SUPPLEMENTAL MATERIAL

eTable 1 – Comparison of Cardiologists With and Without Missing Data

	No Missing Data (n = 3810)		Missing Data* (n = 287)	
	Count	%	Count	%
Faculty Rank				
Assistant	1866	49.0	103	35.9
Associate	871	22.8	69	24.0
Full	1073	28.2	115	40.1
Sub-Specialty†				
None‡	2598	68.2	244	85.0
Electrophysiology	497	13.0	20	7.00
Interventional	715	18.8	23	8.0
Faculty at Top 20 Med School§	1248	32.8	84	29.3
Publications				
Total (sd)	23.8	36.7	30.3	40.2
First/Last Author (sd)	15.2	28.9	18.4	29.2
NIH Grants‖				
At least one	399	10.5	35	12.2
Median, at least one (25-75 pctile)	4	2-9	3	1-7
Clinical Trials‖				
At least one	410	10.8	37	12.9
Median, at least one (25-75 pctile)	1	1-2	1	1-2
Total Medicare Payments, 2013 (sd)	$91,674	$101,150	$77,154	$64,773

Legend: Abbreviation: NIH, National Institutes of Health *Refers to the 287 cardiologists for whom data on years since residency were unavailable. †Sub-specialty classification was based on American Board of Internal Medicine (ABIM) sub-specialty board certification. ‡All cardiologists without ABIM certification in electrophysiology or interventional cardiology. § Top 20 school refers to whether a physician was on faculty at a medical school ranked among the top 20 US medical schools for research by US News & World Report in 2013.[1] ‖NIH grant information was obtained from the NIH RePORT grants database. Clinical trial information was obtained from ClinicalTrials.gov database.

eTable 2: Multivariable Analysis of Sex Differences in Full Professorship Among U.S. Academic Cardiologists, Presented as Absolute Adjusted Differences In Proportions

	Full Professor*		
	No./ Total (%) of Professors	Absolute Difference in Proportion	
		Unadjusted, %	Adjusted % (95% CI)†
Sex			
Men	973 / 3180 (30.6)	[Reference]	
Women	100 / 630 (15.9)	-14.7	-4.0 (-7.5, -0.7)
Age			
Age <50	51 / 1605 (3.2)	[Reference]	
Age 50-54	146 / 537 (27.2)	24.0	14.9 (10.7, 19.1)
Age 55-59	217 / 483 (44.9)	41.7	19.3 (13.7, 24.9)
Age 60-64	242 / 464 (52.2)	49	15.5 (8.9, 22.1)
Age 65+	375 / 607 (61.8)	58.6	9.3 (1.6, 17.1)
Sub-Specialty‡			
Non-Invasive	772 / 2598 (29.7)	[Reference]	
Electrophysiology	125 / 497 (25.2)	-4.5	6.1 (2.6, 9.6)
Interventional	176 / 715 (24.6)	-5.1	2.9 (0.02, 5.9)
Years Since Residency (per 1 yr)			1.4 (1.2, 1.7)
Publication (per 1 pub)§			
Total			0.2 (0.2, 0.3)
First/Last Author			0.04 (-0.02, 0.1)
NIH Grant‖			
None	827 / 3411 (61.7)	[Reference]	
At least one	246 / 399 (28.2)	-33.5	5.9 (1.7, 10.0)
Clinical Trial Investigator			
None	871 /3400 (25.6)	[Reference]	
At least one	202 / 410 (49.3)	36.1	7.0 (3.2, 10.7)
Top 20 Med School Faculty			
No	673 / 2440 (27.6)	[Reference)	
Yes	364 / 1248 (29.2)	1.2	-8.9 (-27.8, 9.9)
2013 Medicare Payment (per $10,000)			-0.34 (-0.49, -0.19)

Legend: Abbreviation: NIH, National Institutes of Health * Factors associated with full professorship among faculty of all ranks. † Each model estimated the association between faculty rank and physician sex, adjusted for age, years since residency, Cardiology sub-specialty (e.g. non-invasive vs. electrophysiology vs. interventional cardiology), publications (total, first & last author), whether a physician was ever principal investigator on an NIH grant, whether a physician had conducted a clinical trial, whether a physician was faculty at a top 20 US medical school in terms of US News & World Report 2013 medical school research ranking, each physician's annual Medicare revenue in 2013, and medical school-level random effects.[1] ‡ Sub-specialty classification was based on ABIM sub-specialty board certification as of November 10, 2014. § The reported association between faculty rank and publication count reflects the marginal effect of an additional publication on the probability of a given faculty rank. ‖NIH grant information was obtained from the NIH RePORT grants database. Clinical trial information was obtained from ClinicalTrials.gov database.

eTable 3: Multivariable Analyses of Sex Differences in Secondary Outcomes Among U.S. Academic Cardiologists, Presented as Absolute Adjusted Differences In Proportions

	Associate & Full Professor (vs. Assistant)*			Full Professor (vs. Associate)†		
	No./ Total (%) of Professors	Absolute Difference in Proportion		No./ Total (%) of Professors	Absolute Difference in Proportion	
		Unadjusted, %	Adjusted % (95% CI)‡		Unadjusted, %	Adjusted % (95% CI)‡
Sex						
Men	1693 / 3180 (53.2)	[Reference]		973 / 1693 (57.5)	[Reference]	
Women	251 / 630 (39.8)	-13.4	0.8 (-2.8, 4.3)	100 / 251 (39.8)	-17.7	-7.2 (-13.5, -0.9)
Age						
Age <50	348 / 1605 (21.7)	[Reference]		51 / 348 (14.7)	[Reference]	
Age 50-54	348 / 537 (64.8)	43.1	5.6 (1.4, 9.8)	146 / 348 (42.0)	27.3	20.0 (11.9, 28.2)
Age 55-59	342 / 483 (70.8)	49.1	-1.3 (-6.3, 3.7)	217 / 342 (63.5)	48.8	27.6 (17.3, 37.8)
Age 60-64	341 / 464 (73.5)	51.8	-10.1 (-15.5, -4.8)	242 / 341 (71.0)	56.3	24.7 (12.2, 37.2)
Age 65+	498 / 607 (82.0)	60.3	-18.6 (-24.7, -12.5)	375 / 498 (75.3)	60.6	12.6 (-2.6, 27.8)
Sub-Specialty§						
Non-Invasive	1323 / 2598 (50.9)	[Reference]		772 / 1323 (58.4)	[Reference]	
Electrophysiology	264 / 497 (53.1)	2.2	7.7 (4.0, 11.3)	125 / 264 (47.3)	-11.1	5.3 (-0.5, 11.0)
Interventional	357 / 715 (49.9)	-1.0	2.6 (-0.6, 5.8)	176 / 357 (49.3)	-9.1	4.7 (0.6, 10.0)
Years Since Residency (per 1 yr)			2.6 (2.3, 2.9)			2.2 (1.7, 2.7)
Publication (per 1 pub)‖						
Total			0.5 (0.4, 0.6)			0.3 (0.2, 0.4)
First/Last Author			0.1 (-0.02, 0.1)			0.1 (-0.1, 0.2)
NIH Grant#						
None	1611 / 3411 (47.2)	[Reference]		827 / 1611 (51.3)	[Reference]	
At least one	333 / 399 (83.5)	36.3	1.0 (-4.5, 6.4)	246 / 333 (73.9)	22.6	8.2 (1.9, 14.5)
Clinical Trial Investigator						
None	1621 / 3400 (47.7)	[Reference]		871 / 1621 (53.7)	[Reference]	
At least one	323 / 410 (78.8)	31.1	11.4 (6.8, 16.0)	202 / 323 (62.5)	8.8	7.4 (1.6, 13.1)
Top 20 Med School Faculty						
No	1236 / 2440 (50.7)	[Reference]		673 / 1236 (54.4)	[Reference]	
Yes	658 / 1248 (52.7)	2.0	4.0 (-18.8, 26.8)	364 / 658 (55.3)	0.9	-15.1 (-45.6, 15.4)
2013 Medicare Payment (per $10,000)			-0.26 (-0.39, -0.12)			-0.36 (-0.63, -0.09)

Legend: Abbreviation: NIH, National Institutes of Health * Factors associated with associate or full professorship among faculty of all ranks. † Factors associated with full professorship among faculty at the associate or full professor rank. ‡ Each model estimated the association between faculty rank and physician sex, adjusted for age, years since residency, cardiology sub-specialty (e.g. non-invasive vs. electrophysiology vs. interventional cardiology), publications (total, first and last author), whether a physician was ever principal investigator on an NIH grant, whether a physician had conducted a clinical trial, whether a physician was faculty at a top 20 US medical school in terms of US News & World Report 2013 medical school research ranking,[1] each physician's annual Medicare revenue in 2013, and medical school-level random effects. §Sub-specialty classification was based on ABIM sub-specialty board certification. ‖ The reported association between faculty rank and publication count reflects the marginal effect of an additional publication on the probability of a given faculty rank. # NIH grant information was obtained from the NIH RePORT grants database. Clinical trial information was obtained from ClinicalTrials.gov database.

Appendix A: Description of Sensitivity Analysis Assessing Different Methods for Defining Sub-Specialty Practice

Because ABIM subspecialty board examinations in interventional cardiology and electrophysiology were implemented relatively recently—in 1999 and 1992, respectively—and are not mandatory prerequisites for practicing these subspecialties (though they are strongly encouraged), some practicing interventional cardiologists and electrophysiologists are not board certified.[2,3] We therefore assessed whether incorporating procedural billing data into our definitions of these specialists affected our findings. To do so, we estimated our multivariate regression analysis three times, each time using a different one of the following methods for identifying interventional cardiologists and electrophysiologists: 1) Active ABIM board certification in interventional cardiology or electrophysiology as of November, 2014 (method used in original analysis); 2) Evidence that a physician billed Medicare for at least one interventional cardiology or electrophysiology procedures in 2013 (See **Appendix B** below for list of CPT Codes corresponding to these procedures); and 3) Fulfilling definitions in 1) and/or 2) above.

Appendix B: Medicare CPT Codes for Interventional Cardiology and Electrophysiology Procedures

	Procedures	CPT Codes
Interventional cardiology Procedures	Peripheral angioplasty and stenting procedures	75962-26, 75966-26, 75978-26, 35471, 35475, 35476, 37215, 37216, 37221, 37223, 37226, 37230, 37234, 37236, 37237, 37238, 37239
	Carotid artery stenting	37215, 37216, 37218
	Percutaneous coronary interventions	92920 92921 92924 92925 92928 92929 92933 92934 92937 92938 92941 92943 92944
Electrophysiology Procedures	Pacemaker/ICD/CRT Insertion	33206 33207 33208 33249 33225
	EP Studies	93600 93602 93609 93610 93620 93621 93620-26 93650 93653

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3. Zipes DP, Downing SM, Kangilaski R, Norcini JJ. The First Cardiac Electrophysiology Examination for Added Qualifications. *J Cardiovasc Electrophysiol*. 1994;5:641–644.