KYRUUS

A BETTER MATCH
MEANS BETTER CARE

2014 PHYSICIAN REFERRAL SURVEY

A nationwide physician survey examining specialty referrals and patient-provider matching across 11 specialties

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EXECUTIVE SUMMARY

2014 Physician Referral Survey

OVERVIEW

An effective and efficient healthcare system starts, first and foremost, with ensuring that patients are seen by the *right* providers – clinicians who have the proper training and expertise to treat a patient's specific condition using best practices and processes.

When we fail to take this vital consideration into account, the entire system starts to break down, leading to poorer health outcomes for patients, increased hospital readmissions, wasted physicians' time and unnecessary patient co-payments – ultimately generating billions of dollars in avoidable spending across the entire U.S. healthcare system.

On quality, there is a growing body of evidence that suggests that clinical experience and outcomes are directly correlated.

[1] *Widespread Flaws Found in Ovarian Cancer Treatment, available at: http://www.nytimes.com/2013/03/12/health/ovarian-cancer-study-finds-widespread-flaws-in-treatment.html?pagewanted=all&_r=0*

In one well-publicized study, ovarian cancer patients who undergo intervention experienced significantly better 5-year survival when treated by physicians who perform 10 or more ovarian cancer procedures per year versus physicians who perform fewer than 10.[1]

Another more recent study noted a small increase in CABG mortality rates that was positively correlated with the number of days that the performing surgeon was on break or vacation prior to the procedure.[2]

Of course, there are other factors that likely affect these statistics, such as acuity and severity of the patient and system inefficiencies that affect the fluency of the surgical team, but there is substantial evidence that – as is the case in so many other environments – practice makes perfect in healthcare.

[2] *The Nature of Surgeon Human Capital Depreciation, available at: http://www.nber.org/papers/w20017*

Our current referral environment relies heavily on physicians and other healthcare professionals – such as office administrators and patient access coordinators – and their ability to accurately select providers with the appropriate levels of experience and competency to treat patients in need of care.

In an attempt to measure the accuracy of referrals, sources of misdirection and the consequences of referral inaccuracy, Kyruus surveyed 100 US-based specialist physicians on their practices and their sentiments on the referrals that they receive.

The following is an in-depth look at our findings featuring key statistics and observations.

METHODOLOGY

In February 2014, Kyruus administered a 15-minute online survey to 100 physicians across 11 medical specialties:

- Cardiology
- Colon & Rectal Surgery
- Dermatology
- Gastroenterology
- Neurology
- Neurosurgery
- Orthopedic Surgery
- Ophthalmology
- Plastic Surgery
- Urology
- Vascular Surgery

The physicians were asked questions about referral methodologies at their institutions or practices, their assessments of the clinical suitability of referrals, and perspectives on the potential causes of referral misdirection.

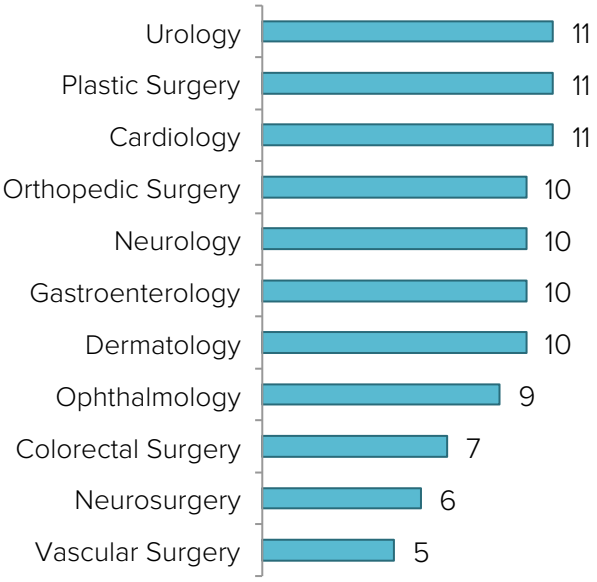
"Clinical suitability" was broken out into 3 major categories:

- **Clinically Appropriate**: based on his or her condition, the patient would be best diagnosed and / or treated by someone with my clinical training and expertise.
- **Somewhat Clinically Appropriate**: While someone with my clinical training and expertise was capable of seeing the patient, another physician with either more general or more specialized training than me would be more appropriate
- **Clinically Inappropriate**: The patient either (A) did not require a referral at all or (B) required referral to another clinical specialist to be treated

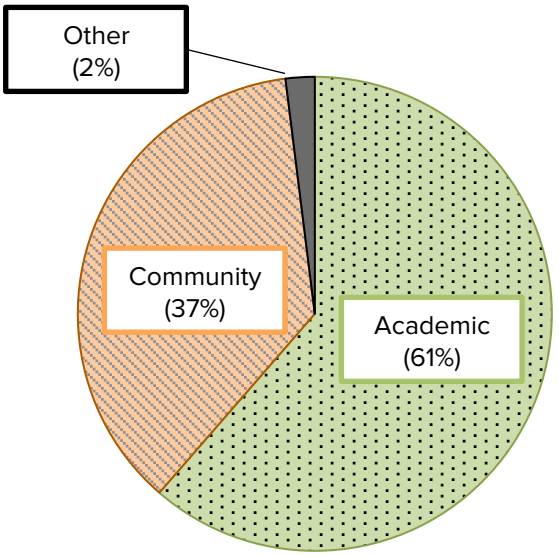
The results were summarized at the aggregate level and then broken out by various factors such as primary practice setting, specialty, primary referral method, etc.

RESPONDENTS

Specialty



Primary Practice Setting



MAJOR FINDINGS

REFERRAL PATHWAYS

Q: Please select the methodologies by which referrals are coordinated in your practice and indicate the % of patients referred via each method.

REFERRAL METHODOLOGY

53.8%

of referrals received by specialists come directly from other physicians. (fig. 1)

- **The 2.2% of referrals** that come in via "Other" pathways included **ER discharges** or **referrals from friends and family.**
- When compared to physicians in academic practice settings (n=61)**,** physicians in **community practice (n=37)** reported a **slightly higher** percentage of referrals coming in **via physician office**, 16.9% vs. 10.1%, respectively.* **(fig. 2)**
- **Academic medical center-based physicians** reported **higher rates** of referrals via **centralized call centers** than physicians in **private practice,** 14.1% vs. 7.8%, respectively.* **(fig. 2)**

** Definition of primary affiliation – Respondent answered that they spend >50% of their clinical time in a given setting*

Fig. 1

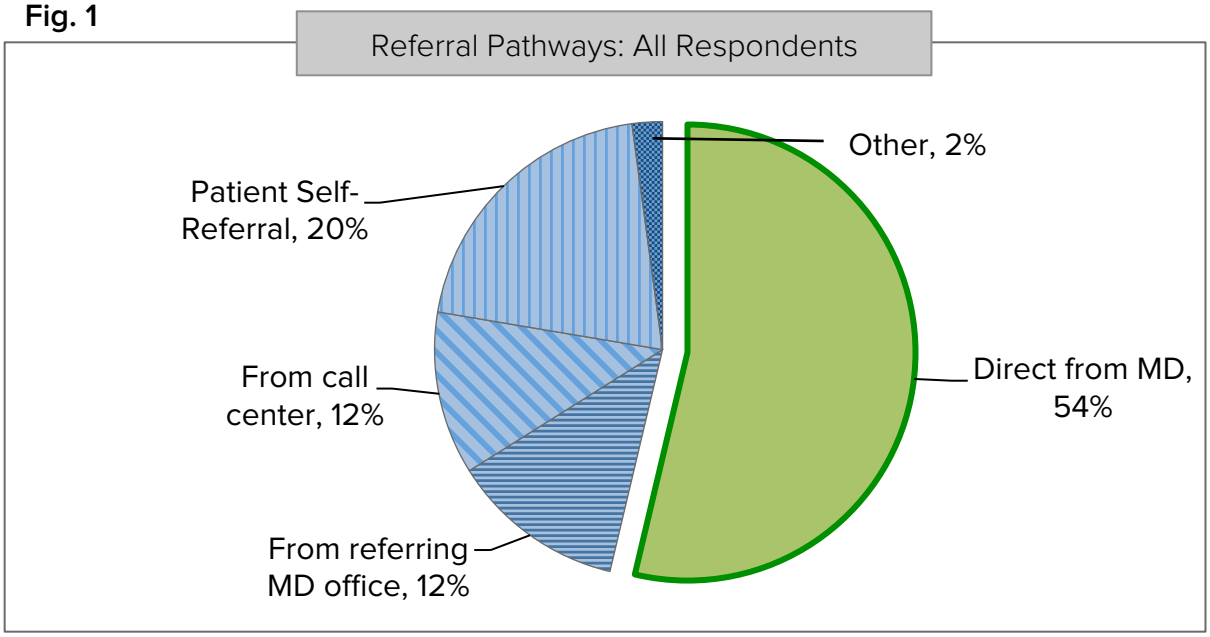
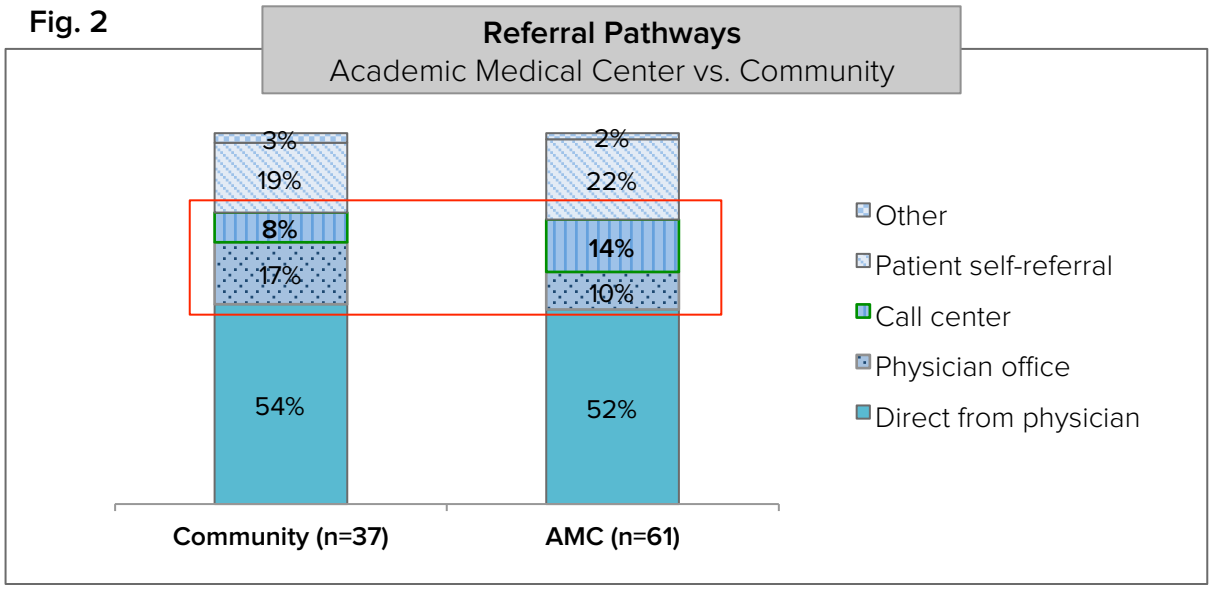


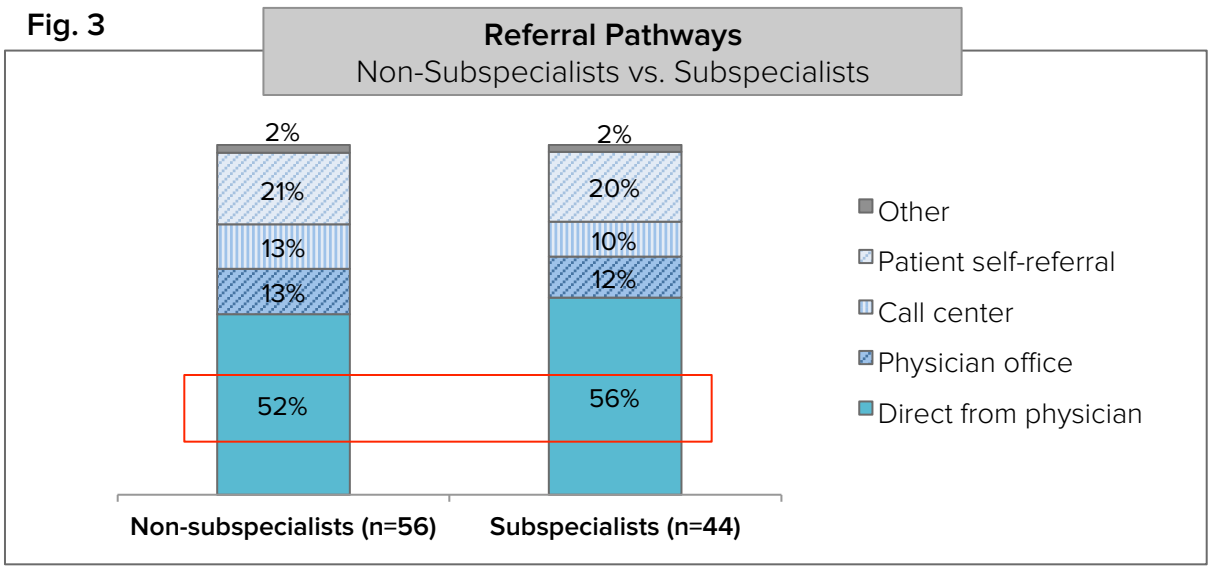
Fig. 2



Physicians who reported having a more granular subspecialty (n=44), e.g. Interventional Cardiology, **received a higher proportion of referrals directly from other physicians than those without a subspecialty** (n=56)**,** 56.4% vs. 51.7%, respectively. **(fig. 3)**

This finding may suggest that subspecialists are more likely to receive their referrals **both from referring primary care** physicians **as well as referring specialists who do not have a further subspecialt**y.

Fig. 3



REFERRAL SENTIMENT

Q: Please estimate the % of referrals sent to you in the last year by designating them into each of the following categories: 1) clinically appropriate; 2) somewhat clinically appropriate; 3) clinically inappropriate.

CLINICAL FIT OF REFERRALS

75.0%

of specialists have received at least one "completely inappropriate" referral in the past year. (fig. 4)

- **26.2% of referrals are potentially inappropriate: 18.4%** of referrals to specialists in the last year were considered **"somewhat appropriate"** while **7.8%** are considered **"inappropriate". (fig. 5)**

Fig. 5

Clinical Fit
All Respondents

Total: 26.2% *potentially inappropriate* referrals in the last year

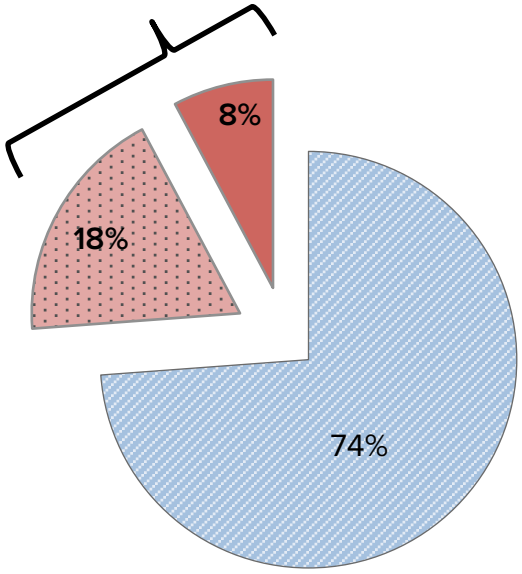
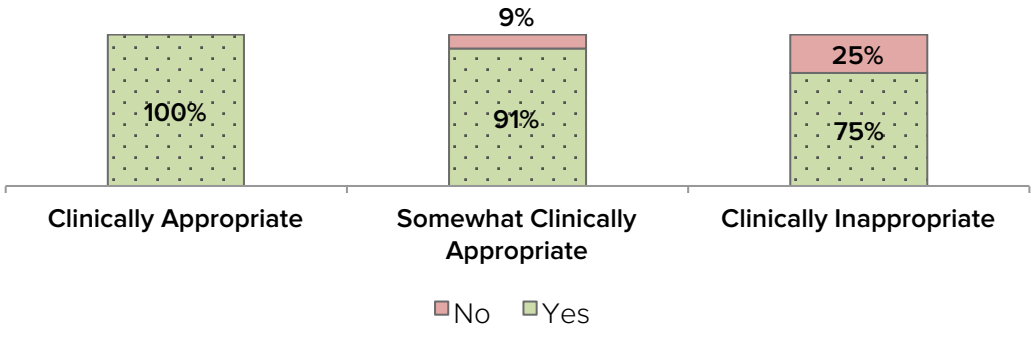


Fig. 4

Clinical Fit
% of Respondents Reporting > 0% for Each Category



REFERRAL SENTIMENT

Q: For any patients that were either somewhat clinically appropriate or clinically inappropriate, please elaborate as to why you felt those referrals were not entirely suitable for your practice.

PHYSICIAN COMMENTARY

65.0%

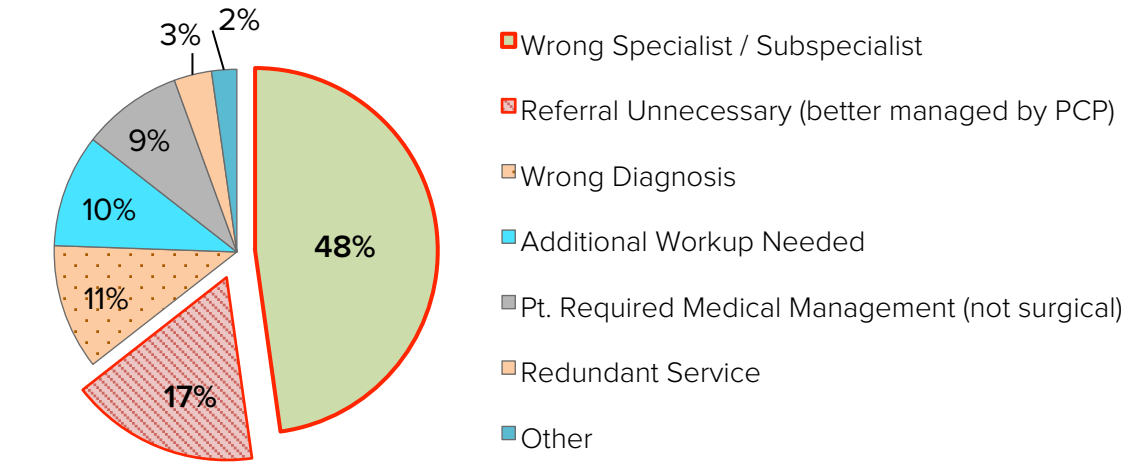
of clinically inappropriate referrals were either sent to the wrong specialist or subspecialist (48%) or did not require a referral at all (17%). (fig. 6)

Sample responses:

- *"[The patient] could have been managed by a PCP."* - **Cardiologist**
- *"Should have been seen by physicians with further sub-specializations."* – **Neurologist**
- *"[The patient] might have a urology condition relating to the prostate."* - **Uro-Oncologist**
- *"They did not have IBD."* - **Gastroenterologist specializing in IBD**
- *"A few should have been seen by psychiatry first."* – **Neurologist**
- *"Often, patients are referred with non-operative problems who have not had any attempt at non-operative primary care treatment attempts."* – **Orthopedic Surgeon**

Fig.6

Clinically Inappropriate Referrals, By Type



OUTCOMES

Q: What is the typical outcome of any clinically inappropriate referrals in your practice?

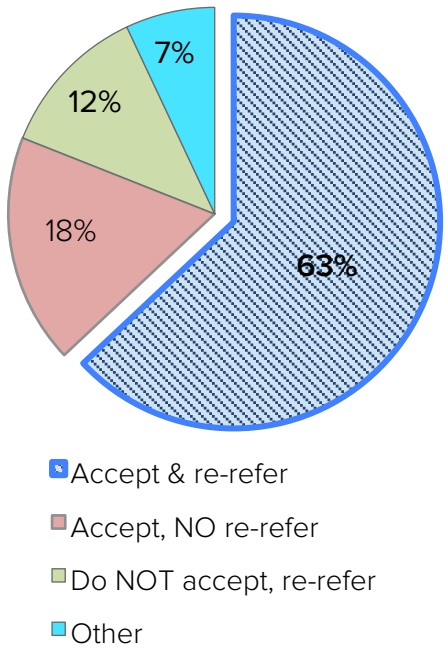
MISDIRECTION OUTCOMES

63.0%

of respondents – when sent a clinically inappropriate referral – will re-refer the patient to another, more suitable, physician. (fig. 7)

Fig. 7

Inappropriate Referral Outcomes



THE COST OF MISDIRECTION

7.8% clinically inappropriate referrals x 535 new pt. referrals per year per MD =

42 patients per MD that are misdirected each year

x

470k practicing specialist MDs in the U.S.* =

19.7m clinically inappropriate referrals every year, **63% of which are re-referred**

Assuming...

$50	4	$25
average co-pay amount	work hours taken off for an appointment	average hourly earnings**

$1.9 billion

in lost wages and unnecessary co-pays paid by patients, annually

Additional costs to the system include:

- Delayed patient care
- Wasted physician time
- Poor outcomes
- Increased readmissions
- Higher mortality

Kaiser Family Foundation;www.bls.gov and www.debt.org*

MISDIRECTION CAUSES

Q: In your opinion, what are the underlying causes of misdirected referrals in your hospital or health system?*

CAUSES OF MISDIRECTION*

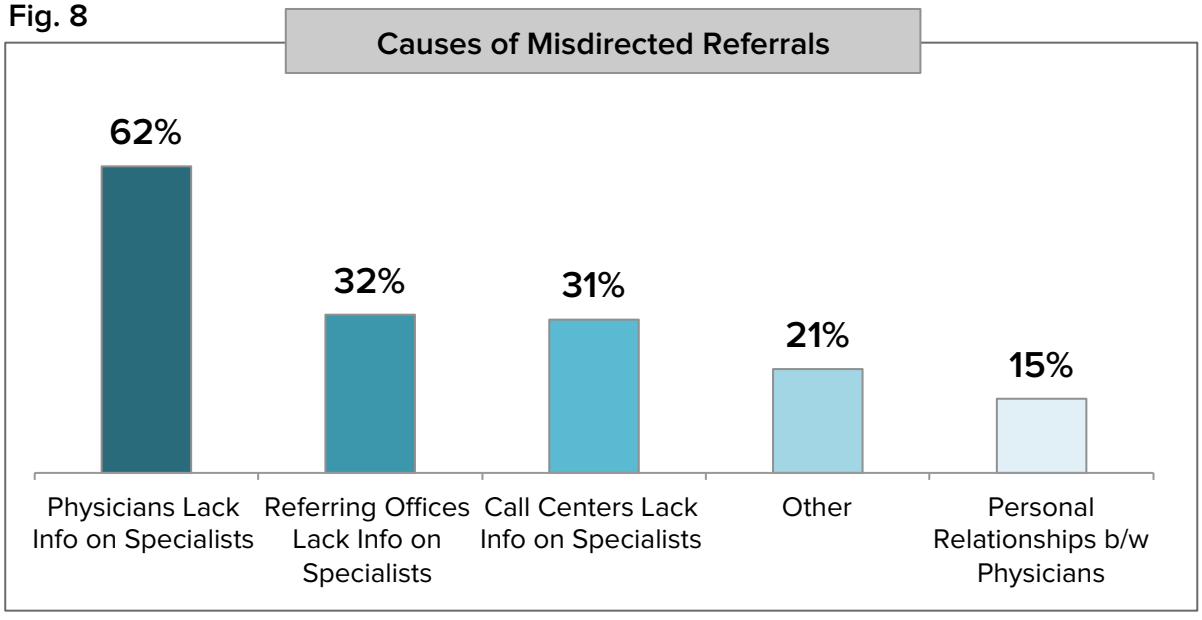
62.0%

of respondents believe that misdirection happens because **referring physicians lack reliable information** about specialist physicians. (fig. 8)

- **32% of respondents** felt that a lack of specialist information **in physician offices** was a contributor to misdirection.
- **31% of respondents** felt that a lack of specialist information **in centralized call centers** was a contributor to misdirection.
- **Interestingly, 15% of respondents** felt that misdirection was a result of the referral process relying too heavily on **personal relationships between physicians**.
- **Other reasons (21% of respondents)** for misdirection included:
  - A lack of information to triage appropriately
  - Failure of referring physician to check patient history
  - Incomplete patient data
  - Referring provider misdiagnosing the patient or misinterpreting lab work

** Respondents were allowed to select more than 1 response*

Fig. 8



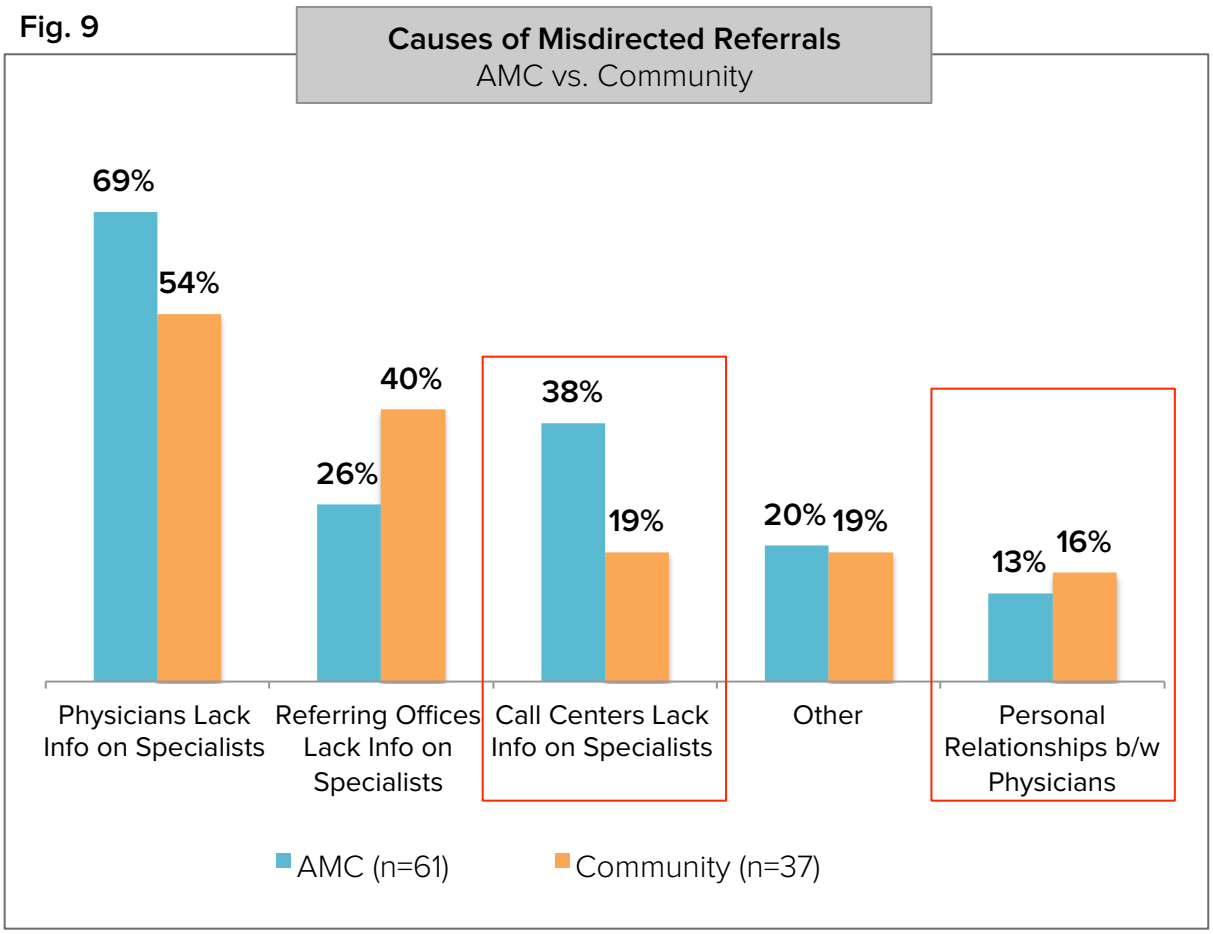
MISDIRECTION CAUSES

AMC physicians were **more likely** than community-based physicians to point to **a lack of information in call centers**, 38% vs. 19%, respectively. (fig. 9)

This is **consistent with our observations** that **academic medical centers are more likely to currently employ centralized scheduling / access operations.**

- **Community-based physicians** were **more likely than AMC docs** to point to either **physician offices lacking info** (41% vs. 26%) or **personal relationships** (16% vs. 13%) as a cause for referral misdirection.
- The latter is somewhat surprising given that **community physicians received slightly fewer referrals directly from other physicians than AMC physicians (see fig. 2)**

Fig. 9



SURVEY RESULTS

REFERRAL SETTING AND PROCESS

Q1: Please select any of the methodologies by which referrals are coordinated in your clinical practice and indicate the approximate percentage of patients that are referred to you via each method.

Q1: ALL RESPONDENTS

Method of Referrals	Avg. % of Referrals
Direct from Physicians	53.8%
Patient Self-Referral	20.2%
From Physician Offices	12.4%
From Centralized Call Center	11.6%
Other	2.2%

Q1: BREAKOUT BY PRIMARY PRACTICE SETTING

Primary Practice Setting	n	Direct from Physicians	From Physician Offices	From Centralized Call Center	Patient Self-Referral	Other
AMC	61	52.4%	10.1%	14.1%	21.6%	1.8%
For-profit	3	83.3%	6.7%	3.3%	6.7%	0.0%
Non-profit	6	53.3%	18.3%	13.3%	13.3%	1.7%
Other	2	93.5%	0.0%	1.5%	2.5%	2.5%
Private practice	28	50.9%	17.7%	7.1%	21.4%	3.2%
All	**100**	**53.8%**	**12.4%**	**11.6%**	**20.2%**	**2.2%**

REFERRAL SETTING AND PROCESS

Q1: BREAKOUT BY SPECIALTY

Specialty	*n*	Direct from Physicians	From Physician Offices	From Centralized Call Center	Patient Self-Referral	Other
Cardiology	*11*	63.6%	14.1%	9.5%	12.3%	0.5%
Colorectal Surgery	*7*	67.1%	4.3%	7.9%	16.4%	4.3%
Dermatology	*10*	46.5%	8.0%	5.7%	37.8%	2.0%
Gastroenterology	*10*	45.5%	10.0%	20.0%	21.0%	3.5%
Neurology	*10*	69.0%	12.5%	5.5%	10.5%	2.5%
Neurosurgery	*6*	61.7%	17.5%	11.7%	9.2%	0.0%
Ophthalmology	*9*	57.8%	13.3%	17.2%	11.7%	0.0%
Orthopedic Surgery	*10*	47.0%	13.5%	12.0%	26.5%	1.0%
Plastic Surgery	*11*	35.9%	6.8%	14.5%	39.1%	3.6%
Urology	*11*	49.3%	25.0%	9.3%	16.8%	0.5%
Vascular Surgery	*5*	60.0%	8.0%	15.0%	8.0%	9.0%
All	***100***	**53.8%**	**12.4%**	**11.6%**	**20.2%**	**2.2%**

Q1: BREAKOUT BY SUBSPECIALIST STATUS
(DOES RESPONDENT HAVE AN ADDITIONAL SUB-SPECIALTY)

Subspecialist?	*n*	Direct from Physicians	From Physician Offices	From Centralized Call Center	Patient Self-Referral	Other
YES	*56*	51.7%	12.9%	12.7%	20.5%	2.3%
NO	*44*	56.4%	11.7%	10.1%	19.9%	1.9%
All	***100***	**53.8%**	**12.4%**	**11.6%**	**20.2%**	**2.2%**

REFERRAL SETTING AND PROCESS

Q2: Approximately how many new patients do you receive via physician or referral center each year? Approximately what percentage of your total NEW patient load do these referrals constitute?

Q2: ALL RESPONDENTS

Avg. # of New Patients / Year from Referral	Avg. % of New Patients from Referral
534.5	58.6%

Q2: BREAKOUT BY PRIMARY PRACTICE SETTING

Primary Practice Setting	*n*	Avg. # of New Patients / Year from Referral	Avg. % of New Patients from Referral
AMC	*61*	557.2	60.2%
For-profit	*3*	633.3	70.0%
Non-profit	*6*	280.0	53.3%
Other	*2*	200.0	60.0%
Private practice	*28*	543.9	55.0%
All	***100***	534.5	58.6%

Q2: BREAKOUT BY SPECIALTY

Specialty	*n*	Avg. # of New Patients / Year from Referral	Avg. % of New Patients from Referral
Cardiology	*11*	507.5	59.2%
Colorectal Surgery	*7*	235.7	61.4%
Dermatology	*10*	1212.5	53.5%
Gastroenterology	*10*	280.0	69.5%
Neurology	*10*	915.0	71.0%
Neurosurgery	*6*	251.7	53.8%
Ophthalmology	*9*	483.3	71.1%
Orthopedic Surgery	*10*	705.0	55.0%
Plastic Surgery	*11*	390.9	52.3%
Urology	*11*	339.1	44.1%
Vascular Surgery	*5*	236.0	53.0%
All	***100***	534.5	58.6%

REFERRAL SENTIMENTS

Q3: Please estimate the percentage of patient referrals sent to you **in the last year and in the year before last** that have fallen into each of the categories:

- **Completely appropriate** – Based on his or her condition, the patient would be best diagnosed and / or treated by someone with my clinical training and expertise.
- **Somewhat appropriate** – While someone with my clinical training and expertise was capable of seeing the patient, another physician with either more general or more specialized training than me would be more appropriate
- **Inappropriate** – The patient either (A) did not require a referral at all or (B) required referral to another clinical specialist to be treated

Q3: ALL RESPONDENTS

Clinical Appropriateness of Referrals	Avg. % of Referrals (2 Years Ago)	Avg. % of Referrals (1 Year Ago)
Completely Appropriate	72.0%	73.9%
Somewhat Appropriate	19.3%	18.4%
Inappropriate	8.7%	7.8%

Q3: BREAKOUT BY PRIMARY PRACTICE SETTING

Primary Practice Setting	*n*	Completely Appropriate		Somewhat Appropriate		Inappropriate	
		2 yrs	1 yr	2 yrs	1 yr	2 yrs	1 yr
AMC	*61*	73.2%	74.1%	17.8%	17.8%	9.0%	8.2%
For-profit	*3*	70.0%	73.3%	20.0%	16.7%	10.0%	10.0%
Non-profit	*6*	67.5%	71.7%	19.2%	21.7%	13.3%	6.7%
Other	*2*	55.0%	67.5%	22.5%	15.0%	22.5%	17.5%
Private practice	*28*	71.7%	74.4%	22.3%	19.4%	6.0%	6.1%
All	***100***	**72.0%**	**73.9%**	**19.3%**	**18.4%**	**8.7%**	**7.8%**

REFERRAL SENTIMENTS

Q3: BREAKOUT BY SPECIALTY

Specialty	*n*	Completely Appropriate		Somewhat Appropriate		Inappropriate	
		2 yrs	**1 yr**	**2 yrs**	**1 yr**	**2 yrs**	**1 yr**
Cardiology	*11*	64.1%	73.2%	27.7%	19.5%	8.2%	7.3%
Colorectal Surgery	*7*	86.4%	89.3%	9.6%	6.7%	4.0%	4.0%
Dermatology	*10*	83.5%	85.0%	11.7%	10.2%	4.8%	4.8%
Gastroenterology	*10*	71.0%	72.0%	20.1%	22.6%	8.9%	5.4%
Neurology	*10*	74.3%	71.9%	20.7%	21.6%	5.0%	6.5%
Neurosurgery	*6*	66.7%	64.2%	17.5%	23.3%	15.8%	12.5%
Ophthalmology	*9*	74.4%	76.7%	18.3%	16.7%	7.2%	6.7%
Orthopedic Surgery	*10*	66.5%	66.5%	20.8%	21.1%	12.7%	12.4%
Plastic Surgery	*11*	78.7%	79.4%	14.0%	13.6%	7.3%	7.0%
Urology	*11*	64.1%	68.6%	24.1%	22.7%	11.8%	8.6%
Vascular Surgery	*5*	59.0%	60.0%	27.0%	26.0%	14.0%	14.0%
All	***100***	**72.0%**	**73.9%**	**19.3%**	**18.4%**	**8.7%**	**7.8%**

Q3: BREAKOUT BY SUBSPECIALIST STATUS
(DOES RESPONDENT HAVE AN ADDITIONAL SUB-SPECIALTY)

Subspecialist?	*n*	Completely Appropriate		Somewhat Appropriate		Inappropriate	
		2 yrs	**1 yr**	**2 yrs**	**1 yr**	**2 yrs**	**1 yr**
YES	*56*	73.4%	75.1%	19.1%	17.8%	7.5%	7.1%
NO	*44*	70.2%	72.3%	19.5%	19.1%	10.3%	8.5%
All	***100***	**72.0%**	**73.9%**	**19.3%**	**18.4%**	**8.7%**	**7.8%**

REFERRAL SENTIMENTS

Q4: [If respondent described changes between years] Please describe any shifts (and the perceived causes for said shifts) in the clinical appropriateness of referrals between this past year and the year before.
[open text responses]

Respondent Specialty	Respondent Primary Practice Setting	Description of shifts and causes for shifts in referral appropriateness
Cardiology	Non-profit	The referrals have become even more appropriate, I believe because referring physicians have an improved understanding of cardiovascular disease and, basically, what I have to offer in the management of their patients.
Cardiology	Other	The triage cardiologist has been more aggressive in screening referrals and returning those that are deemed inappropriate back to the referring provider. this has allowed more appropriate use of resources
Cardiology	Private practice	Not sure
Colorectal Surgery	AMC	Better education of pcps
Colorectal Surgery	AMC	Better triage of new patients
Dermatology	Private practice	As a new practitioner in town, referring staff and my staff have both been able to better adjust what are appropriate referrals through my education and training and feedback.
Gastroenterology	AMC	no real change noted
Gastroenterology	AMC	There is limited expertise in the community in the large rural catchment area I serve. In addition, I think there is a general lack of enthusiasm and willingness for community providers to offer non-procedural services.
Gastroenterology	Non-profit	In the year before last, I was working in a VA facility.
Gastroenterology	Private practice	Education of referring physicians through exposure and lunch meetings decreased unnecessary consults
Gastroenterology	Private practice	not much variance mainly random chance
Neurology	AMC	I think that more people refer folks based solely on MRI reports
Neurology	Private practice	/ NO major difference
Neurology	Private practice	random changes

REFERRAL SENTIMENTS

Q4 continued...

Respondent Specialty	Respondent Primary Practice Setting	Description of shifts and causes for shifts in referral appropriateness
Neurology	Private practice	receive several referrals for simple pain management (from a variety of neurologic and non-neurologic conditions) which has never been a service offered by our office
Neurosurgery	AMC	better education of referral sources and smarter employees in referral center
Neurosurgery	AMC	I am seeing far more patients who do not need to see a neurosurgeon at all -- they need pain management or a rehab doctor. I don not have a good explanation for this variance other than the patients' primary care doctors do not want to deal with their back or neck issues
Neurosurgery	AMC	we have added certain faculty members who have seen more of the patients this year who would have been considered inappropriate for me to see
Neurosurgery	Private practice	Because I've moved my practice from Los Angeles to Ashland (OR)
Ophthalmology	AMC	More specific discussion between myself and my team regarding referrals
Ophthalmology	AMC	We have a lot of turnover in our access center with renewed emphasis on appropriate referrals
Orthopedic Surgery	AMC	A request by our institution and department to make referrals easier and quicker, and thus primary care providers find it easier to refer patients.
Orthopedic Surgery	AMC	I have changed practices and relocated to a more academic environment from a multispecialty group
Orthopedic Surgery	AMC	Less access. No real good screening system.
Orthopedic Surgery	For-profit	Referrals have become "more appropriate" as referring physicians have developed a better understanding of the conditions that I treat. /
Orthopedic Surgery	Private practice	Better screening
Plastic Surgery	AMC	Better training of our call center specialists to understand subspecialty training and referral preferences. Better algorithms for triage of patient calls to call center.

REFERRAL SENTIMENTS

Q4 continued...

Respondent Specialty	Respondent Primary Practice Setting	Description of shifts and causes for shifts in referral appropriateness
Plastic Surgery	AMC	I think people understand my practice better and are more familiar with me so the referrals have improved as people know what I do and can offer.
Plastic Surgery	AMC	Minimal variance, though we have an improved internal phone triage responding to the referrals.
Plastic Surgery	AMC	Random fluctuations and further specialization of my practice.
Urology	AMC	Change in referral patterns to subspecialist.
Urology	AMC	I believe establishing a longer term relationship with the referring doctor helps triage patients appropriately. In addition, my office staff have also been able to better triage patient to appropriate specialists.
Urology	AMC	PCP have less time with patients and are more likely to refer out to specialists anything they have limited experience with instead of doing a preliminary investigation prior to referral
Urology	Non-profit	Navigators are helping getting pts where they need to be
Urology	Other	An increase in awareness of the doctors in the cost of referrals (tests, procedures) that may be unnecessary and a cost to them (ACO or cap model). On the other hand, the increase number of PAs and NPs have increased inappropriate referrals due to lack of knowledge and supervision.
Urology	Private practice	the referral patterns have changed recently based on HMO guidelines that influence these referrals.
Vascular Surgery	AMC	more appropriate patients being sent as we have set screening criteria for referred patients and have worked on education programs for the referring physicians

REFERRAL SENTIMENTS

Q5: For any patients that were either somewhat appropriate or inappropriate, please elaborate as to why you felt those referrals were not entirely suitable for your practice. [open text responses]

Respondent Specialty	Respondent Primary Practice Setting	Explanation for why referrals were not appropriate for practice
Cardiology	AMC	did not have to be seen by someone of my expertise
Cardiology	AMC	problem could have easily been dealt with by referring physician
Cardiology	AMC	Requires different specialist
Cardiology	For-profit	non cardiac issue
Cardiology	Non-profit	Clearly not a cardiovascular problem to begin with.
Cardiology	Non-profit	specific clinical scenario
Cardiology	Other	Most of such referrals are deemed so b/c preliminary workup had not been completed by the PCP. Fort example, a young healthy woman with palpitations who is referred without any documentation of an arrhythmia by Holter, etc.
Cardiology	Private practice	Cataract clearance
Cardiology	Private practice	could have been managed by PCP
Cardiology	Private practice	Medical problems an internist should be able to handle on their own
Colorectal Surgery	AMC	I don't perform that type of surgery
Colorectal Surgery	AMC	Needed obvious medical optimization before surgery could be scheduled
Colorectal Surgery	AMC	pt did not require surgery
Colorectal Surgery	AMC	They had problems for which there was no surgical solution.
Colorectal Surgery	Non-profit	Needed medical mgmnt
Colorectal Surgery	Private practice	need upper GI endoscopy which I don't do
Dermatology	AMC	Anaphylaxis
Dermatology	AMC	did not need seen e.g. skin tags
Dermatology	AMC	Occasionally sent to wrong subspecialist within dermatology

REFERRAL SENTIMENTS

Q5 continued...

Respondent Specialty	Respondent Primary Practice Setting	Explanation for why referrals were not appropriate for practice
Dermatology	AMC	patient already received treatment that was adequate
Dermatology	Private practice	Had widespread metastatic disease and needed additional specialties on board
Dermatology	Private practice	i.e. acne that could be managed by a PMD, but probably better managed by me
Dermatology	Private practice	needed more specialized care than i could offer such as Moh's surgery
Dermatology	Private practice	Should go to neuro or ENT
Gastroenterology	AMC	lack of expertise
Gastroenterology	AMC	only somewhat related to my speciality
Gastroenterology	AMC	problem could have been handled by PCP (gastroenteritis etc)
Gastroenterology	AMC	Some referrals were more appropriate for a surgeon
Gastroenterology	AMC	They did not have ibd
Gastroenterology	Non-profit	Facility didn't have capabilities to do procedure that patient needed. Or patient was sent for procedure that another specialist does.
Gastroenterology	Private practice	I was not the appropriate person to address their issues
Gastroenterology	Private practice	Pcp sends all patients that requested GI specialist PCp did not even triage patient
Gastroenterology	Private practice	Should have seen a different specialist (i.e. surgeon)
Neurology	AMC	normal imaging, normal exam (Functional)
Neurology	AMC	There were further sub-specializations
Neurology	AMC	This typically results from patients being sent from a primary care doctor for questions about multiple sclerosis when in fact the patient has an entirely different clinical issue
Neurology	Private practice	A few should have been seen by psychiatry first
Neurology	Private practice	maybe a bit early to refer
Neurology	Private practice	Patients coming who have already had evaluations for similar symptoms by a neurologist within a few months of seeing me

REFERRAL SENTIMENTS

Q5 continued...

Respondent Specialty	Respondent Primary Practice Setting	Explanation for why referrals were not appropriate for practice
Neurology	Private practice	soft neurologic conditions referred to us (dizziness, etc.) and some patient's referred to us for us to describe their MRI finds (even if they are benign)
Neurology	Private practice	There are neurologic problems, but they are either minor or unrelated
Neurology	Private practice	To be the Devil's Advocate for the referring physician, most referring docs only vaguely understand the kind of patients that should be seen by a neuro-ophthalmologist (that would be me). This is not an uncommon problem in our Age of Subspecialization. The PCP may be perplexed as to whether I see visually impaired patients with unrelated neuro problems or neuro patients who have a visual problem. So they may refer an Alzheimer's patient who has cataracts (and who is better served by a general ophthalmology referral).
Neurosurgery	AMC	had absolutely no neurosurgical issue -- needed a pain doctor
Neurosurgery	AMC	I do not perform certain types of complex spine surgery yet because I specialize in neuromodulation for chronic pain I often see people referred to me who require complex spinal surgery
Neurosurgery	AMC	Really needed neurology not us
Neurosurgery	AMC	referral to a wrong discipline
Neurosurgery	Private practice	Should have been first seen by a neurologist
Ophthalmology	AMC	Can see other physician
Ophthalmology	AMC	Correct diagnosis
Ophthalmology	AMC	most of these were for confusion over diagnosis or for concern for patient anxiety
Ophthalmology	AMC	non-retina diagnosis
Ophthalmology	AMC	not retinal problems
Ophthalmology	AMC	the patient was misdiagnosed and had an entirely different problem

REFERRAL SENTIMENTS

Q5 continued...

Respondent Specialty	Respondent Primary Practice Setting	Explanation for why referrals were not appropriate for practice
Ophthalmology	AMC	They do not have the severity of disease appropriate for a retina specialist
Ophthalmology	AMC	would be better served by a general ophthalmologist rather than seeing me as a retina specialist
Orthopedic Surgery	AMC	back pain was predominant
Orthopedic Surgery	AMC	Further evaluation by the referring doctor should have been done
Orthopedic Surgery	AMC	Usually patients with multiple joint involvement
Orthopedic Surgery	AMC	Wrong specialist
Orthopedic Surgery	For-profit	rib pain to orthopedics. toe fungus to orthopedics
Orthopedic Surgery	Non-profit	often patients are referred with nonoperative problems who have not had any attempt at nonoperative primary care treatment attempts
Orthopedic Surgery	Private practice	Incorrect diagnosis for pain (gyne problem instead of orthopedic problem)
Orthopedic Surgery	Private practice	leg swelling
Orthopedic Surgery	Private practice	no evaluation or work up
Plastic Surgery	AMC	Better treated by a generalist
Plastic Surgery	AMC	hand surgery which I dont practice
Plastic Surgery	AMC	Medical weight loss therapy
Plastic Surgery	AMC	most appropriate a dermatology patient
Plastic Surgery	AMC	occasionally I am sent a patient for a procedure I no longer do, or else the patient's condition is not amenable to surgical intervention
Plastic Surgery	AMC	Patients requiring gastric bypass or other weight loss methods, not abdominoplasty, specialized dermatologic needs
Plastic Surgery	AMC	patients with wounds that are more appropriate for general surgeons
Plastic Surgery	AMC	referral for procedures that I do not perform
Plastic Surgery	AMC	referred for procedures that I do not do, or someone else in my practice does better, like gender reassignment surgery.

REFERRAL SENTIMENTS

Q5 continued...

Respondent Specialty	Respondent Primary Practice Setting	Explanation for why referrals were not appropriate for practice
Plastic Surgery	AMC	Referring MD not aware that others in our medical center handle the referral condition
Plastic Surgery	AMC	wrong diagnosis
Urology	AMC	did not need to see a physician or are seeing the wrong specialist for the presenting the complaint
Urology	AMC	general urology vs, subspecialty urology
Urology	AMC	primary providers have less general knowledge and refer to specialists regarding anything outside their area of expertise
Urology	AMC	referred for a complain I don't usually see
Urology	AMC	Urology condition relating to prostate
Urology	For-profit	Not in my specialty
Urology	Other	lack of knowledge of the referring clinician.
Urology	Private practice	could have been evaluated by another type of physician
Urology	Private practice	Misdiagnosed matters best treated by a different specialty
Urology	Private practice	Wrong disease status
Vascular Surgery	AMC	error in diagnosis
Vascular Surgery	AMC	It is a situation where the referring physician is either appeasing a patient, or unsure of the actual diagnosis
Vascular Surgery	AMC	mostly these were patients that were referred too early in their disease process
Vascular Surgery	AMC	non operative candidates
Vascular Surgery	AMC	questionable operative candidates or workup not complete

MISDIRECTION OUTCOMES

Q6: What is the typical outcome of any clinically inappropriate referrals in your practice?

Q6: ALL RESPONDENTS

Outcome of Misdirected Referrals	% of Respondents
Accept appointment and re-refer	63.0%
DO NOT accept appointment and re-refer	12.0%
Accept appointment, DO NOT re-refer	18.0%
Other	7.0%

Q5: BREAKOUT BY PRIMARY PRACTICE SETTING

Primary Practice Setting	*n*	Accept appt. and re-refer	DO NOT accept appt. and re-refer	Accept appt., DO NOT re-refer	Other
AMC	*61*	65.6%	9.8%	21.3%	3.3%
For-profit	*3*	33.3%	0.0%	33.3%	33.3%
Non-profit	*6*	83.3%	0.0%	16.7%	0.0%
Other	*2*	50.0%	0.0%	0.0%	50.0%
Private practice	*28*	57.1%	21.4%	10.7%	10.7%
All	***100***	**63.0%**	**12.0%**	**18.0%**	**7.0%**

MISDIRECTION OUTCOMES

Q6: BREAKOUT BY SPECIALTY

Specialty	*n*	Accept appt. and re-refer	DO NOT accept appt. and re-refer	Accept appt., DO NOT re-refer	Other
Cardiology	*11*	63.6%	0.0%	27.3%	9.1%
Colorectal Surgery	*7*	42.9%	42.9%	0.0%	14.3%
Dermatology	*10*	50.0%	20.0%	20.0%	10.0%
Gastroenterology	*10*	50.0%	40.0%	10.0%	0.0%
Neurology	*10*	40.0%	10.0%	20.0%	30.0%
Neurosurgery	*6*	83.3%	0.0%	16.7%	0.0%
Ophthalmology	*9*	88.9%	0.0%	11.1%	0.0%
Orthopedic Surgery	*10*	60.0%	0.0%	30.0%	10.0%
Plastic Surgery	*11*	81.8%	18.2%	0.0%	0.0%
Urology	*11*	72.7%	0.0%	27.3%	0.0%
Vascular Surgery	*5*	60.0%	0.0%	40.0%	0.0%
All	***100***	**63.0%**	**12.0%**	**18.0%**	**7.0%**

Q6: BREAKOUT BY SUBSPECIALIST STATUS
(DOES RESPONDENT HAVE AN ADDITIONAL SUB-SPECIALTY)

Subspecialist?	*n*	Accept appt. and re-refer	DO NOT accept appt. and re-refer	Accept appt., DO NOT re-refer	Other
YES	*56*	64.3%	12.5%	12.5%	10.7%
NO	*44*	61.4%	11.4%	25.0%	2.3%
All	***100***	**63.0%**	**12.0%**	**18.0%**	**7.0%**

CAUSES OF REFERRAL MISDIRECTION

Q7: In your opinion, what are the underlying causes of misdirected patient referrals in your hospital / health system? (respondents allowed to select multiple responses)

Q7: ALL RESPONDENTS

Causes of Misdirection	% of Respondents
Referring physicians lack information about other physicians in their system and their clinical specialties	64.0%
The referral or call center lacks information about physicians in their system and their clinical specialties	31.0%
Referring offices lack information about other physicians in the system and their clinical specialties	32.0%
Referrals rely too heavily on **personal relationships** between physicians	15.0%
Other	19.0%

Q7: "OTHER" RESPONSES

Respondent Specialty	Respondent Primary Practice Setting	"Other" causes for referral misdirection
Cardiology	AMC	incomplete patient data
Cardiology	Non-profit	human error
Cardiology	Private practice	Overly concerned about medical liability and the feeling that specialist consultation will mitigate this factor.
Colorectal Surgery	AMC	Medical docs are frustrated and lack knowledge about what can be offered, or reasonably accomplished with surgery.
Colorectal Surgery	AMC	PCPs too busy and in too much a hurry
Colorectal Surgery	Non-profit	They cannot always know the management strategies
Gastroenterology	AMC	Physicians not checking to see if the patient already has a Gastroenterologist
Neurology	AMC	Misreading or interpreting clinical or laboratory/imaging information
Neurology	Private practice	All too often this consists of patients without good insurance and it's easier to have another office do the work

CAUSES OF REFERRAL MISDIRECTION

Q7 continued...

Respondent Specialty	Respondent Primary Practice Setting	"Other" causes for referral misdirection
Neurology	Private practice	physicians just want to move some conditions out of their office
Neurology	Private practice	sometines MD not sure if problem is neurologic or not
Neurosurgery	AMC	I have very strong ties with many of my referring physicians and they will personally ask me to see their patients who may be inappropriate for me because they trust my opinion.
Neurosurgery	AMC	referring physicans just want to refer the patient along
Ophthalmology	AMC	problems internally with triage
Orthopedic Surgery	AMC	patients fake symptoms to get in for a consultation unrelated to my specialty because "they have heard good things about me."
Orthopedic Surgery	AMC	referring physicians do not have clinical acumen to diagnose the problem and take easiest route for referral, it's easier to get into an ortho office than a neurosurgeon or spine office
Orthopedic Surgery	Private practice	physicians not screening appropriately
Orthopedic Surgery	Private practice	Referring physician lacks knowledge of what the specialist does.
Plastic Surgery	AMC	Our office staff does not understand what the patient is calling about and so sets up the patient with a poor choice of physician
Vascular Surgery	AMC	patients NOT YET ready for referral, unclear role of referring physicians and specialists
Vascular Surgery	AMC	Physicians do not take good histories and do not examine the patient

ADDITIONAL COMMENTARY ON REFERRALS

Q8: Please provide any additional commentary on the patient referral process that you feel is important including efficiencies, inefficiencies, proposed solutions, etc.
[open text response]

Respondent Specialty	Respondent Primary Practice Setting	Additional Commentary on Referrals
Cardiology	AMC	The biggest problem is lack of communication between referring physicians and consultants
Cardiology	Non-profit	Personal communication important
Colorectal Surgery	AMC	My staff needs to screen new patients
Colorectal Surgery	AMC	generally it works well and my office screens out the pts that are inappropriately referred
Orthopedic Surgery	AMC	I try to have all of my new patients screened by my administrative assistant prior to an appointment being offered. This works well for me.
Colorectal Surgery	Private practice	Physicin/staff need to understand the difference between a Colon and Rectal surgeon and a Gastroenterologist
Dermatology	Private practice	timeline of referrals is also important, but was not addressed. For instance, a severe rash might be an appropriate referral. However, if the appointment is not made for 6 weeks, and the rash is gone by the time the patient is evaluated, then it is an inappropriate referral.
Gastroenterology	AMC	When patients self select a specialist without checking with their PCP, they choose incorrectly at least 30% of the time.
Gastroenterology	Private practice	good survey
Gastroenterology	Private practice	Online directory access is needed
Neurology	AMC	Having editable directories (by physicians) shared among other physicians would reduce the # of inappropriate referrals.
Neurology	AMC	It is highly ineffecient on the end of the specialist given the amount of time that is spent on reviewing the typical consult intake forms and records to determine appropriateness.
Neurology	Private practice	nothing else really you can do

ADDITIONAL COMMENTARY ON REFERRALS

Q8 continued...

Respondent Specialty	Respondent Primary Practice Setting	Additional Commentary on Referrals
Neurology	Private practice	No facile solutions for this.The schedulers are simply not trained to triage the tertiary referrals that constitute many subspecialty practices like mine. The best and labor-intensive solution that I employ is to review patient records a day or two before I see them (and hopefully avert an inappropriate referral).
Urology	Non-profit	Our office helps with getting appropriate new referrals
Neurosurgery	AMC	It's really not a big problem we any happy to see any patient anytime that is our philosophy
Neurosurgery	Private practice	Being in solo practice it is more difficult to say no to a referral but at the same time I make sure that patients don't get a bad experience and that the medical work up and follow-ups are done properly. The overall burden is moderate but the return in turn of increase referrals of "good" patients is significant.
Ophthalmology	AMC	Improve website so patients can understand more.
Ophthalmology	AMC	We have made TREMENDOUS changes in the past 3 years and I would be happy to discuss over phone. Changes extend to numerous subspecialities.
Ophthalmology	AMC	Ultimately, the only control over their lives that physicians control is access.
Orthopedic Surgery	AMC	clinical experience in the schedulers is paramount, pathways are not always effective
Orthopedic Surgery	AMC	there is an increasing inappropriateness of tests being order by primary care providers
Orthopedic Surgery	AMC	Need a better process. Ours sucks.
Orthopedic Surgery	Private practice	Some primary care docs will refer to other less skilled specialists because of personal relationships and habits, rather than what is best for their patients.
Plastic Surgery	AMC	it is so important to know exactly what the patient is coming to see you for in their words.
Plastic Surgery	AMC	Referral patterns are very heavily based on personal relationships. In Chicago, which is a very competitive market, much of my practice is geared towards making referring physicians happy. It will be hard to change this dynamic, namely, one built on personal relationships.

ADDITIONAL COMMENTARY ON REFERRALS

Q8 continued...

Respondent Specialty	Respondent Primary Practice Setting	Additional Commentary on Referrals
Plastic Surgery	AMC	for the most part,my referral pattern is satisfactory
Plastic Surgery	AMC	in a large institution, referrals should be reviewed by a clinical specialist (nurse, PA, etc) to better direct the referral to the most appropriate physician
Plastic Surgery	AMC	It is hard for al referring MDs to know just exactly what services my practice has decided to continue to offer and those we voluntarily have dropped
Plastic Surgery	AMC	centralized scheduling causes more inappropiate appointments.
Urology	AMC	there needs to be more direct physician to physician communication when referrals are being made
Urology	AMC	Better quality training for call center staff to provide appropriate scheduling of patient conditions.
Urology	Other	there should be a referral manager to help improve this process.
Urology	Private practice	Thank you
Colorectal Surgery	AMC	consults must be accepted by a knowledgable assistant
Vascular Surgery	AMC	Physicians need to pay more attention to the patient and refer to the specialist who demonstrates the best outcomes not just because they may be their best friend or are in the hospital network

ABOUT KYRUUS

Despite major advances in healthcare information technology, the road connecting patients and providers has gone essentially unchanged for decades. Relying heavily on incomplete, outdated and inaccessible information, it is a path littered with risk – risk of clinical mismanagement, revenue leakage and dissatisfaction across patients and providers alike.

Kyruus operates under a simple disruptive idea: REINVENT THE WAY THAT PATIENTS CONNECT WITH PROVIDERS. Using patent-pending, best-in-class data to match patients to providers as well as seamlessly integrated workflows, our solutions ensure that patients receive better, faster, more personalized care, and that the entire hospital system experiences increased productivity, retention, and system-wide efficiency.

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