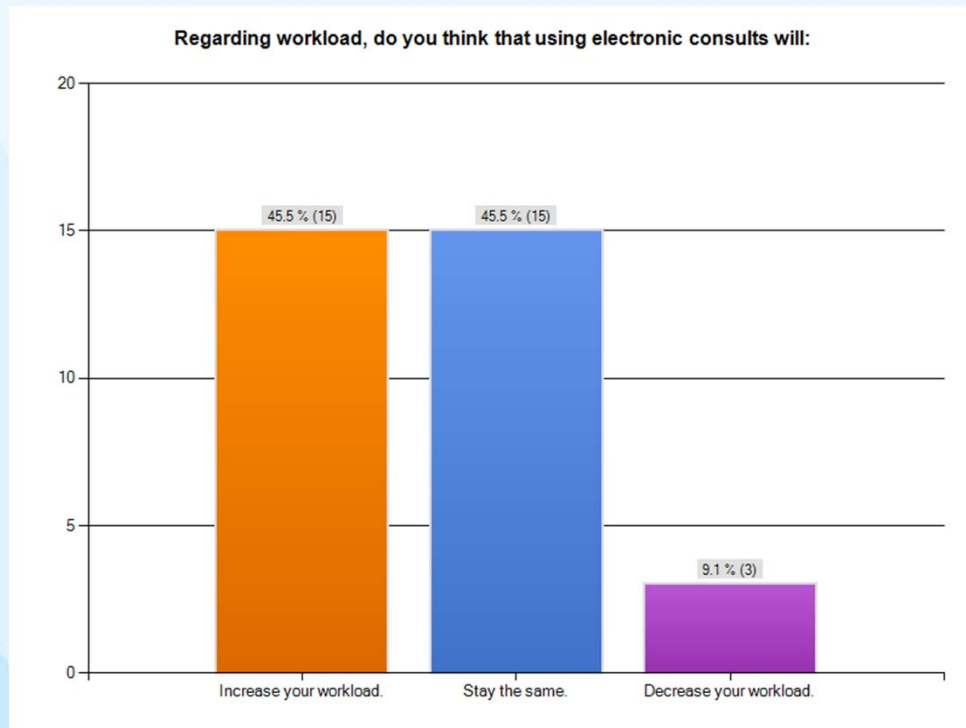
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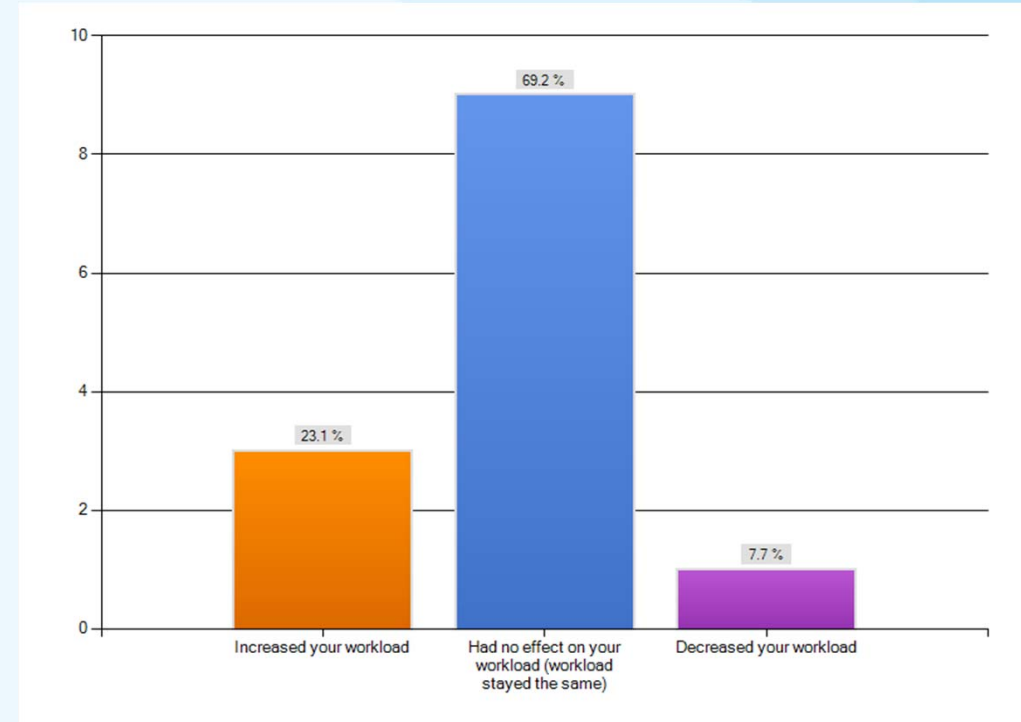


Regarding Workload, Has Sending eConsults:

Pre-Intervention Survey

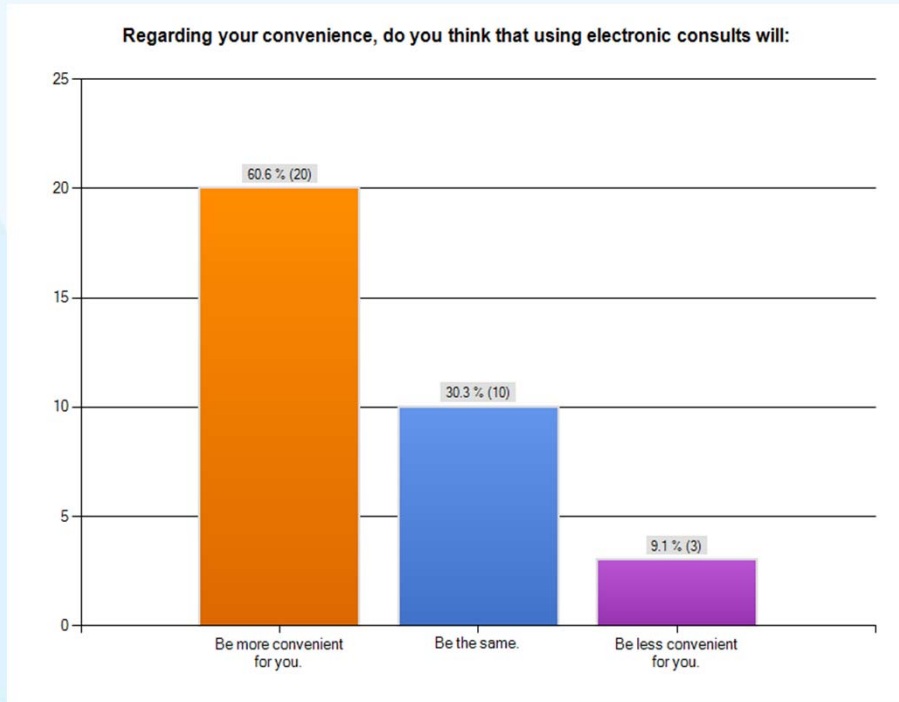


Mid-Intervention Survey

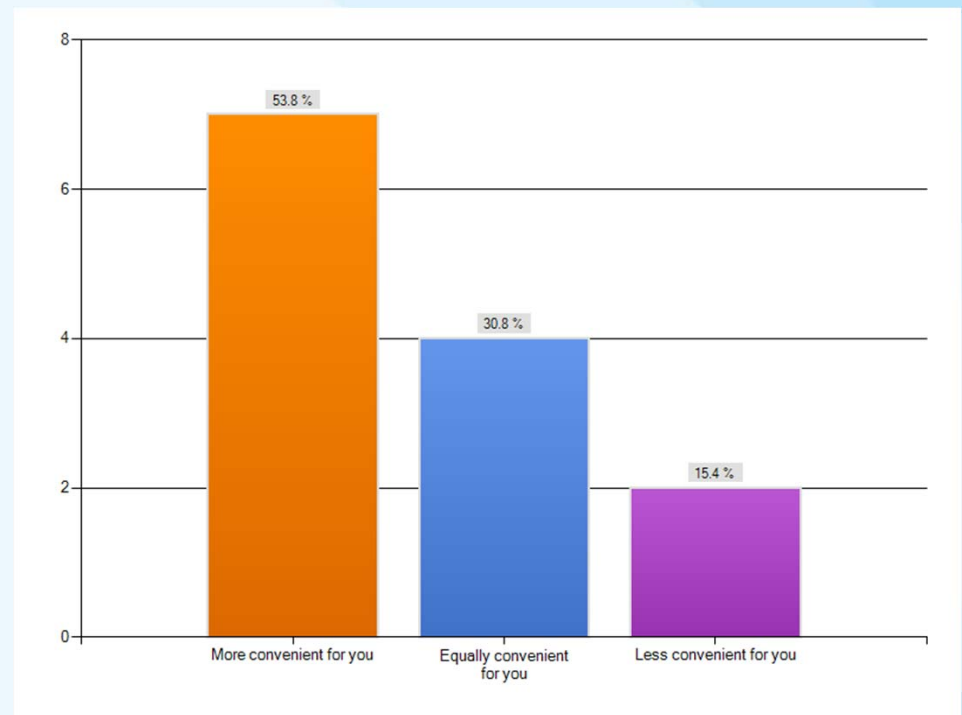


Regarding Convenience, Is Sending eConsults:

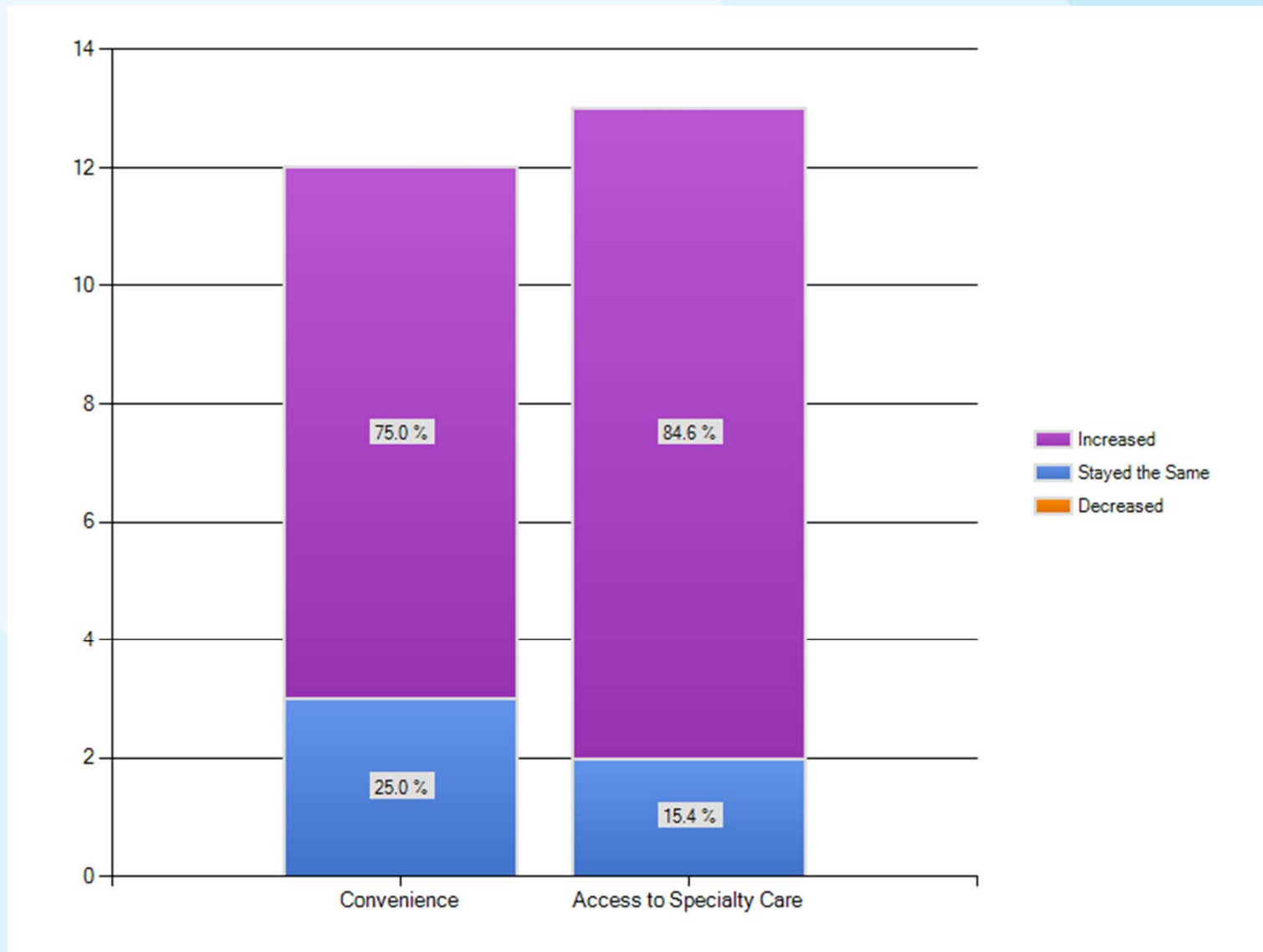
Pre-Intervention Survey



Mid-Intervention Survey



How Have eConsults Affected Your Patients?



Conclusions and Next Steps





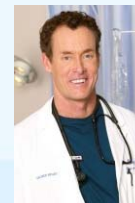
What's Next?

- Sustainable Infrastructure
- Payment Model
- Beyond Geographic Barriers
- Outside the Safety Net
- Multi-payer Engagement



Central
eConsult
Hub

Web-Based
Platform



Patient's
EHR

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Contact Us

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Assistant Professor, Department of Family and Community Medicine
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OlayiwolaJ@fcm.ucsf.edu

Daren R. Anderson, MD (Co-PI)

Vice President/Chief Quality Officer
Director, Weitzman Institute
Community Health Center, Inc
AndersD@chc1.com



Building a Medical Neighborhood at Brigham and Women's Hospital



May 28, 2014

Jeffrey O. Greenberg, MD, MBA
Associate Medical Director, BWPO

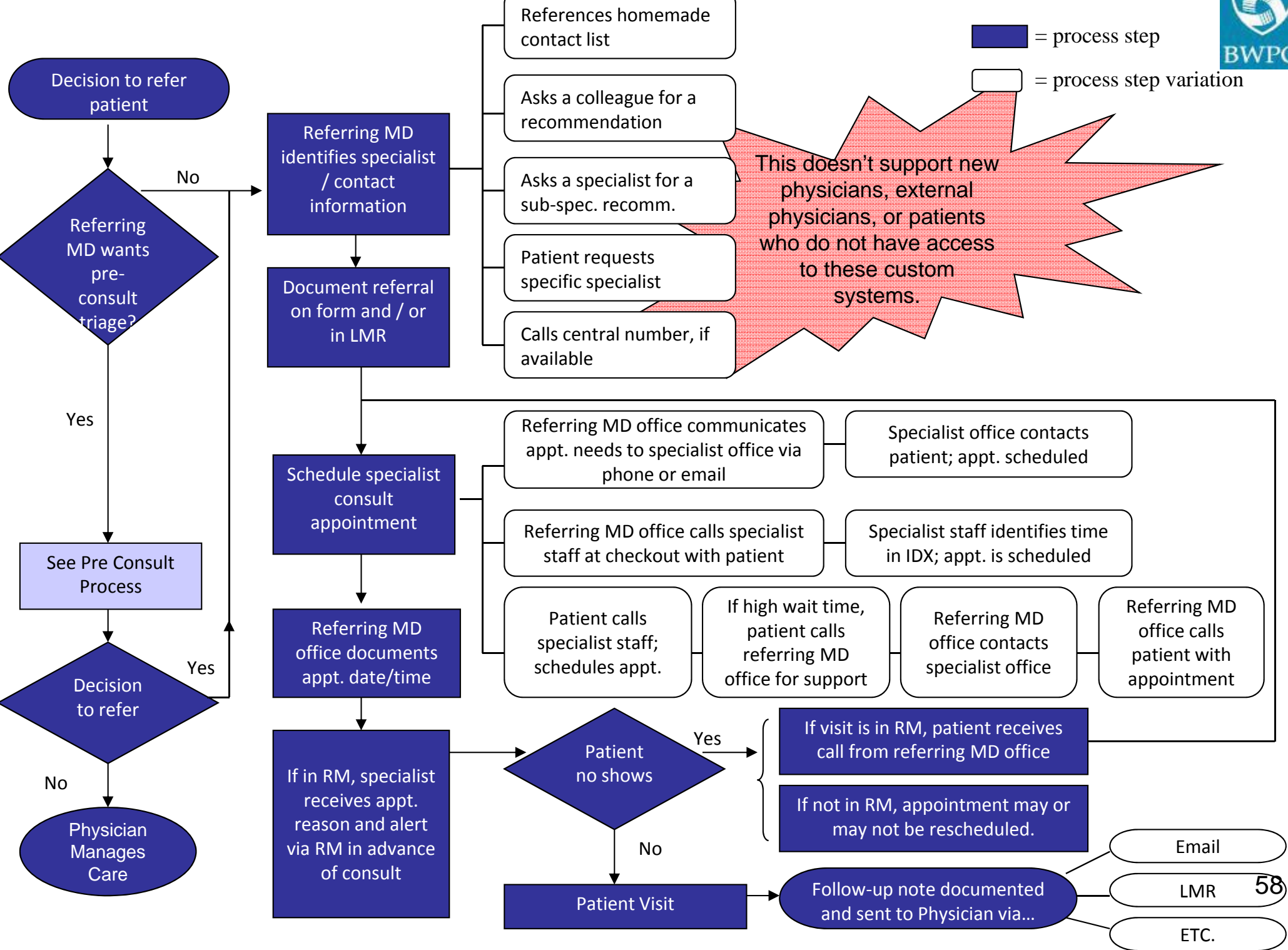
Organization Context

- Brigham and Women's Hospital is a 777-bed academic medical center in Boston, MA
- Teaching affiliate of Harvard Medical School
- 1,600-member physicians organization, majority of whom are employed (though not always salaried)
- Owned by corporate parent Partners Healthcare, an umbrella organization with two AMCs, 4 community hospitals, and ~6,000 physicians (including BWH/BWPO)
- BWH has home-grown outpatient EMR and inpatient CPOE, but no inpatient EMR
- Implementing Epic in May 2015

Our Referral Problem

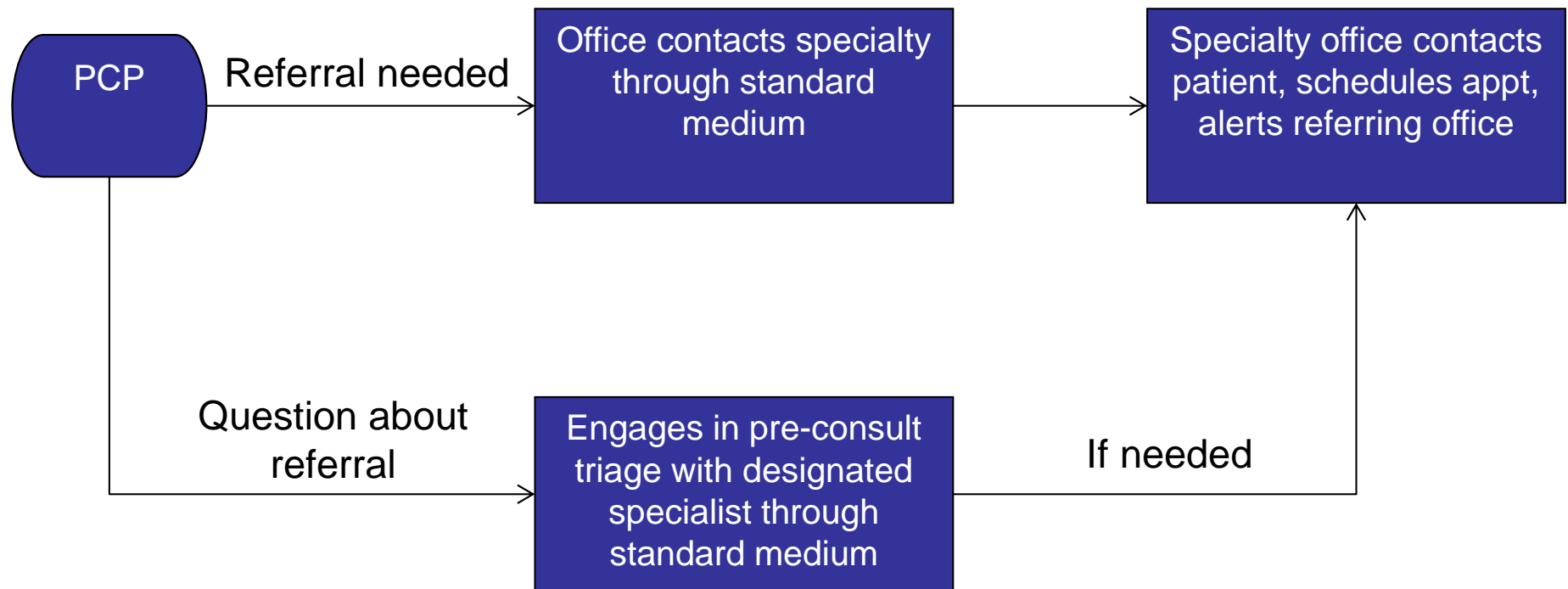
- We have no robust system to facilitate referrals to BWH specialists
- This results in:
 - Inequity and unpredictable **experience** for referring providers and patients
 - Minimal triage and poor **access**
 - **Inefficient** workarounds, back doors
 - **Leakage** of referrals outside of BWH and difficulty in attracting external referrals

ILLUSTRATIVE Referral Workflow - Current



Vision: Why Can't It Look Like This?

One process for all specialties:



Current System Leads to Many Failures

Inefficiency

- Referring physicians – both PCPs and specialists, both internal and external – have to re-learn referral process for each specialty, and sometime each physician

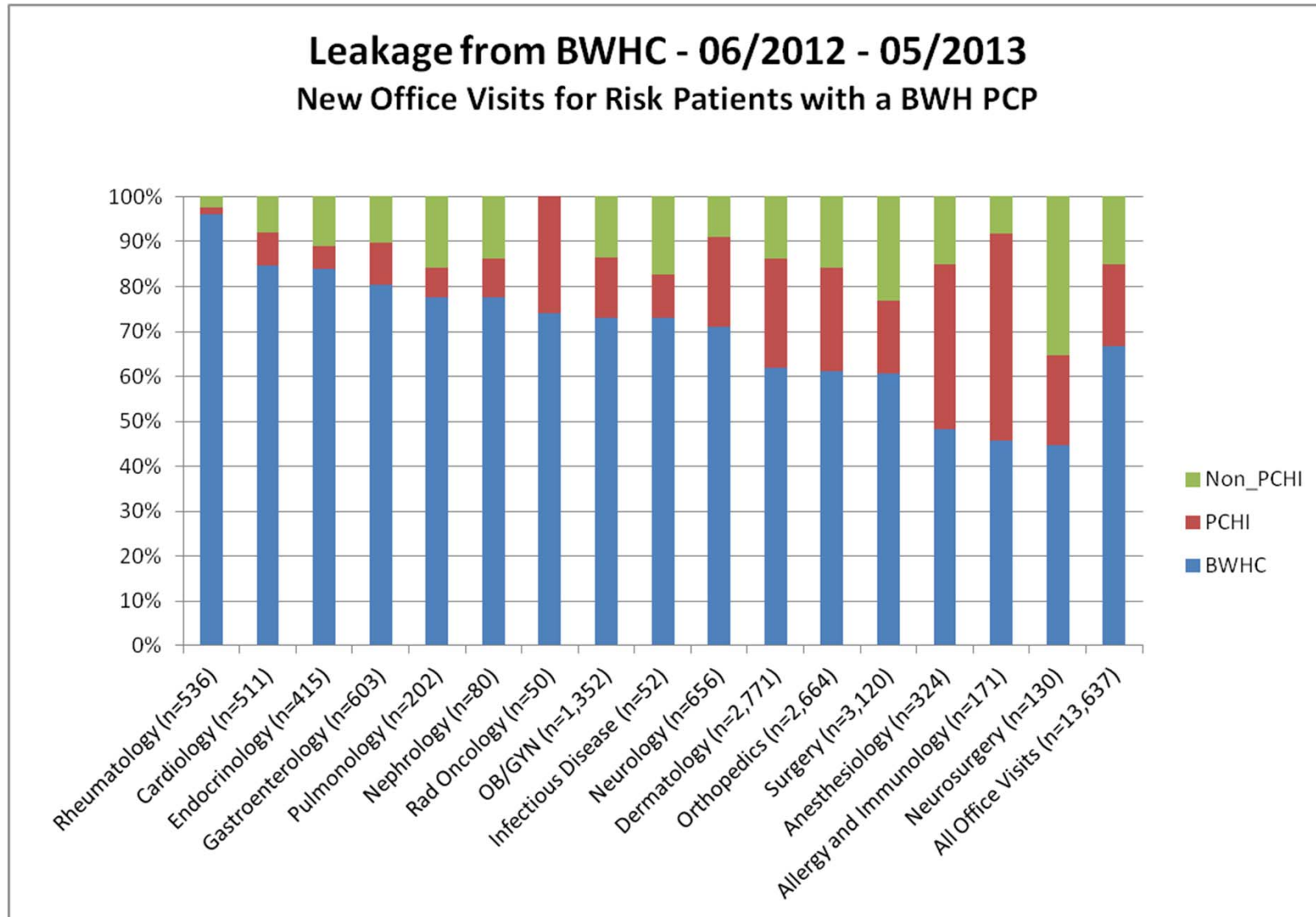
Inequity

- Experienced physicians email trusted colleagues for advice and referrals – while newer physicians may struggle

Lack of Integration

- Substantial visits (30%) to specialists for patients with BWH PCPs land outside of BWH
- Informal curbsides not documented, not reimbursed

Leakage of Patients from BWH



Source: Payer claims. Includes only commercial patients with BCBS, HPHC, THP Jul-2012 to Jun- 2013.

Medical Neighborhood: Goals

More appropriate Referrals

- Create an active system to ensure the right patient sees the right provider in the right time frame
- Reduce unnecessary referrals and diagnostic tests
- Improve access to specialists

Standard Process

- Create an easy, standard process for referral patients to all BWH ambulatory specialties
- Decrease leakage of patients outside of BWH
- Increase referral volume to BWH

Three Paradigms For Referrals

No triage needed

- “I know I need a referral, and I know which physician I want to refer to”

Minimal triage needed


- “I know which specialty I need, but I do not know, or do not have a preference, as to which MD patient sees”

Significant triage needed

- “I know I need help in caring for this patient, but I need help with”:
 - Right specialty and right MD
 - Right work-up
 - Right timing of referral




New referral portal




Pre-consult exchanges (through new portal)


What Is Referral Management?

-
- 1 Simplify and **standardize process** to make referring to BWH easy from internal or external MDs 


 - Increase **volume**
 - Simplify **process**

 - 2 Enable active **triage** of referrals (pre-consult exchange) 

 - Improve access
 - Win in **population management**

 - 3 **Track** referrals to know when they are scheduled, whether patients show-up 

 - Major requirement for PCMH certification
 - Important to CRICO

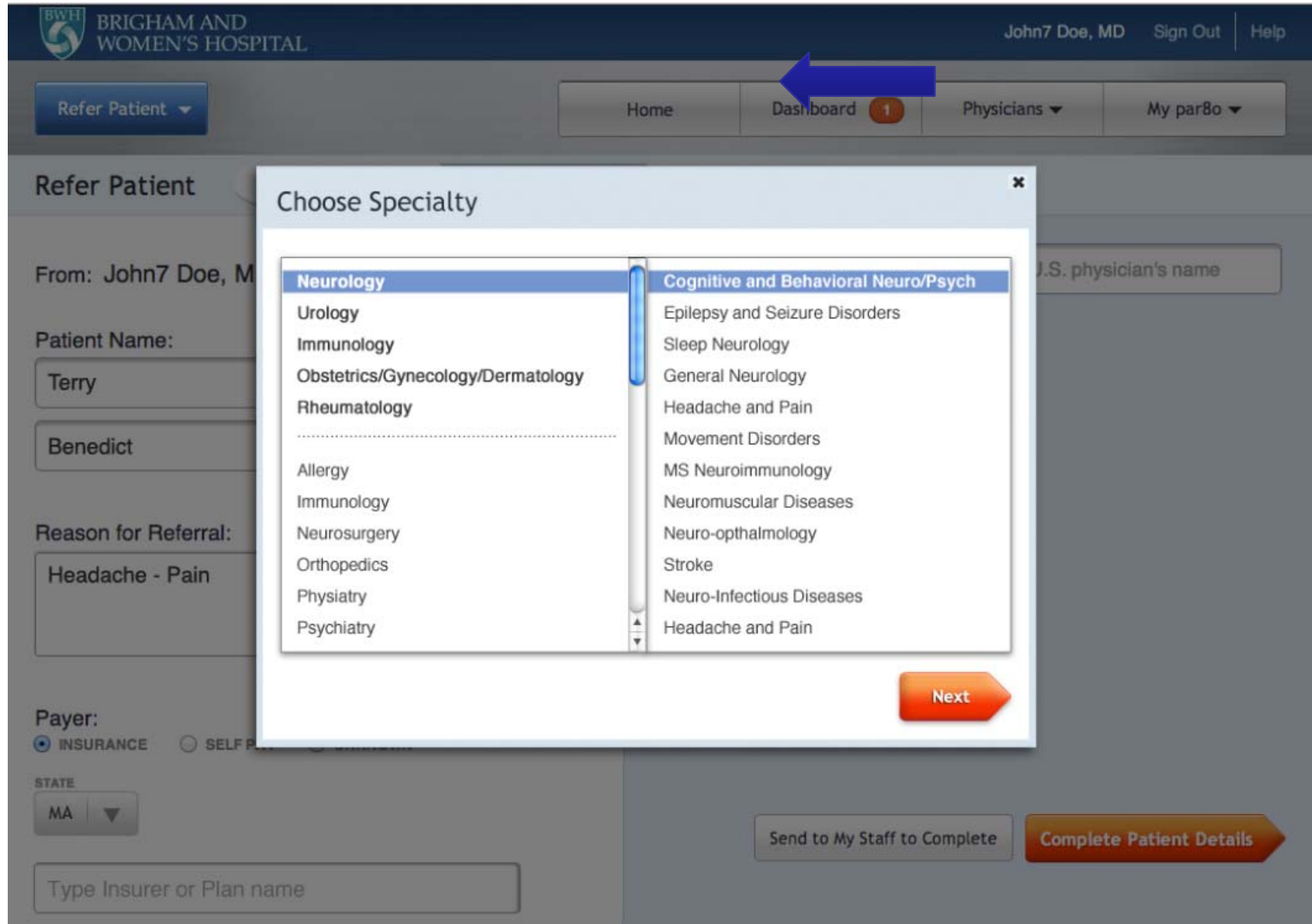
 - 4 **Measure** processes and outcomes of referrals 

 - Building incentives
 - Developing and monitoring new programs, growth strategies

BWHC eReferral

- Cloud-based referral portal allowing “one-stop shopping” for any BWH ambulatory specialist
- Referrals land in a “work queue” for each specialty; specialty staff call patients to book appointments
- Linked to outpatient EMR for patient identification and demographics and single sign-on
- Developed by par8o, LLC, and heavily configured for BWH
- Launched in January 2014 and ramped up over two months
- “Teamcare”: Module within eReferral that facilitates e-consults

Implemented eReferral in January 2014



The screenshot displays the eReferral system interface for Brigham and Women's Hospital. The top navigation bar includes the hospital logo, the user name 'John7 Doe, MD', and links for 'Sign Out' and 'Help'. A blue arrow points to the 'Dashboard' link in the navigation menu, which has a red notification badge with the number '1'. The main content area is titled 'Refer Patient' and contains several input fields: 'From: John7 Doe, M...', 'Patient Name: Terry', 'Reason for Referral: Headache - Pain', and 'Payer: INSURANCE'. A 'Choose Specialty' dialog box is open in the center, showing a list of medical specialties. The 'Neurology' specialty is selected, and its sub-specialties are listed in a second column. A 'Next' button is located at the bottom right of the dialog box. At the bottom of the main interface, there are two buttons: 'Send to My Staff to Complete' and 'Complete Patient Details'.

Choose Specialty

Neurology	Cognitive and Behavioral Neuro/Psych
Urology	Epilepsy and Seizure Disorders
Immunology	Sleep Neurology
Obstetrics/Gynecology/Dermatology	General Neurology
Rheumatology	Headache and Pain
.....	Movement Disorders
Allergy	MS Neuroimmunology
Immunology	Neuromuscular Diseases
Neurosurgery	Neuro-ophthalmology
Orthopedics	Stroke
Physiatry	Neuro-Infectious Diseases
Psychiatry	Headache and Pain

Next

Send to My Staff to Complete **Complete Patient Details**

BWHC eReferral Work Queue



Work Queue | Physicians ▾ | My par8o ▾

Referral Queue
Date Sent - New to Old ▾

Filters

 Required Referrals
 Unscheduled

Goal Timeframe

Urgent - Within 3 Days

Within 1 Week

Within 1 Month

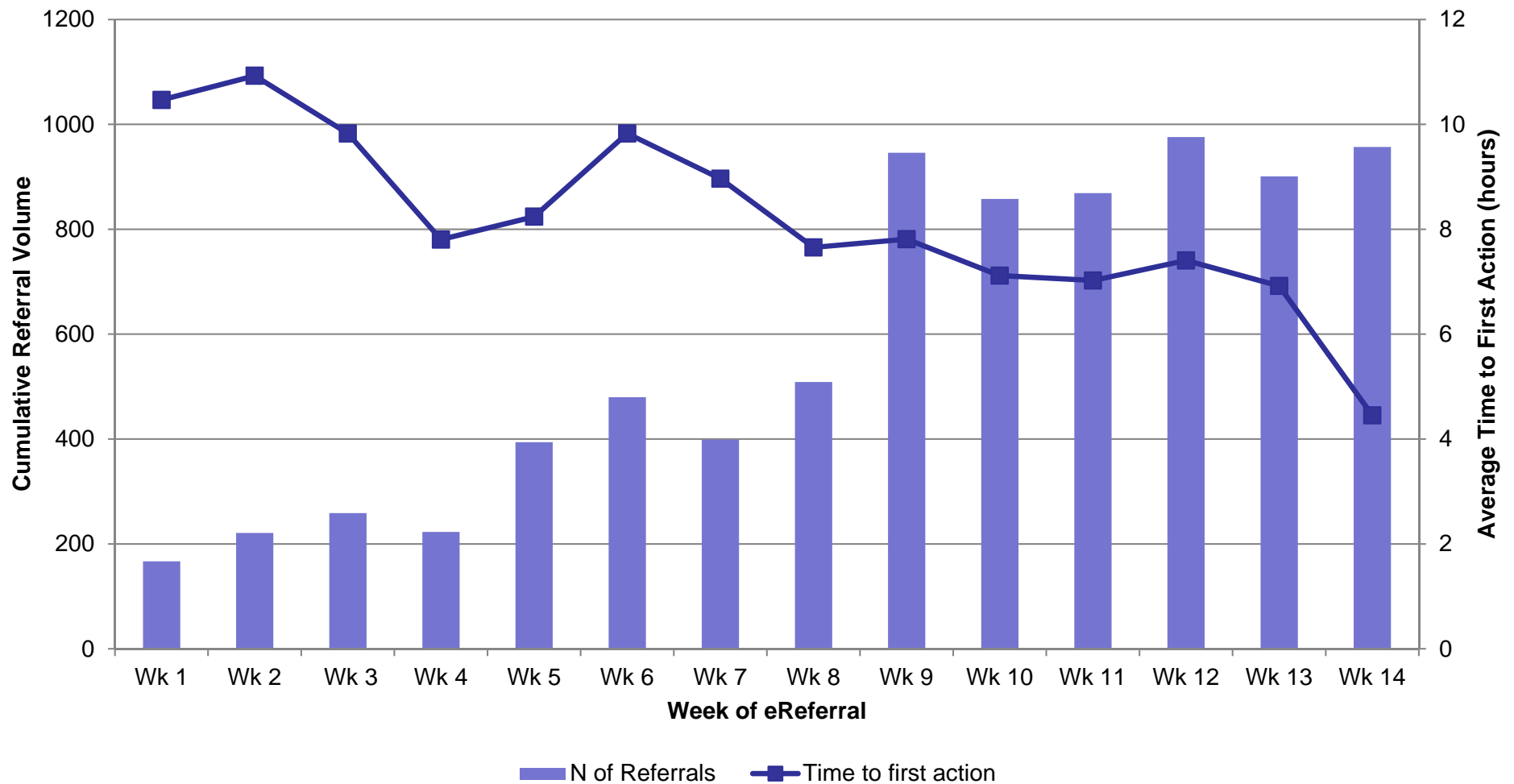
Non-Urgent - Patient Convenience

	To Do	Received	Sent	Archive			
PATIENT	SENT	UPDATED	STATUS	REFERRED TO	REFERRED FROM		
ROBERT SISSON MRN: 16658460		02/07/14	Draft	Orthopedics	Dr. Andrea Young	<input type="button" value="View"/>	<div style="border: 1px solid #ccc; padding: 2px; font-size: 0.9em;"> ✓ -- Select Action-- Finalize Discard Send Note Print -- Select Action-- </div>
KIMBERLY GOIDELL MRN: 28831816		02/07/14	Draft	Orthopedics	Dr. Andrea Young	<input type="button" value="View"/>	-- Select Action-- ☆
ELAINE PIERCE MRN: 16788366		01/31/14	Draft	Hearing Aid and Audiology Services	Dr. Andrea Young	<input type="button" value="View"/>	-- Select Action-- ☆
CONNIE BOYLE MRN: 18878942		02/04/14	Draft	Brigham Obstetrics and Gynecology Group	Dr. Andrea Young	<input type="button" value="View"/>	-- Select Action-- ☆
WILLIAM KEANEY MRN: 12546735		02/03/14	Draft		Dr. Andrea Young	<input type="button" value="View"/>	-- Select Action-- ☆

Specialties Responding Promptly Even with Rising Volume

Total referral volume to all BWH specialties, by week (bars)
 Time from referral receipt to first phone call to patient (line)

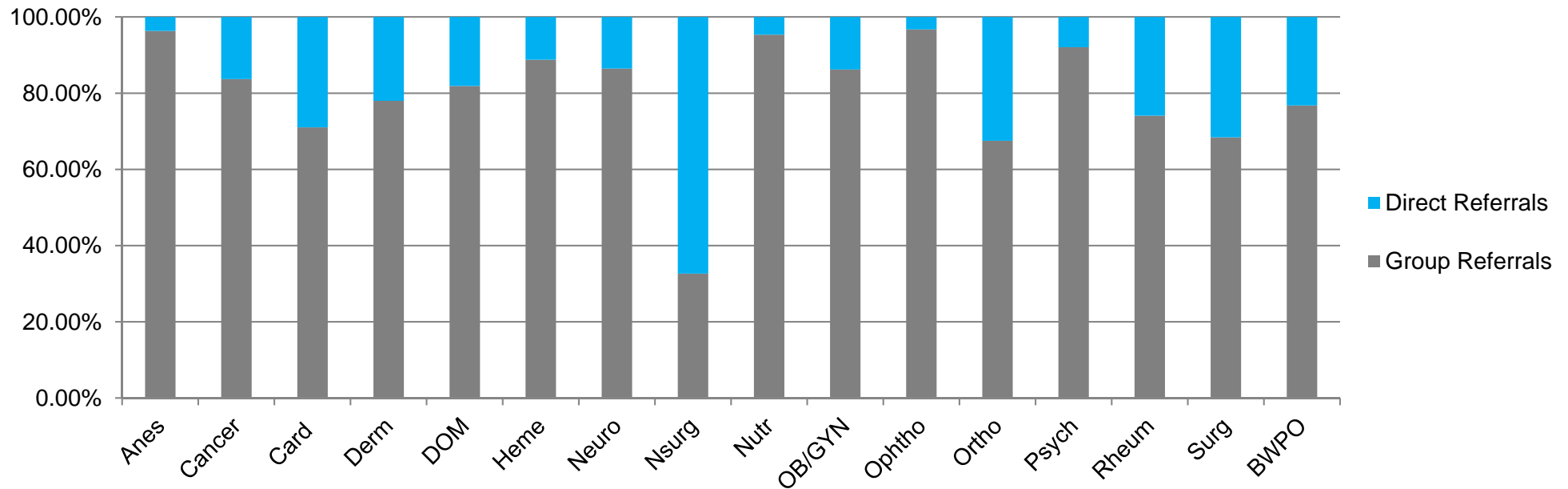
Referral Volume and Time to First Action



PCPs Increasing Share of Undifferentiated Referrals

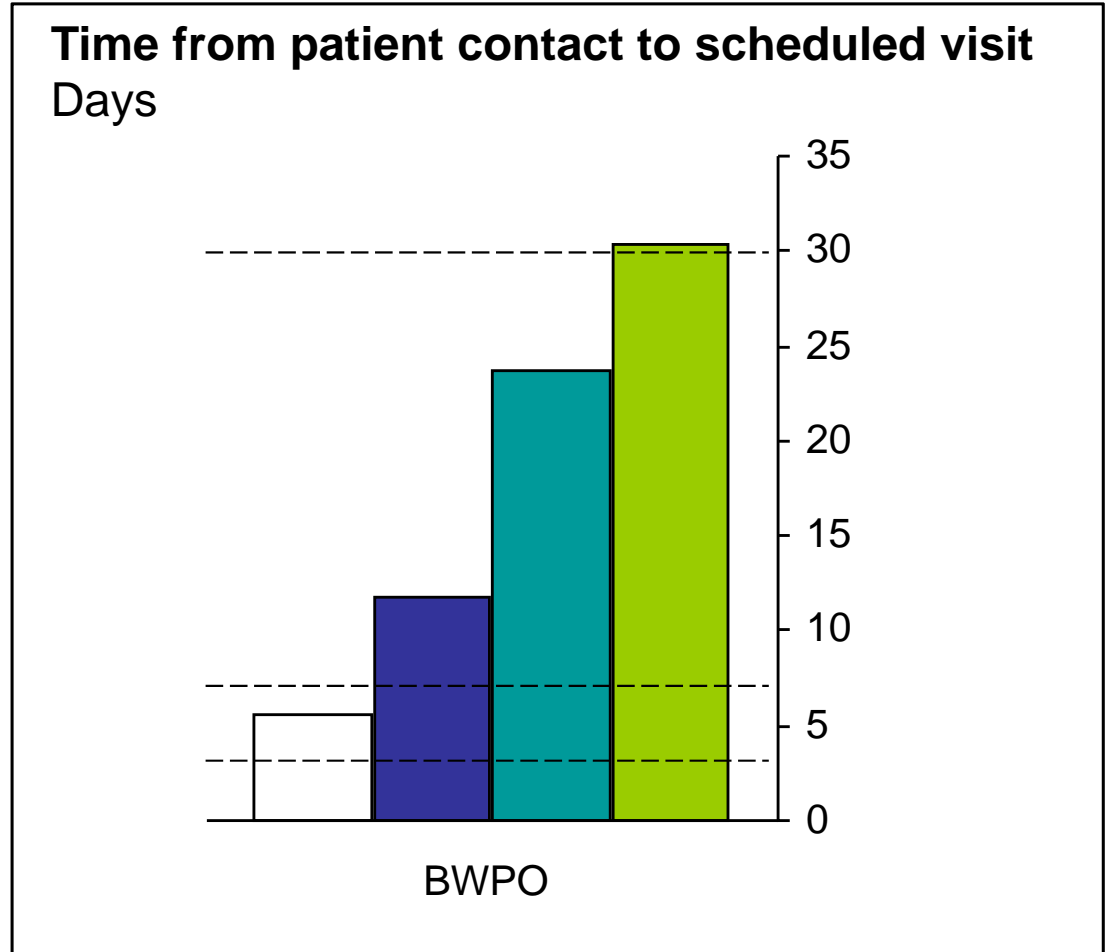
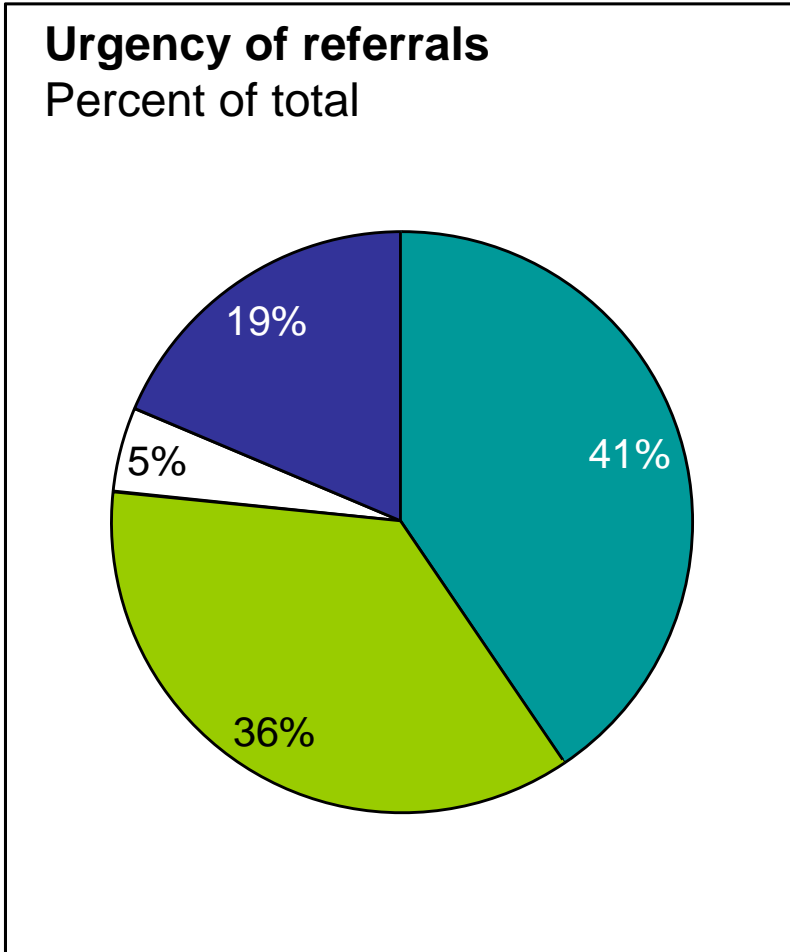
Actual percentage of referrals to 'group' vs. specific MD, 1/28/2014-5/1/2014

Group vs Direct Referrals



- Survey of BWH PCPs in January 2014 showed 55% would prefer to refer to specific specialist, rather than a group (n=105).

Time to Appointment Commensurate with Urgency



Urgent (<3d)
 <1 week
 <1 month
 Pt convenience

Next Step: TeamCare



BRIGHAM AND WOMEN'S HOSPITAL

Brigham Admin Sign Out FAQ Live Help

Home Dashboard 2 Physicians My par8o

Refer Patient

Step 1: []

From:

Patient Name:

Reason for Referral:

No file selected

Goal Timeframe: For urgent referrals, please also call the provider's office

Sending a:

- Referral
- TeamCare**
- Discharge


Choose a Specialty:


- Aging
- Allergy
- Burn Care
- Cancer
- Cardiac Surgery
- Cardiology BWH
- Cardiology Faulkner
- Dermatology
- Endocrinology
- Family Care
- Gastroenterology
- General Surgery

Choose a Subspecialty:

Contact Support
Powered by par8o
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Updated Work Queue


 BRIGHAM AND WOMEN'S HOSPITAL

 Calum MacRae, MD | Sign Out | FAQ | Support 

Work Queue | Physicians ▾

Referral Queue

Patient Last Name - A to Z ↕




Filters

 Required Referrals
 Unscheduled


Received By:

Department

× BWH Cardiology
TeamCare Support

Providers



 

Goal Timeframe

- Urgent - Within 3 Days
- Within 1 Week
- Within 1 Month
- Non-Urgent - Patient Convenience

To Do	Received	Sent	Archive				
PATIENT	TYPE	SENT	UPDATED	STATUS	REFERRED TO	REFERRED FROM	
<div style="background-color: #c6efce; padding: 2px; margin-bottom: 5px; display: inline-block;">Eva Bennis</div> <p style="font-size: 0.8em; margin-top: 5px;">Latest Note: [Bernadette Donnellan] Dr. MacRae, can you review this TeamCare request?</p>	TeamCare	03/11/14	03/11/14	Pending	BWH Cardiology TeamCare Support	Reema Alshirawi	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;"> --Select Action-- Respond Print </div>
<div style="background-color: #f4a460; padding: 2px; margin-bottom: 5px; display: inline-block;">△ Ted Brown</div>	TeamCare	03/11/14	03/11/14	Pending	BWH Cardiology TeamCare Support	Dr. Mark Furman	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;"> -- Select Action-- </div>
<div style="background-color: #9999cc; padding: 2px; margin-bottom: 5px; display: inline-block;">Sarah Farrer</div>	TeamCare	03/11/14	03/11/14	Pending	BWH Cardiology TeamCare Support	Dr. Mark Furman	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;"> -- Select Action-- </div>
<div style="background-color: #9999cc; padding: 2px; margin-bottom: 5px; display: inline-block;">Harry Henderson</div>	TeamCare	03/11/14	03/11/14	Pending	BWH Cardiology TeamCare Support	Dr. Mark Furman	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;"> -- Select Action-- </div>
<div style="background-color: #9999cc; padding: 2px; margin-bottom: 5px; display: inline-block;">Molly Siciliano</div> <p style="font-size: 0.8em; margin-top: 5px;">Latest Note: [Bernadette Donnellan] Please provide updated echo.</p>	TeamCare	03/11/14	03/11/14	Pending	BWH Cardiology TeamCare Support	Dr. Mark Furman	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;"> -- Select Action-- </div>
<div style="background-color: #f4a460; padding: 2px; margin-bottom: 5px; display: inline-block;">Ken Walters</div>	TeamCare	03/11/14	03/11/14	Pending	BWH Cardiology TeamCare Support	Dr. Mark Furman	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;"> -- Select Action-- </div>

Teamcare Question

Reema Alshirawi, MD [Sign Out](#) [FAQ](#) [Support](#) 

Work Queue Physicians ▾ My par8o ▾

TeamCare

Patient Information

First Name: Last Name:

DOB:

GENDER: MALE FEMALE

DOES THIS PATIENT HAVE A LEGAL GUARDIAN? YES NO

Patient Contact Information

PREFERRED METHOD OF CONTACT: HOME MOBILE WORK

HOME PHONE:

MOBILE PHONE:

WORK PHONE:

From: Reema Alshirawi, MD

To: General Cardiology TeamCare Support

TeamCare Question:

65 F with chronic atrial fibrillation well controlled on rate-control regimen, now symptomatic. Would like guidance around picking the best rhythm control strategy for her - is there an anti arrhythmic you suggest I start with or would you like to see her first? Thanks.

Dialogue Between Physicians

BRIGHAM AND WOMEN'S HOSPITAL

Anne Harrison Sign Out FAQ

Work Queue Physicians

Mary Bwh Patient47

Back to Queue ACTIONS: -- Select Action-- Request Appointment Print Complete Messages and History

Patient Details

DOB: 10/07/1948
GENDER: Female
MRN: 123456789

Contact Information

HOME: 920-876-3459 (Patient Preferred)
MOBILE: 534-872-7692
WORK: 618-788-2652

Attached Documents

medication list.doc	3/14 12:30 PM
screenshot_1.png	3/15 9:30 AM
doctors_notes.txt	3/15 9:30 AM

Initiating Physician

Reema Alshirawi, MD
SPECIALTIES: Primary Care

38453 1st Rd, Ph 794, Boston, MA 02110
p: 763-377-8215 | f: 569-635-7727

Consulting Physician

Calum MacRae, MD
SPECIALTIES: General Cardiology

5203 Chestnut Rd, Hngr 964, Boston, MA 02119
p: 334-880-7312 | f: 630-432-5220

TeamCare Request Created

3/14 12:30 PM
Reema Alshirawi, MD initiated a TeamCare request.

Reema Alshirawi, MD 3/14 12:35 PM
65 F with chronic atrial fibrillation previously well-controlled on rate-control regimen, now symptomatic. Would like guidance around picking the best rhythm control strategy for her - is there a anti-arrhythmic you suggest I start with or would you like to see her first? Thanks.

Calum MacRae, MD 3/15 9:30 AM
Thanks for the question - glad to help. For a 65 year old women who's failing rate-control (it looks like she's having dyspnea and lightheadedness from your note), there are a number of options. I see that your patient also has heart failure, so I think Amiodarone would be a good first choice. Would you be comfortable starting a loading dose, and then one of my colleagues could see her in follow-up in a few months? If she's feeling better by then, we can cancel the appointment

Type your feedback or note... Send

Takeaways

- Referrals are a key inflection point in patient care
- Optimizing and standardizing referral processes is a winning strategy in fee-for-service or accountable care
- Technology is important, but workflow is more important
- Data speak: Leakage moved needle at BWH