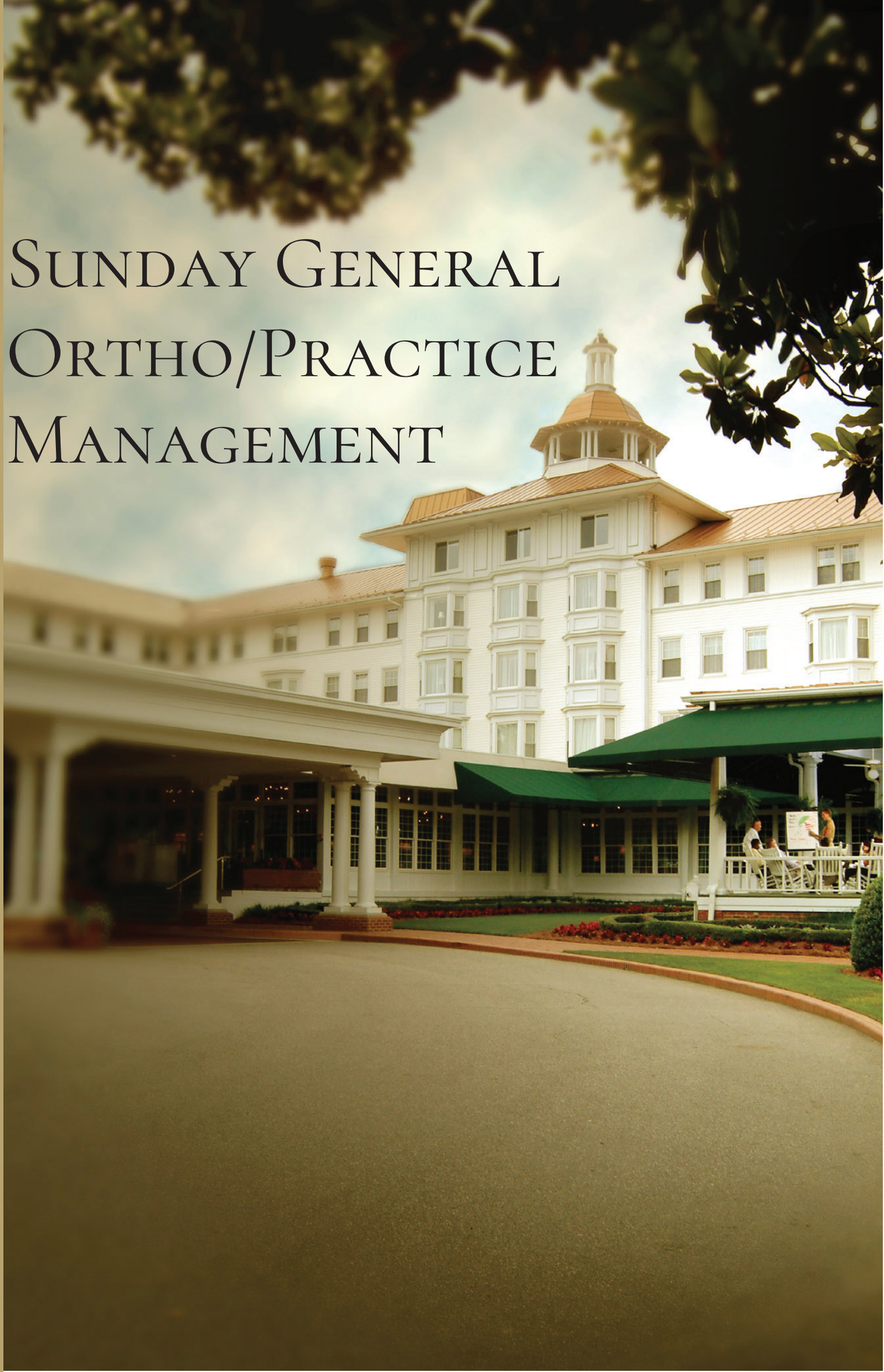
2016 NCOA Annual Meeting

Sunday General Ortho/Practice Management



Wake Forest™
School of Medicine

Allopathic Medical Education in NC; the Impact of an Educator and a Rough Rider

L. Andrew Koman MD

Purpose:

- **History Medical & Orthopaedic education in NC**
- **Influence *Flexner*, an educator, *Teddy Roosevelt*, the rough rider on that process**
- **The Orthopaedic residencies**

Medical Education in NC the start

Apprenticeship school Cabarrus County

- Charles Harris (1776-1825)
- Trained University Pennsylvania
- Cabarrus county
- Trained ~ 93 students

Medical Education in NC

Apprenticeship school Cabarrus County

- Charles Harris (1776-1825)
- Trained university Pennsylvania
- Cabarrus county
- Trained ~ 93 students

Seven Allopathic / one osteopathic

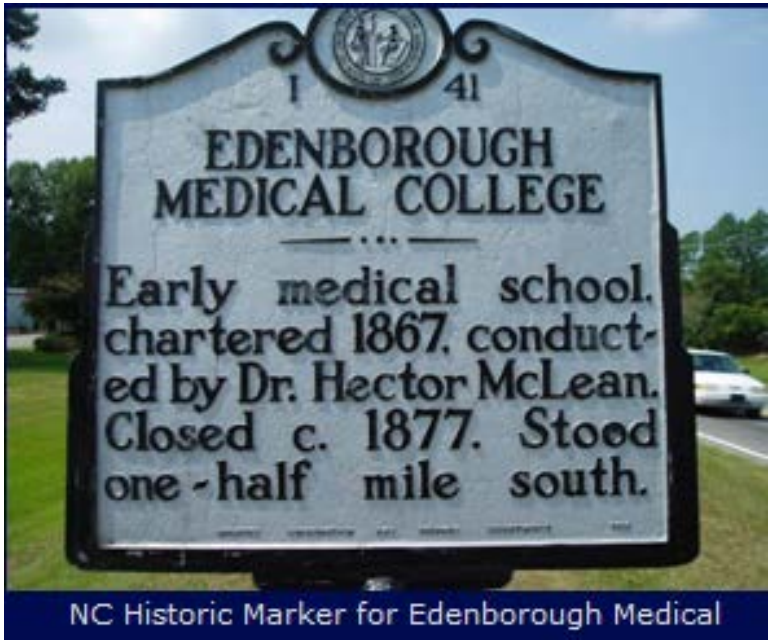
- Three closed
- Remaining allopathic:

WF; Duke; UNC; EC (Brody School)

Medical schools in NC the 1st

Edenborough Medical College

- Hector McLean
- Robeson County
- 1867-1877



NC Historic Marker for Edenborough Medical

Medical schools in NC

- **Edenborough Medical College (Robeson County) 1867**
- **Leonard Medical School (Shaw) Raleigh 1882**
- **University North Carolina (Chapel Hill) 1879 ****
- **North Carolina Medical College (Davidson) 1887**
- **University Medical Department Raleigh (UNC) 1902 ****
- **Wake Forest College Medical School (Wake Forest) 1902 #**
- **Duke University School of Medicine (Durham) 1930**
- **Bowman Gray School of Medicine (Winston –Salem) 1941 #**
- **University North Carolina (Chapel Hill) 1952 ****
- **University North Carolina "Brody School of Medicine" (Greenville) 1977**

Medical schools in NC

Leonard Medical School 1882

Shaw University

- **First 4 year medical college in NC**
- **Trained Black Americans**
- **$5,000 donation Henry Martin Tupper**

Medical schools in NC

North Carolina Medical College

Davidson

- **1887 – one year**
- **1893 – three years**
- **1902 – 4 years**
- **1907 relocated to Charlotte and renamed *NC Medical School***

North Carolina Medical College at Davidson. Image from http://library.davidson.edu/archives/ency/ncmed.asp

Wake Forest College Medical School

- 1902 (Wake Forest, N.C.)
  - Two year non-clinical
  - 7/13 students – “failed”
  - Clinical exposure Raleigh (17 miles)

Bowman Gray School Medicine 1941

- Winston-Salem

Wake Forest School Medicine 1997

Wake Forest Baptist Health System

University North Carolina *(first 3 /4)*

1879-1885

- ❖Thomas W. Harris MD– dean
- ❖Two-year curriculum

1890 -1902

- ❖Richard Whitehead MD– dean
- ❖one year until 1896 – two years

1902 – 1910

- ❖University Medical Department Raleigh
- ❖ Rex & Dorthea Dix
- ❖“four years”

Abraham Flexner

- **Educator**
- **1908 titled: The American College: A Criticism.**
- **1910 the reform of medical education in the United States and Canada.** Published by the Carnegie Foundation for the Advancement of Teaching

Medical schools in NC

Flexnor Report impact in 1910

Unsatisfactory Rating ending in North Carolina

- **Leonard Medical School**
- **North Carolina Medical College (Davidson)**
  - **merged MCV**
- **University Medical Department Raleigh(UNC)**

Medical schools in NC

Flexnor Report

Satisfactory

- ***Wake Forest- " the laboratories of this little school are, as far as they go, models in their way. Everything about them indicates intelligence and earnestness"***

Medical schools in NC

- 4 schools at turn of century
- 3 closed after Flexor report
  - Wake Forest continued as 2 year school

The rough rider

Teddy Roosevelt & NC Medical Education

- President
- Sherman antitrust act
- Tobacco Cartel

"A man who has never gone to school may steal from a freight car; but if he has a university education, he may steal the whole railroad."

Theodore Roosevelt

Teddy Roosevelt & NC Medical Education

Tobacco Cartel 1907

- American tobacco
- RJ Reynolds
- Lorillard
- Liggett & Myers

Dissolution American tobacco Cartel

J B Duke – American Tobacco Durham

Reynolds ---Reynolds Tobacco in Winston-Salem

Bowman Gray RJR

1924 - President

1935 – CEO

Created fund at his death for “cause beneficial to the community”

Medical schools in NC

Duke University School of Medicine

- 1930
- James B. Duke
  - 4 year school
  - Men and women
- $10,000,000
  - $4,000,000 construction etc.
  - $227,000 books;
  - $300,000 Rockefeller Foundation
  - Support university

NCBH

North Carolina Baptist Hospital building, known as Old Main, in 1930

Bowman Gray School of Medicine 1941

- move to Winston –Salem
- 4 year school (founded 1939)
- 14,000 shares RJRT
- $160,000
- Total $690,000
- “$750,000” (interest)

University North Carolina

Chapel Hill

- 1948/9- legislature
- 1952 –Memorial Hospital clinical training
- 1954 – first MD degrees

Greenville (Brody)

- 1977-


Wake Forest, NC
Mount Airy
Eden
Danville
Palmer Springs
Roanoke Rapids
Mayodan
Reidsville
Roxboro
Shoals
King
Bushy Fork
Stokesdale
Winston-Salem
Greensboro
Durham
Wake Forest
Byp
Rocky Mount
Farmington
High Point
Chapel Hill
Tarboro
Lexington
Tyro
Cary
Raleigh
Wilson
Asheboro
Salisbury
Holly Springs
Garner
Gulf
Sanford
Angier
Smithfield
Farmville
Kannapolis
Uwharrie

Orthopaedic residency training North Carolina

Duke – Durham

Wake Forest - Winston-Salem

UNC Chapel Hill - Chapel Hill

Carolinas Medical Center-- Charlotte

Duke Orthopaedic Residency

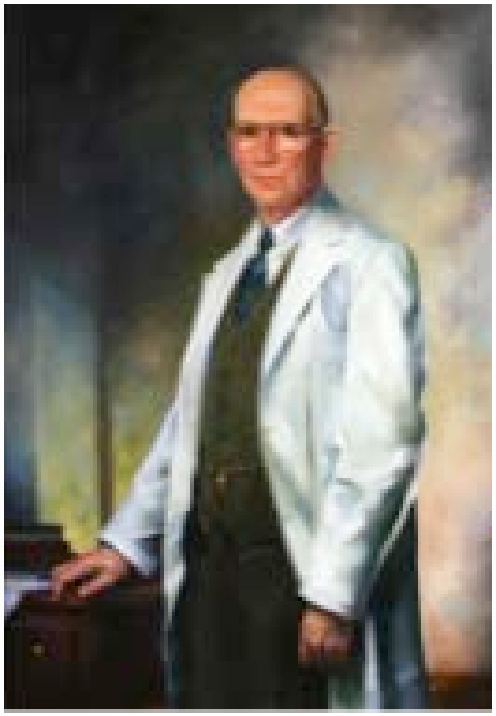
1930:

Division of Orthopaedics - within Surgery

Alfred Shands Jr –first chief

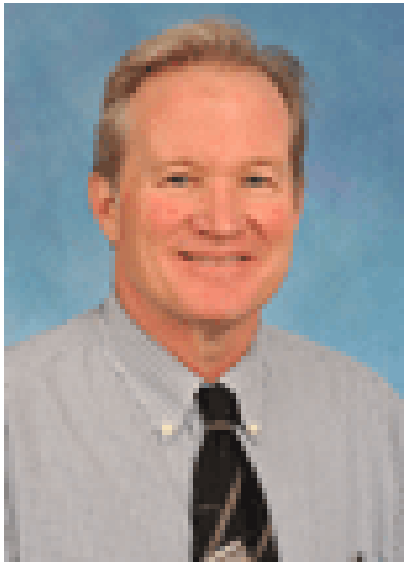
Bev Rainey - first resident

8 residents per year



UNC
Orthopaedic Residency

R. Bev Rainey , MD



Wake Forest Orthopaedic Residency

R. A. Moore, MD

Chair: 1941-1953

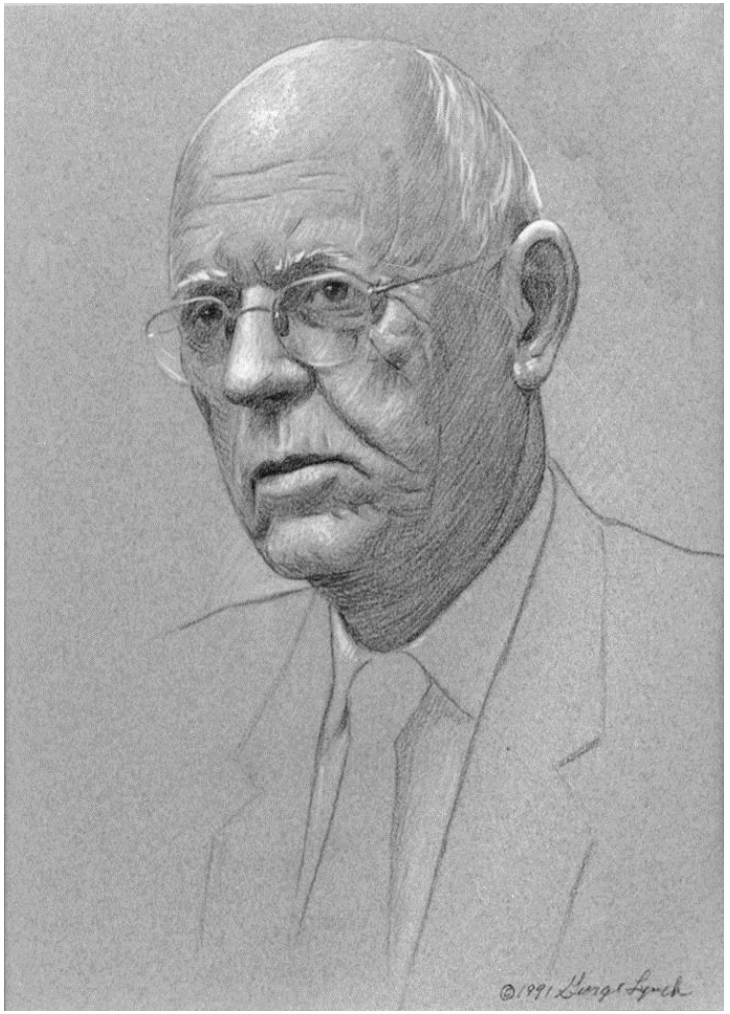
2 faculty:

- Cabel Young (Duke)
- Ed Martinet

Residency

- 1 resident / year
- 2 year program
- First resident

Butch Tiller



Carolinas Medical center Orthopaedic Residency

Initially Community Program
Now Carolinas Medical Center

Oscar miller

- 5 residents per year

What Drives Orthopaedic Surgery Residents? Intellectual Stimulation and Other Self-Reported Factors Influencing Fellowship Choice

Joseph J. Kavolus M.D. M.S.C.R., Andrew P. Maston M.D., William A. Byrd M.D., Brian E. Brigman M.D. P.h.D.

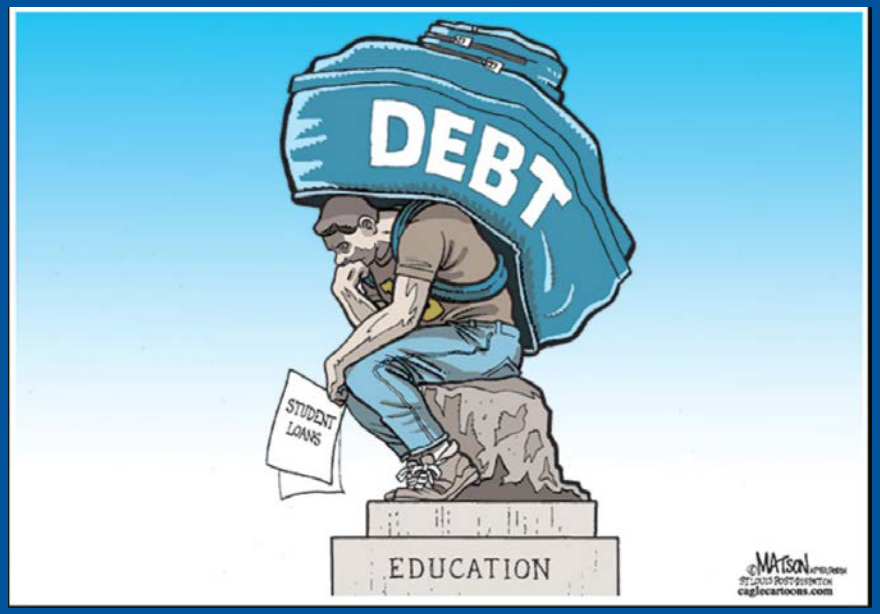
Duke Orthopaedic Surgery

Disclosures

- No conflicts of interest to report

The next generation of Orthopedic Surgeons will inherit a rapidly changing healthcare environment

- Mountains of Student Debt
- New payment models
- Never before seen levels of outcome reporting
- Increased bureaucratic responsibility from documentation and EMR requirements



METHODS

- After IRB approval Link to Survey was emailed to programs coordinators with instructions to disseminate
- All responses anonymized
- Only fully complete surveys accepted
- Collected a litany of demographics, planned fellowship choice, and Likert Scale rankings for a number of factors influencing career

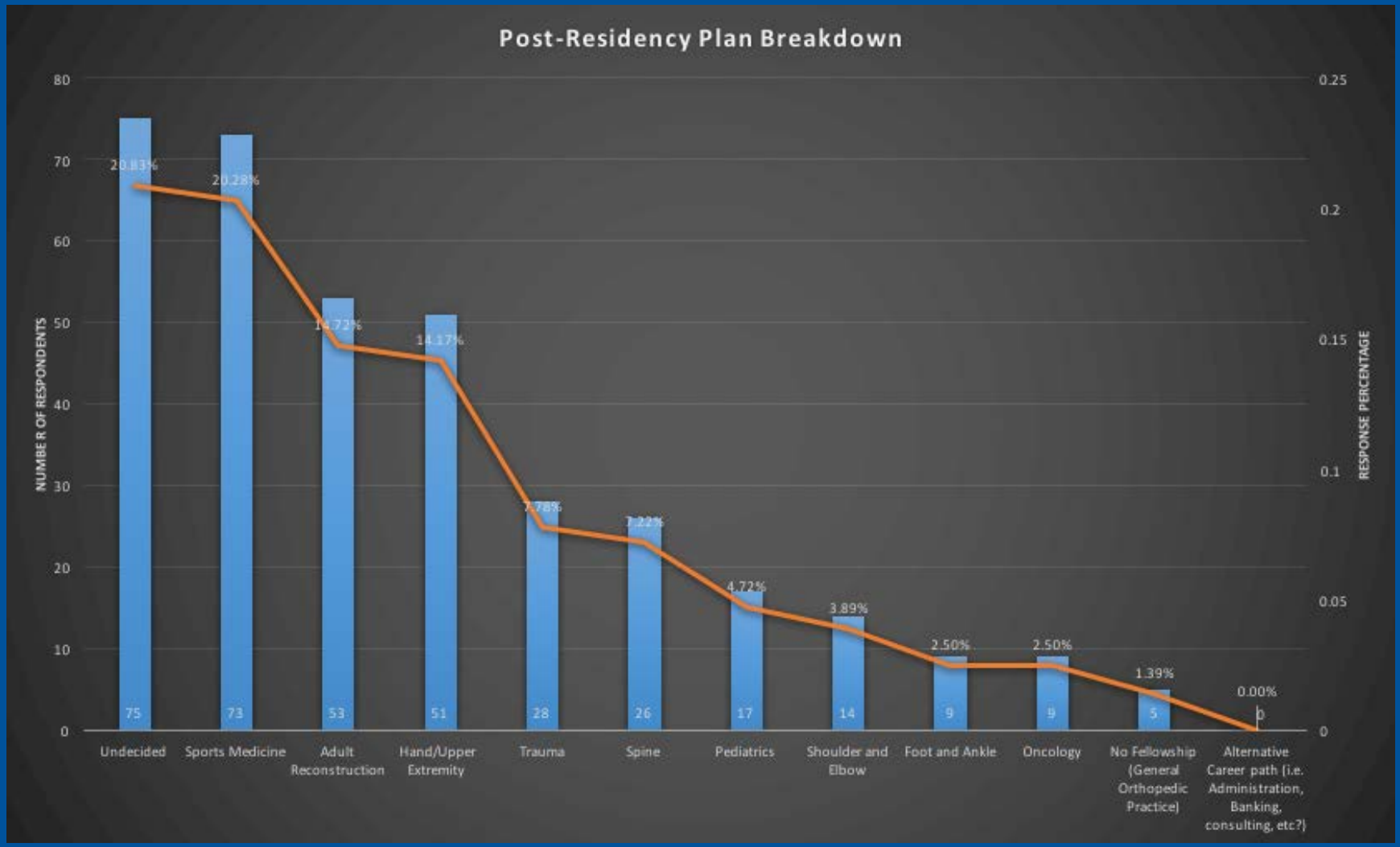
Demographics

- 360 Orthopedic Trainee responses 86% male 14% female
- All PGY years represented including current fellows

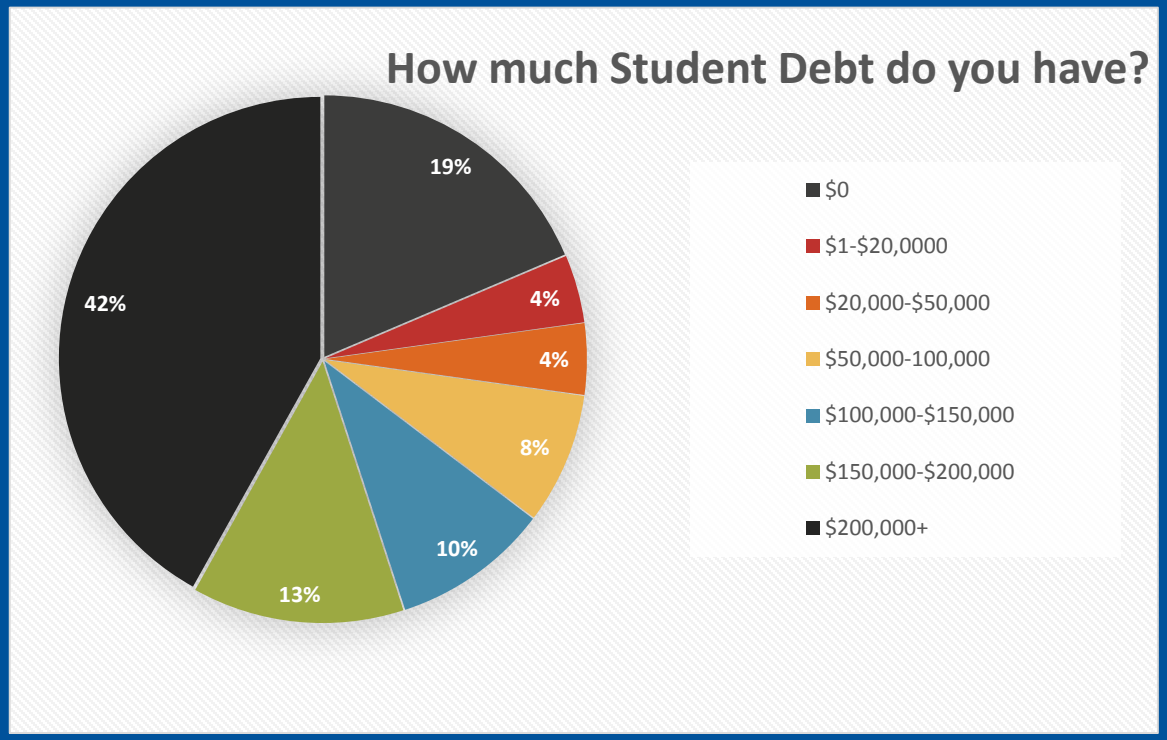
Answer Options	Response Percent
ged	

	Response Percent

Plans of Current Trainees



Resident Debt Level



	Response Percent

Average Likert Score of Factors

s on Fellowship Selection	
Factor	Rating Average

Unique Concerns Per Specialty

Sub- Speciality Specific Factors		
Subspeciality	**Unique Factor(s)**	**Least Important Factor(s)**
Undecided (n=75)	Practice Location (first 3.32)	Potential to Conduct Research (1.92)
Generalist/no Fellowship (n=5)	Practice Location (first 3.4)	Potential to Join Academic Pracitce (1.0)
Adult Reconstruction (n=53)	Marketability(first 3.38)	Outpatient Surgery (1.44)
Foot and Ankle (n= 9)	Practice Location (first 3.33)	Potential to Join Academic Pracitce (1.38)
Hand/Upper Extremity (n=51)	Outpatient Surgery (third 3.14)	Potential to Conduct Research (1.88)
Oncology (n=9)	Join Academic Practice (third 3.56)	Outpatient Surgery (1.56)
Pediatrics (n=17)	Alturism (fourth 3.12)	Outpatient Surgery (1.47)
Shoulder and Elbow (n=14)	Outpatient Surgery (fourth 2.86)	Interaction with other Specialities (2.07)
Spine (n= 26)	Marketability(fourth 3.04)	Outpatient Surgery (1.46)
Sports Medicine (n=73)	Outpatient Surgery (third 3.18)	Potential to Conduct Research (2.16)
Trauma (n=28)	Alturism (fourth 2.79)	Outpatient Surgery (1.46)

Conclusion

- Highest reported percentage of residents planning to pursue fellowship 98.6%
- Judging from resident concerns: intellectual stimulation, marketability, mentors coupled with current healthcare environment explains “necessity” of fellowship


Duke Orthopaedic Surgery
Moving forward. Climbing higher.

Gender Preferences of Patients When Selecting Orthopaedic Providers

NCOA Annual Meeting
October 9, 2016

Hannah Dineen MD, Scott Eskildsen MD, Brendan Patterson MD, Zoe Gan BS, J. Megan Patterson MD, Reid Draeger MD

Disclosures

None

Background

- Orthopaedics is male-dominated

2010- 47.8% female medical students

15% full time women faculty in orthopaedics

13.2% of orthopaedic residents are women

From 2004-2009, only **1%** increase in female medical students going in orthopaedics

Background

- Female physicians add important elements to doctor-patient relationships
  - Spend more time with patients
  - Display more sensitivity and encourage more positive self-talk than male counterparts
- Patients have preferences for gender in primary care and ob/gyn

Questions

1) Do patients have a preference for the gender of their orthopaedic surgeon?

2) What traits are important to patients in their orthopaedic surgeon?

Hypothesis:

Patients will not cite a specific gender preference, but will prefer an orthopaedic surgeon that demonstrates many qualities seen in female physicians.

Methods

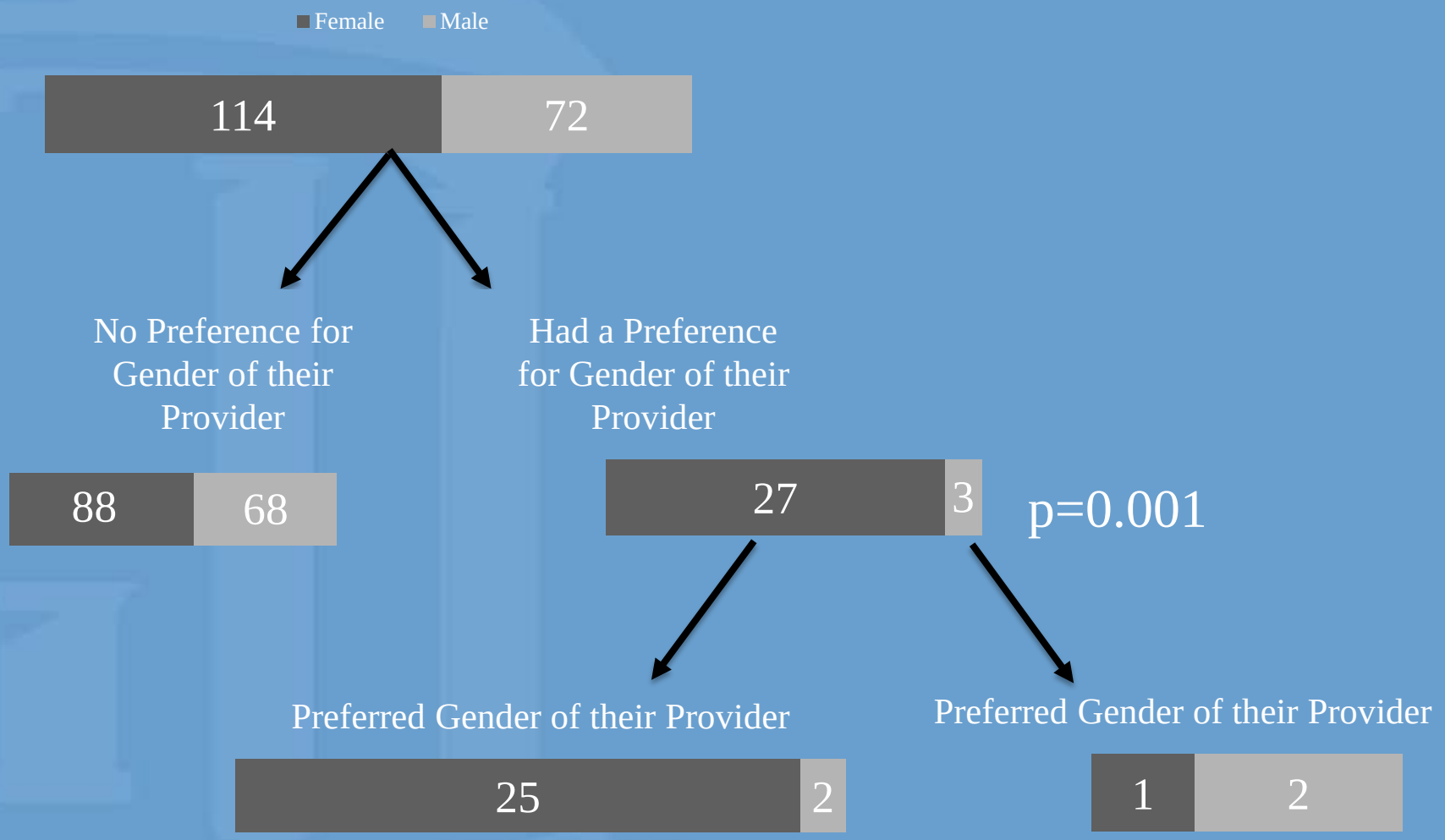
- 191 new patients seen in the Emergency Department and orthopaedic urgent care over a course of 6 months at a single university healthcare center
- Patients given survey regarding their preferences for follow up with an orthopaedic provider
  - preferred gender of their provider
  - preferences in traits exhibited by their provider
- Exclusion criteria: < 18 years old, non-English speaking, current patient

Results

	n (%)	Missing data points
Gender		2
Male	72 (38.7)	
Female	114 (61.3)	
Age	52.7 years (mean)	37
	18-90 years range	
Ethnicity		7
White or Caucasian	139 (75.5)	
Black or African American	28 (15.2)	
Hispanic or Latino	11 (6.0)	
Asian, Native Hawaiian or Pacific Islander	4 (2.2)	
	1 (0.5)	
American Indian or Native American or Alaska Native	3 (1.6)	
Other		

	n (%)	Missing data points
Education		5
8th grade or less	4 (2.2)	
Some high school, but did not graduate	14 (7.5)	
High school graduate or GED	26 (14)	
Some college or 2-year degree	34 (18.3)	
4-year college graduate	38 (20.4)	
More than 4-year college degree	70 (37.6)	
Emotional health		5
Excellent	77 (41.4)	
Very good	67 (36.0)	
Good	26 (14.0)	
Fair	14 (7.5)	
Poor	2 (1.1)	
Marital status		7
Single	43 (23.4)	
Partner/married	109 (59.2)	
Separated/divorced	21 (11.4)	
Widowed	11 (6.0)	
Other	0	

Total Patients in Study

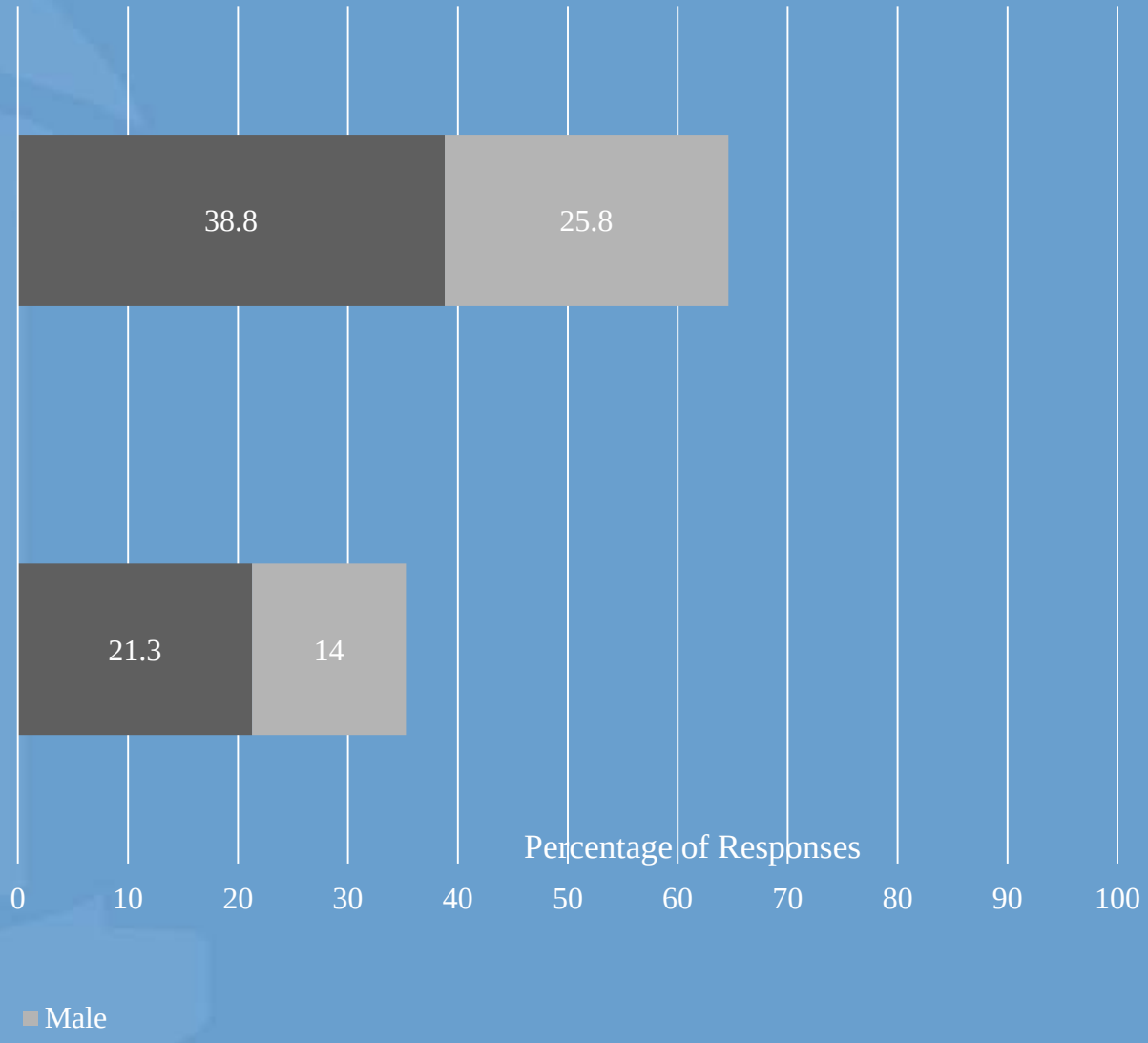


Preferences for Traits in Orthopaedic Surgeon

Ask concise questions that are efficient and to the point

Spend more time interacting with me in clinic and getting to know me as a person

p=1.00

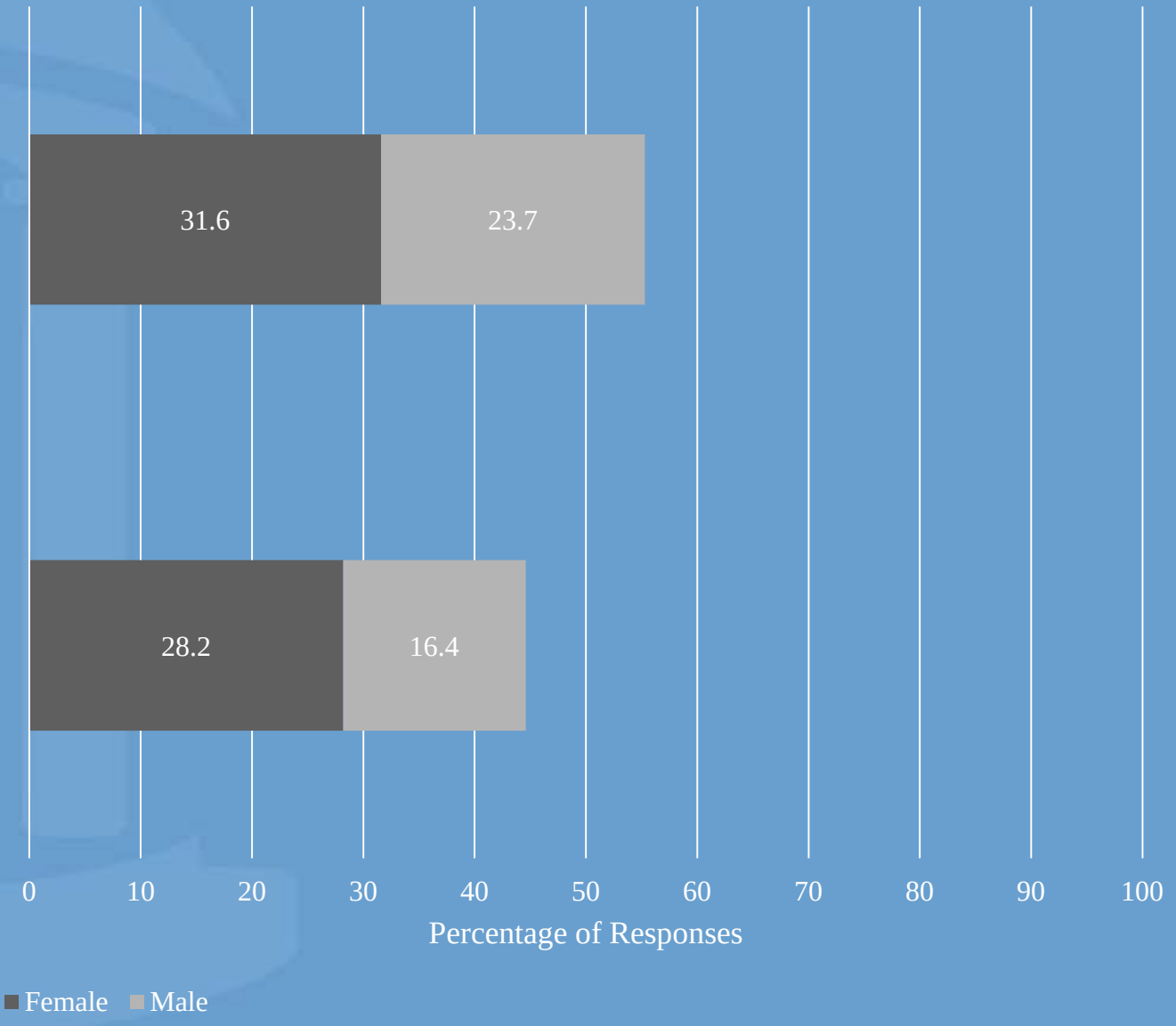


Preferences for Traits in Orthopaedic Surgeon

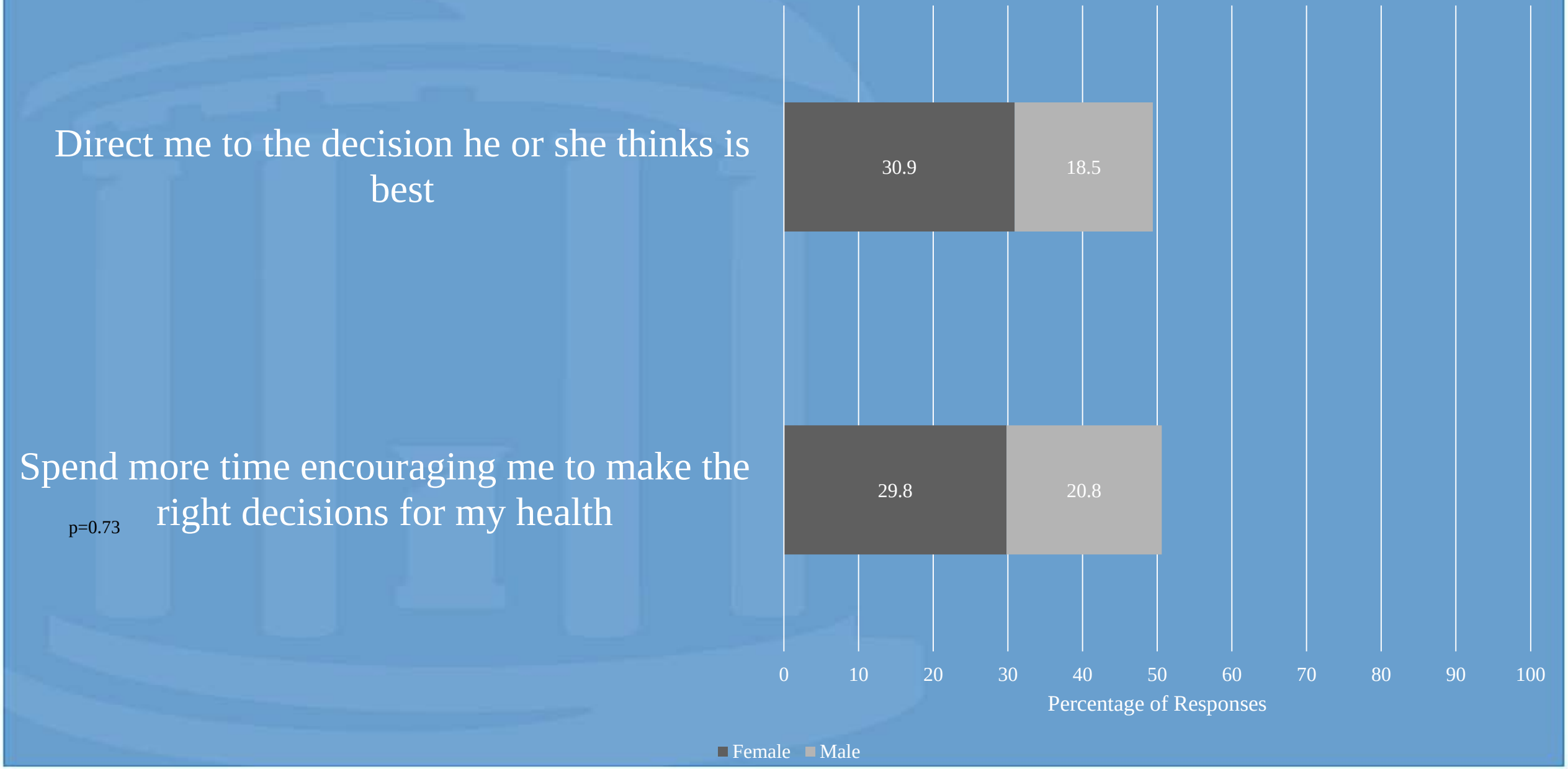
Be friendly, warm and focus on my needs

Have more technical competence and mechanical skill (works well with tools)

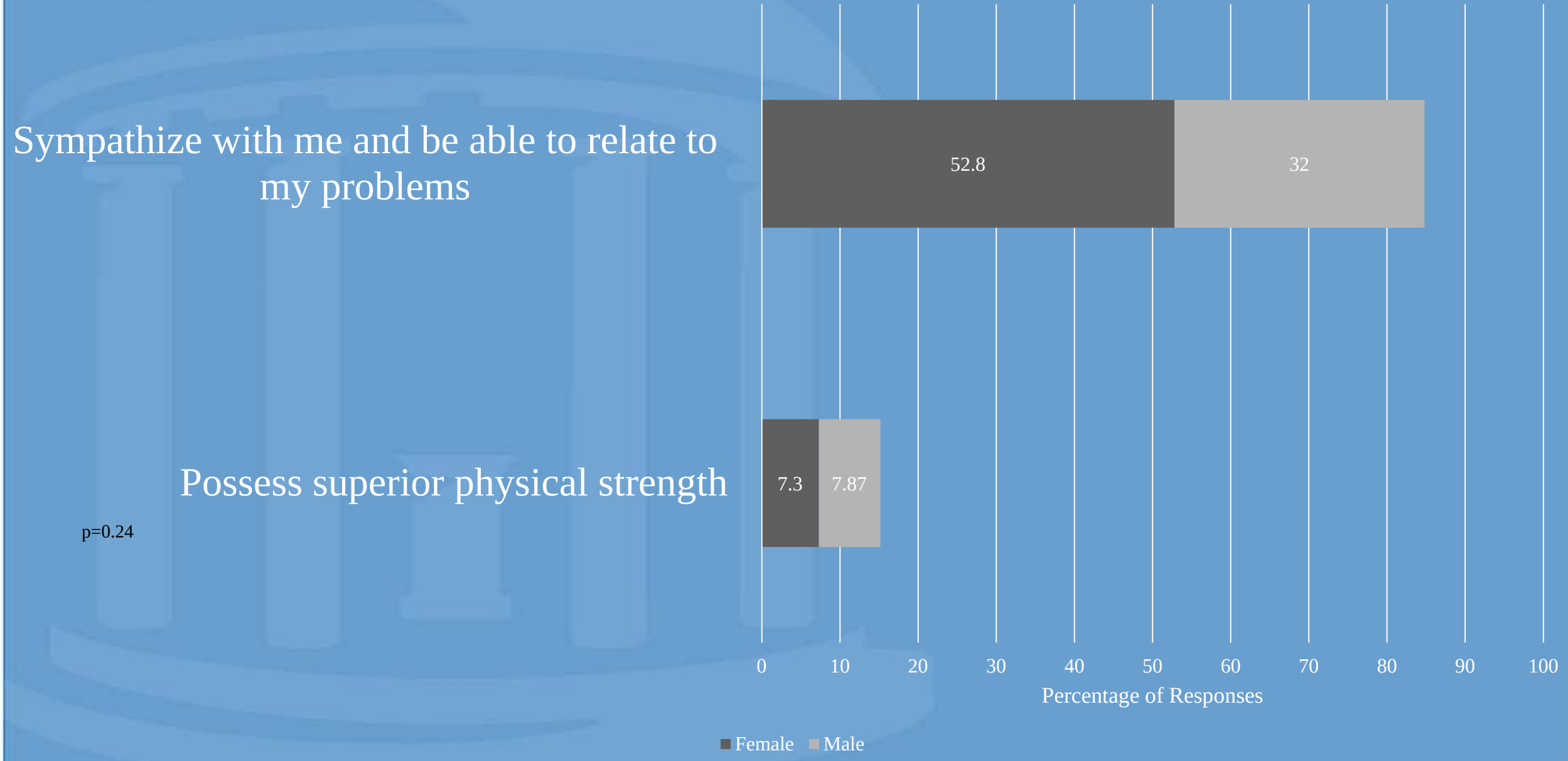
p=0.49



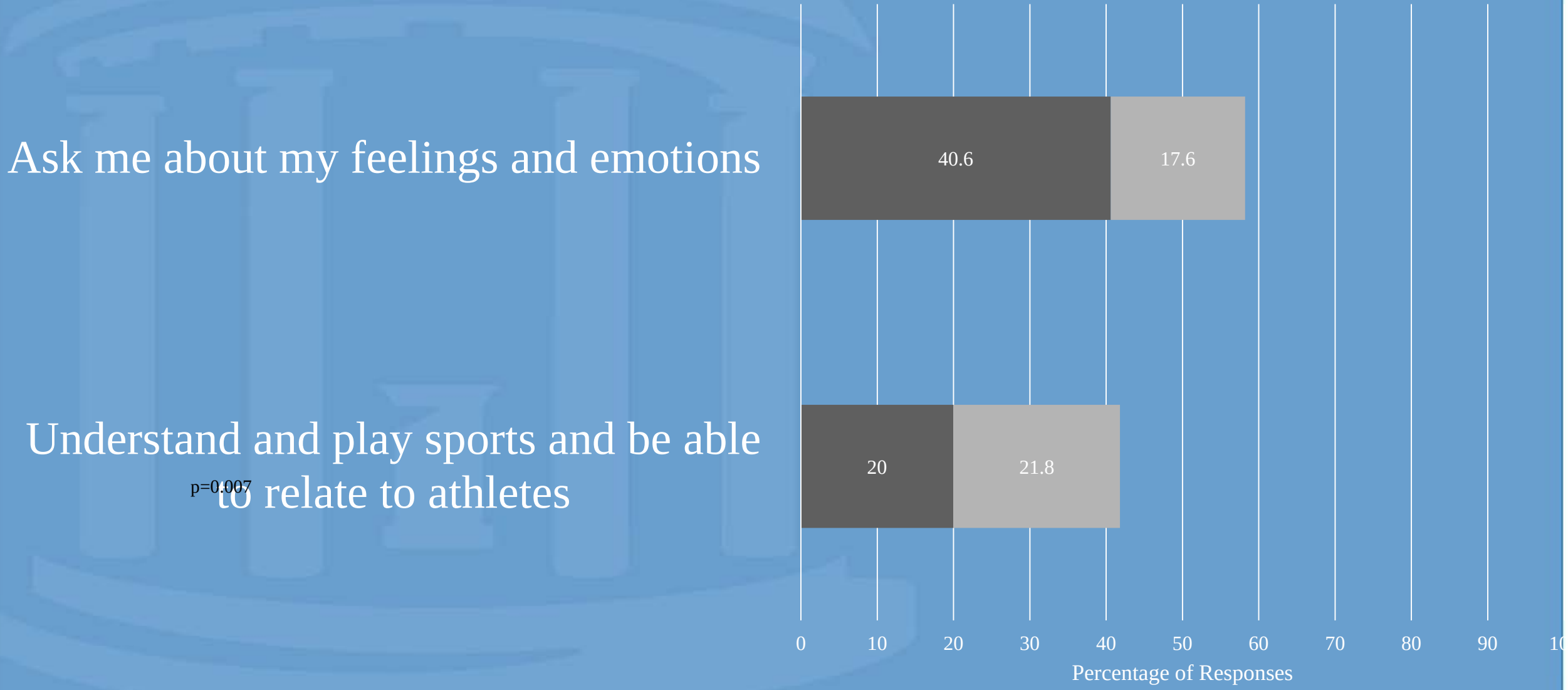
Preferences for Traits in Orthopaedic Surgeon



Preferences for Traits in Orthopaedic Surgeon

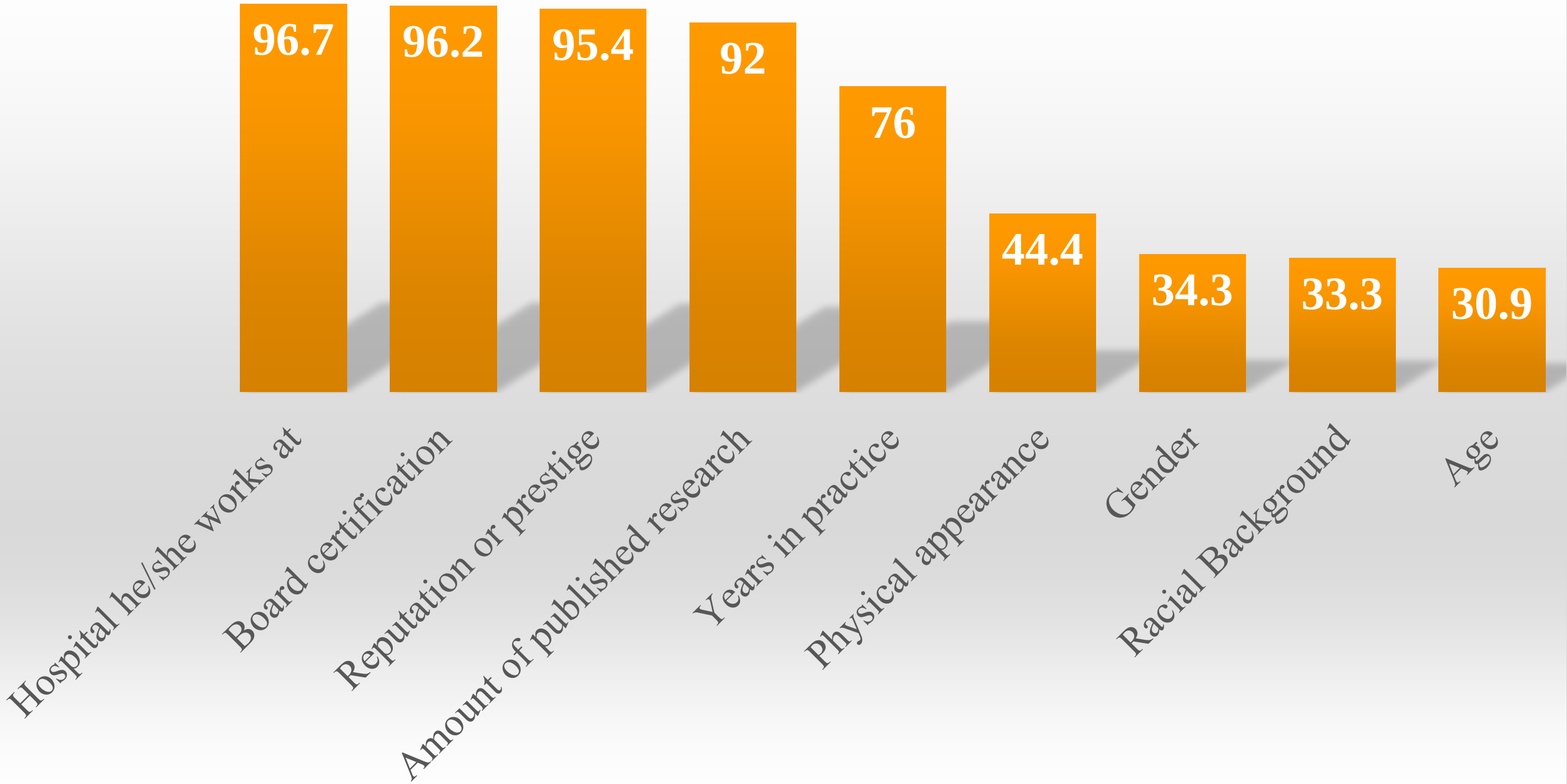


Preferences for Traits in Orthopaedic Surgeon



Subspecialty	% no preference	% with a preference	p-value
		Prefer Male	
		Prefer Female	
Joints	90.3	9.7	0.013
		6.8	
		2.8	
Hand	91.6	8.4	0.083
		2.2	
		6.2	
Pediatrics	90.5	9.0	0.181
		2.8	
		6.2	
Spine	89.9	10.1	0.018
		6.15	
		3.91	
Foot and Ankle	91.1	9.0	0.043
		4.5	
		4.5	
Sports	92.7	7.26	0.184
		4.47	
		2.79	

Important Traits in an Orthopaedic Surgeon



Discussion

- Patient satisfaction, access to care, communication improved with gender and ethnic diversity

- Majority of patients do not cite preference
- Patients that do have a preference tend to be female and prefer females

Discussion

- Patients may be more comfortable with providrs of same sex
  - Easier to talk to
- Gender concordance has been shown to improve communication
  - Female concordant visits are longer with more emotional exchange
  - Male-male visits are shortest with more domination of conversation by physician

- Female physicians spend more time counseling and teaching
- Average primary care clinic visit 23 minutes vs 21 minutes
- Patients in our study preferred surgeon who talked about patient feelings and emotions
- Sex diversity is important to meet patient needs

Roter, Bertakis

- Differences for gender preferences seen based on subspecialty

- Female hip, knee and tumor fellowship applications are 6% female
- 3% of spine applicants are female
- 25% of pediatric orthopaedic applicants are female
- 20% hand surgeon trainees are female

Limitations

- Sample size largely comprised of female, Caucasian, greater than 4 year college education
- 49% of surveys were incomplete
- Hawthorne effect
- May have various answers depending on socioeconomic level

Conclusion

- 0.6% of female medical students choose orthopaedics
- Unequal representation at residency programs with 30 programs over 2009-2014 with no female trainees
- Female orthopaedists are desired by patients and have much to contribute
- Bias is present regarding females in orthopaedics, especially in certain subspecialties
- Important for early exposure to the field and more access to role models

Thank you

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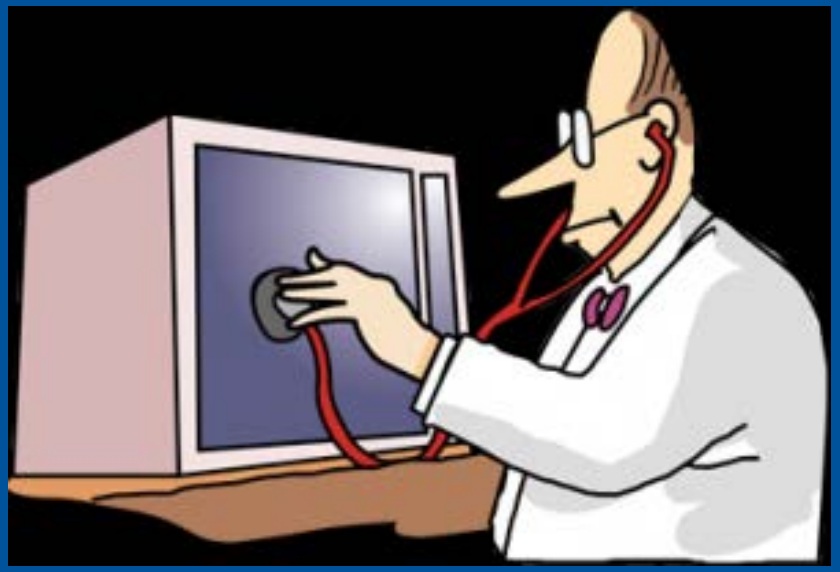
Electronic Medical Record Implementation Results in Less Efficient Delivery of Care

Daniel J. Scott MD, MBA, Eva Labro PhD, Colin Penrose MD, Michael P. Bolognesi MD, Samuel S. Wellman MD, Richard C. Mather III MD, MBA

Duke Orthopaedic Surgery

Do we know the impact of EMRs?

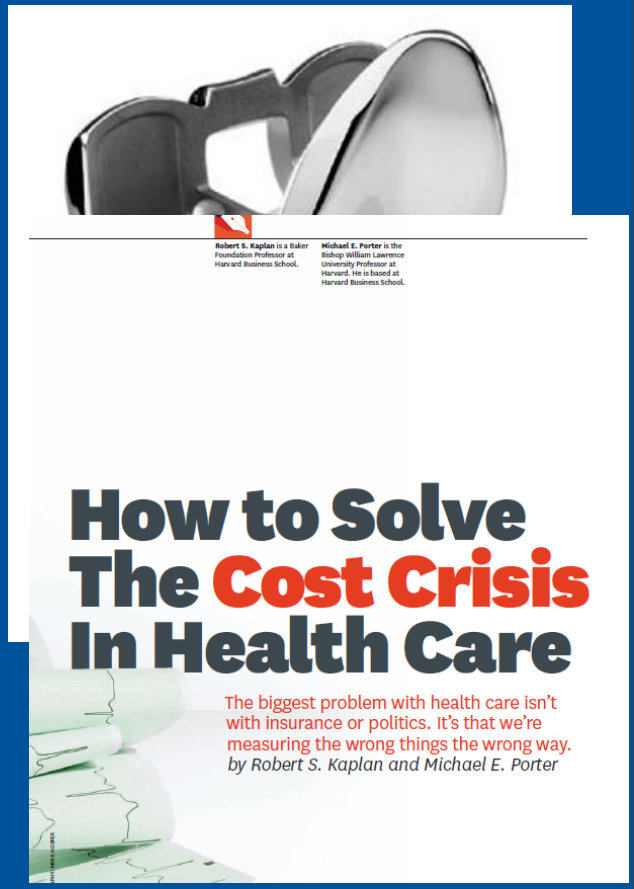


Study Design

Time Driven – Activity Based Costing

How it works:

1) Map the work flow
2) Time each activity
3) Allocate cost to each activity



MAESTRO CARE

Negrini D et all. J Health Organ Manag. 2004
Kaplan RS, Porter ME. NEJM. 2010.

Study Design

Prospective, hand timed data collection

48 patients – Pre EMR implementation

Total 112 patients

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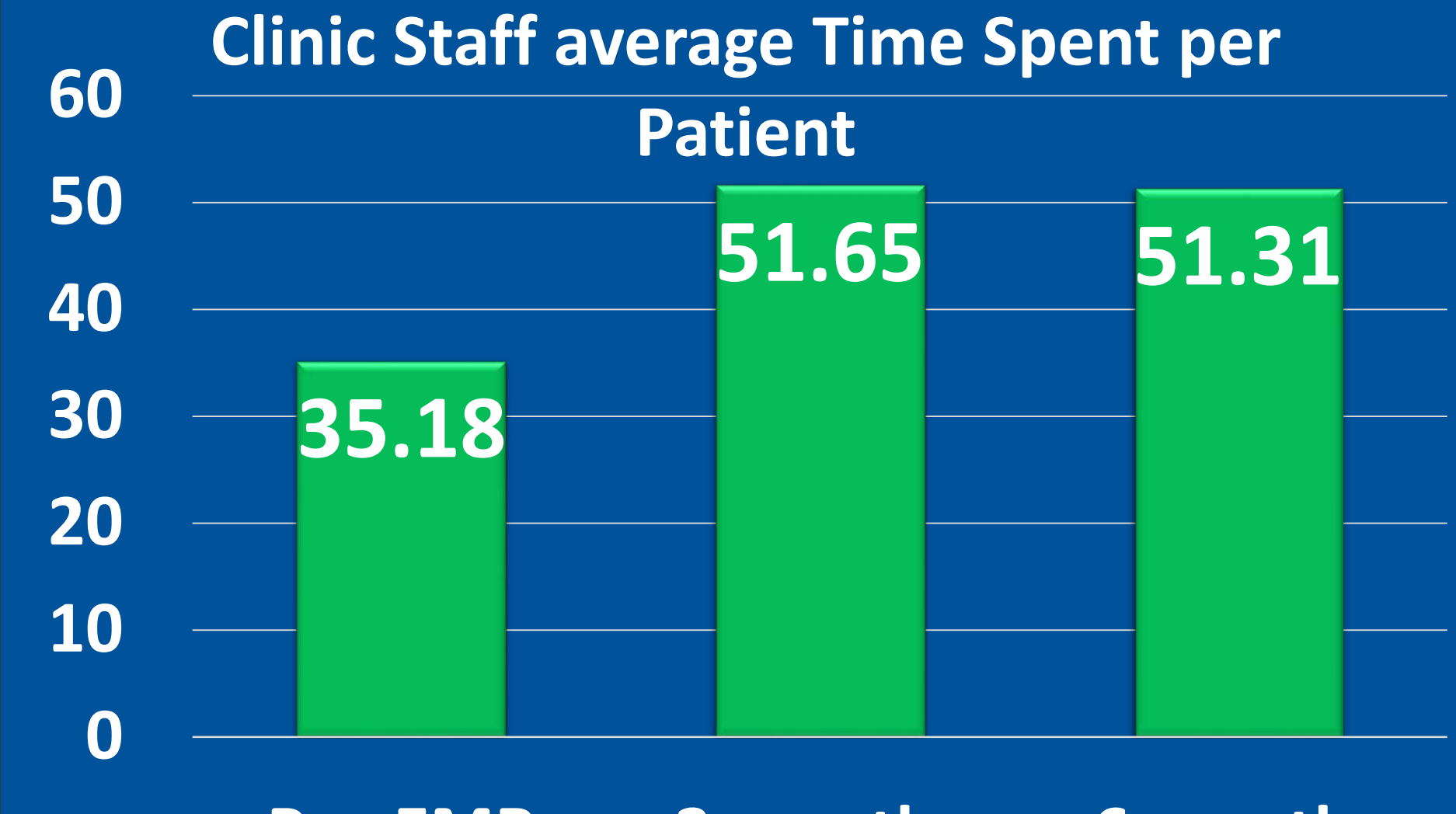
33 patients – 2-3 months after EMR implementation

31 patients – 6 months after EMR implementation

Impact on costs was variable

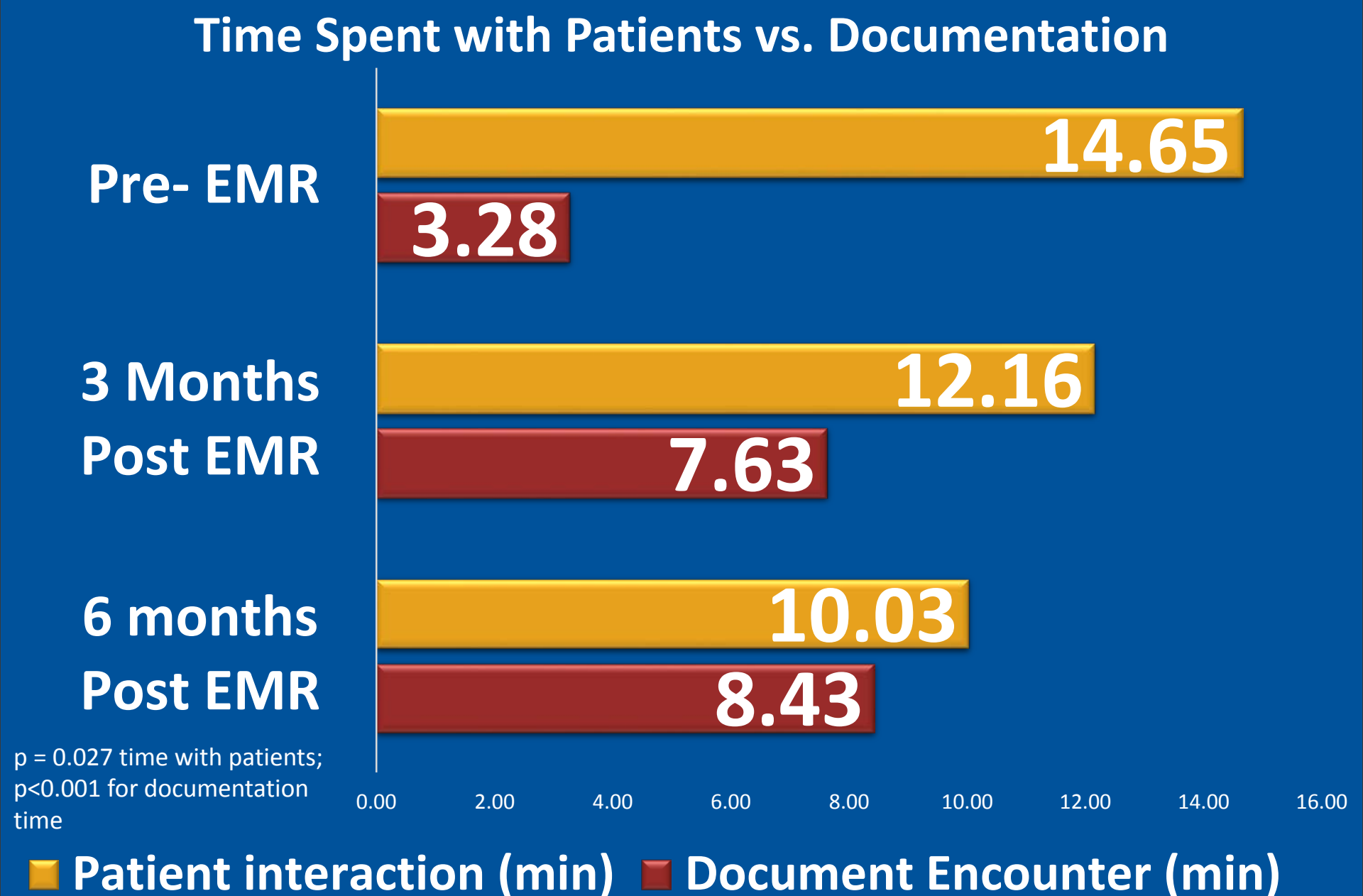
- Total clinic labor cost increased ($36.88 to $46.04, p = 0.0506) at 2 months compared to previous levels…
- But returned to prior levels at 6 months ($38.75, p = 0.689)

Clinic staff spent more time per patient



p<0.001 for pre-EMR vs 3 months post, p = 0.002 pre-EMR vs 6 months

EHRs increase documentation



Effect on specific staff

- Certified Medical Assistant spent more time with patients (3.4 vs 9.1 vs 6.7 min, $p < 0.001$)
- Attending surgeons spent similar amounts of time with patients (9.38 vs 10.97 min, $p=0.21$; 9.41 min at 6 months)

EHR Implementations are Hard

- Cost “neutral” at 6 months -> Implantation period?
- Clinic visits take longer
- Less interaction with patients, more time documenting
- Expect changes to patient volumes and work-flows

Thank you

- NCOA
- Dr. Eva Labro
- Dr. Colin Penrose
- Dr. Michael Bolognesi
- Dr. Samuel Wellman
- Dr. Richard Mather

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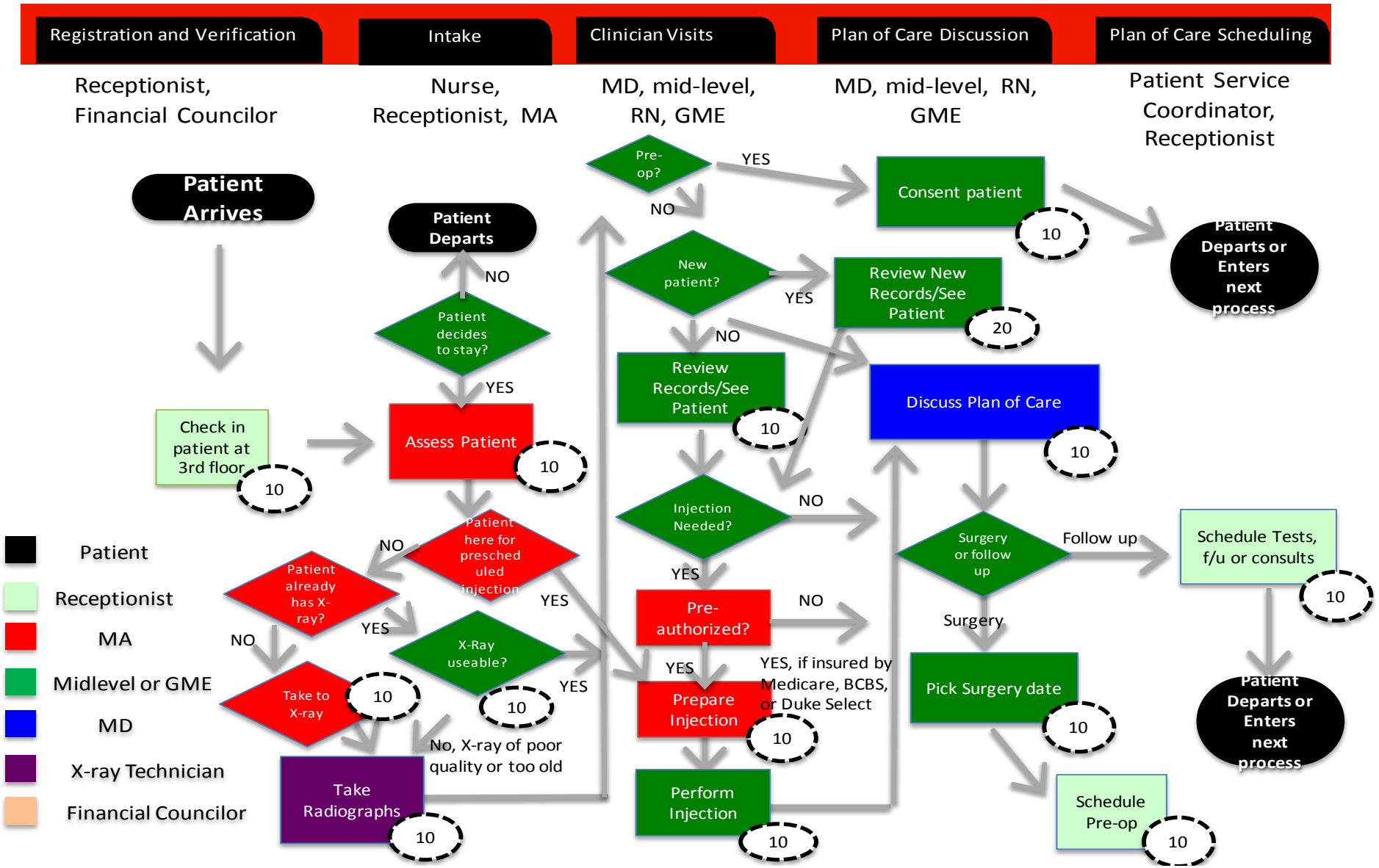
Duke Orthopaedic Surgery
Moving forward. Climbing higher.

Figure 1 - Workflow

Total Knee Office Visit Value Chain – Page Road Clinic



Appendix 1 – TD-ABC data

Time Driven Activity Based Costing

	# of patients	Times (min) Mean	median	std dev	Costs ($) Mean	median	std dev
Common Activities:							
Talk with receptionist	18.00	1.75	1.71	0.62	$0.41	$0.39	$0.14
Take patient to X-ray (CMA)	29.00	1.92	1.42	1.44	$0.56	$0.41	$0.42
Take X-ray (RT)	30.00	11.63	11.38	0.08	$5.39	$5.28	$2.17
Evaluates patient (CMA)	48.00	3.43	3.06	2.26	$1.00	$0.89	$0.66
Review records/see pt (assistant)*	36.00	14.65	12.96	8.47	$8.47	$5.97	$9.21
prepare injection (CMA)	13.00	3.13	2.92	1.44	$0.91	$0.85	$0.42
Injection (attending or assistant)	14.00	6.23	4.98	3.35	$13.25	$11.24	$8.25
Plan of Care (attending)	46.00	7.35	5.90	4.93	$18.64	$15.35	$12.62
Documentation after visit (assistant or MD)	39.00	3.28	2.75	2.08	$2.28	$1.94	$1.67
Check out (receptionist)	37.00	2.42	1.90	2.65	$0.56	$0.44	$0.61

* does not include time spent with attending

Total receptionist time	48.00	0.07	0.07	0.04	$0.98	$0.96	$0.51
Total CMA time	48.00	6.07	5.31	0.06	$1.80	$1.55	$1.03
Total Radiology Tech time*	30.00	11.63	11.38	0.08	$5.39	$5.28	$2.17
Total physician assistant time**	12.00	19.61	0.29	0.18	$20.85	$18.30	$11.54
Total Fellow time**	7.00	21.72	19.67	12.94	$10.35	$9.37	$6.17
Total Resident time**	14.00	24.06	21.76	10.06	$7.76	$7.02	$3.25
Total Medical student time**	3.00	28.75	25.33	10.82	$0.00	$0.00	$0.00
Total attending (all patients)	46.00	9.38	0.15	0.09	$22.02	$20.96	$13.19
Total attending time (for patients seen by the attending with no assistant)	12.00	0.00	12.35	4.84	$26.97	$23.75	$11.09

	mean	median	std dev	range
Total average cost* **	**$36.88**	**$31.93**	**$19.62**	**87.96-10.51**

*only includes times for those patients requiring X-rays
**only includes patients when they were the attending's primary assistant
***includes all times, including some not captured above

Appendix 3 – Provider Variation

Time Driven Activity Based Costing System

Variations in time and cost by assistant

	Number of patients	in minutes average MD time spent	Average assistant time spent with patient	Total visit average cost
All patient seen	48	8.99	17.49	$36.88
Attending with any assistant	46	11.77	17.73	$37.37
Patients seen by Attending without an assistant	12	9.38	0.00	$35.48
PA as assistant or primary provider	12	7.67	18.31	$46.94
PA as assistant	10	8.09	21.15	$47.84
PA only with no attending	2	0	11.91	$18.54
Fellow as assistant	7	7.34	21.72	$32.67
Resident as assistant	14	8.89	24.06	$33.24
medical student as assistant	3	7.45	28.75	$23.60

New vs. return patients

	Number of patients seeing attending	average attending time spent	average cost	number of patients seeing assistant	average assistant time spent	average cost
New patients	12	12.87	$55.04	10	29.96	$57.57
Return Patients	34	8.07	$31.54	28	19.52	$30.69

Bundled Payments for Care Improvement (BPCI): Boom or Bust?

Brian Curtin, MD
Robert Russell, MD
Susan Odum, PhD

OrthoCarolina
HIP & KNEE CENTER

Disclosures

- Consultant: Ethicon, Depuy, CareStream, Zimmer Biomet
- Research Support:
  Depuy/Stryker/Zimmer
- Editorial Review Board: Journal of Arthroplasty, CORR, Orthopedics, and EJOST.

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Background

- Historically, TJA for elderly patients with low activity level
- Indications have expanded to younger and more active patients
- This has caused tremendous growth in the number of total joints performed

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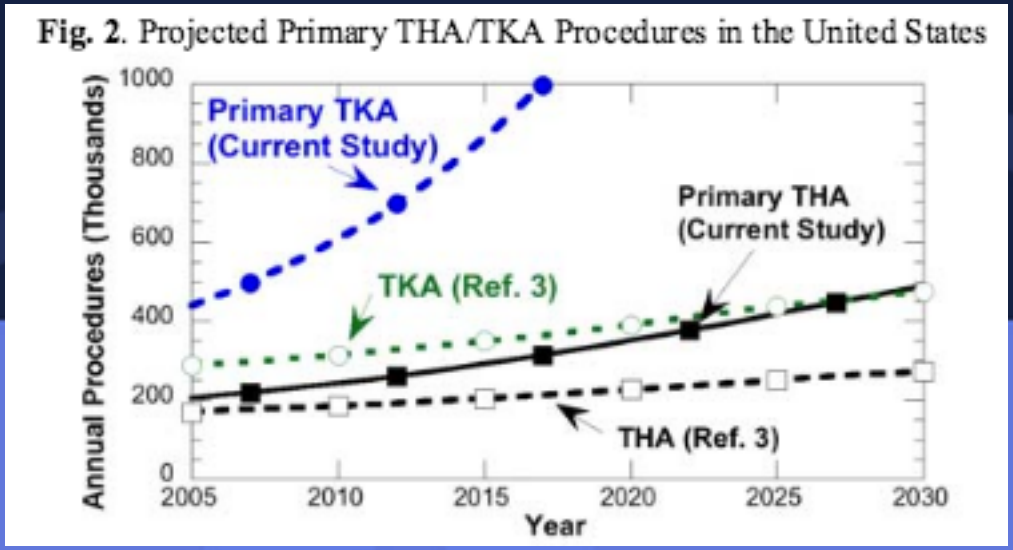

- National Hospital Discharge Survey 2010
  - Total Knee Replacement (TKA): 719,000
  - Total Hip Replacement (THA): 332,000

- Projections for 2030 (JBJS 2007)
  - TKA: 3.48 million (673% increase)
  - THA: 572,000 (174% increase)

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- The Centers for Medicare and Medicaid Services (CMS) are the payer
  - $7 billion spent on primary THA/TKA in 2013
- The projected increase in volume will impose enormous economic burden on the US healthcare system

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Solutions

- Rationing of healthcare
- Transition cost to patients
- Bundled payments to providers
- Capitation

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Bundled Payment

- What is a “bundled payment”?
  - Reimbursement to healthcare providers (e.g. hospitals and physicians) on the basis of expected costs for a clinically defined episode of care
- Bundled care
  - 72 hours prior to hospital admission
  - Inpatient stay
  - 90 days post-discharge

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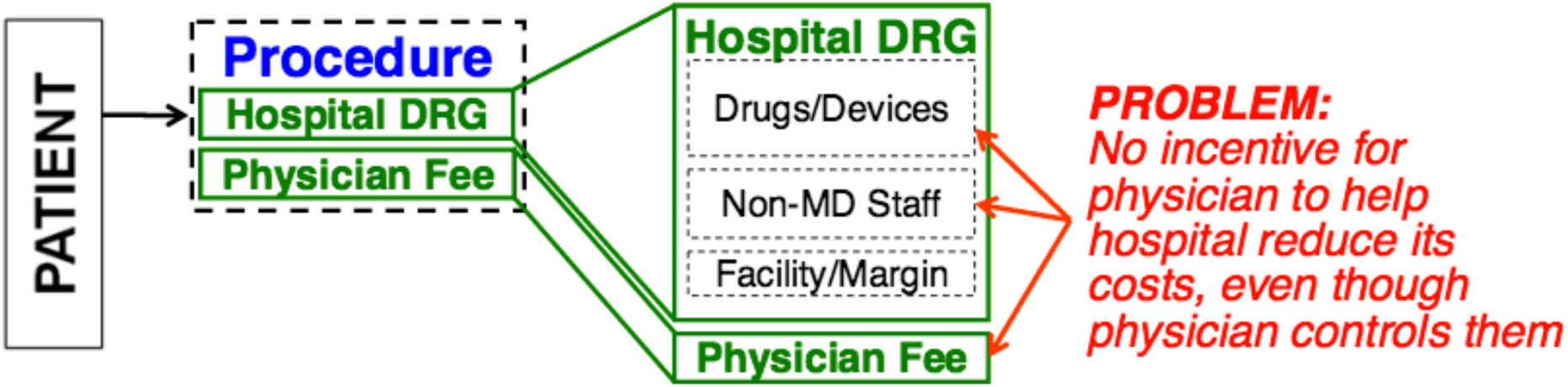
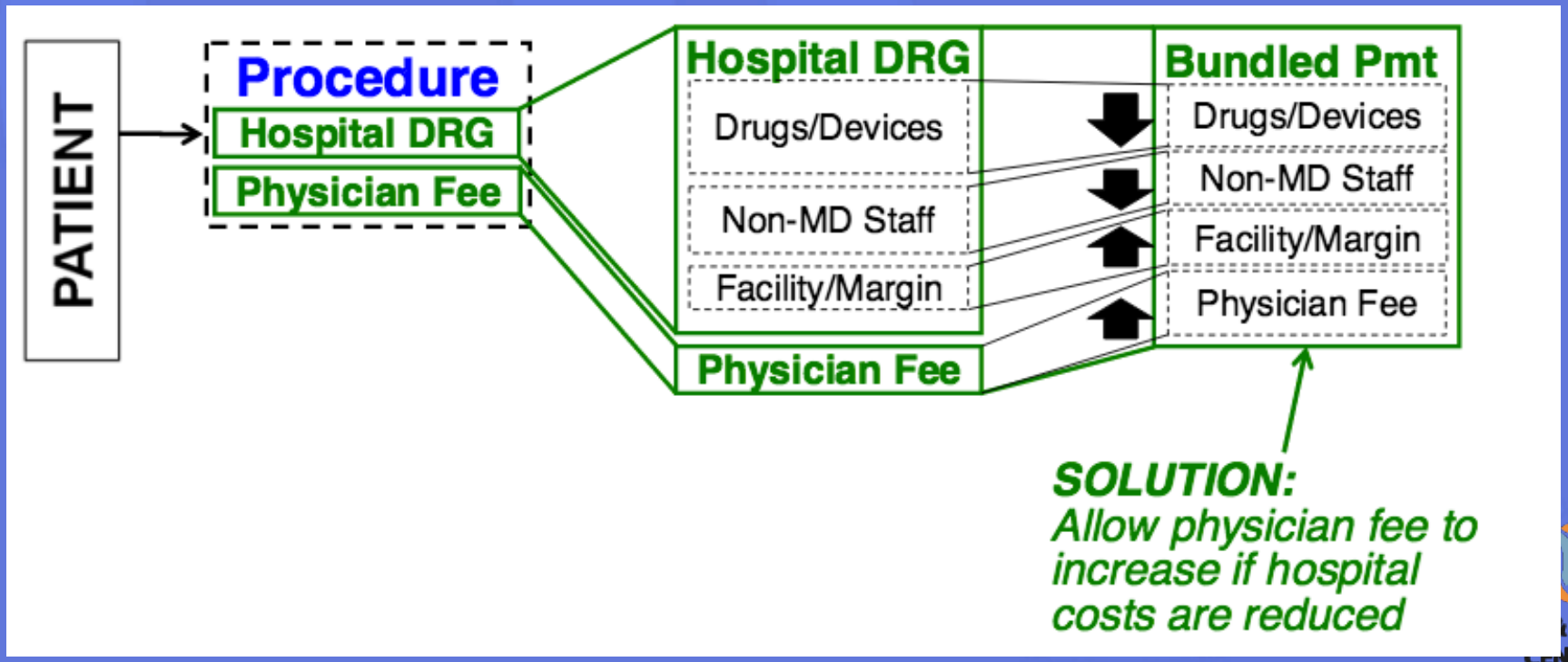
Payment Structure

- Fee for service
  - Incentivizes volume
  - Excessive use of services



Payment Structure

- Bundled payment
  - Designed to incentivize coordination of care
  - Promote quality and efficiency/control costs



Bundled Payment Care Initiative (BPCI)

- CMS introduced BPCI in 2013
- Early implementers, mostly large academic centers (NYU), have shown decreased:
  - hospital LOS
  - discharges to inpatient facilities
  - readmission rates
  - Overall expenditures

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Purpose

- To compare total expenditures and post-acute care metrics for patients enrolled in the OrthoCarolina BPCI program to non-bundle patients.

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Methods

- CMS data was used to compare total expenditures of diagnosis related groups (DRG)
- Non-BPCI (n=8,415)
  - January 2009-December 2012
- BPCI (n=4,757)
  - January 2015-December 2015

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Outcomes

- Total expenditures
  - converted to 2016 dollars using Consumer Price Index
- Skilled nursing facility (SNF) admission
- Home health (HH) utilization
- Readmissions to the hospital

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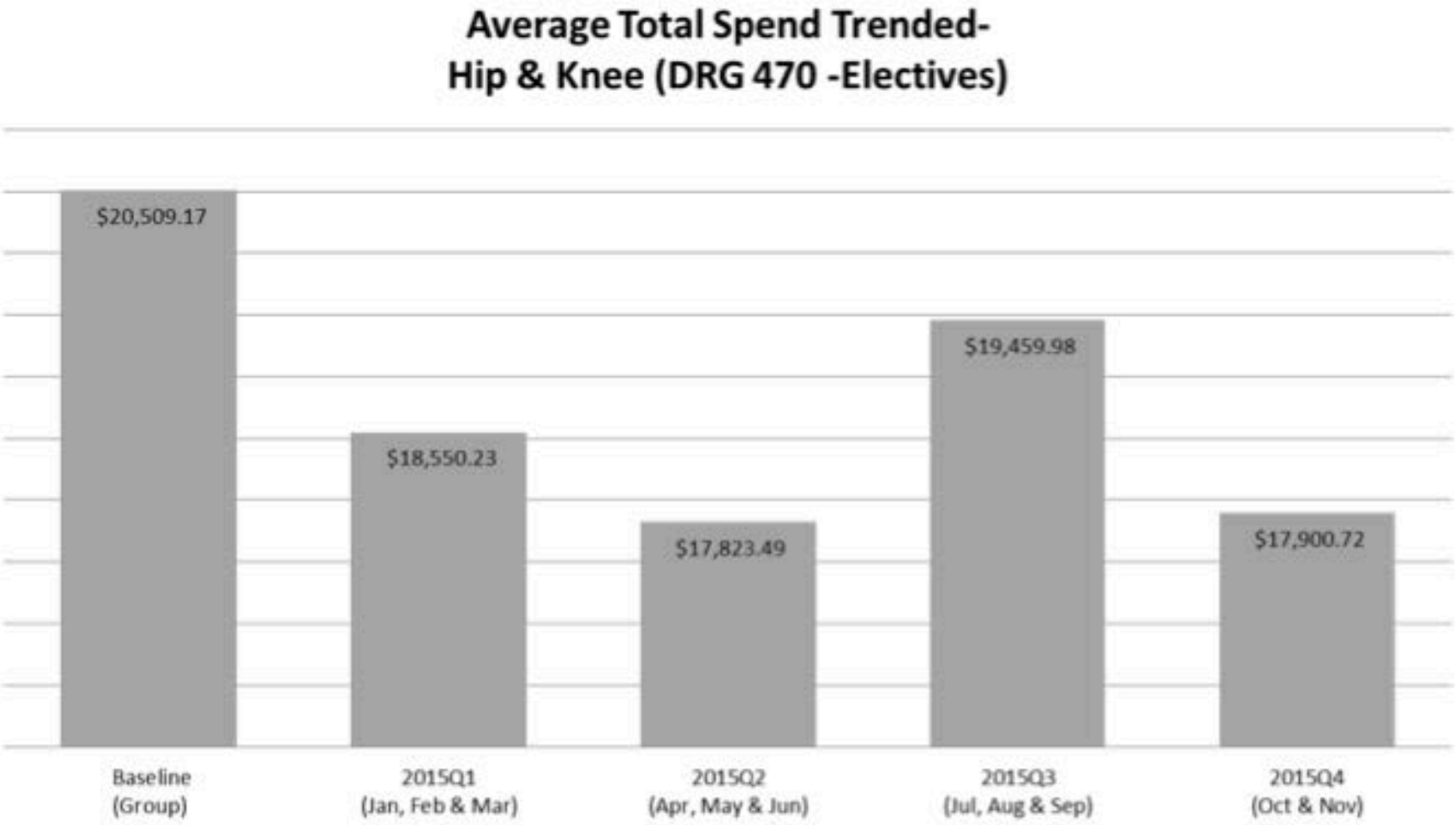
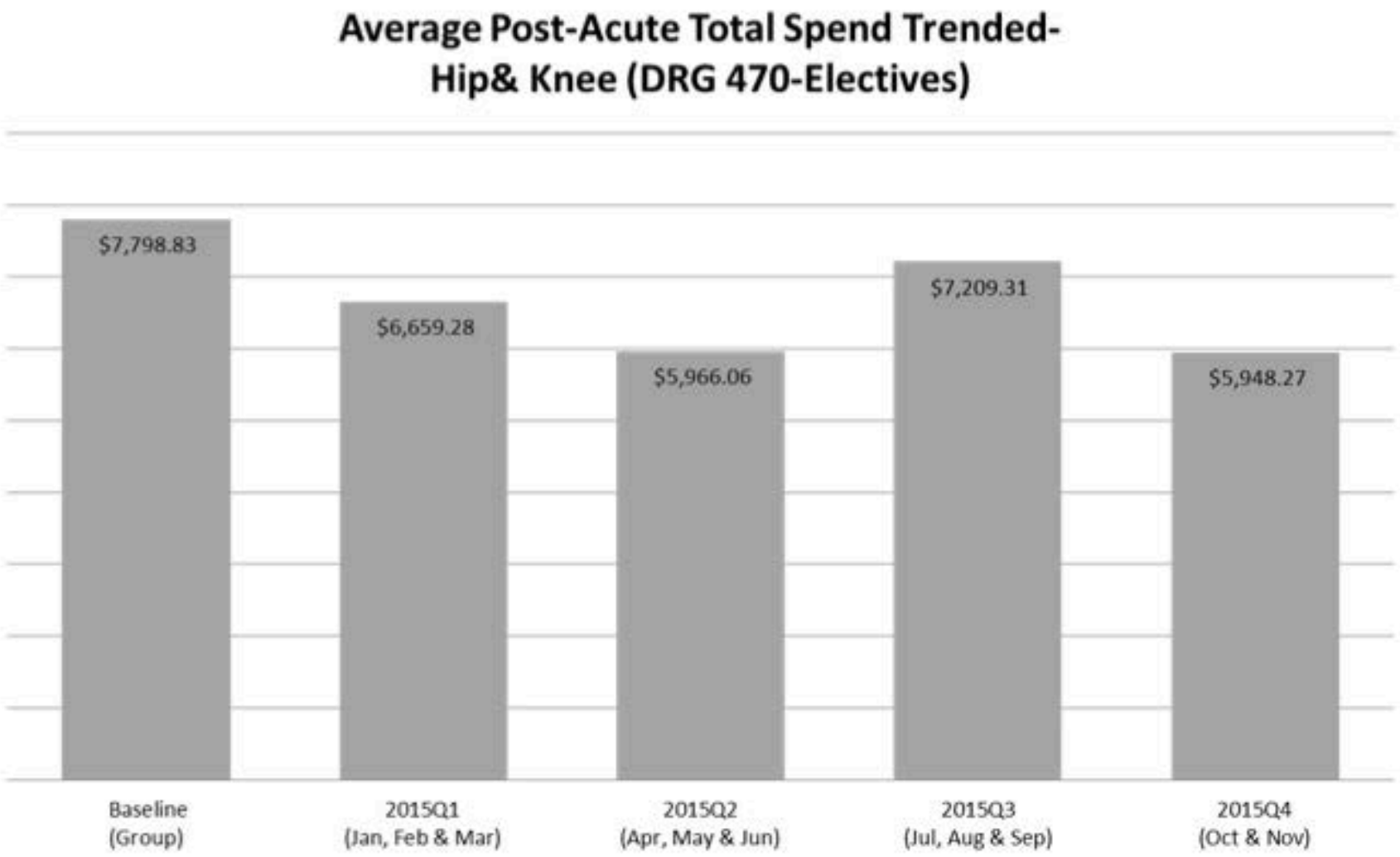
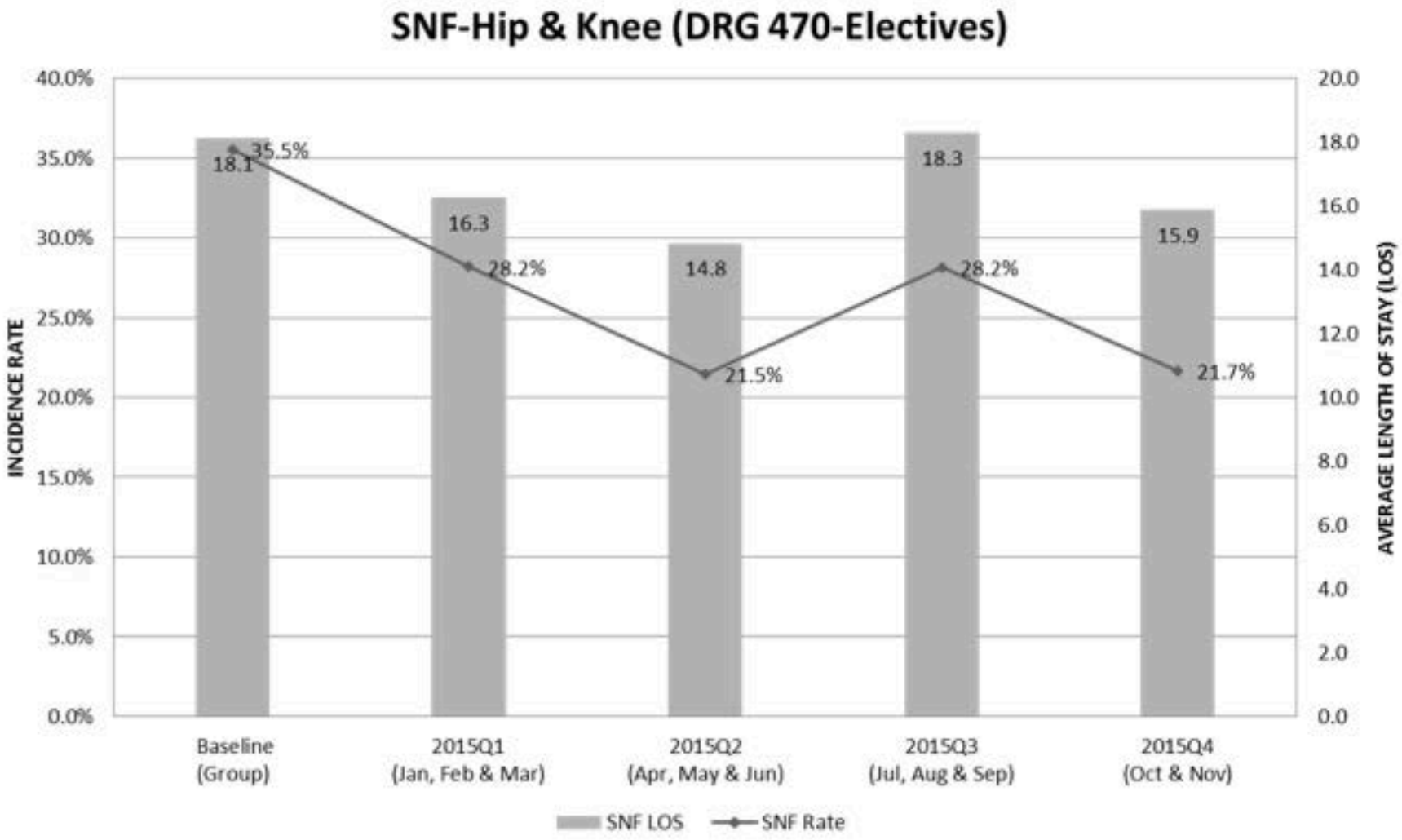
Average Total Spend Trended



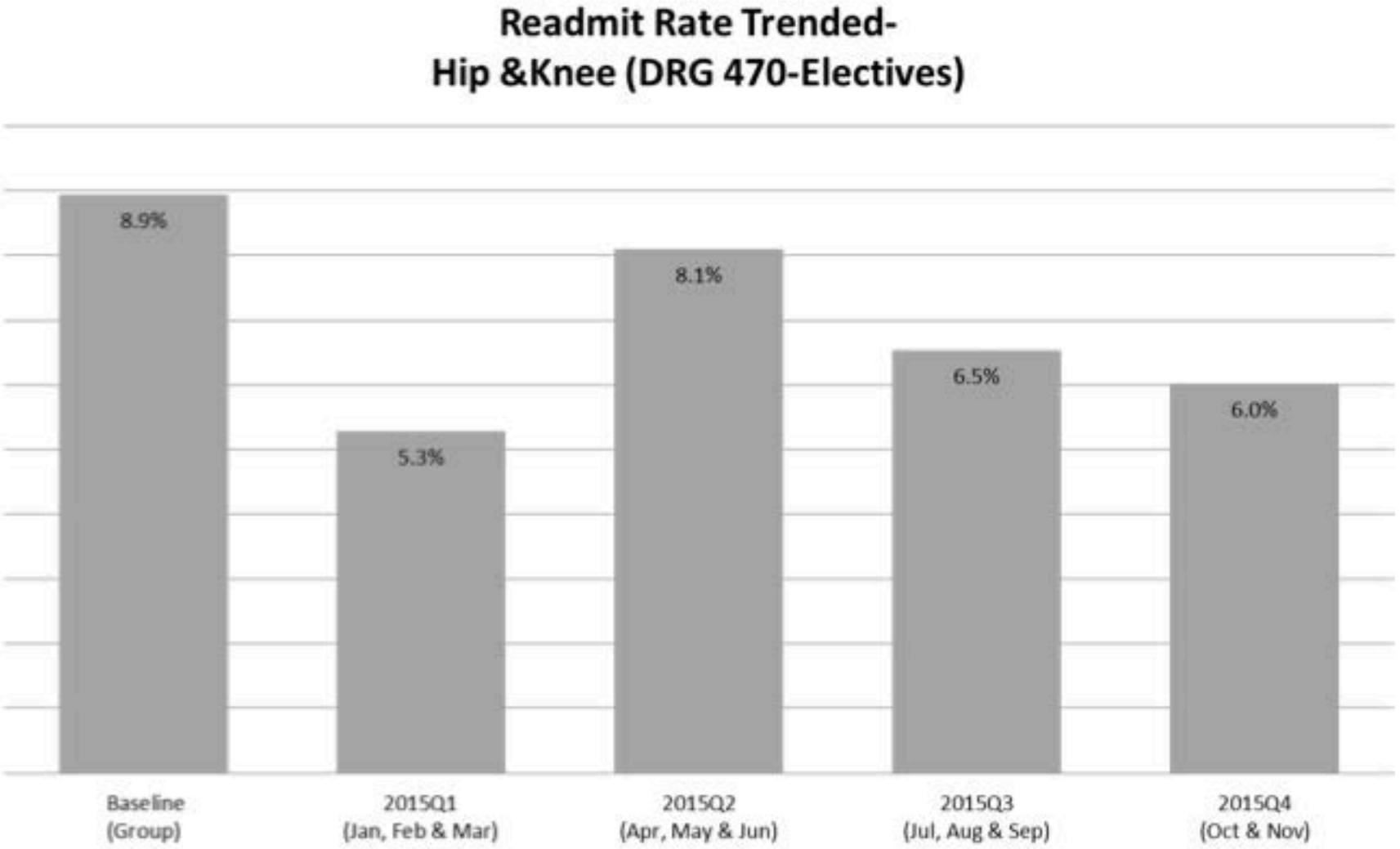
Average Post Acute Total Spend Trended



SNF


SNF-Hip & Knee (DRG 470-Electives)
INCIDENCE RATE
AVERAGE LENGTH OF STAY (LOS)
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
18.1
16.3
14.8
18.3
15.9
35.5%
28.2%
21.5%
28.2%
21.7%
Baseline (Group)
2015Q1 (Jan, Feb & Mar)
2015Q2 (Apr, May & Jun)
2015Q3 (Jul, Aug & Sep)
2015Q4 (Oct & Nov)
SNF LOS
SNF Rate

Readmit Rate Trended



Summary

Outcome	BPCI savings	P-value
Total expenditure	$2700 per case	<0.01
Post-acute care spend	$1500 per case	<0.001
SNF admission	7% reduction	<0.001
Home Health usage	6% reduction	<0.001
Readmissions	6.5% vs 8.9%	0.02

LOS for post-acute care

*BPCI HH LOS 12 days vs 24 days

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Discussion

- BPCI patients were able to significantly decrease CMS expenditures for elective THA and TKA

- This required substantial resource utilization by the organization, both financial and human resources

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Discussion

- Areas of savings
  - Implant costs
    - Re-negotiate vendor contracts
  - Post-acute care spending
    - Care coordinators
  - Readmissions
    - Preoperative patient optimization
    - Evidence based protocols

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Patient Optimization

Table 1
Preoperative Checklist: Managing Risk for Readmission and Increased LOS after TJR.

1. Diabetes: Hgb A1c if >7.9 delay and refer
2. Smoker: if YES then refer to smoking cessation
3. BMI: if >40 refer for counseling, metabolic consult
4. Anemia: if Hgb <12 in females and <13 in males, delay and refer for work up or blood management
5. Staph colonization: if in HC facility or HC worker or history of MRSA, screen and decolonize
6. Narcotic dependence, manage upfront, pain consult
7. Anticoagulation or VTE history, evaluate and counsel
8. Lack of supportive home environment, social work intervention
9. Psychiatric diagnosis, depression, anxiety, consult

Froimson JOA 2015

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Discussion

- Payers are shifting risk to providers
- Catastrophic complications are costly to the provider, no longer the payer

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Discussion

- While BPCI implementation was successful at OrthoCarolina, is this generalizable?
- Most THA and TKA procedures are performed by low- to mid-volume providers (hospitals and surgeons)
- What is the sustainability for CMS in this model

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Thank you

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