

Daniel K. Zismer, PhD
Jon Christianson, PhD
Thomas Marr, MD
David Cummings, MHA
University of Minnesota
School of Public Health
Division of Health Policy
and Management

•
MedPAC

425 I Street, NW
Suite 701
Washington, DC 20001
(202) 220-3700
Fax: (202) 220-3759
www.medpac.gov

•
The views expressed in this report
are those of the authors.
No endorsement by MedPAC
is intended or should be inferred.

An Examination of the
Professional Services
Productivity for Physicians
and Licensed, Advance
Practice Professionals
Across Six Specialties in
Independent and Integrated
Clinical Practice

*A report by the School of Public Health, University of
Minnesota, for the Medicare Payment Advisory Commission*

July 2015

An Examination of the Professional Services Productivity for Physicians and Licensed, Advance Practice Professionals Across Six Specialties in Independent and Integrated Clinical Practice.

By

Daniel K. Zismer, Ph.D.

Jon Christianson, Ph.D.

Thomas Marr, MD

David Cummings, MHA

University of Minnesota

School of Public Health,

Division of Health Policy and Management

For

Medicare Payment Advisory Commission

Submitted July 2014

Study Abstract

This study examined methods and models used by specialty medical practices to “leverage” (or extend) physician productivity through the use of licensed, advance practice clinical professionals (APCs), as well as the application of other non-personnel techniques and tools. Six clinical specialties are represented, including larger, independent group practices and those embedded with integrated health systems.

A principal purpose of the study was to provide information and insights on how this topic can/should be examined on a larger scale to gather data sufficient to inform professional services reimbursement policies and procedures for clinical services provided to Medicare beneficiaries.

Findings of this study indicate:

- i. methods and models used to enhance (leverage or extend) physician services are not widely influenced by known “best practices.” Methods and models are largely idiosyncratic;
- ii. physicians and advance practice clinicians share work shared variously within and across clinical specialties. Where physicians and advance practice clinicians share types of patients and clinical work in-common, it is not necessarily the case that physicians do the more clinically complex work;
- iii. practice culture and philosophy affect use of APCs;

- iv. the more procedurally-oriented specialties appear to do a better job of separating work done by physicians and work done by APCs. The primary care group studied showed a very large proportion of clinical work as being “shared”; i.e., shared by physicians and APCs;
- v. scope of work of APCs is influenced by rules, regulations and laws that vary by state, which limits geographic generalizability of best practice models and methods;
- vi. leaders of independent private practices report increasing negative pressures on practice economics and financial profitability;
- vii. the electronic health record is not seen as a tool that enhances provider productivity;
- viii. practices do not routinely examine the physician leverage model used to enhance the practice productivity across providers;
- ix. when physicians were asked about their interest in “working to the top of their license” (i.e., applying their productivity potential to patients with more complex and intensive needs) many responded with variations on a theme of: “I don’t want to do the more complex work all the time”; and
- x. when CMS models for estimating time required for clinical work performed were applied to actual, estimated time spent by physicians and APC’s in four clinical specialties (cardiology, family practice, orthopedics and urology), the CMS model tended to, on average, over-estimate time spent by physicians, while under-estimating time spent by APCs, except for family practice where the CMS model over-estimated actual time spent for physicians and APCs.

Results from this study indicate that use of personnel and methods to leverage/extend physician productivity varies markedly across clinical specialties and, perhaps, within clinical specialties as well. Methods and models used are, largely practice-specific and are influenced by a combination of factors: e.g., organizational philosophy and culture interacting with practice economics, provider compensation design and practice styles of participating providers.

Future work in this regard could focus more directly on seeking demonstrations of innovative best practices across a number of key specialties defined as models that best encourage efficient and effective interprofessional team designs and management. Best practice models can then lead to reimbursement policy innovations.

Table of Content

Study Abstract	2
Study Purpose, Background and Approach	6
Study Findings Summary	17
Definitions	23
Exhibits	25
Major Themes and Discussion	104
Study Summary Conclusions	117
Summary Observations of Interest	121
Potential Reimbursement Policy Implications	126
Methods Considerations for Future Work	128
Appendices	131
A. Data Gathering Protocol	132
B. Integrated Specialty Medical Practice Leadership Questionnaire	148
C. Participant Interview Format	157
D. Participant Interview Summary	159
E. Analysis of “fit” of CMS “time worked” estimate with practice estimate for physicians and APC’s	178

Study Purpose: The purpose of this study is to provide MedPAC officials with information on the concept of physician productivity leverage models; i.e., models of clinical services delivery designed and managed with the principal goal of applying physician services potential to its highest and best use by way of the integration, coordination and collaboration of various clinical support personnel (both licensed and unlicensed) as well as a range of non-personnel support services in the forms of: clinical service protocols, information technologies support systems, specialized facilities designs and customized provider compensation design models and methods.

The clinical models examined for this study are categorized as:

- larger, subspecialized, independent medical group practices: independent medical practices designed, assembled and managed to advantage groups' operating potential for: efficiency, clinical effectiveness and to access affordable and sophisticated practice support personnel and systems; ability to recruit and retain physicians and other professionals, access favorable payer contracts and to provide efficiencies for physicians delivering subspecialized clinical services;
- physician specialty groups that are embedded with "integrated" community health systems: physicians organized as employees of specialized clinical departments within community health systems (i.e., employees of a community health system).

In either case, the principal reasons for the organizational designs of the physician groups are the same: the provision of comprehensive, subspecialized physician services from a unified and organized group of providers, optimizing the productivity potential of the physicians through clinical services delivery designs that best ensure high quality, efficient care delivery by way of application of specialized clinical and non-clinical support personnel, specialized information

technologies, aligned compensation designs, applications of evidence-based clinical protocols, and well-designed facilities that are supportive of efficient care delivery.

Rationale for the Study: This study was designed to serve a two-fold purpose:

First: To provide MedPAC officials with perspectives on a limited sample of specialized medical practices, as described, to introduce them to how such practices think and behave with respect to the “leverage” of physician services capacity and potential; and

Second: To use this study to craft the beginning of a model (and method) to further examine the concept of “physician services leverage models” on a larger scale, setting the stage for more comprehensive follow-on studies; offering more definitive, reliable results to potentially inform future physician/provider reimbursement policy designs.

Potential Value of this Study: As health care reform takes hold in the U.S. it should be expected that more health care provider-side consolidation, integration and re-organization will occur, principally due to:

- a) third-party payer contracting methods that will transfer financial risk for defined, (covered) populations to larger, more integrated community, governmental and academic health centers; health systems capable of accepting and managing “total costs of care” financial risk for such defined populations;
- b) waning interest by physicians (especially the younger) in smaller independent private medical practices less well positioned to assume financial risk;
- c) the need for physicians and other providers to be “aggregated” in economic models with sufficient size, scope and scale to access capital to support investments in

- required facilities, infrastructures and human resource support systems to optimize clinical services productivity;
- d) the need to optimize the application of physician resources to meet physician services demand growth in markets that may be under-supplied with physicians for the foreseeable future; rural markets, for example; and
 - e) the need to supply desirable clinical practice platforms (environments) to attract and retain highly qualified physicians and other providers who are likely to be in high demand well into the future.

The more “leveraged” clinical practice models, in theory, are also likely to be those that best meet expected and desirable characteristics of the “accountable” U.S. healthcare systems of the future: i.e.,

- a) achieving the “Triple Aim”;
- b) presenting abilities to accept and successfully manage a range of financial risk sharing arrangements. Said otherwise, the more leveraged clinical practice models allow for greater panel sizes and offer a greater ability to accept and manage financial risk;
- c) delivering a unified, and comprehensive array of clinical services across a coordinated continuum of care, including diverse geographies;
- d) are of high quality/high value clinical services to defined populations under risk-bearing third-party contracts;

- e) possessing the capabilities to modify clinical services delivery models based upon rapid adoption and adaptation of emerging “best practice” patient care innovations; and
- f) are capable of accessing and applying affordable capital sufficient to stay ahead of changing healthcare economic environment.

Expected value of study results to MedPAC officials:

- 1) a clear understanding of how the more “advanced” physician practices are striving to optimize the productivity potential of physicians in identified clinical specialties;
- 2) provision of a model for future examination of the leverage potential of physician services opportunities; and
- 3) laying the groundwork for conception of health policy that could shape the re-organization of physician services in the U.S. toward enhanced efficiency and greater value propositions for future health dollars spent in the US.

A Perspective on the Status Quo:

Arguably, payment for physicians’ services in the U.S. over the past five decades (since the emergence of “commercial” health insurance and Medicare in the U.S.) has followed a model of how physicians choose to organize and deliver their services; most specifically the independent, private medical practice model of physician services delivery. Licensed physicians have been free to organize themselves at their discretion, irrespective of the resultant quality or efficiency of care, they have been free to directly bill payers for services and have been paid by third parties

based upon a range of methods and models.¹ As total cost inflation rates for healthcare in the U.S. have outstripped the inflation rates of most other goods and services and as the third party payer side of the industry has consolidated creating increasing market power over the provider-side, the clinical and business models of physicians have been called into question for the quality, efficiency and value provided.² In response, some physicians and health systems in U.S. have pursued consolidation and integration. The result has been fewer, larger, multispecialty and single specialty (subspecialized) medical group practices, as well as the integration of physicians with hospitals forming vertically integrated health systems, offering a comprehensive range of coordinated health services locally and across geographic regions.

Presumably, these larger, more integrated physician services models are better positioned to address the needs of a U.S. healthcare economy that is, by any measures, consuming an accelerating and unaffordable percentage of the U.S. GDP.³

The more important questions addressed in this study are (a) what are reasonable pathways to optimizing the services of an ostensibly scarce resource (physician services) and (b) what is a reliable method of continuous evaluation of these models; models of physician services delivery aimed toward optimal leverage and thereby better value delivery from an assumed scarce resource (physician services)?

¹ Merritt Hawkins, "Health Reform and the Decline of the Physician Private Practice," *The Physicians Foundation*, October 2010, retrieved at: http://www.physiciansfoundation.org/uploads/default/Health_Reform_and_the_Decline_of_Physician_Private_Practice.pdf.

² *ibid.*

³ The World Bank, *Health Expenditure, total (% of GDP)*, <http://www.oberlin.edu/faculty/svolk/citation.htm> (May 10, 2014).

Approach to the Study (Methods)

The initial design of the study called for two objectives (cited above) summarized as:

- 1) provide information on how a sample of medical practices leverage physician potential to optimize identified practice/integrated health system goals; and
- 2) provide the foundation of a model for future, more in-depth examination of the concept of efficient and effective physician services “leverage.”

Six clinical specialties were identified for inclusion:

- primary care;
- medical oncology;
- urology;
- radiology;
- orthopedics;
- cardiology;

These specialties were identified in consultation with MedPAC staff officials as being those that represented physician services that have been observed and recognized for their innovation potential to optimize the productivity potential of participating physicians.

Subsequently, practices were identified and approached for participation that met criteria thought to be useful to MedPAC; e.g., practices that:

- a) represented geographic diversity;
- b) represented larger, subspecialized models of practice and care delivery;

- c) represented larger, subspecialized practices integrated with community health systems and similarly sized and configured practices operating independent of health systems.

Practices included agreed to participate with the assurance of anonymity.

Methods of information (data) collection were guided by a defined, written protocol (see Appendices). Data collection instrumentation included:

- a) a written memo outlining the study background, purpose, value, goals and objectives (see Appendix A);
- b) a written data collection protocol outlining desired data to be used to evaluate physician services (see Appendix A);
- c) a leadership questionnaire including Likert scale and open ended responses to various questions (see Appendix B); and
- d) interviews with practice leaders (summarized in Appendix C).

Practices reported data for full-time physicians and APCs unless otherwise indicated in the exhibits presented in this report.

Data collection controlled for “incident to” services. If an APC’s services were billed as incident to the services of a physician, the units of service and work relative value units (WRVUs) for the services were reported by the APC’s practice as services furnished by the APC and not as services furnished by the supervising physician.

Data collection uniquely identified all services that could be coded with a CPT code as “work performed.” In the case of a global surgical service, the surgical procedure was reported with its CPT code. A pre-operative or post-operative visit furnished that was in a procedure’s global surgical package was reported with its CPT code.

Conceptual Design and Foundational, Theoretical Premise: Figure A is a simple, graphic representation of how the theoretical physician services enhancement model operates. In theory, single specialty medical practices, whether free-standing or embedded with a larger multi-specialty group practice or integrated health system, will operate from a model that optimizes the productivity potential of the physicians who are the production drivers and economic “flywheels” of the practice.⁴ Theoretically there are sufficient incentives for physicians to work to “the top of their license,” optimizing their productivity as well as the productivity of their practice through the application of the related resources and delivery design innovations.

⁴ Zismer, Daniel K, Werner, Mark J, “Managing the Physics of the Economics of Integrated Healthcare,” *Physician Executive Journal (July-August, 2012): 38-44.*

The Theory of Application: The Rationale for Practice Productivity Model

Enhancements

By employing tactics to enhance and perhaps optimize the productivity of the practice, it would seem reasonable to assume that such enhanced productivity potential would manifest and be observable in practice productivity performance because:

- a) physicians would be enabled to apply their potential to more complex and presumably more financially productive and interesting patients and related clinical services;
- b) other licensed clinicians would be applied to productively deliver clinical services within their permitted scope of practice, with minimal (or minimized) overlaps of patient care services provided by physicians;
- c) patient access would be optimized and movement through required therapeutic processes would be efficient for patients and the practices;
- d) application of evidence-based best practices and more standardized care pathways would be adopted and adapted quickly to enable efficient use of practice assets and resources;
- e) information systems and related informatics would enable enhanced productivity of care processes.

Specific Questions Addressed by the Study

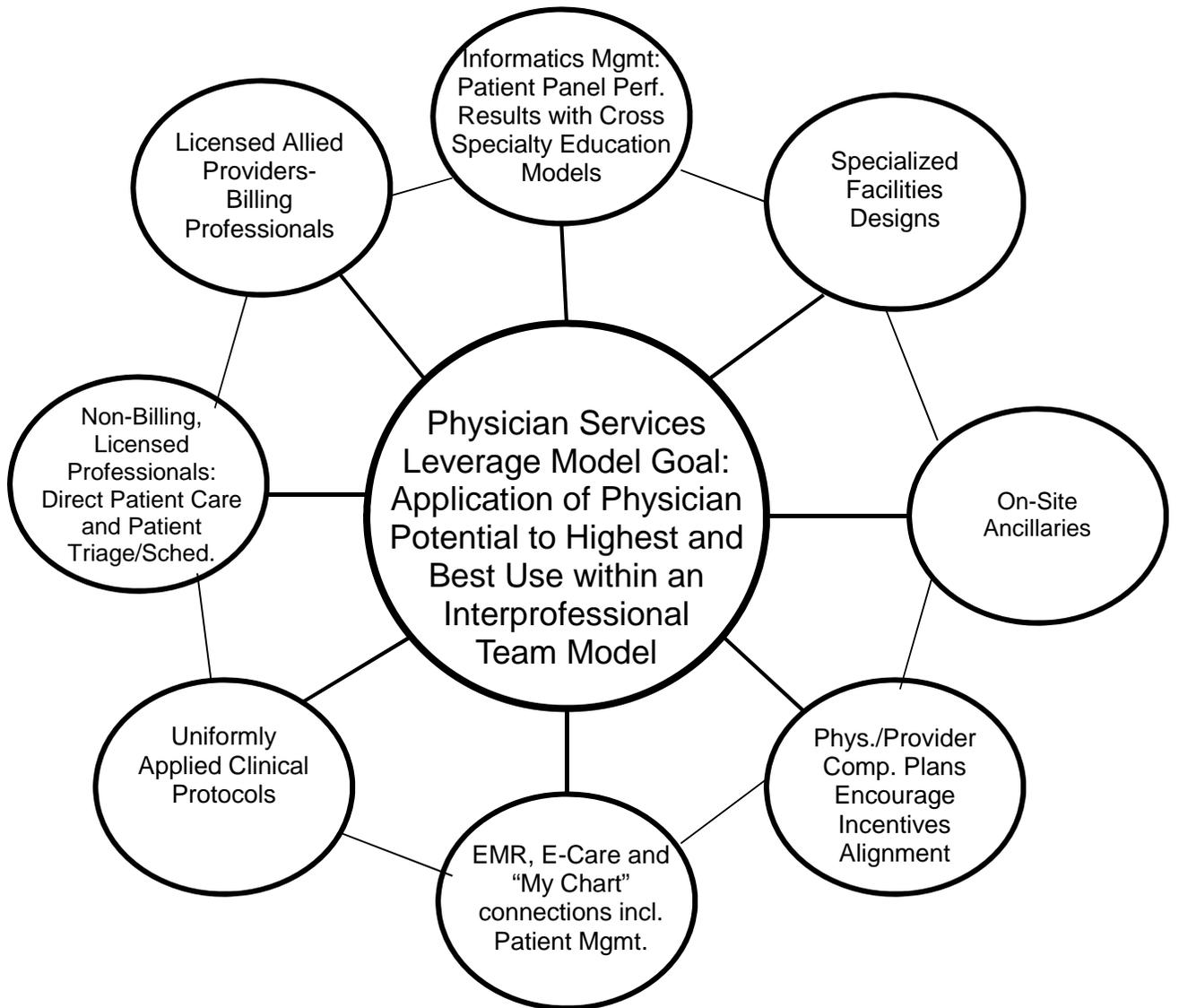
- 1) To what extent is aggregate professional services productivity (billable service units) allocated between physicians and non-physician licensed providers?

- 2) To what extent are physicians in the practice productive; i.e., to what extent is the physician productivity, observed apart from the non-physician providers, in the aggregate, indicative of a productive physician group?
- 3) What proportion of billable physician professional services production could be undertaken by the non-physician licensed providers?
- 4) What might be the enhanced productivity potential of the physicians if all (or virtually all) production appropriate for non-physician, licensed providers was done by these providers?
- 5) To what extent do physician compensation designs and practices affect physician productivity and productivity profiles?
- 6) How do practice leaders (physicians and non-physician practice leaders) view the efficiency and effectiveness of the patient care models they apply and what characteristics are especially innovative in their estimation?
- 7) What aspects of existing patient services billing processes, requirements and policies are viewed by practice leaders as being restrictive or a challenge to patient care model innovations; e.g., innovations to enhance quality and/or efficiency of care.
- 8) For services that only physicians can perform, what level of WRVU production is earned per encounter and how does that compare with WRVUs performed by the non-physician licensed providers?

Figure A

Interprofessional Team Approach to Provider Leverage

Conceptual Design, Integrated Health Systems



Study Findings Summary

Provided below is a narrative of study findings. Findings are displayed graphically in this section as well. A listing of terms and definitions follows this summary.

This findings summary derives from the practice data gathered and from interviews conducted with practice leaders. (See Appendix D for a summary of these interviews).

Finding(s) #1: Practices do not routinely capture, account, examine, or report time per service by attending, licensed medical professionals, except to the extent that “time in procedure rooms” is captured by electronic systems used to manage procedure/operating room turn-over rates.

As was the case with previous studies conducted for MedPAC by the authors of this report, medical practice management and accounting systems focus on productivity and billing-related information, e.g., CPT code, work relative value units produced, gross and net charges and related operating expense “inputs” related to professional services provided.

For medical practices, whether independent, or integrated with health systems, “time per encounter, by encounter type” is not a metric that is tracked, evaluated and reported and managed with high levels of precision.

Finding(s) #2: For the primary care group observed (a single section of an integrated health system), 88% of the physician-performed units of service was “shared,” meaning 88% of the units of service performed by physicians could have been performed by APCs. Similarly, 96% of APC activity was performed “in common.” This indicates that physicians and APCs were, for this one month time period “interchangeable” the majority of the time.

When the “shared” work was converted to work relative value units, the average WRVU per encounter for physicians was 0.94 while average WRVU produced per encounter by APCs was 1.00.

When all units of service produced by physicians only were converted to WRVUs, the average WRVU produced per unit was 0.78.

Finding(s) #3: For urology, 39% of the units of service performed by physicians were exclusive to physicians, meaning APCs did not perform that unit of service during the one month period of time. Sixty-one percent of the units of service produced by physicians were shared; i.e., produced by both physicians and APCs. Alternatively, 97% of APC-performed units of service were shared by both APCs and physicians.

For units of service shared, the average WRVU produced per APC encounter was 1.28 as compared with 1.01 for physicians.

For work done exclusively by physicians, the average WRVU produced per encounter by physicians was 2.57. Work done exclusively by urologists is largely procedural.

Finding(s) #4: For the radiology practice observed, there was no work done for the imaging specialists by APCs. APCs were used for the proceduralists as clinical assists, and performed some inpatient follow-up work, in support of the vascular surgeons.

This finding was confirmed by the practice manager. Use of APCs for imaging specialists does not provide clinical utility or opportunities to leverage physician productivity. Existing (and future) opportunities to improve imaging radiologist productivity will most likely come from advances in related digital technologies, according to this practice leader.

Finding(s) #5: For oncology, 86% of the physician-produced units of service were shared by the oncologist and APC and 14% were exclusive to the physician. With this model, the physician and the APC worked collaboratively seeing nearly every patient together. It was the opinion of the physician that such a model improved her ability to attend to more patients, most efficiently with high levels of quality and effectiveness of inpatient services management.

Average work WRVUs produced per patient encounter was 2.05 for the physician and 2.04 for the APC. Physicians earned 0.98 WRVUs/unit of service for work performed only by physicians during the one month period of time.

Finding(s) #6: For the orthopedics group, 81% of physician-performed units of service were shared and 19% were produced by physicians only. Only 4% of APC-produced units of service were produced exclusively by ACP's.

For the shared units of service produced, the average WRVUs produced per unit of service for physicians were 2.15 and 1.31 for APC (a difference of 0.84 per WRVU).

For units of service produced by physician only, 11.58 WRVUs were produced per average unit of service.

As might be expected for a surgical subspecialty, clinical work done by physicians only is likely to be procedural in nature with an APC assisting for some physicians and procedures.

Finding(s) #7: For the first cardiology group observed (two groups observed for this study), 64% of the physician produced units of service were produced by physicians only, 36% were shared with APCs.

Average WRVUs produced per unit of service for physician was 0.50 and 0.68 per APC.

For units of service produced by physician only, 2.93 WRVUs were produced per encounter.

For the second cardiology group, 36% of physician-performed units of service were produced exclusively by physicians and 64% were shared with ACPs. All (100%) ACP-produced units of service were shared services.

For units of service shared, average WRVU produced per encounter by physicians was 0.41 and 0.21 for APCs.

For work performed exclusively by physicians, 1.22 WRVUs were earned per unit of service.

Finding(s) #8:

From practice leader interviews:

1. While all practices observed (whether an independent practice model or health system-integrated model) used APCs in the practice, for all but the first cardiology practice, the model for use of APCs was, by and large, a product of an individual physician's decision; i.e., whether he/she wished to use them and, if so, how?
2. Physician compensation models varied across sites and specialties; from "pure productivity models" (i.e., billed charges minus contractual adjustments and allocable operating expenses, yielding physician compensation) to WRVU productivity models, to salary-based models.

Based upon practice leader interviews, physician compensation models greatly affect use of APCs and, when used, the work APCs do in the practice is affected by the physicians' decisions regarding their preferred work schedule and patient services production model.

3. Leaders of private practice models observed report that challenges to the economics of the independent practice are mounting. Leaders report downward pressures on: professional fees, service utilization rates and margins on owned ancillary services. The question for these leaders is the long-term productivity of the independent, private medical practice; i.e., the practice models' ability to produce satisfactory incomes for the physicians so as to attract and retain qualified physicians to independent, private practices.
4. While the electronic health record is viewed as a necessity in the marketplace ahead, no practice leader (physician or non-physician) viewed the EHR as a productivity enhancer.

Finding(s) #9: An analysis was undertaken to determine “the fit” of the CMS model for estimating time applied to clinical work by physicians and APC’s for four clinical specialties (cardiology, family practice, orthopedics and urology) as compared with time estimate produced by the practices (CMS-estimated time to complete a specific clinical activity was multiplied by the frequency of that activity for each practitioner).

For all specialties except family practice, the CMS model, on average, tended to over-estimate time spent. This effect appears to be most pronounced for procedurally-oriented services. (see appendix E)

Definitions:

The following terms are used throughout this section and are defined as follows:

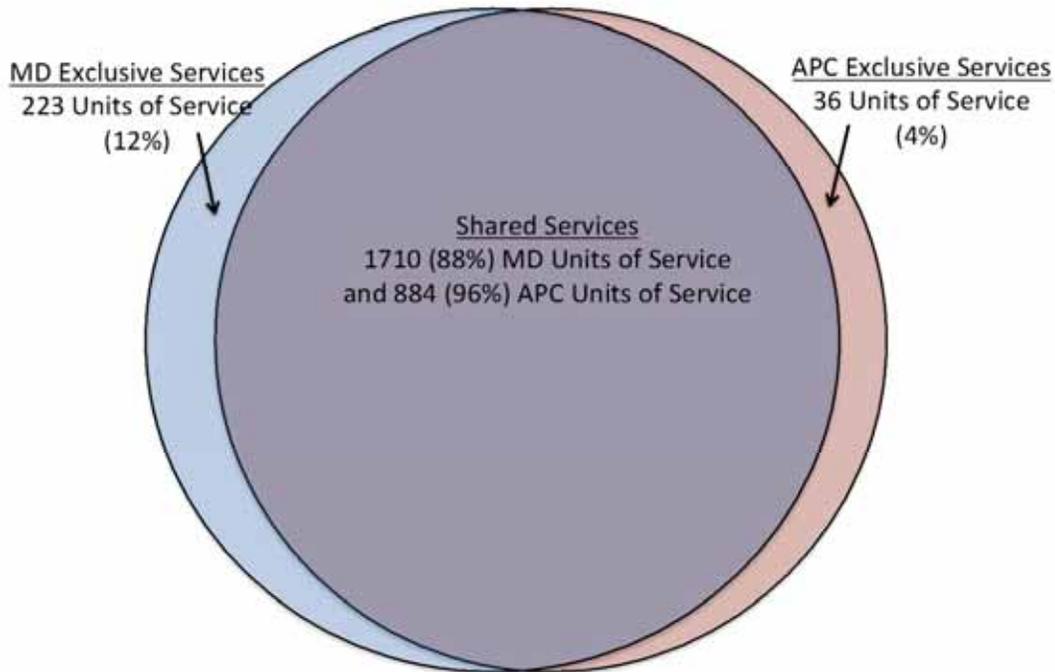
1. **Advanced Practice Clinician or APC:** Either a Physician Assistant (PA) or a Nurse Practitioner (NP).
2. **Units of Service:** In this study, we used CPT codes and the associated WRVU values to define productivity. A physician's units of service refer to the total number of CPT coded services, from all payers, by a physician (or a group of physicians) during the observed time period. For instance, a physician might bill 100 unique CPT codes, 500 total CPT codes, and earn 750 WRVUs during a given month. That physician would have 500 units of service and 750 WRVUs for a total of 1.5 WRVUs/unit of service in our analysis.
3. **Shared:** Our analysis focused, in part, on the work performed by both physicians and APCs, in terms of units of service. If both a physician and an APC billed the same unit of service within the observed period, we define that unit of service as a "shared" unit of service. This does not mean that the work was performed at the same time or in consultation with one another. It simply means that the specific unit of service was performed, at some point, by both a physician and an APC.
4. **Exclusive:** The inverse of "shared." This term refers to those units of service performed only by a physician or only by an APC. An APC may not perform a specific unit of service due to scope of practice regulations, culture of the practice, or physician preference.
5. **Procedures vs. Consultations:** These terms are used to separate the procedural care (e.g., surgery) from consultative care (e.g., office visits).

6. Observation Period: The period of time from which data was gathered to form the following findings. In almost every case the observation period is a full month: March 2013. In two instances (orthopedics and oncology) an entire year's worth of data (2013) was provided.

Supporting Exhibits

Family Practice Exhibits:

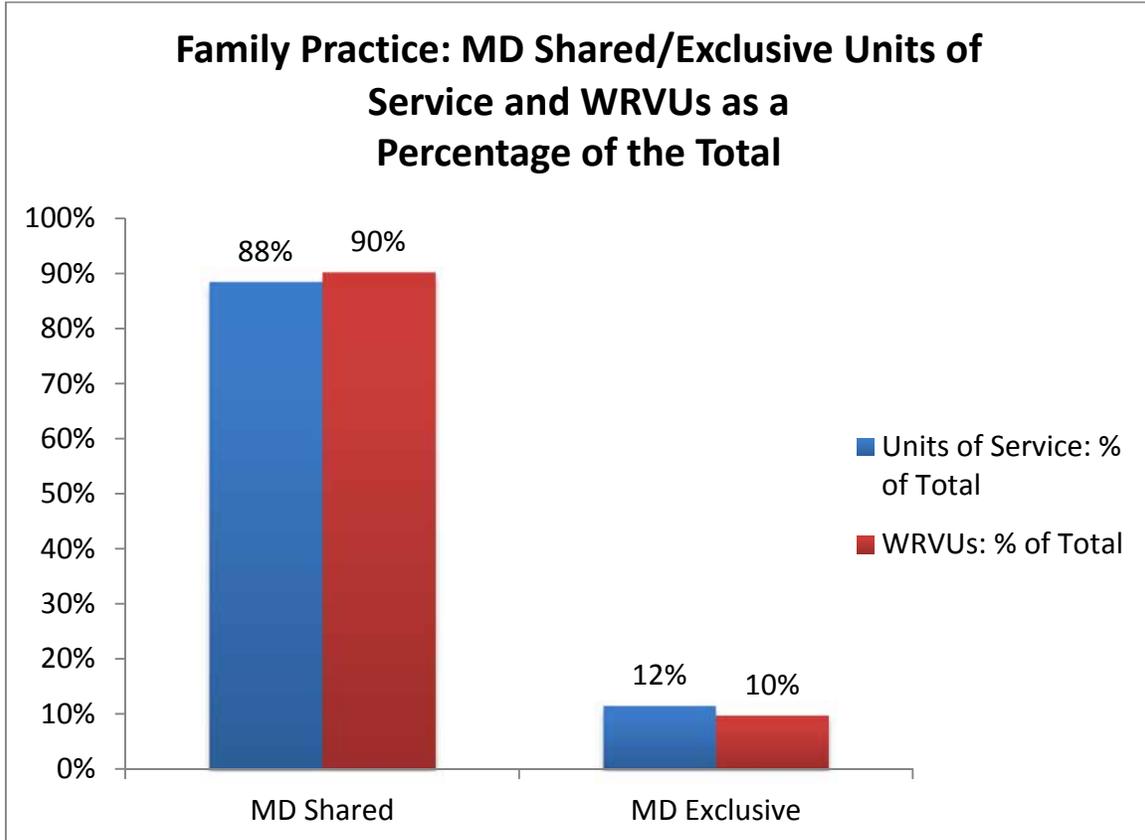
Family Practice Exhibit: A



- The size of the spheres indicates the relative number of units of service performed by the physicians and the APCs.
- Physicians and APCs perform roughly the same number of total units of service and roughly the same kind of units of service; i.e., the vast majority of units of service (MD: 88% and APC: 96%) are shared.
- Similarly, very few units of service (MD: 12% and APC 4%) are exclusive or only performed by one kind of provider, i.e., physicians or advanced practice clinicians.

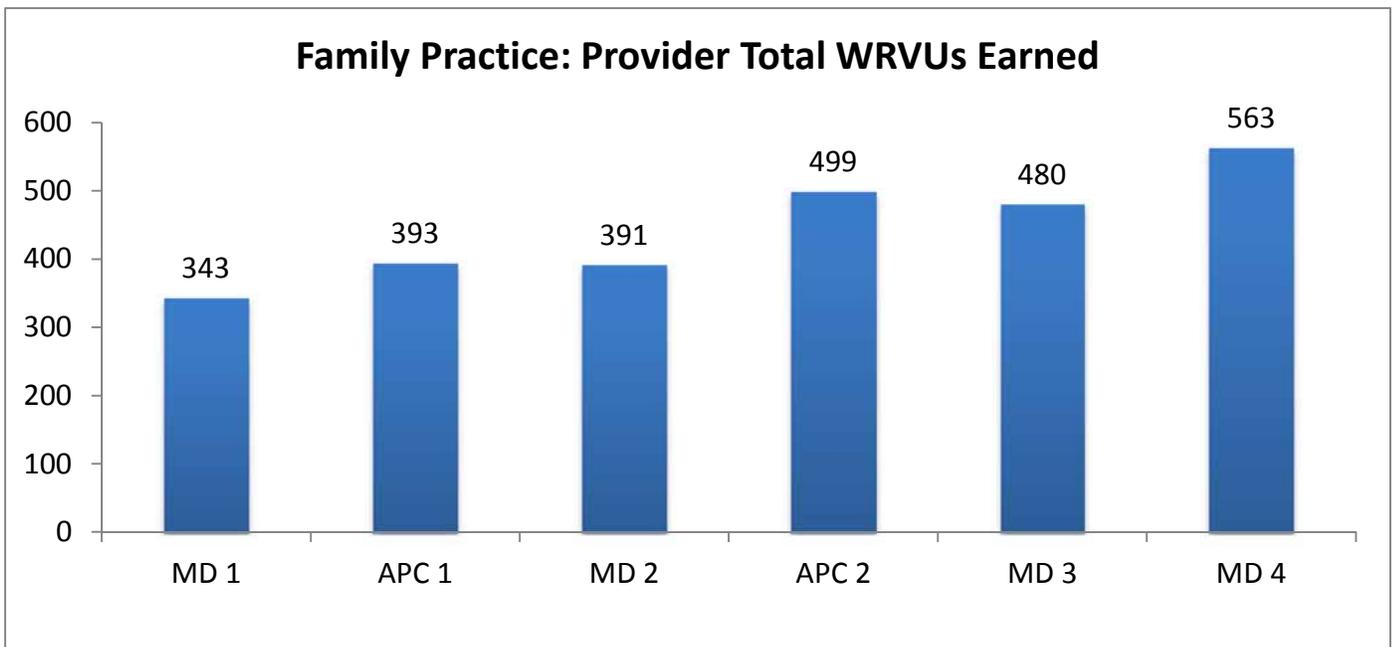
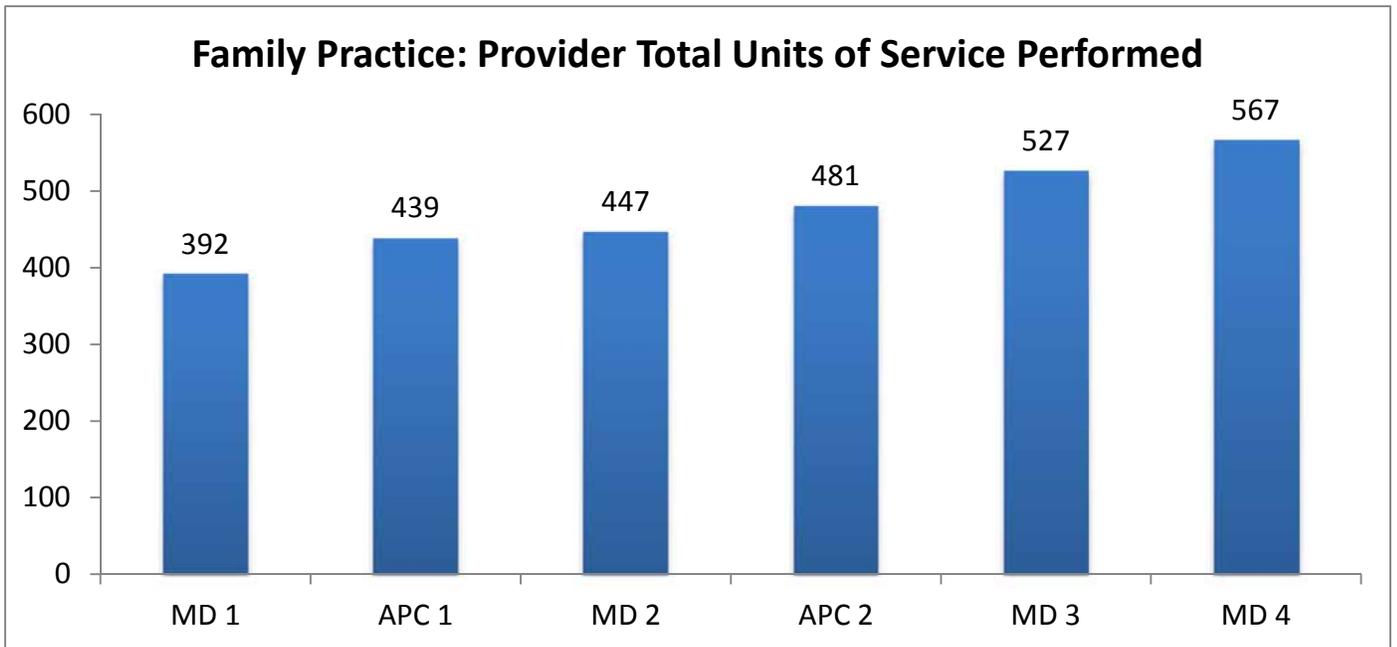
- The percentage figures in this diagram represent the percentage of shared MD or APC units of service performed out of total APC or MD units of service. For example, the 4% figure represents 4% of APC units of service are exclusive—were performed only by APCs.

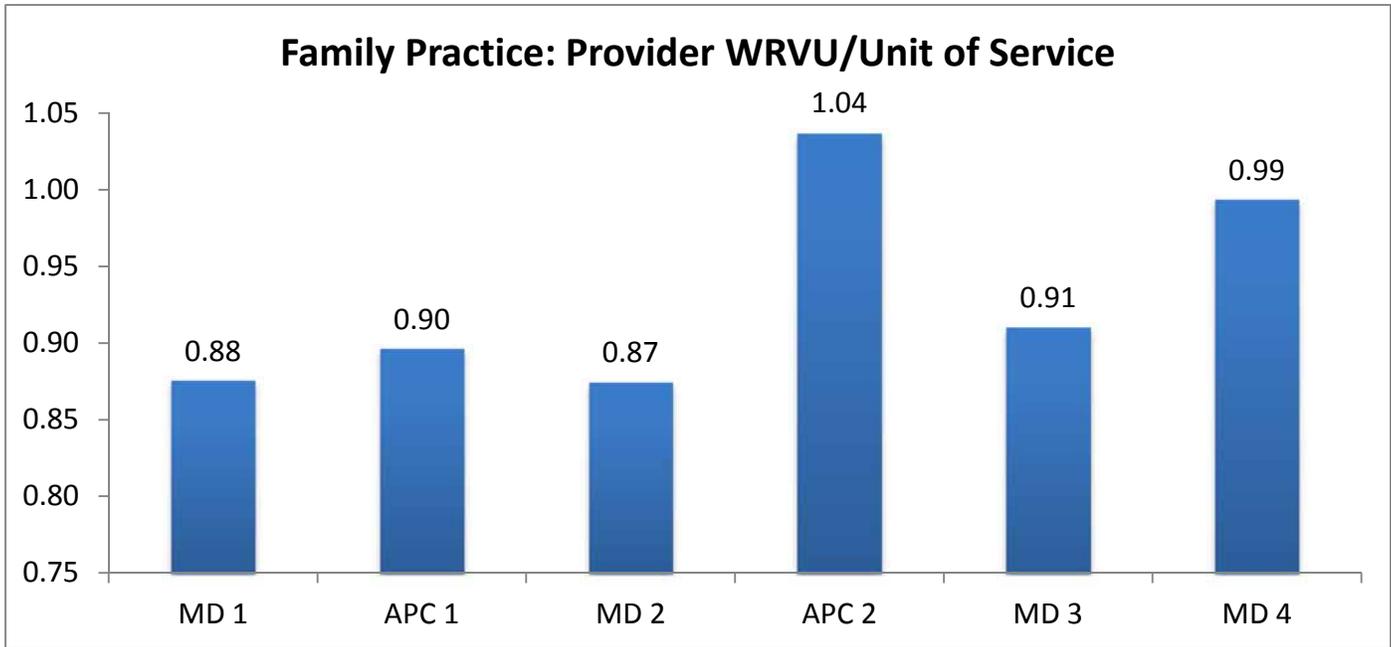
Family Practice Exhibit: B



- This graph depicts the number of shared and exclusive units of service performed and WRVUs earned by physicians or APCs as a percentage of total units of service performed and WRVUs earned by physicians or APCs.
- The vast majority of units of service performed and WRVUs earned by physicians and APCs comes from shared units of service; those units of service that, at some point during the observation period, were performed by physicians and APCs.

Family Practice Exhibit: C

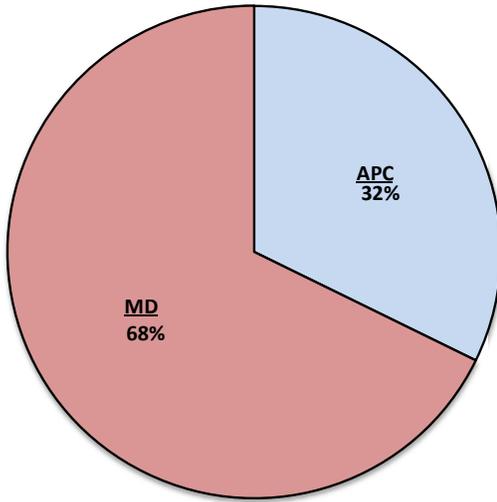




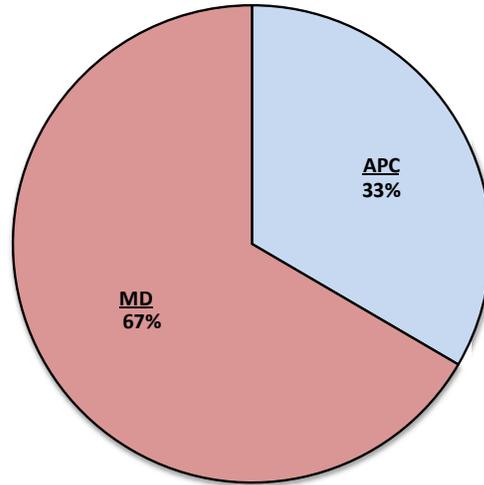
- The first of these three graphs demonstrates that MDs and APCs produce roughly the same number of units of service.
- Similarly, the second graph shows that the MDs and APCs in this practice produce roughly the same number of WRVUs.
- The third graph shows that APC #2 produces at a higher WRVU/unit of service rate than her/his colleagues. This APC produces 1.04 WRVUs/unit of service whereas her/his colleagues produce around 0.9 WRVUs/units of service.

Family Practice Exhibit: D

Family Practice: APC and MD Percent of Total Production: Units of Service

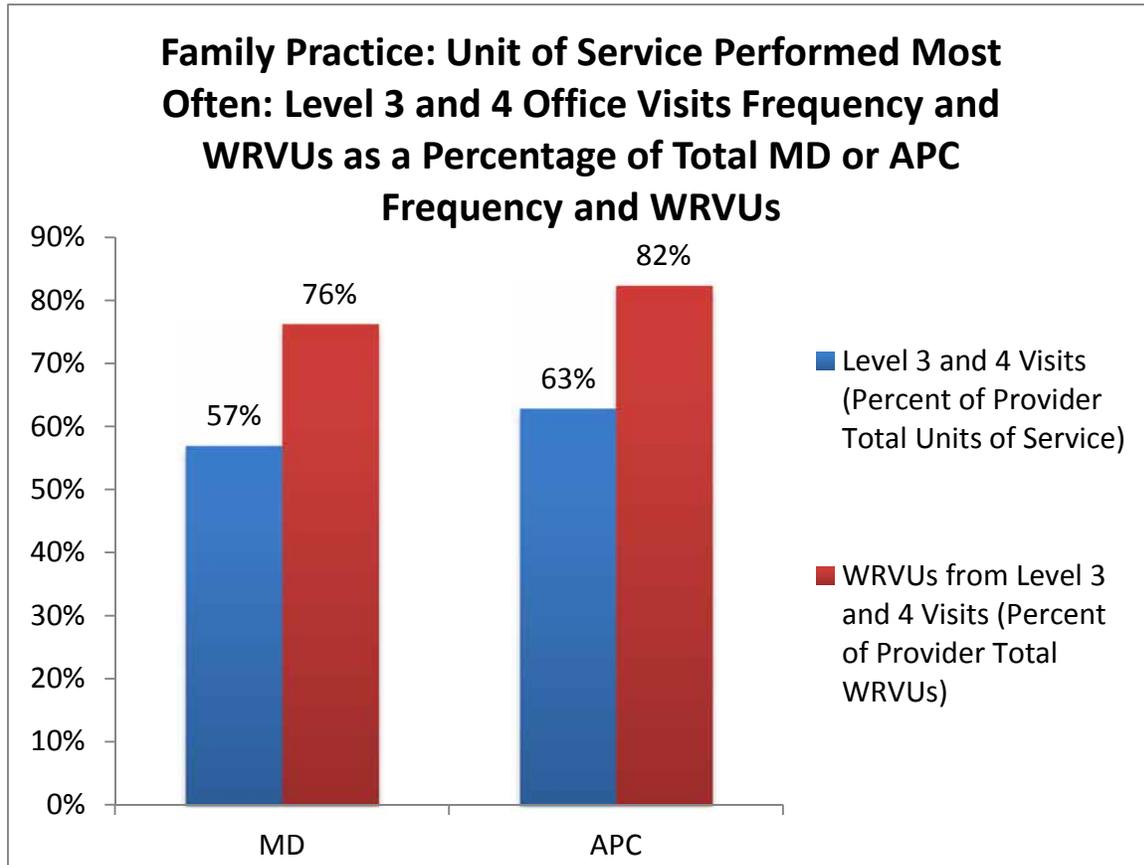


Family Practice: APC and MD Percent of Total Production: WRVUs



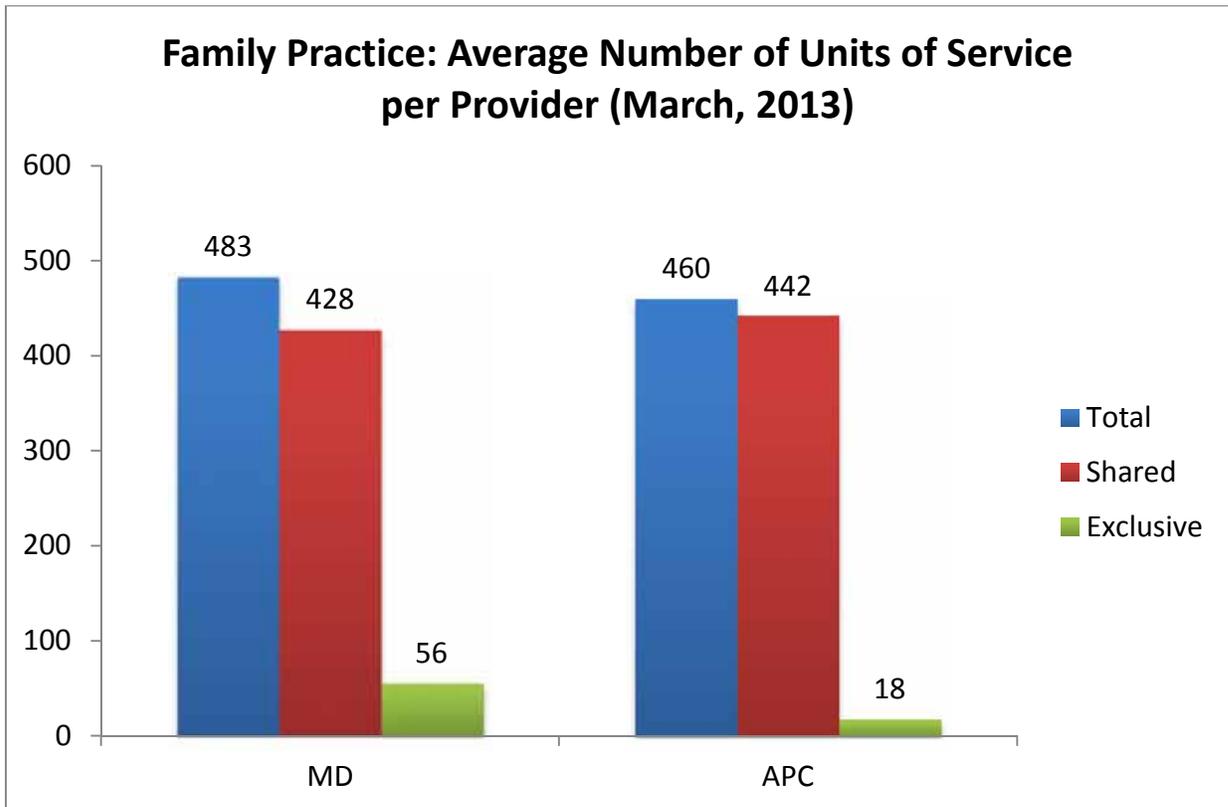
- These pie charts show that, in this practice, physicians perform around 2/3 of total units of service and earn around 2/3 of total WRVUs.
- Note, however, that physicians make up 2/3 of total providers in this practice as well.

Family Practice Exhibit: E



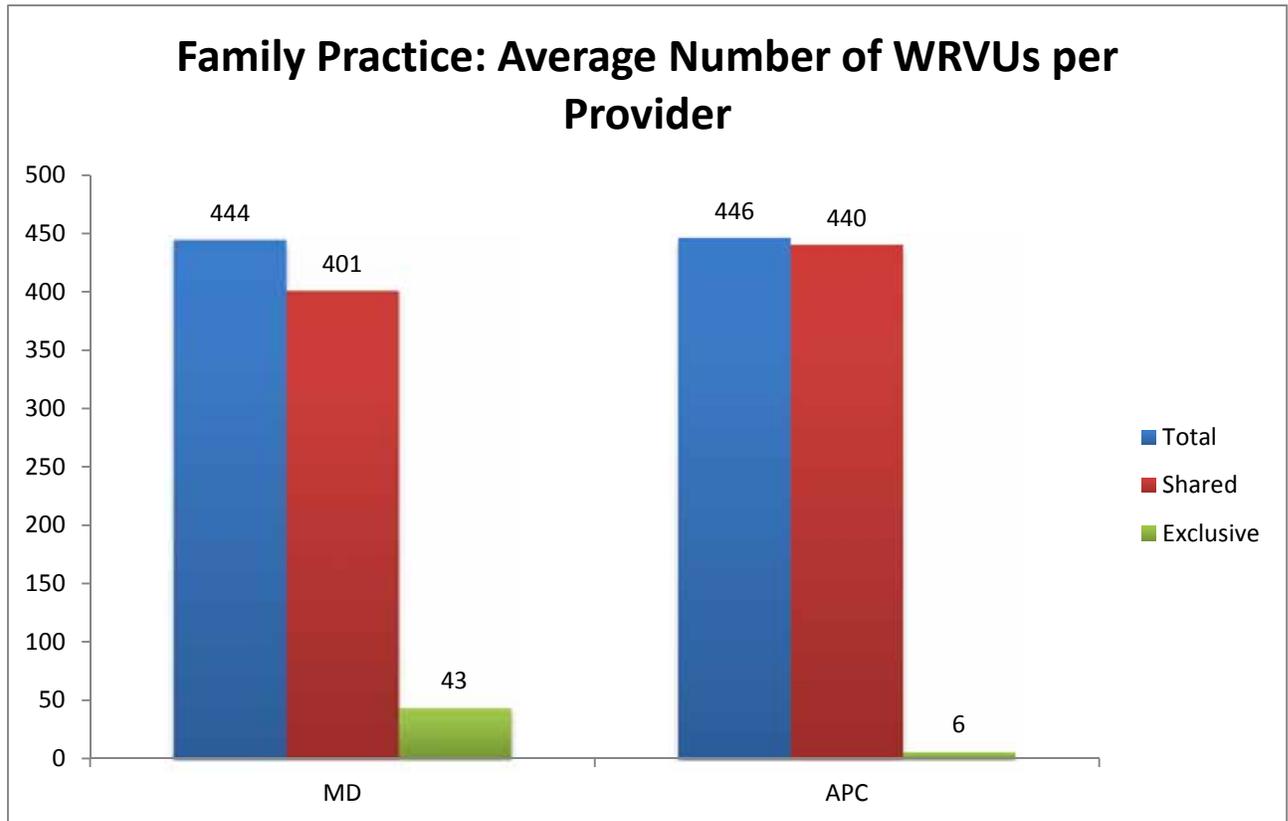
- For both MDs and APCs
 - Over half of units of service and over three fourths of WRVUs come from either level three or level four office visits.
- APCs could take over 57% of the units of service currently performed by MDs by simply performing all level 3 and level 4 office visits. This would correlate to over 75% of MD WRVUs earned.

Family Practice Exhibit: F



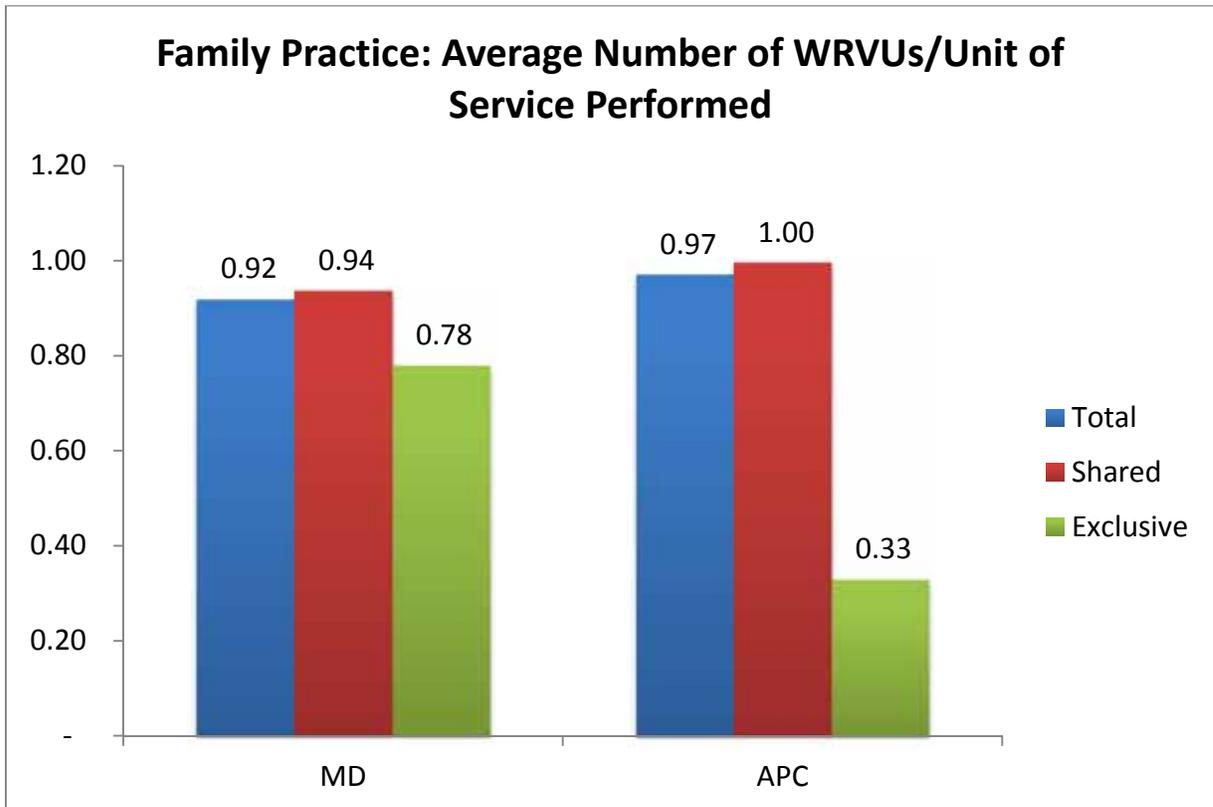
- This graph shows the average number of units of service performed per provider.
- Physicians and APCs perform roughly the same number of total units of service and roughly the same kind of units of service; i.e., the vast majority (MD: 88% and APC: 96%) are shared.

Family Practice Exhibit: G



- This graph shows the average number of WRVUs earned per provider.
- Each physician and APC, on average, earned 444 and 446 WRVUs, respectively.
- Most of these WRVUs came from shared units of service.

Family Practice Exhibit: H

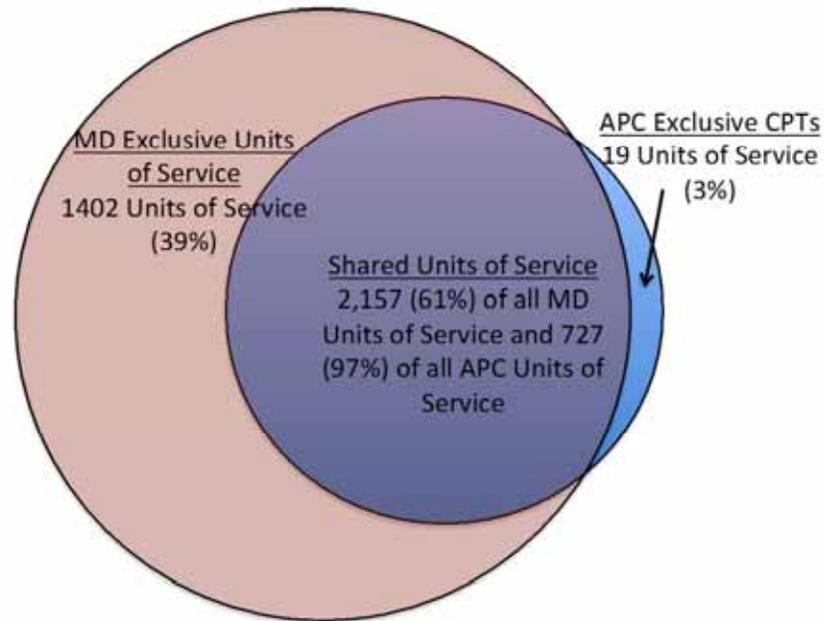


- This graph shows the average WRVU earned per unit of service performed
- APCs performed “harder” work (higher WRVU-earning units of service) for shared and total units of service but not exclusive units of service.
- The exclusive units of service for both physicians and APCs earn the fewest WRVUs/unit of service.

Note: The graphs “Average units of service per Provider by Units of Service Category,” “Average WRVUs per Provider by Units of Service Category,” and “Average WRVU/Unit of Service per Provider by Units of Service Category” were not included as a part of the family practice graphs and diagrams due to data limitations.

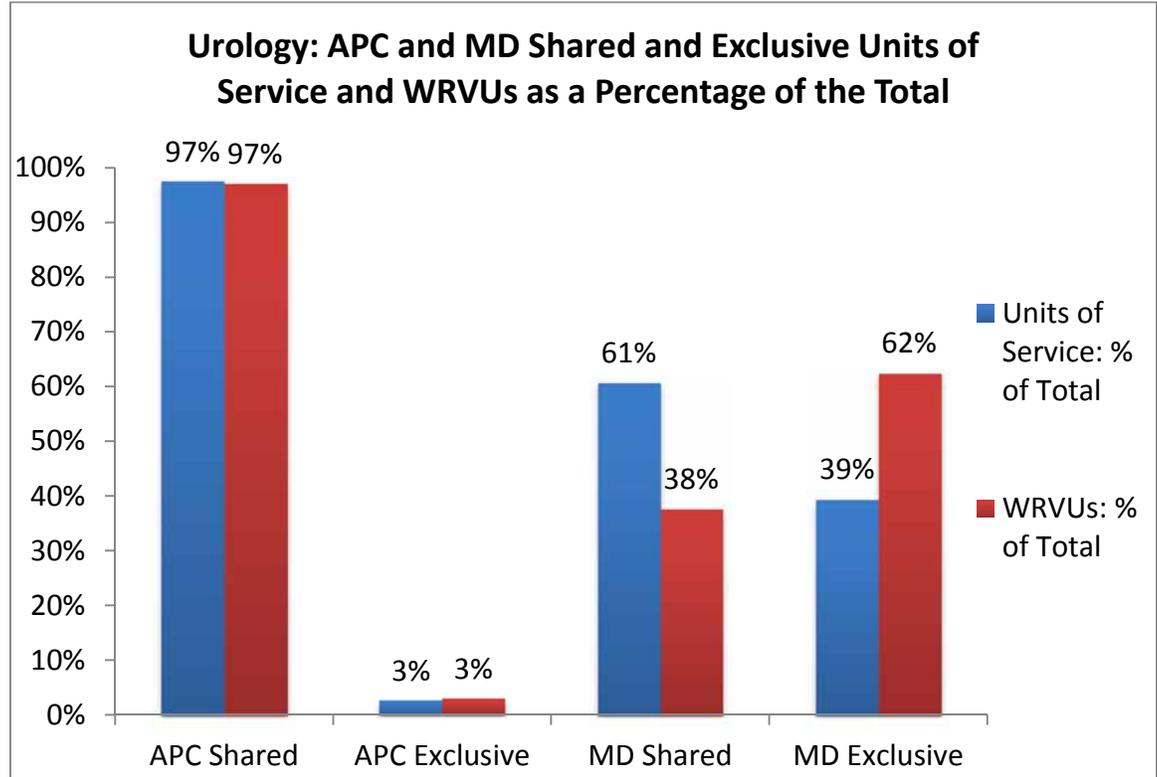
Urology Exhibits:

Urology Exhibit: A



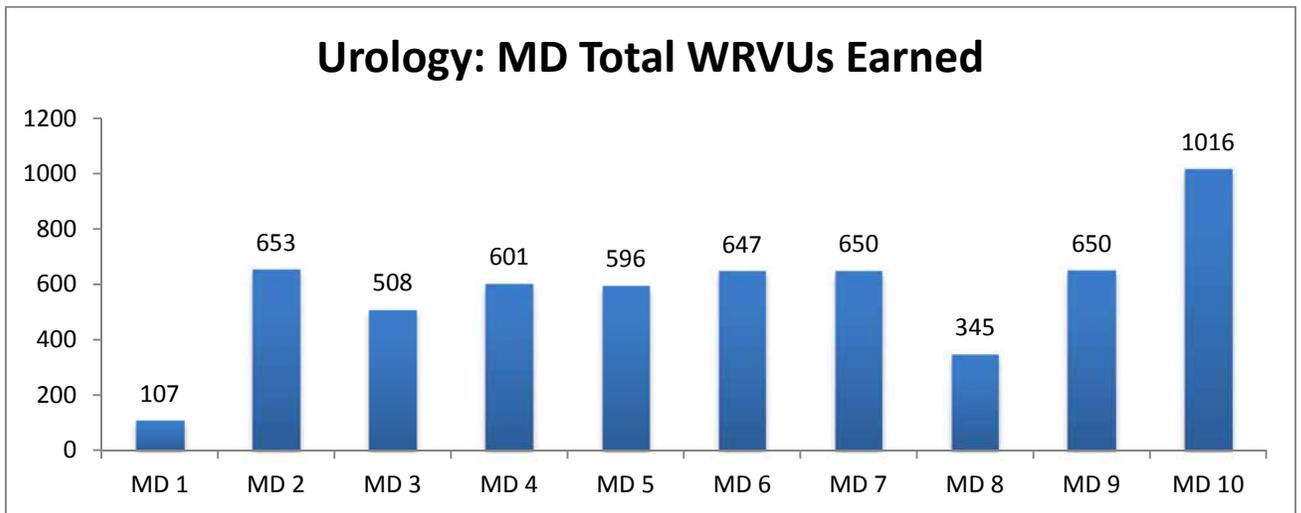
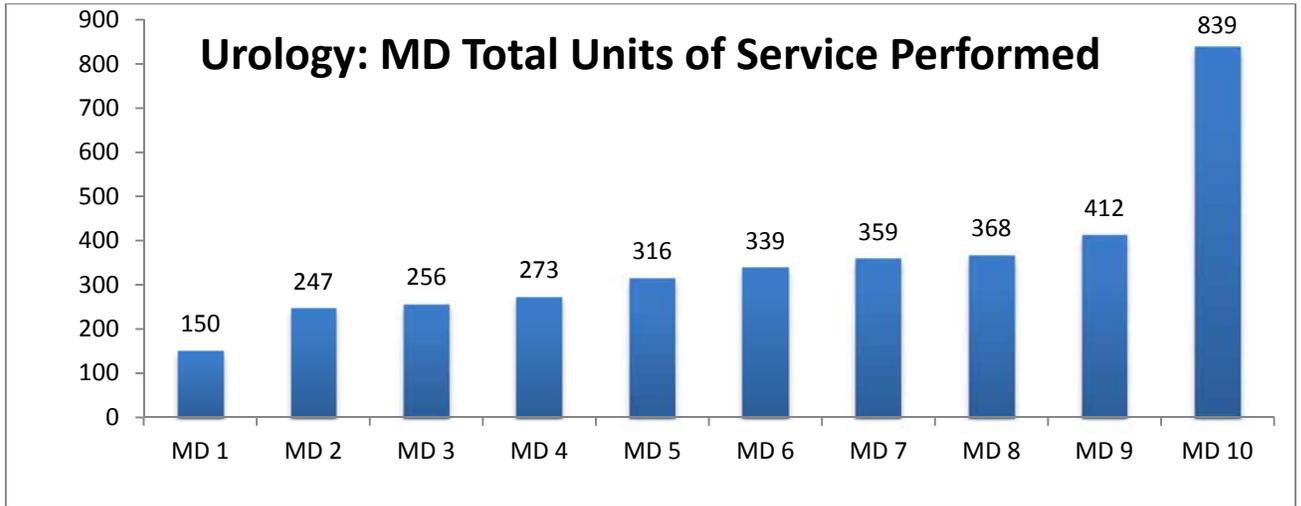
- The size of the spheres indicates the relative number of units of service performed by the physicians and the APCs.
- The vast majority of APC units of service are shared whereas 39% of MD units of service were exclusive and 61% of MD units of service are exclusive.

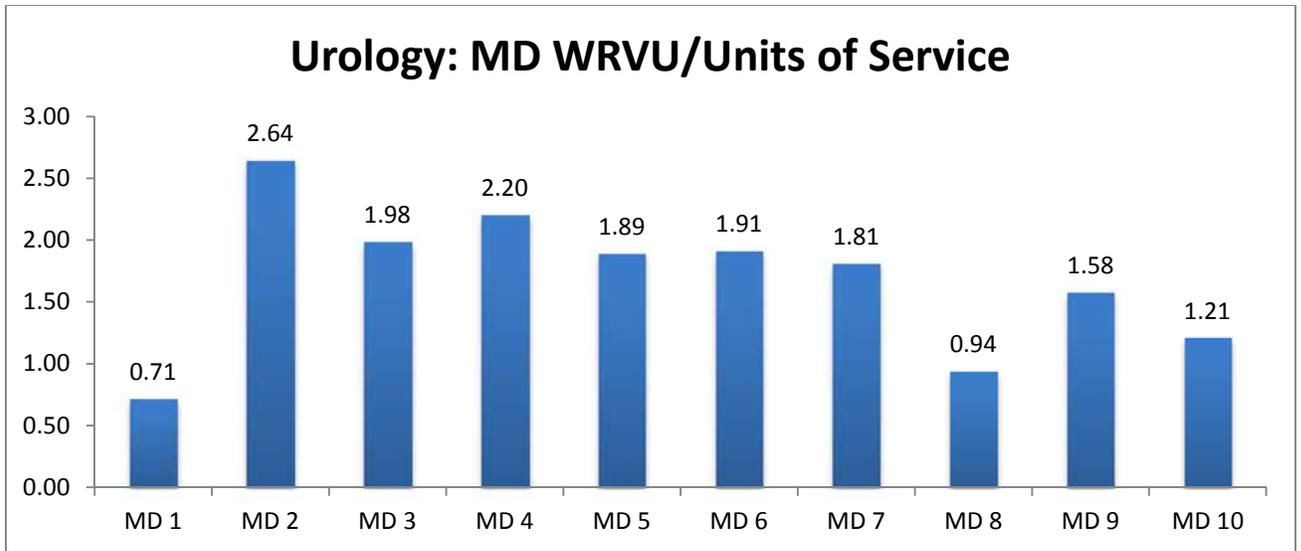
Urology Exhibit: B



- This graph shows that 97% of APC units of service and WRVUs are derived from shared activity.
- In contrast, this graph also shows that whereas 61% of physician units of service are derived from shared activity, only 38% of WRVUs are. Similarly, whereas only 39% of MD units of service are exclusive, 62% of physician WRVUs come from exclusive units of service.

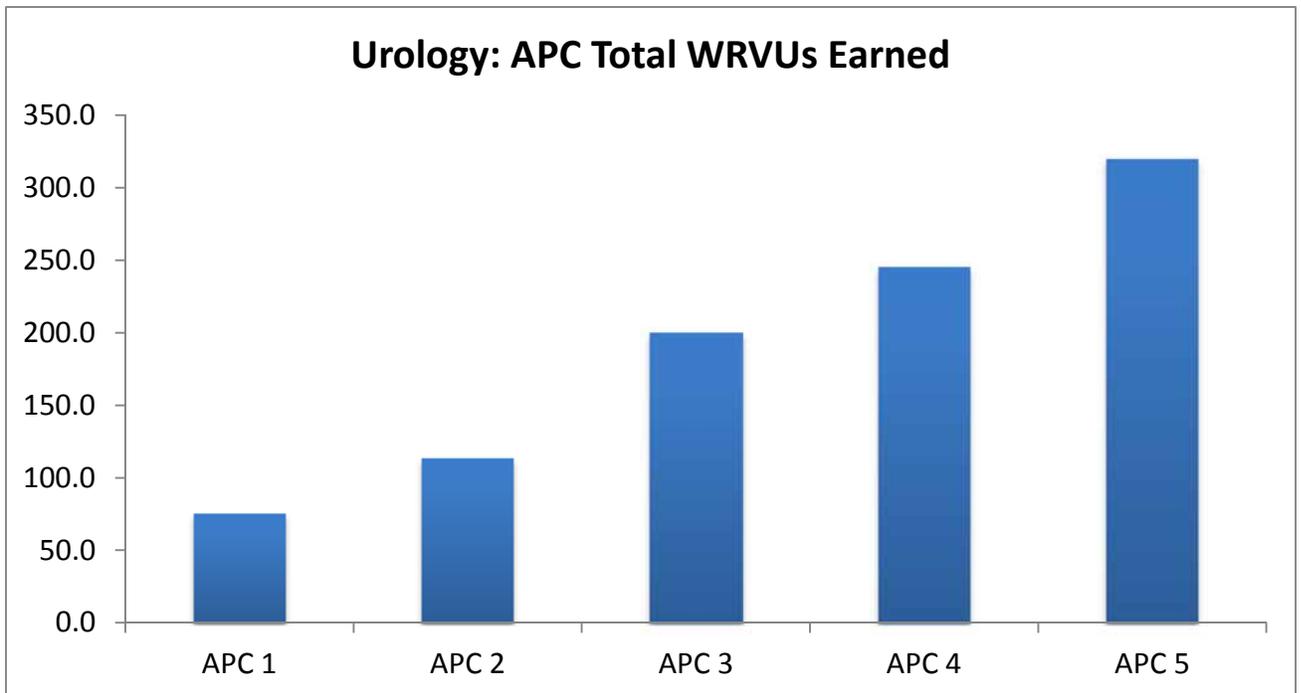
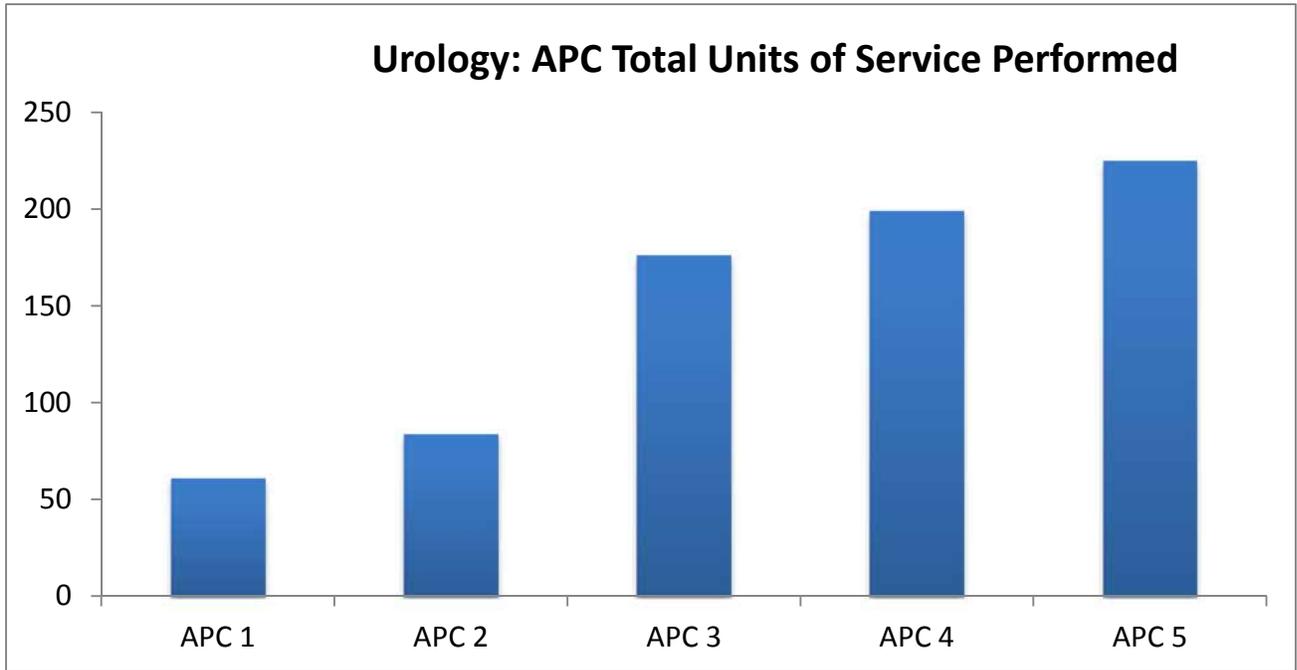
Urology Exhibit: C

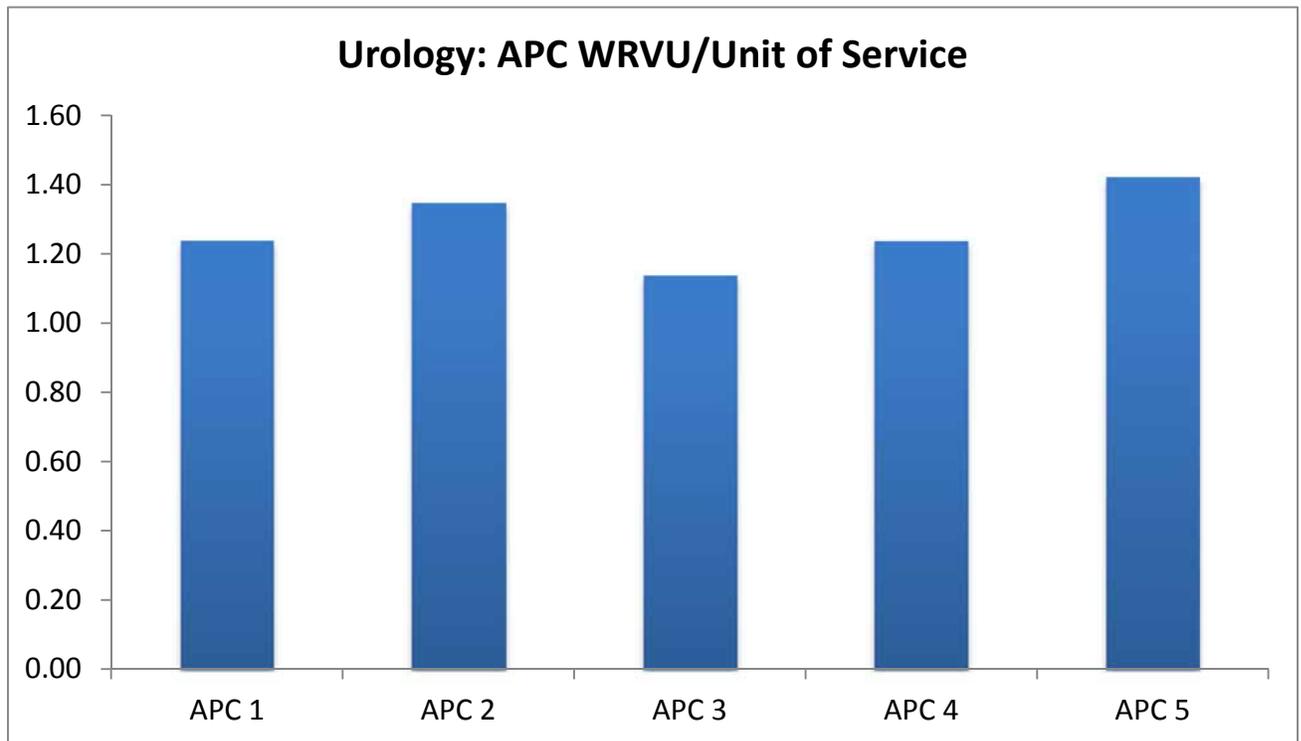




- The physician who performs the most units of service (MD #10) also earns to most total WRVUs and the least number of WRVUs/unit of service (disregarding MD #1 and MD #8).
- Similarly, MD 2 performs the fewest units of service (again, disregarding MD #1), earns what appears to be a “normal” amount of WRVUs (technically MD #2 has the second highest number of WRVUs but appears to be in the “normal” range”) and yet has the highest WRVU/units of service by far.

Urology Exhibit: D

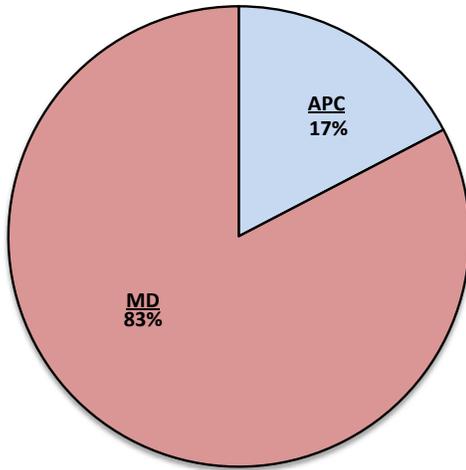




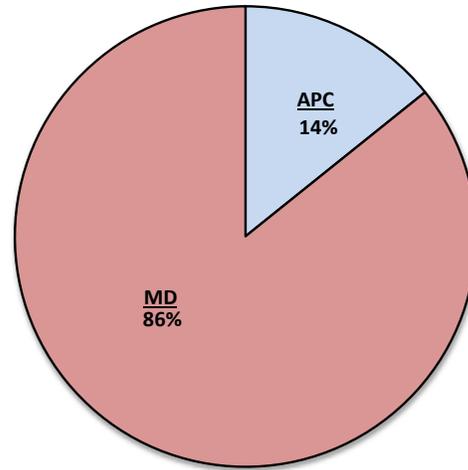
- The first of the above three graphs show that there is some variation in the number of units of service earned by the APCs in the Urology practice. The second shows similar variation in the number of WRVUs earned.
- Finally, the third graph shows that the number of WRVUs/unit of service has little variation.

Urology Exhibit: E

Urology: MD and APC Percent of Total Production: Units of Service

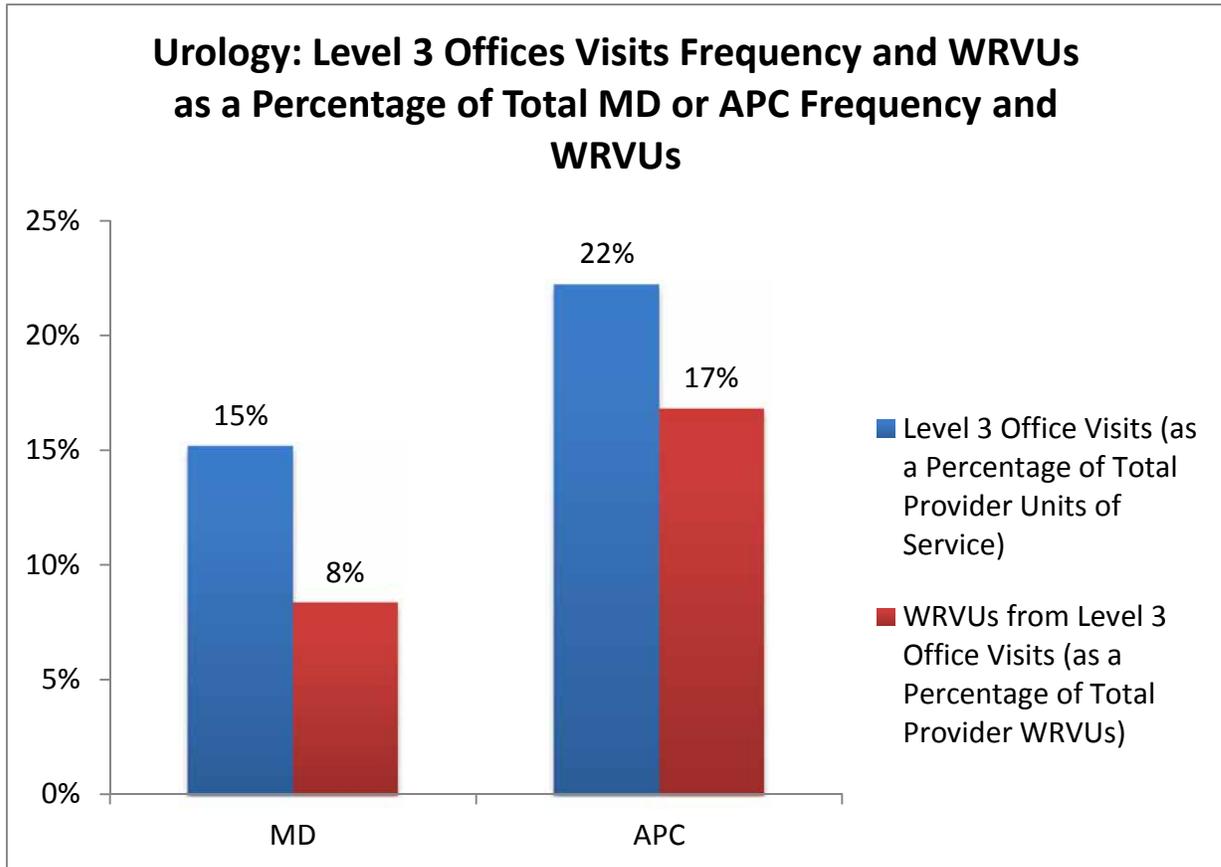


Urology: MD and APC Percent of Total Production: WRVUs



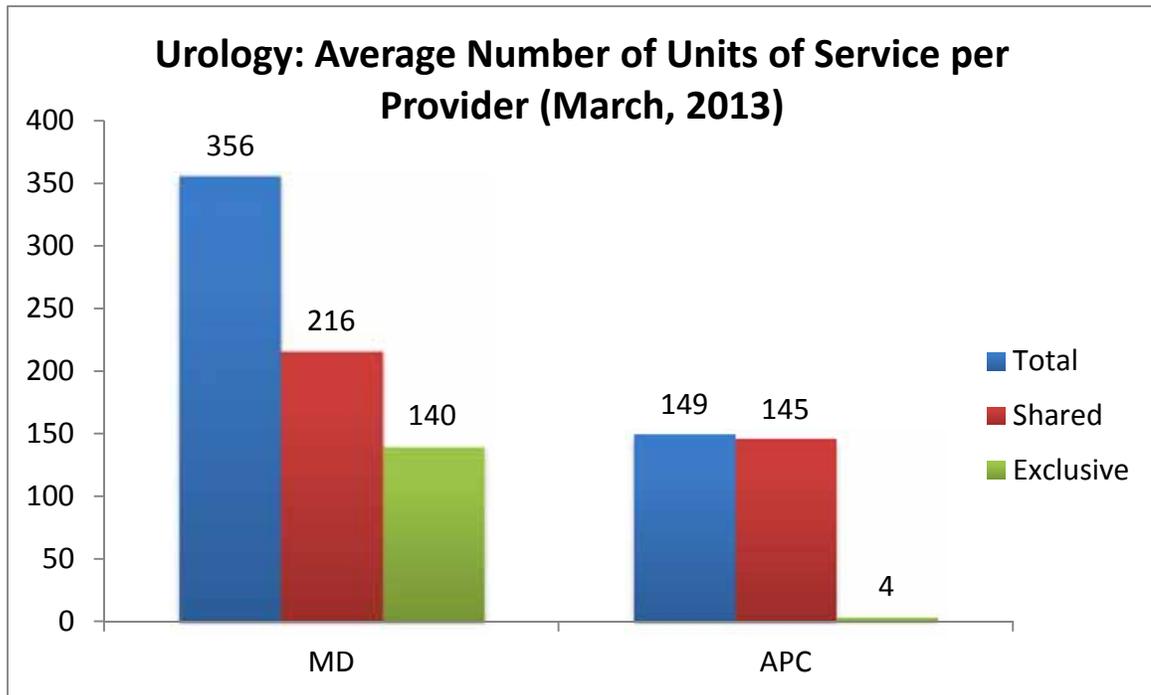
- The above pie charts show that over 80% of total production in terms of units of service and WRVUs is done by physicians in this urology practice.
- Similarly, around 15% of services and WRVU production is performed by APCs.

Urology Exhibit: F



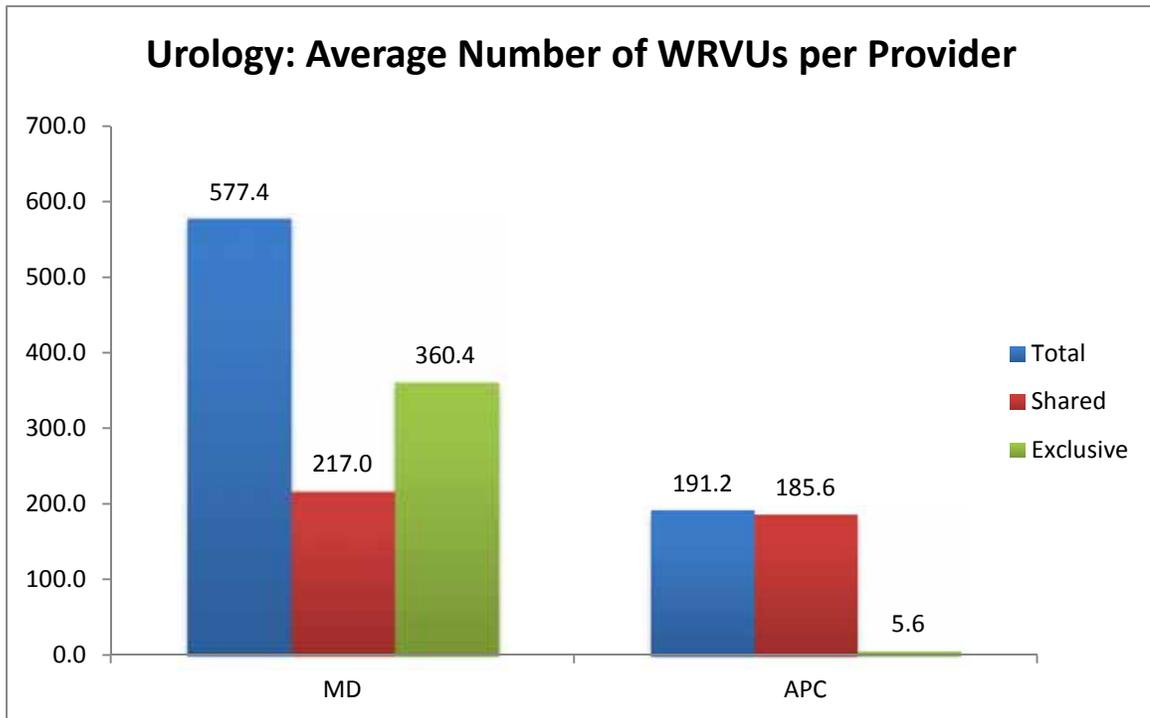
- In this practice, the level 3 office visit was the unit of service billed most often but it still only accounted for 15% of physician units of service and 22% of APC units of service.
- The level 3 office visits accounted for an even smaller percentage of total WRVU production: 8% and 17% for physicians and APCs respectively.

Urology Exhibit: G



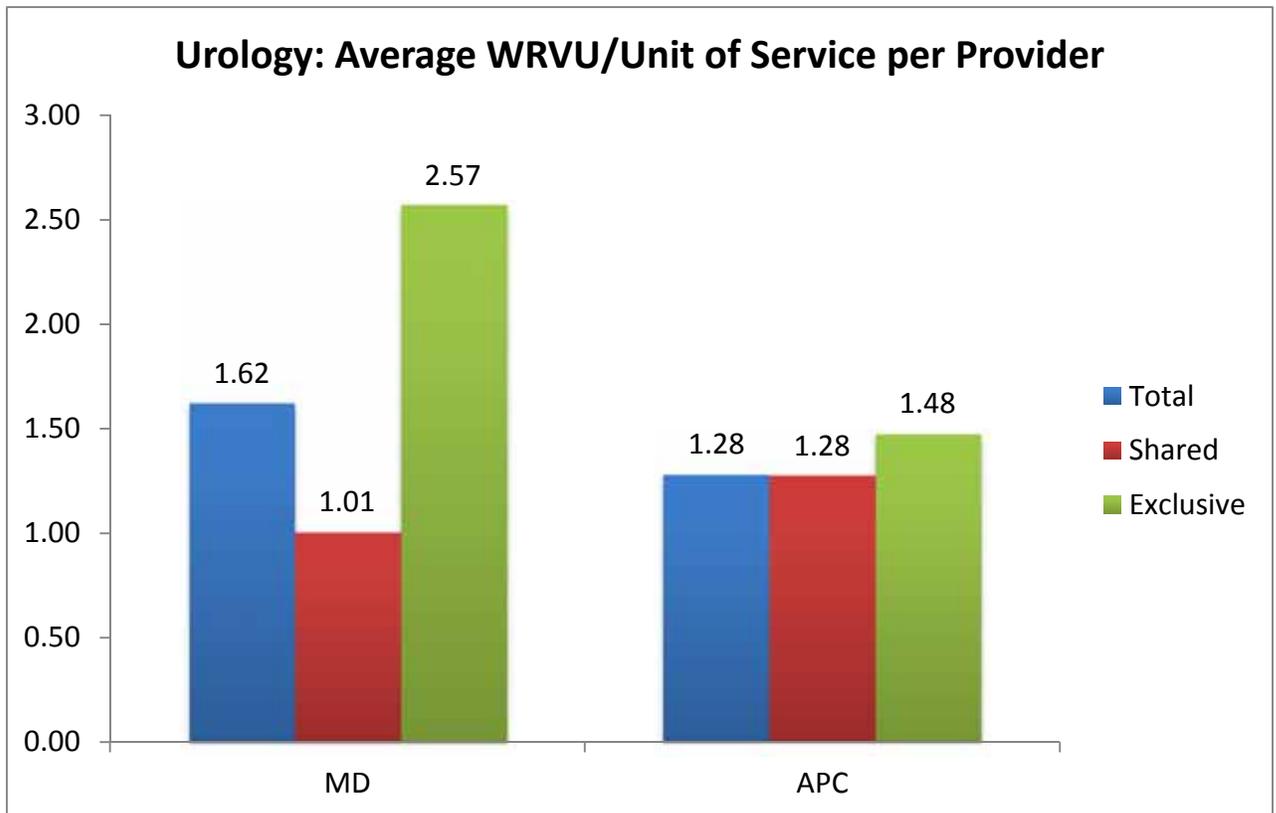
- This graph depicts the average number of units of service performed per provider in each category: total, shared, and exclusive.
- Physicians in this practice are clearly more productive than APCs in all categories, performing more than twice as many units of service per physician overall (i.e., 356 as compared to 149).

Urology Exhibit: H



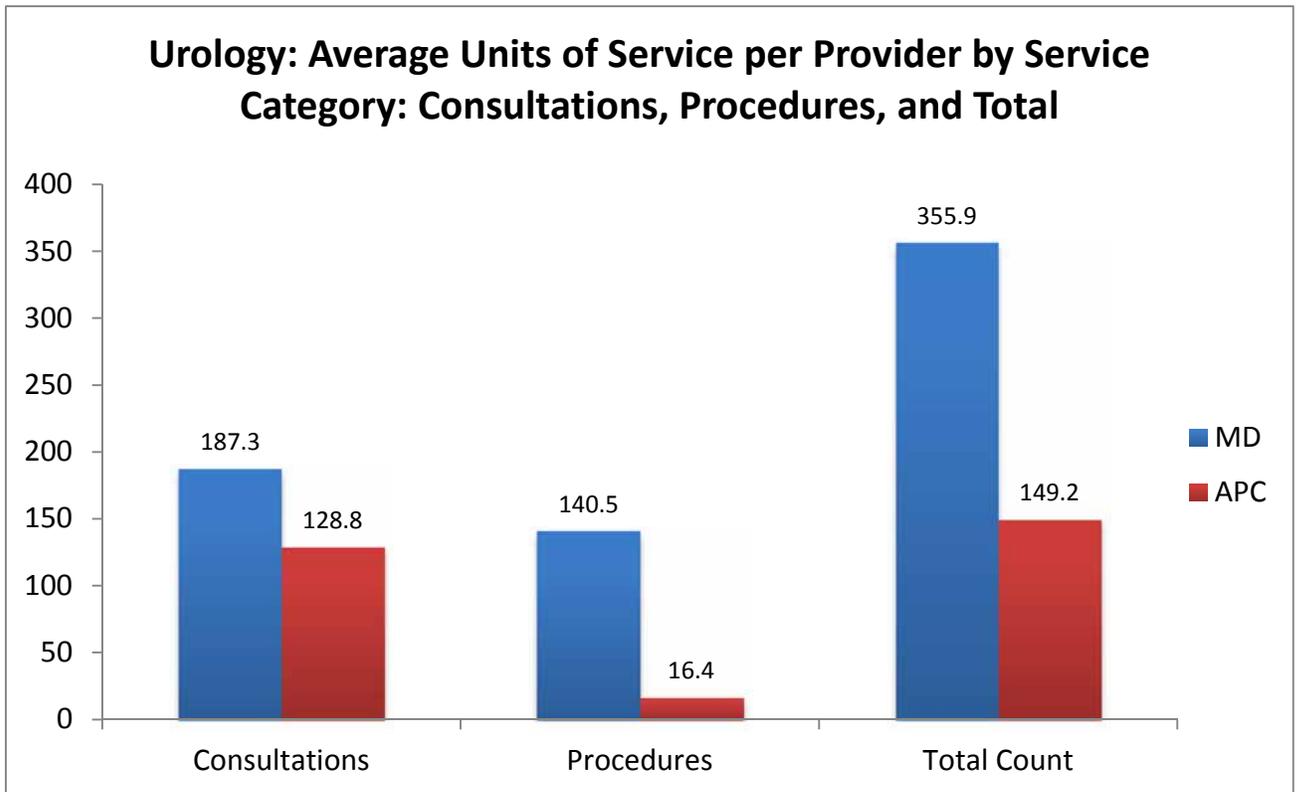
- This graph shows the average number of WRVUs earned per provider in each category: total, shared, and exclusive.
- Physicians out-earn APCs in every category, particularly with regard to the exclusive units of service, per provider.

Urology Exhibit: I



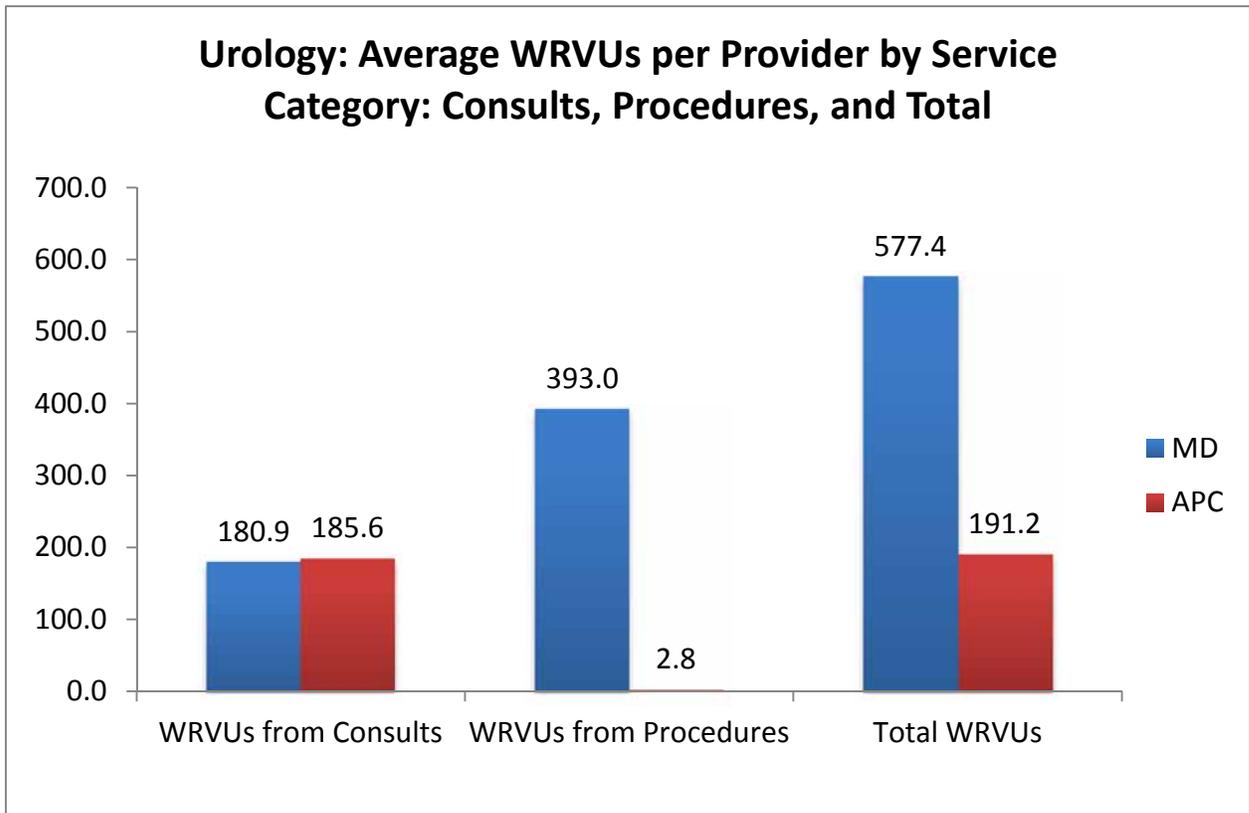
- This graph shows the average WRVU/unit of service per provider earned in each category: total, shared, and exclusive.
- Physicians out-earn APCs with regards to the exclusive units of service (2.6 WRVUs/unit of service as compared to 1.5 WRVUs/unit of service).
- APCs out-earn physicians with regard to the shared units of service (1.3 WRVUs/unit of service as compared to 1.0 WRVUs/unit of service).
- This does not mean that physicians or APCs earn *more* WRVUs in any given category, just that they earn more WRVUs *per* unit of service. As seen earlier, the MDs perform more units of service and earn more total WRVUs.

Urology Exhibit: J



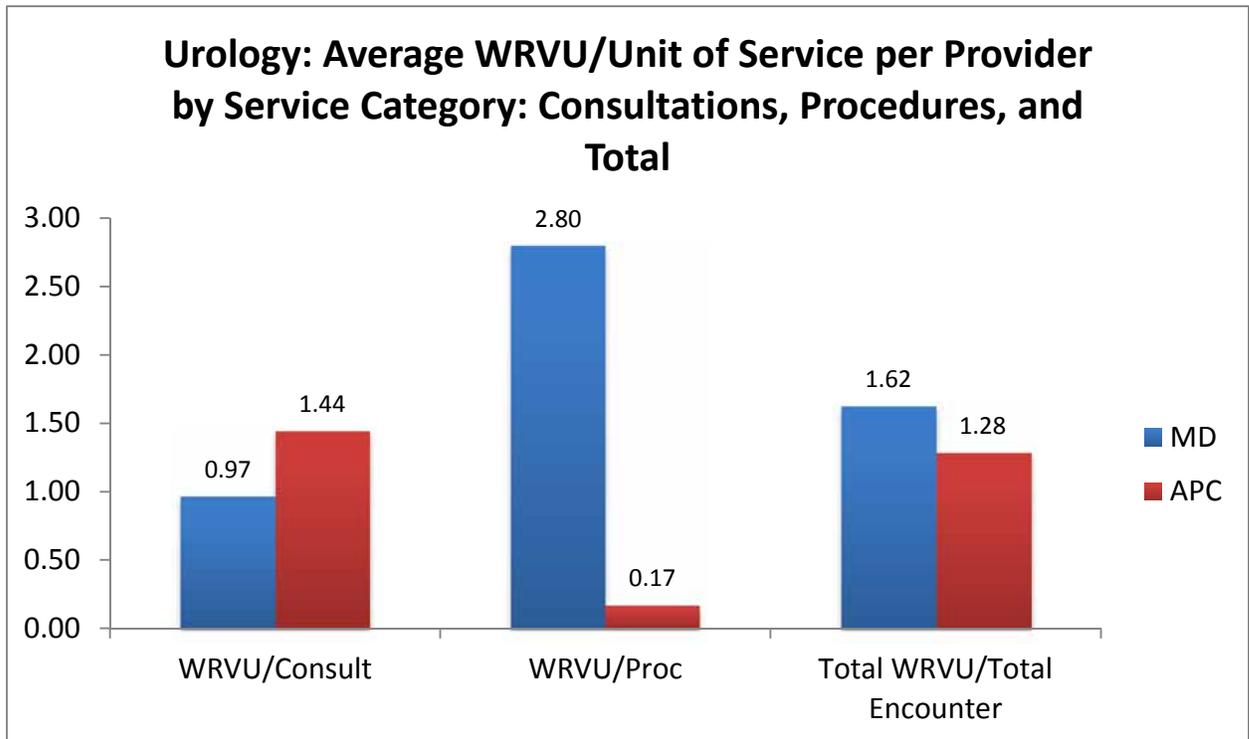
- MDs out-produce APCs in consultations, procedures, and total units of service.

Urology Exhibit: K



- This graph shows the average WRVUs earned per provider by consultations, procedures, and total WRVUs.
- APCs out-earn MDs in terms of WRVUs from consults (180.9 WRVUs for MDs and 185.6 WRVUs for APCs).
- MDs out-earn APCs in terms of WRVUs from procedures (393 WRVUs for MDs and 2.8 for APCs).

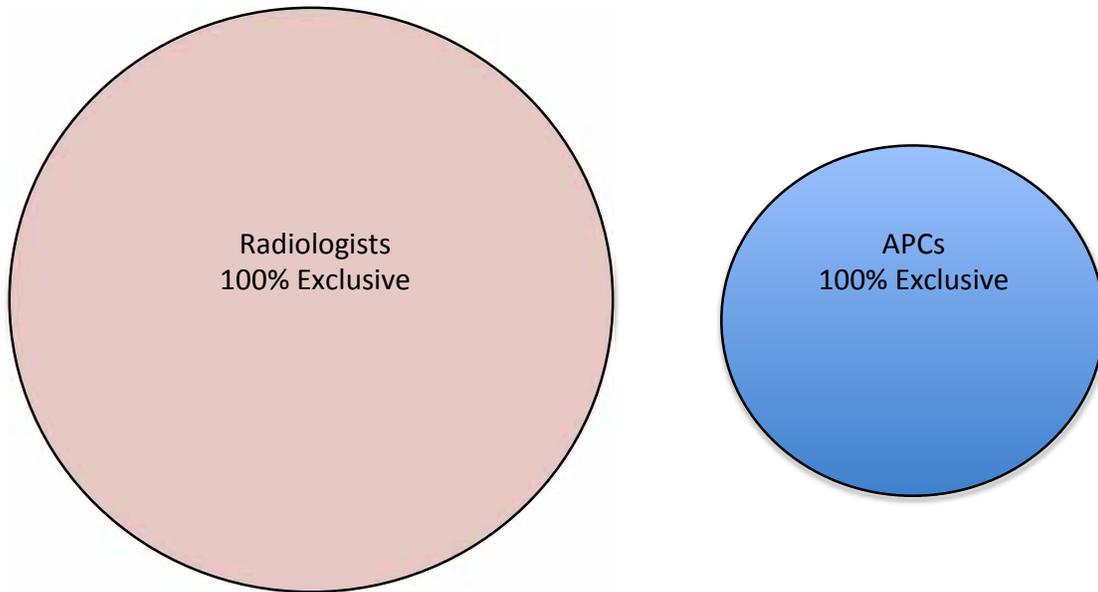
Urology Exhibit: L



- This graph shows the average number of WRVUs earned per procedure.
- APCs earn a higher number of WRVUs/Consult (0.97 for MDs compared to 1.44 for APCs).
- MDs earn a much higher WRVU/procedure (2.8 for MDs and 0.17 for APCs).

Radiology Exhibits:

Radiology Exhibit: A

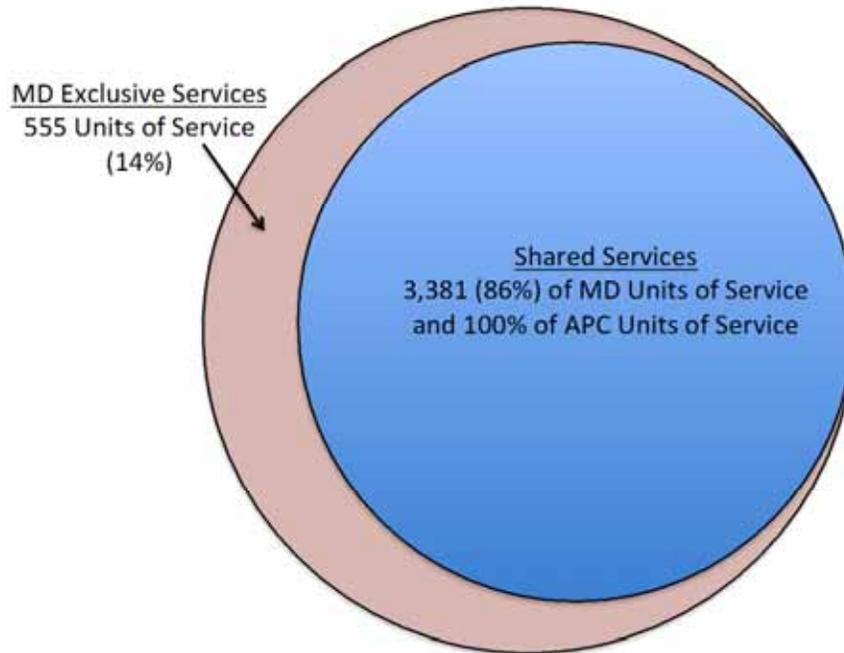


- The size of the spheres indicates the relative number of units of service performed by the physicians and the APCs.
- Imaging radiologists and APCs share no work.
- Although APCs can't share work with imaging radiologists, they can share work with interventional radiologists. This was not analyzed as part of this study.

Note: All other graphs and diagrams could not be created for the radiology specialty due to both inadequate data and the nature of the specialty. Additionally, the APCs in this practice were used in conjunction with the vascular surgeons and interventional radiologists and not the imaging radiologists.

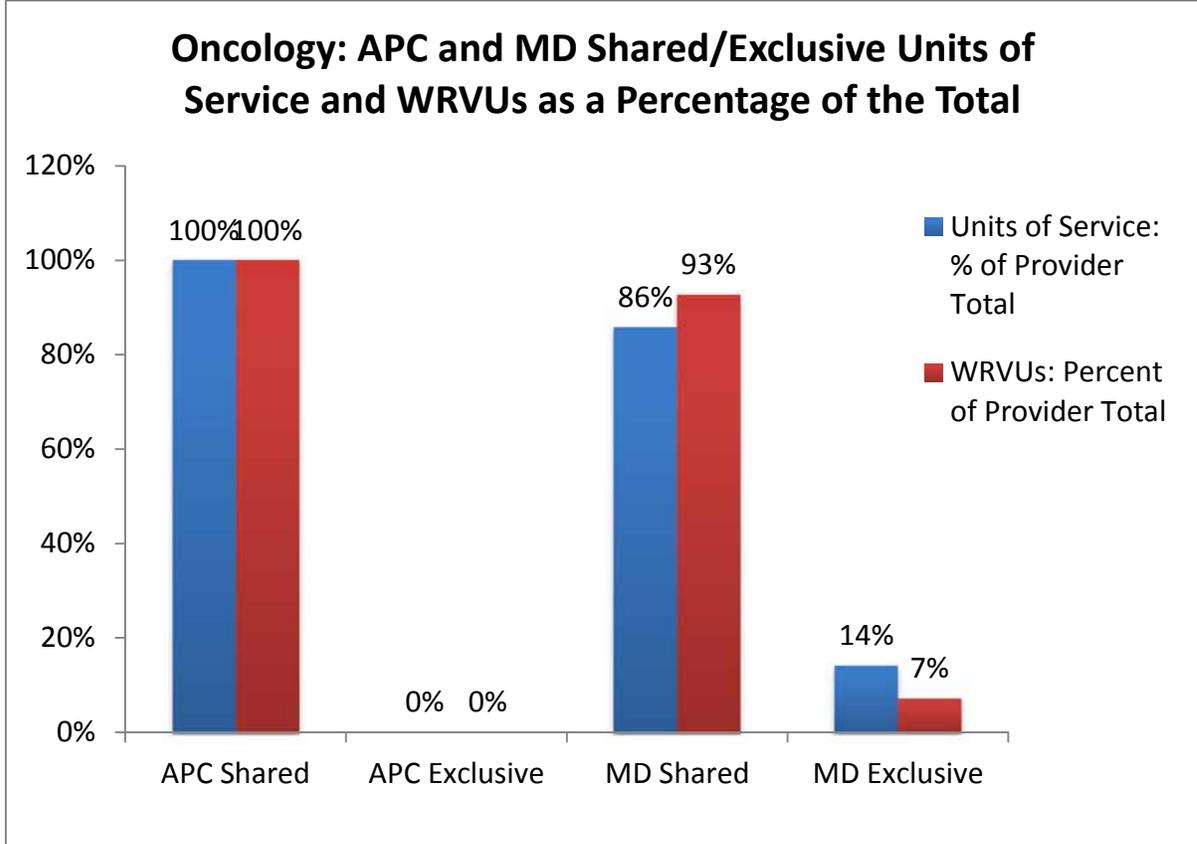
Oncology Exhibits:

Oncology Exhibit: A



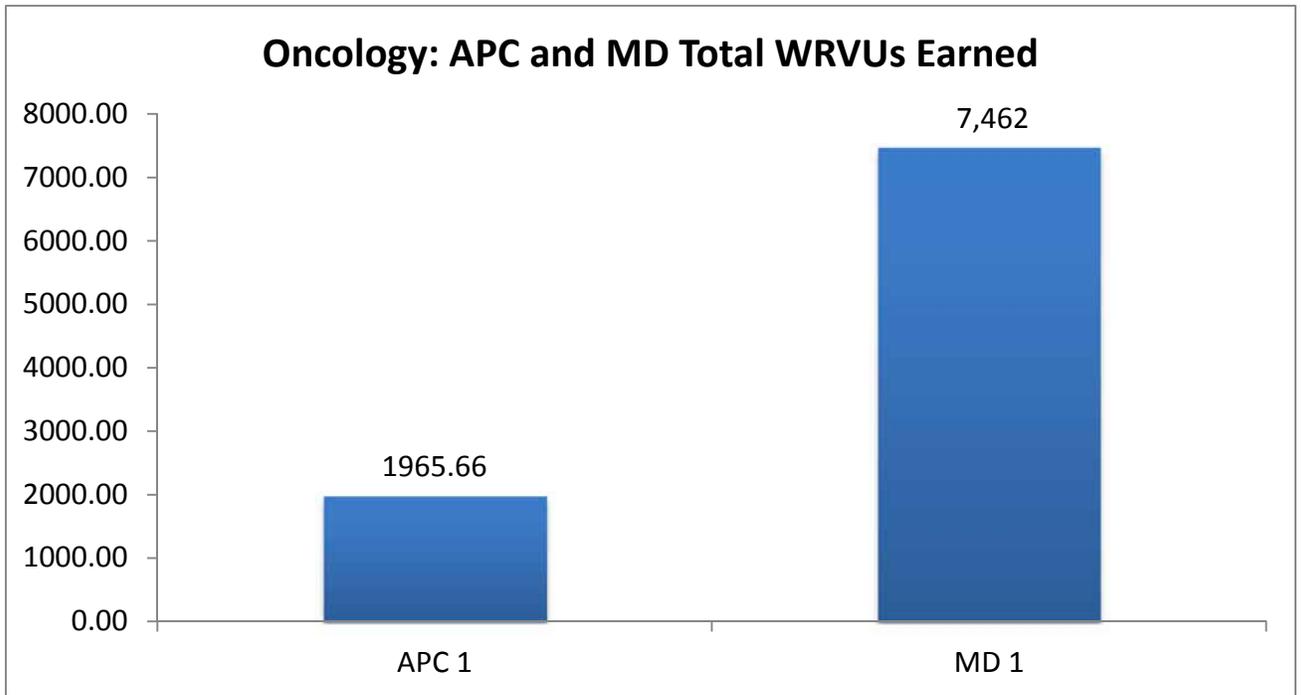
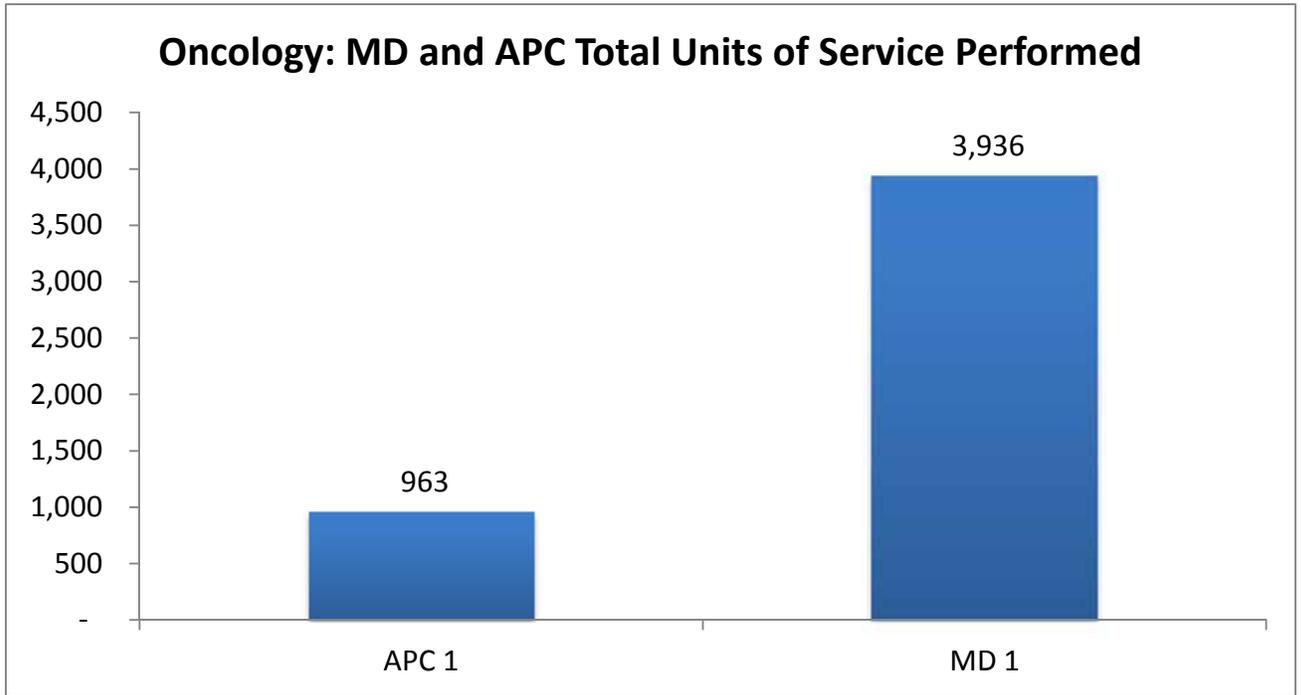
- The size of the spheres indicates the relative number of units of service performed by the physicians and the APCs.
- 100% of APC production is shared. Physicians perform all work that APCs perform.
- Vast majority of Physician work (86%) could be performed by an APC.

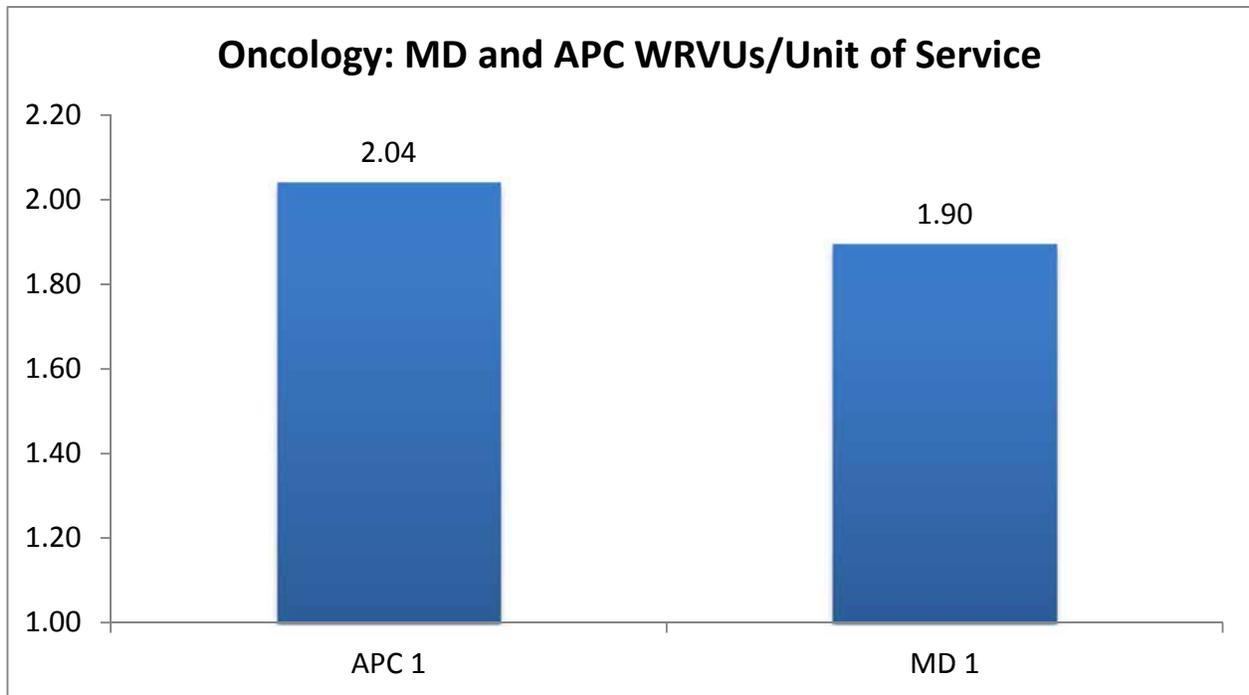
Oncology Exhibit: B



- This graph shows that 100% of all APC activity, both in the form of units of service and WRVUs, is derived from shared activity.
- Additionally, 86% of physician units of service and 93% of physician WRVUs are derived from shared activity.
- This shows that, in this oncology practice, the vast majority of the work can and is performed by both physicians and APCs.

Oncology Exhibit: C

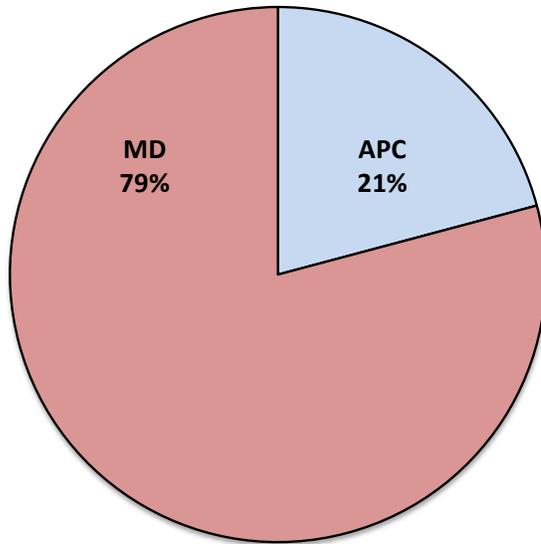




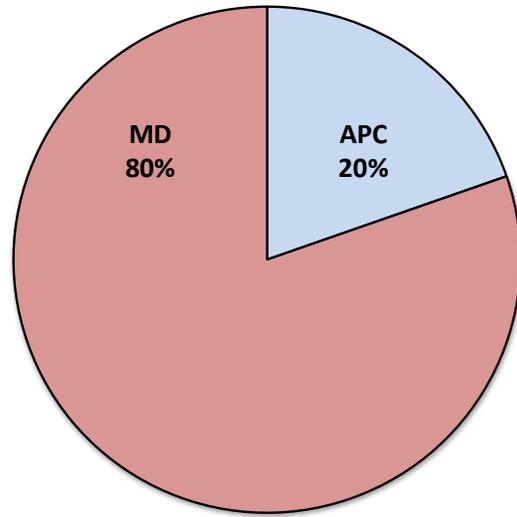
- The participating oncology practice was only able to supply data regarding one physician and one APC. These providers work exclusively with one another and are representative of how the practice as a whole operates.
- The physician in this practice performs many more units of service and earns many more WRVUs than the APC (see the first and second of the three graphs). However, the APC earns 0.14 WRVUs per unit of service more than the physician.

Oncology Exhibit: D

Oncology: APC and MD Percent of Total Production: Units of Service

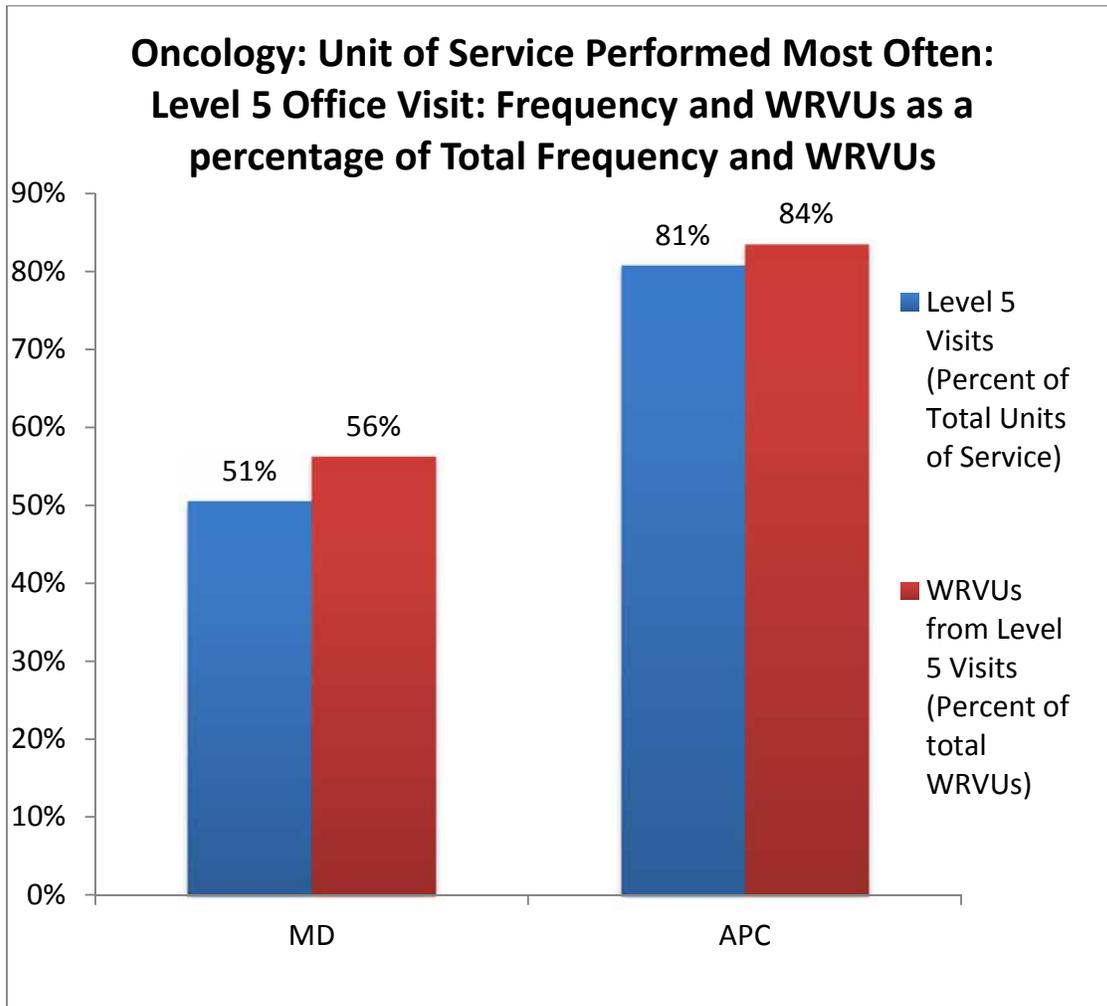


Oncology: APC and MD Percent of Total Production: WRVUs



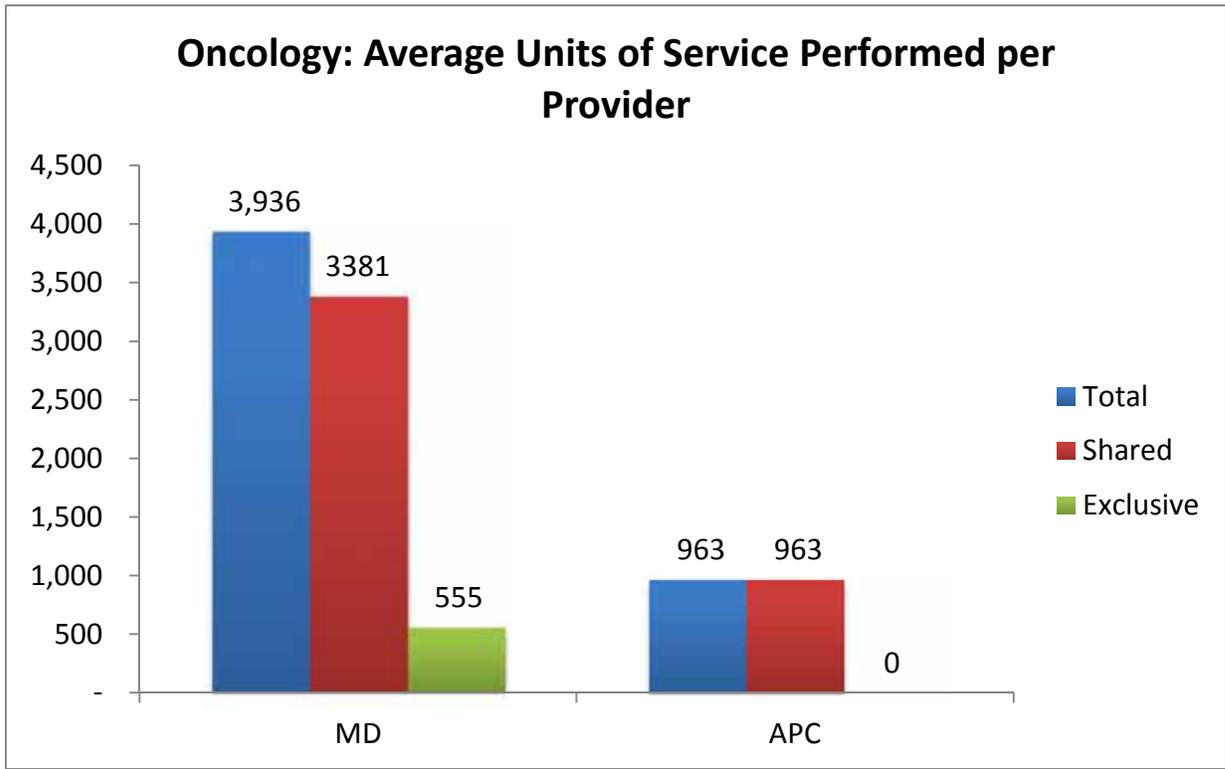
- These pie charts show that although the practice has a 1:1 ratio of MDs to APCs, the work is not split 50%-50%. The physician bills for 80% of the units of service performed and earns 80% of the total WRVUs.

Oncology Exhibit: E



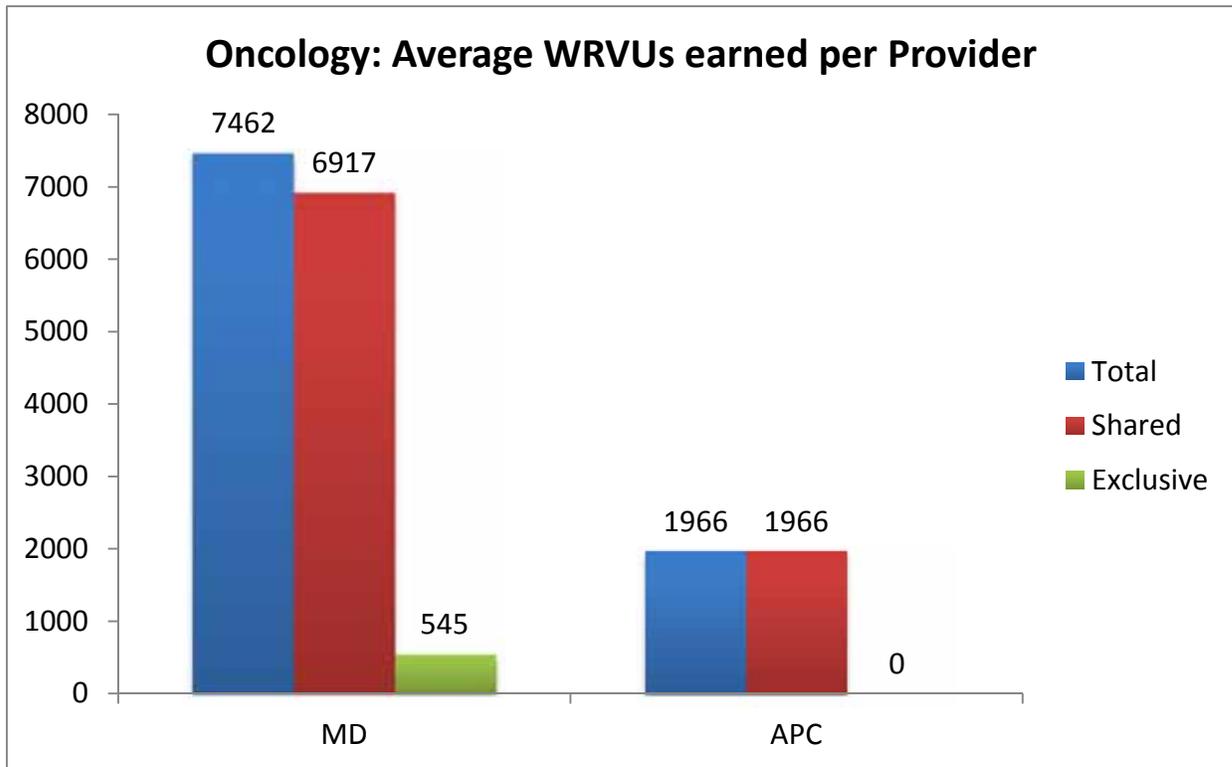
- For both APC and MD:
 - Majority of units of service coming from a single unit of service: Level 5 Office Visits
 - Majority of WRVUs from Level 5 Office Visits
- The APC could take over 50% of the MD's work by simply performing all Level 5 office visits.

Oncology Exhibit: F



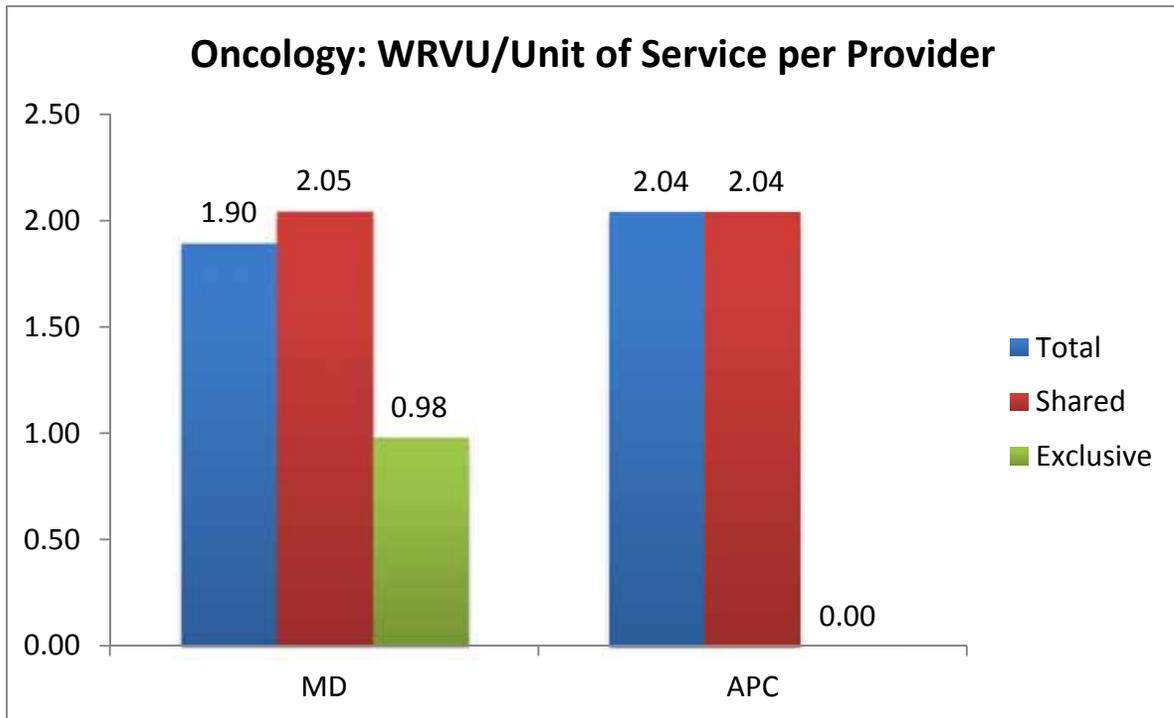
- This graphs shows the average number of units of service performed per provider.
- The APC performed fewer units of service in all three categories.

Oncology Exhibit: G



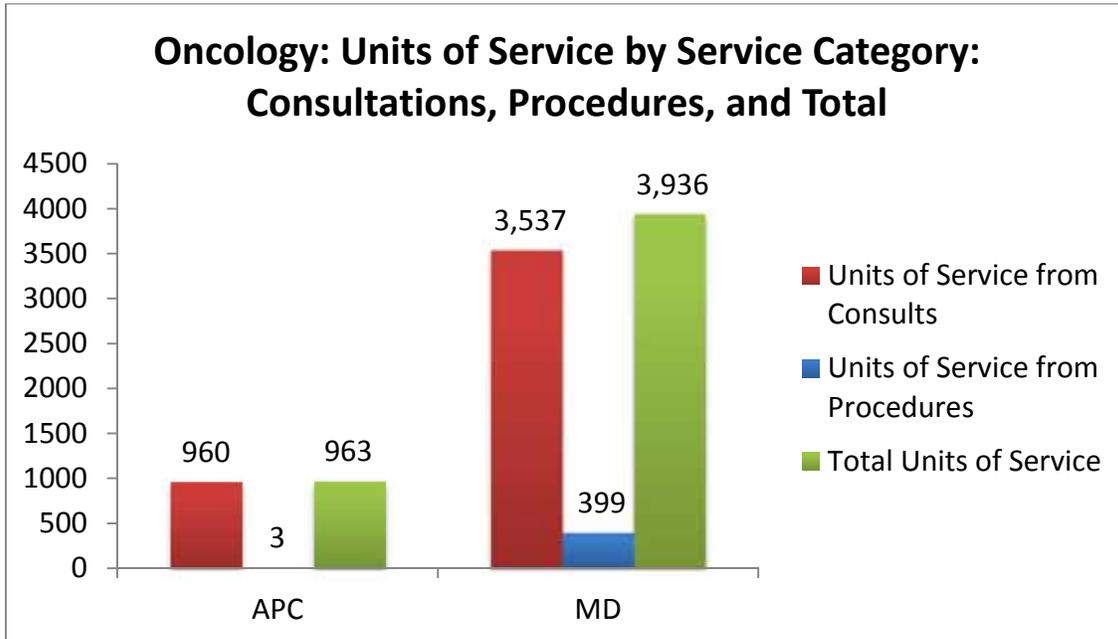
- This graph shows the average number of WRVUs earned per provider.
- The MD earned many more WRVUs than the APC.

Oncology Exhibit: H



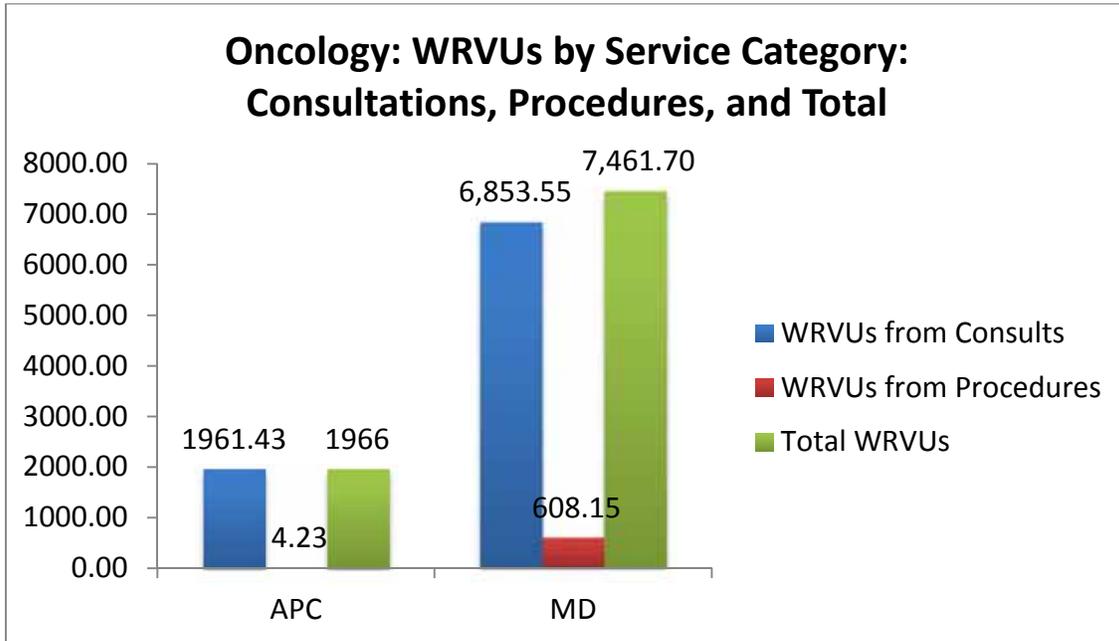
- This graph shows the number of WRVUs/unit of service earned by the MD and APC.
- The MD earned slightly less WRVU/unit of service (1.90) overall as compared to the APC (2.04).
- The MD earned slightly more WRVU/unit of service (2.05) in the shared category as compared to the APC (2.04).
- The APC did not perform any “exclusive” units of service.

Oncology Exhibit: I



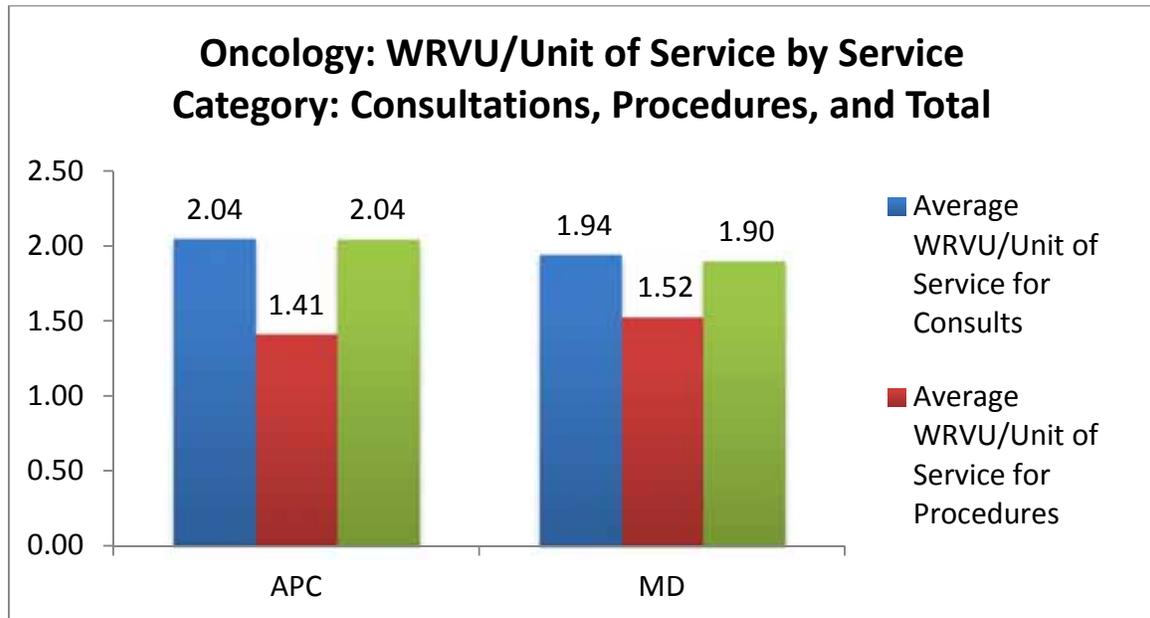
- This graph shows the number of units of service performed by service category: consultations, procedures, and total.
- The MD out-produced the APC in this practice in every category.

Oncology Exhibit: J



- This graph shows the number of WRVUs earned by service category.
- Again, the MD out-earned the APC in terms of WRVUs earned in every service category.

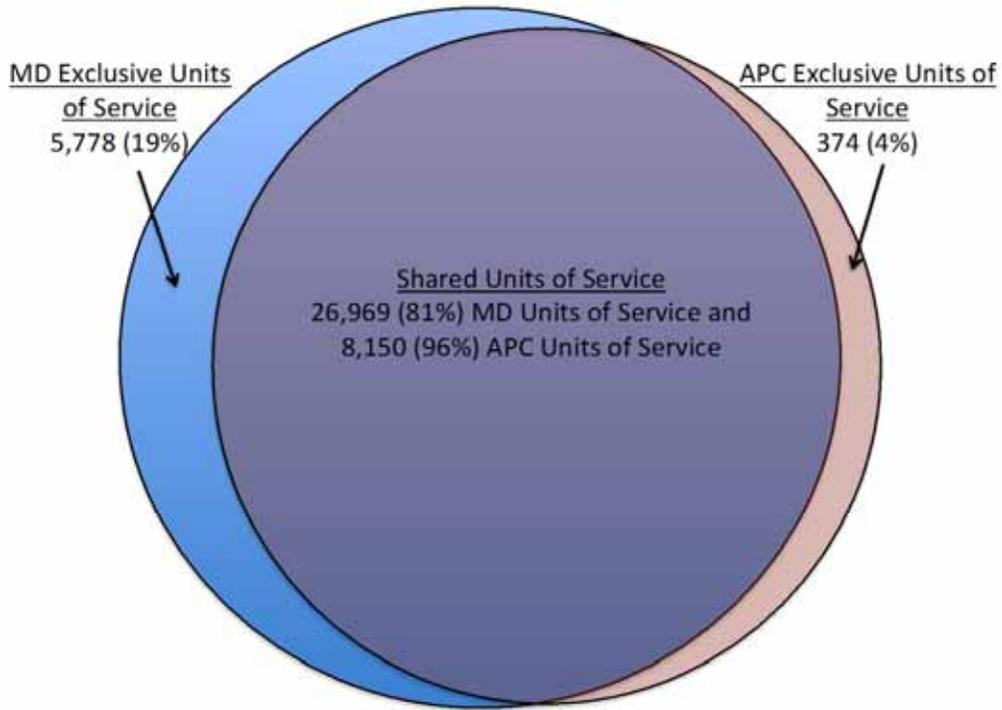
Oncology Exhibit: K



- This graph shows the average number of WRVUs/unit of service earned by service category: consultations, procedures, and total.
- The APC earned slightly more WRVUs/unit of service for consultations and total whereas the MD earned slightly more for procedures.

Orthopedics Exhibits:

Orthopedics Exhibit: A



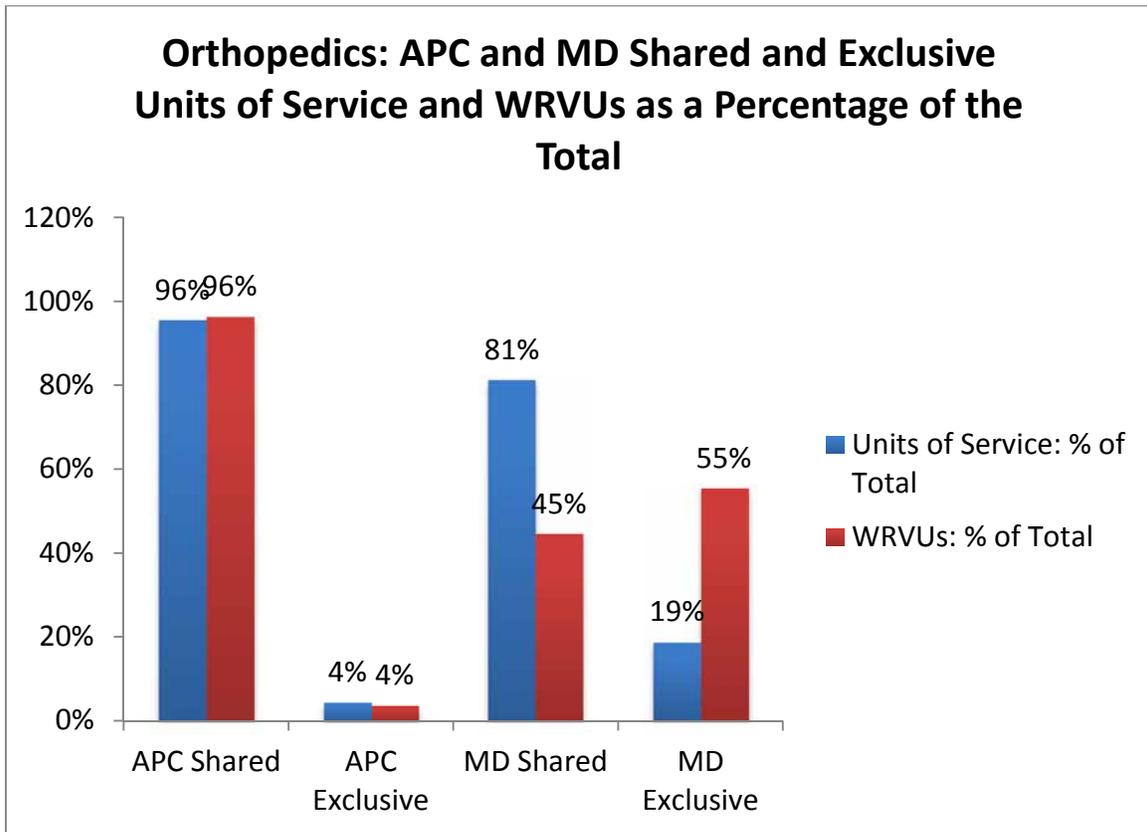
- NOTE: Whereas in the other “intersecting spheres” diagrams the relative sizes of the spheres are meant to correlate with the relative number of units of service produced, that was not possible due to how vastly different the unit of service production is for MDs and APCs in this practice.
- This diagram indicates that a high proportion of activity (in the form of units of service) is shared.

- Don't be misled by the small proportion of exclusive units of service for the MDs.

Although around 20% of units of service were performed in the OR, 67% of total

WRVUs were earned in the OR.

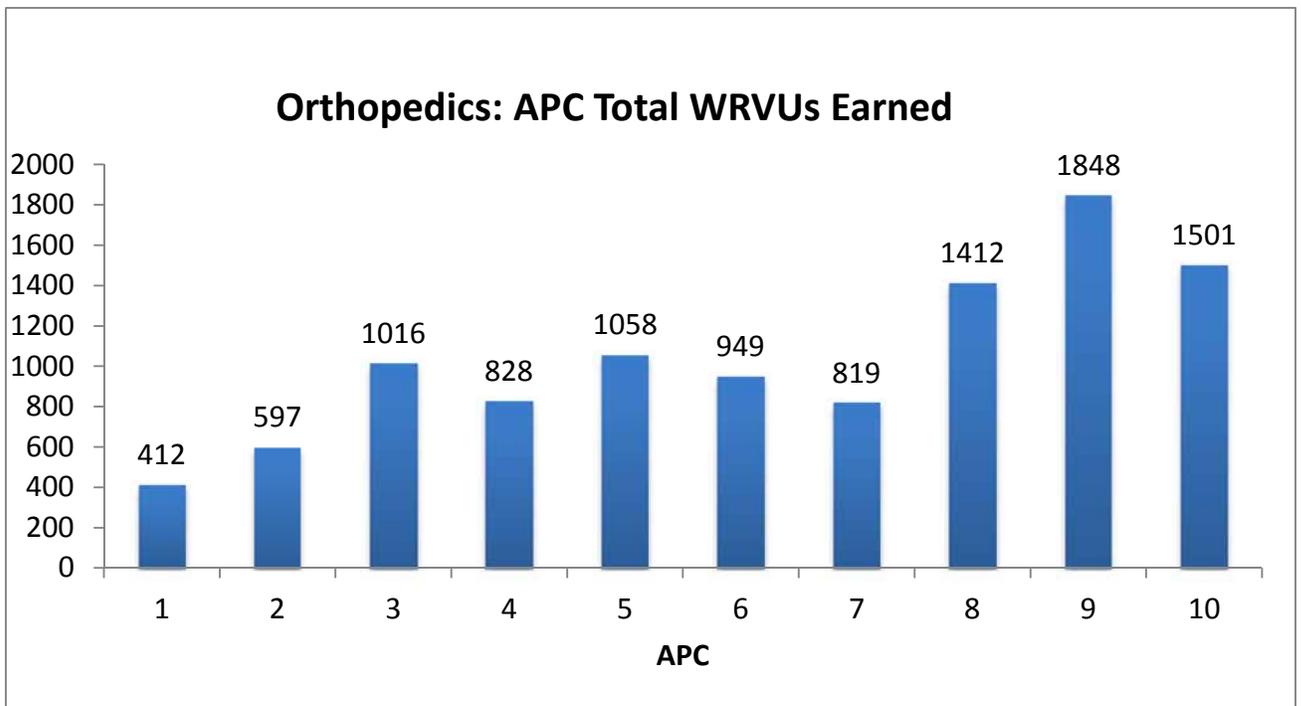
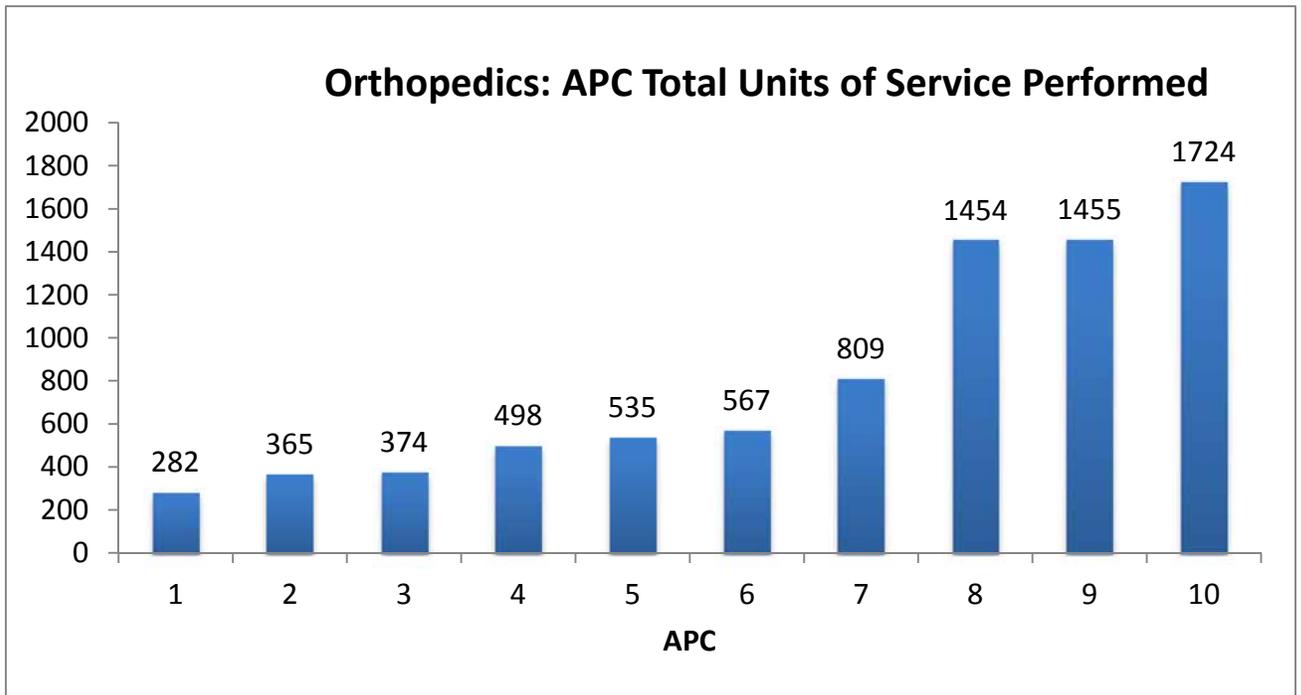
Orthopedics Exhibit: B

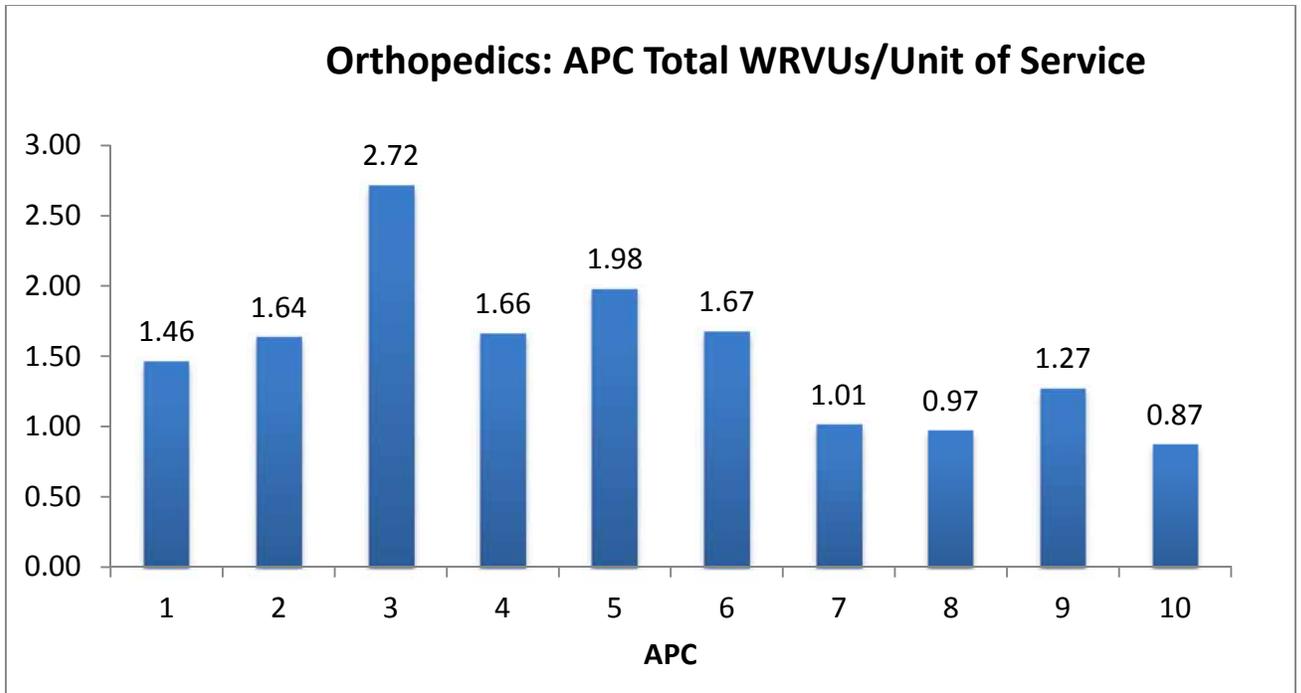


- This graph shows the number of MD and APC shared and exclusive units of service and WRVUs as a percentage of the total.
- The percentage of APC WRVUs earned from shared or exclusive units of service directly correlates to the percentage of APC shared or exclusive units of service produced.
- Conversely, the percentage of WRVUs from exclusive units of service does not correlate to the ratio of shared vs. exclusive units of service for physicians.
 - This demonstrates that the WRVUs earned from the exclusive units of service is much greater than the shared units of service.

- Notice, the diagram titled “Orthopedics: Average WRVU/unit of service” demonstrates that the MDs earn a lot more WRVUs for the procedural work than for the consultative work. This graph demonstrates that same finding in a different way.

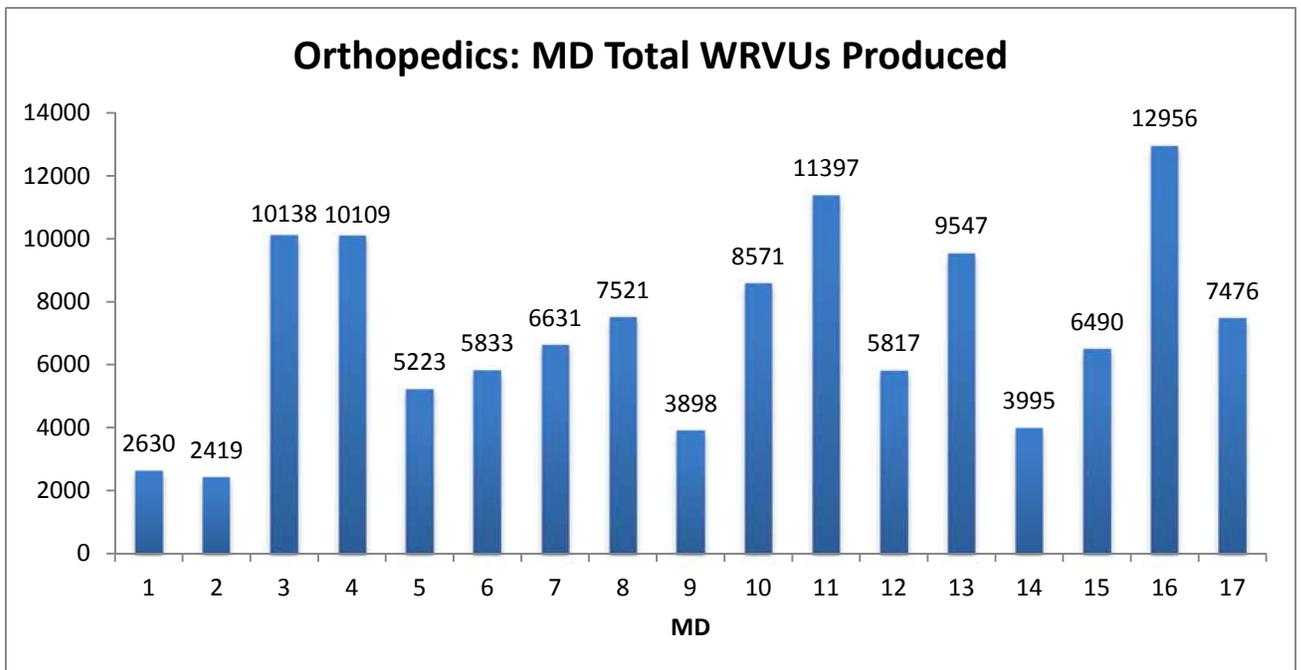
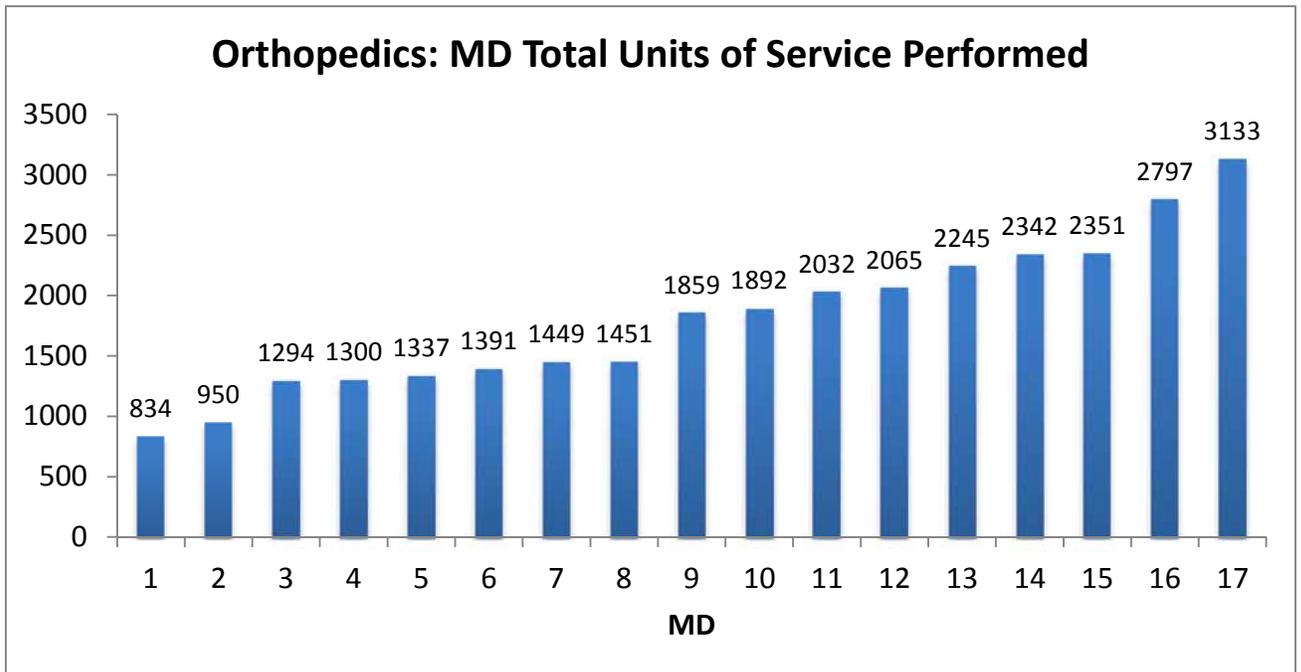
Orthopedics Exhibit: C

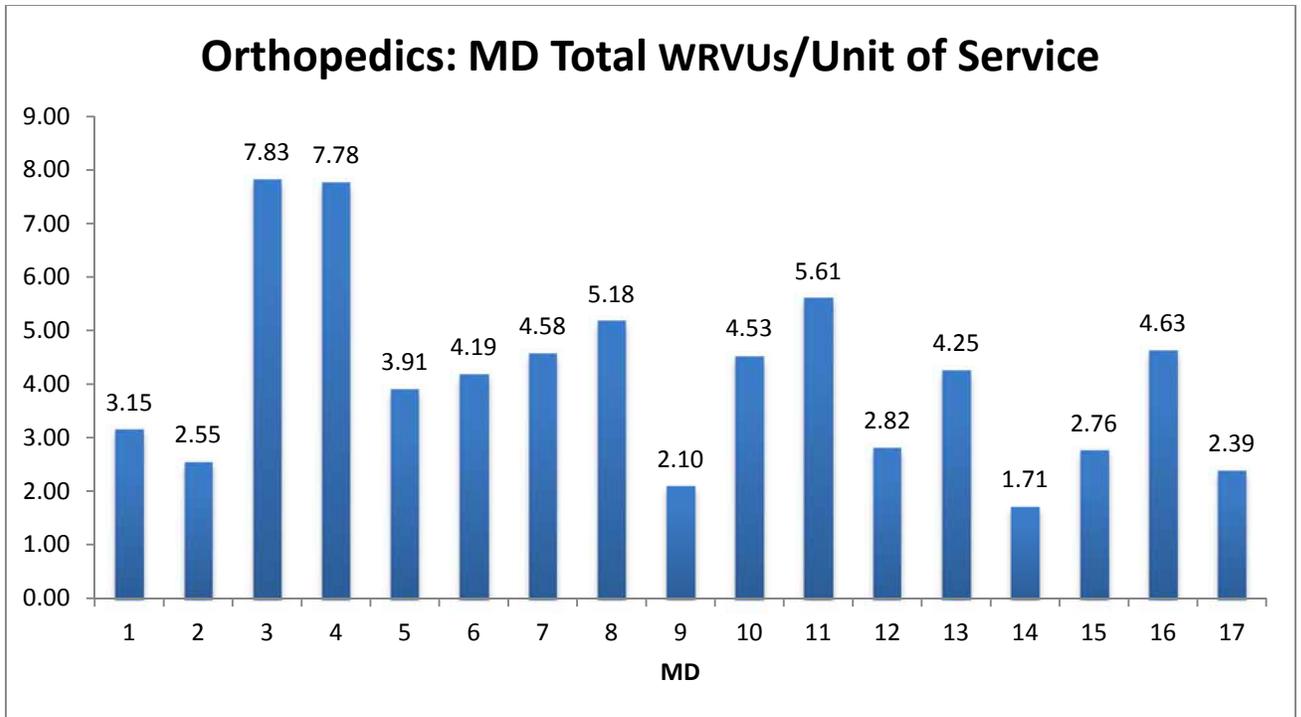




- APC #3 has a low number of units of service, an average level of total WRVU production, and the highest WRVU/unit of service.
- The highest producers (APCs #8-10) have the highest number of WRVUs and the lowest WRVU/unit of service.
- Three APCs were removed from the data because they produced at less than 175 WRVUs.

Orthopedics Exhibit: D

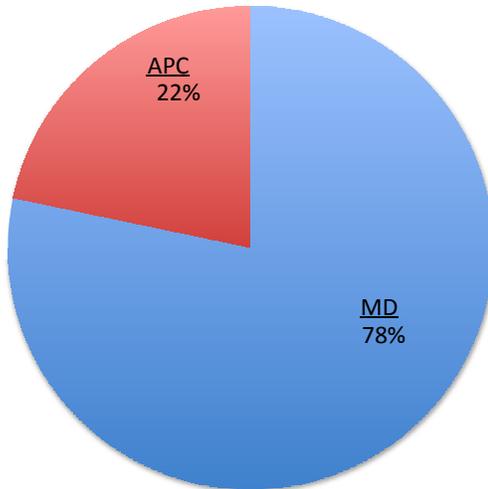




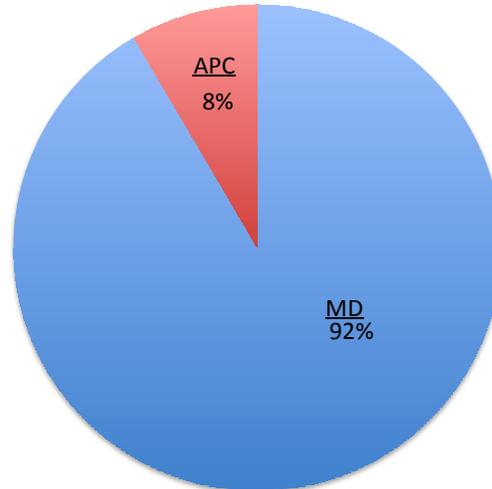
- There are few patterns in the previous three graphs.
- There is high variation in this data.
- One physician was removed from the data because s/he produced at a very low level (25 WRVUs).

Orthopedics Exhibit: E

**Orthopedics: Percent of Total
Production: Units of Service**

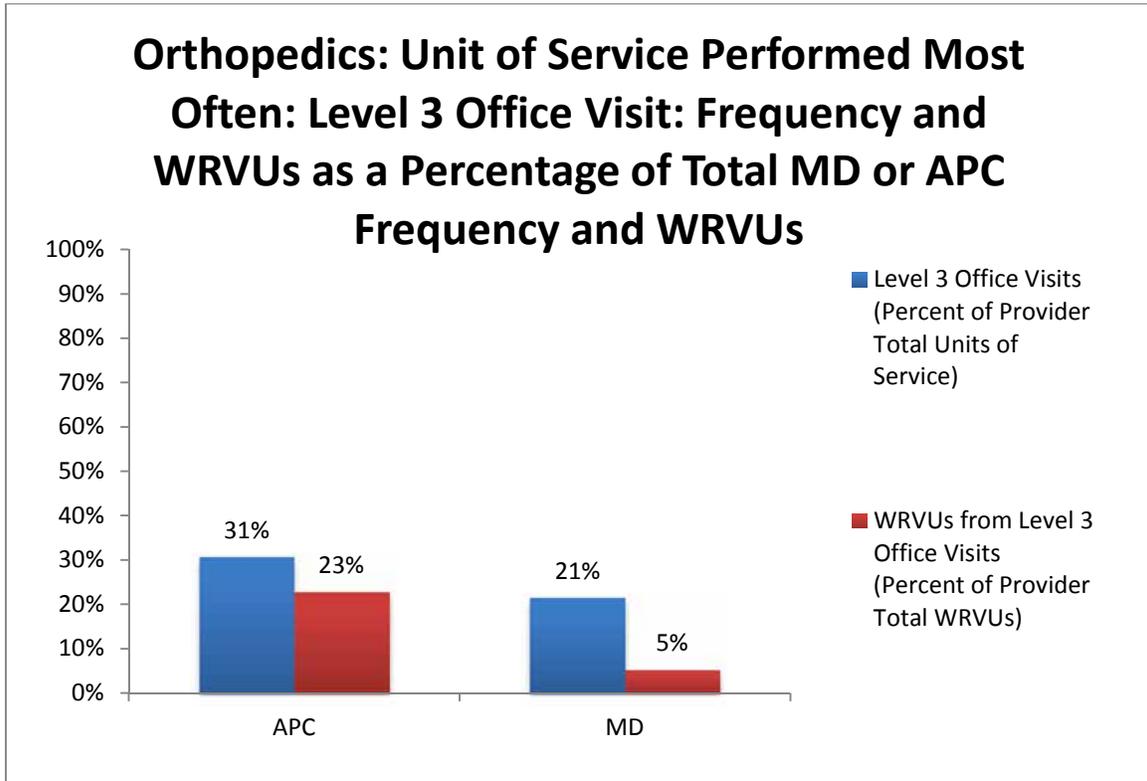


**Orthopedics: Percent of Total
Production: WRVUs**



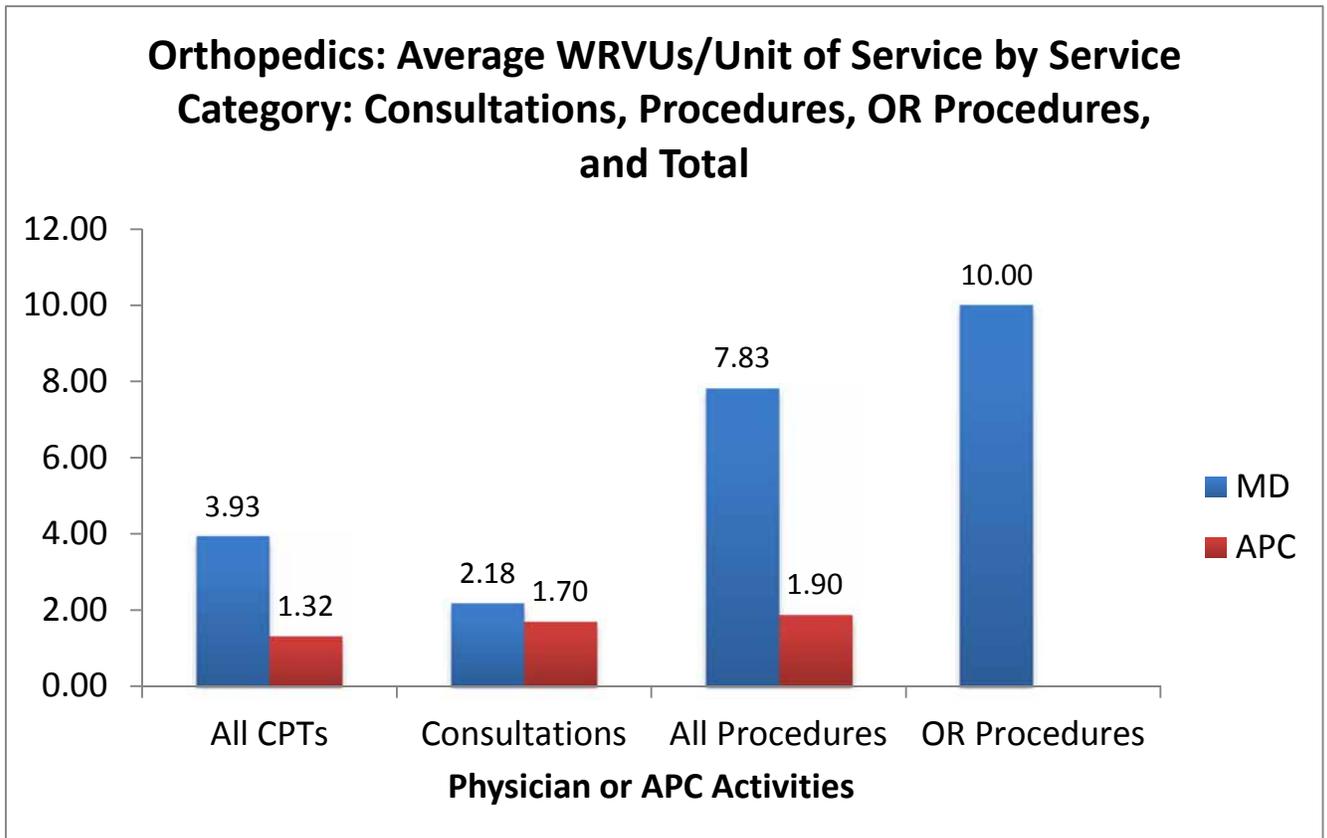
- These pie graphs show that although the MDs only perform 78% of units of service, they earn 92% of WRVUs.
 - Again, this is due to the fact that the MD units of service (both exclusive and shared) are worth more than APC units of service.

Orthopedics Exhibit: F



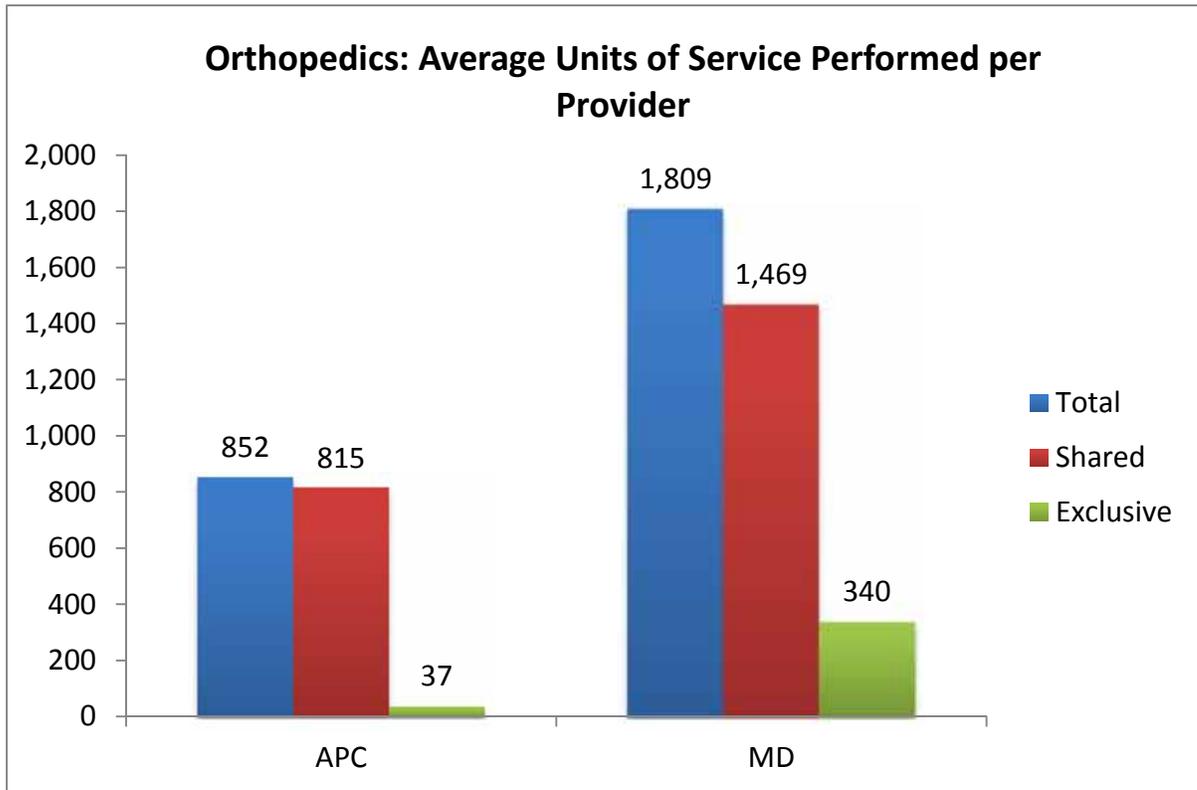
- This graph shows the percent of provider total WRVUs and units of service from the unit of service performed most often, level 3 office visits.
- Around one third of APC units of service and one fifth of MD units of service come from these visits.
- Around one fifth of APC WRVUs come from these visits but only one twentieth of MD WRVUs are derived from level 3 office visits.

Orthopedics Exhibit: G



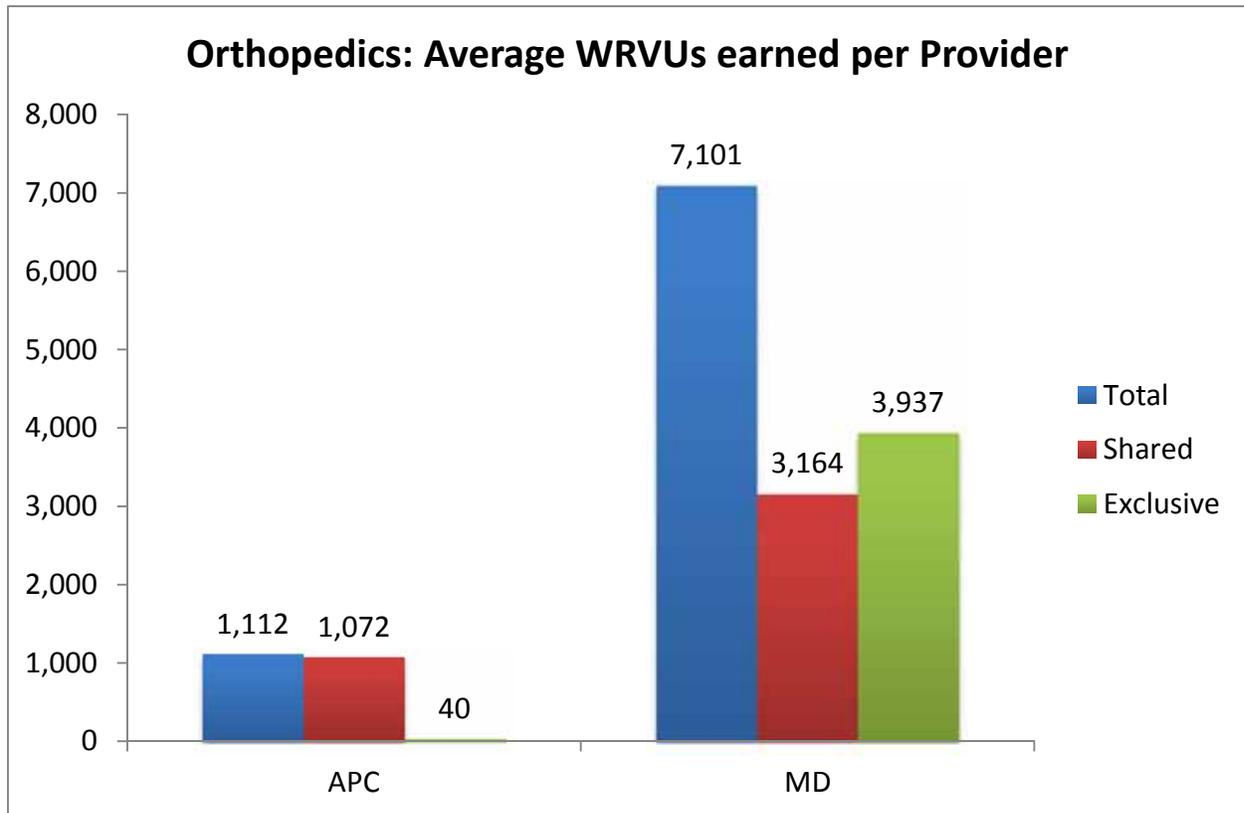
- High variation in WRVUs/unit of service between different kinds of care provided by physicians.
 - Procedural work earns many more WRVUs for physicians.
- Low variation in WRVUs/unit of service between different kinds of care provided by APCs.
- Much higher levels of WRVUs/unit of service earned for physicians than for APCs.

Orthopedics Exhibit: H



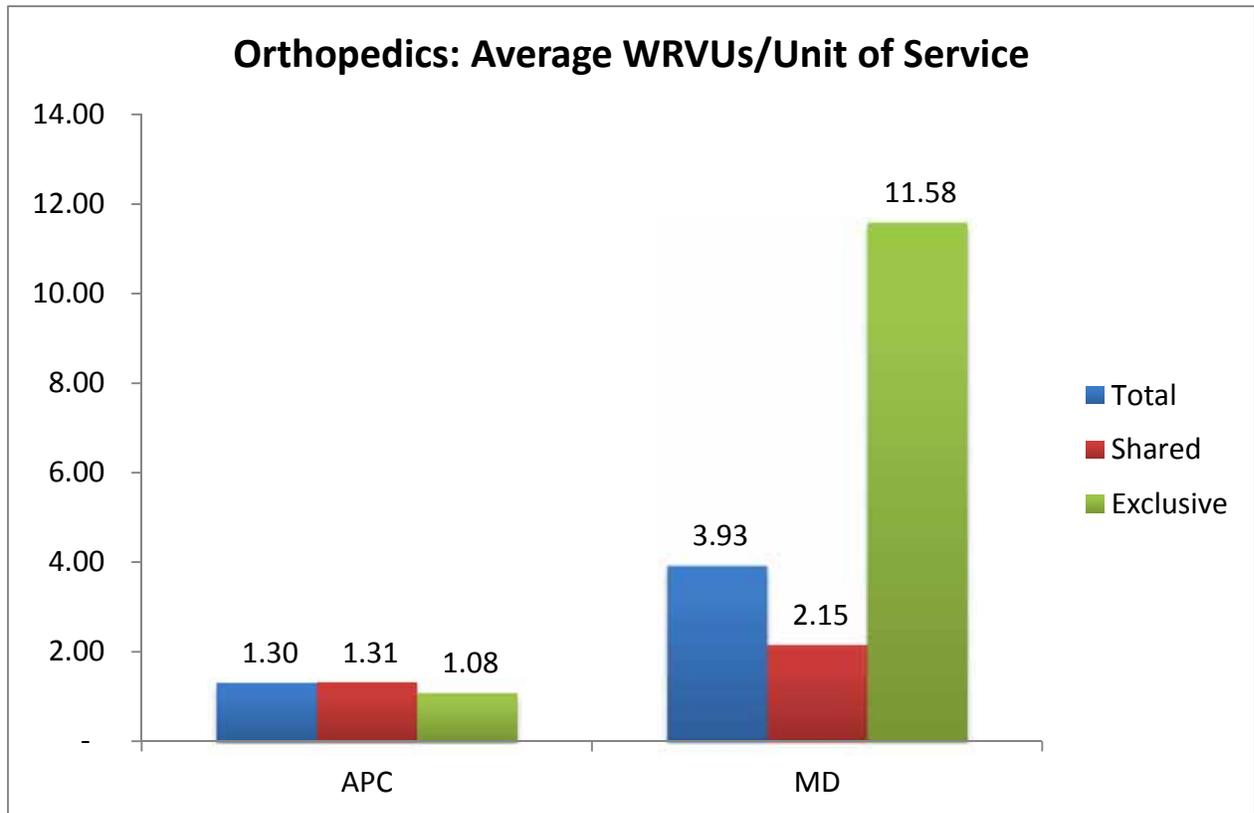
- This graph shows the average number of units of service performed per provider.
- Physicians perform much more work than APCs in this practice.

Orthopedics Exhibit: I



- This graph shows the average number of WRVUs earned per provider.
- Physicians earn a lot more WRVUs than do APCs.

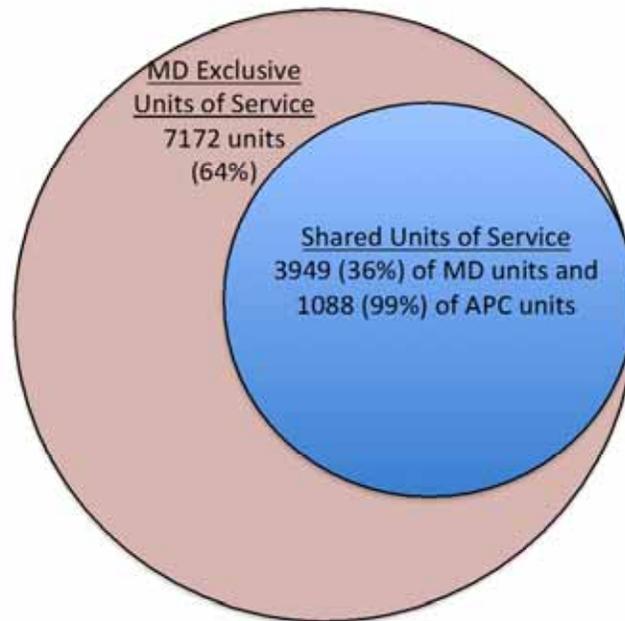
Orthopedics Exhibit: J



- This graph shows the average number of WRVUs/unit of service earned.
- Physicians again earn more WRVUs/unit of service than APCs in each category.

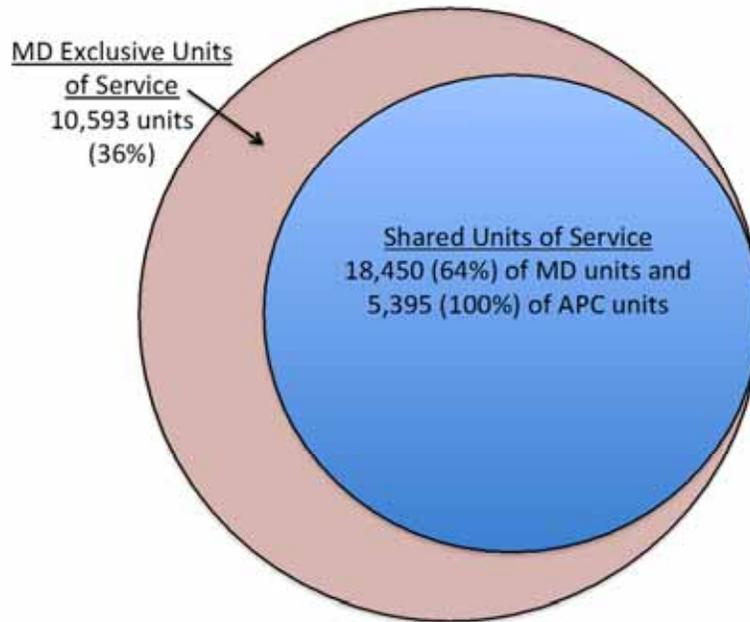
Cardiology Exhibits:

Cardiology Exhibit: A



- The size of the spheres indicates the relative number of units of service performed by the physicians and the APCs.
- This diagram is from the first cardiology practice observed as part of this study.
 - Nearly 100% of APC units of service are shared which means that any work performed by an APC during the observation period was also performed by a physician at some point during the same observation period.
 - 64% of physician work is exclusive to the physicians.

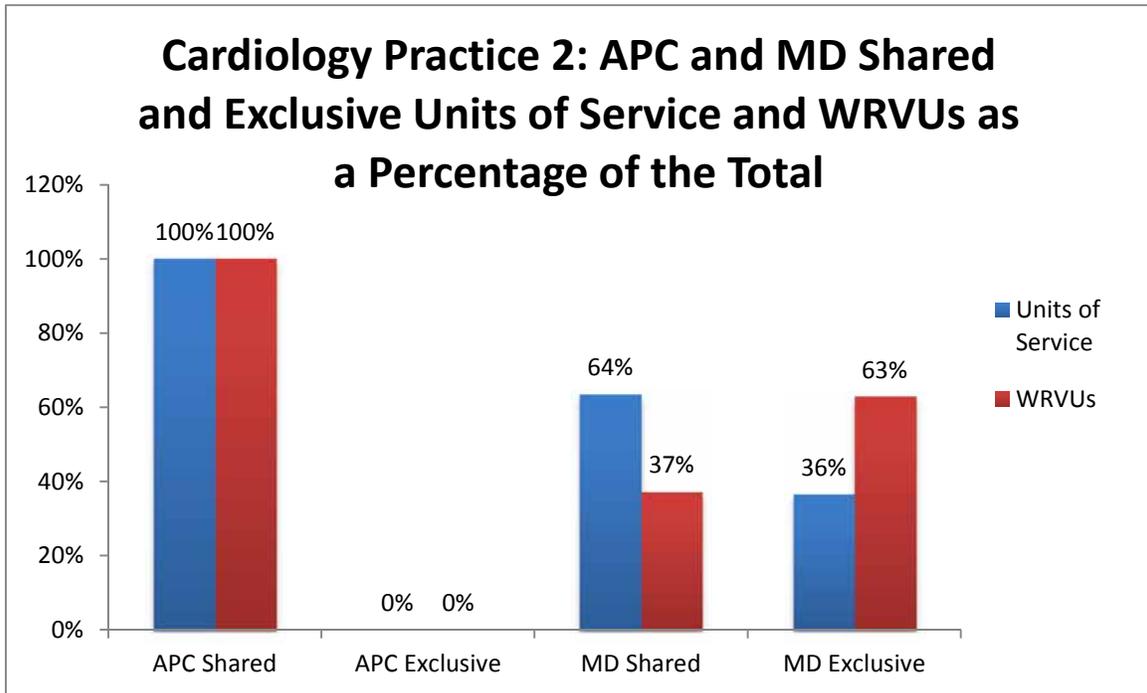
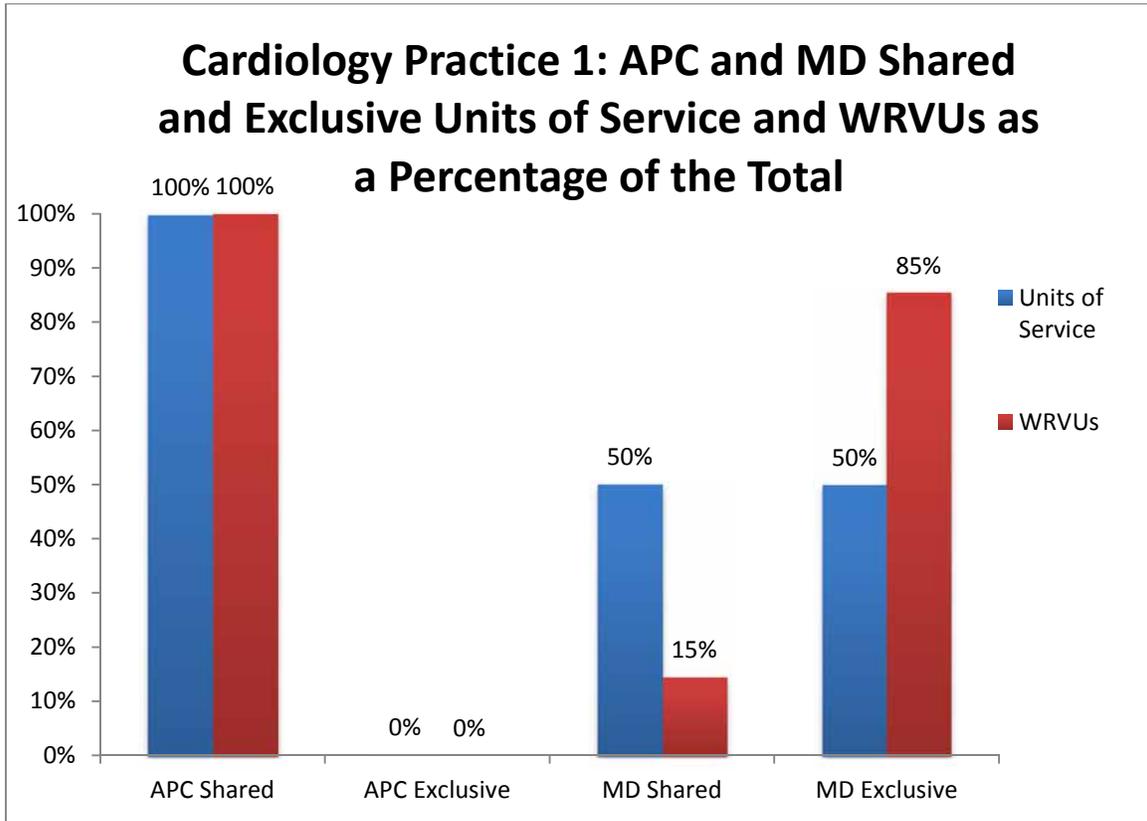
Cardiology Exhibit: B



- The size of the spheres indicates the relative number of units of service performed by the physicians and the APCs.
- This diagram is from the second cardiology practice observed as part of this study.
 - 100% of APC units of service are shared which means that any work performed by an APC during the observation period was also performed by a physician at some point during the same observation period.

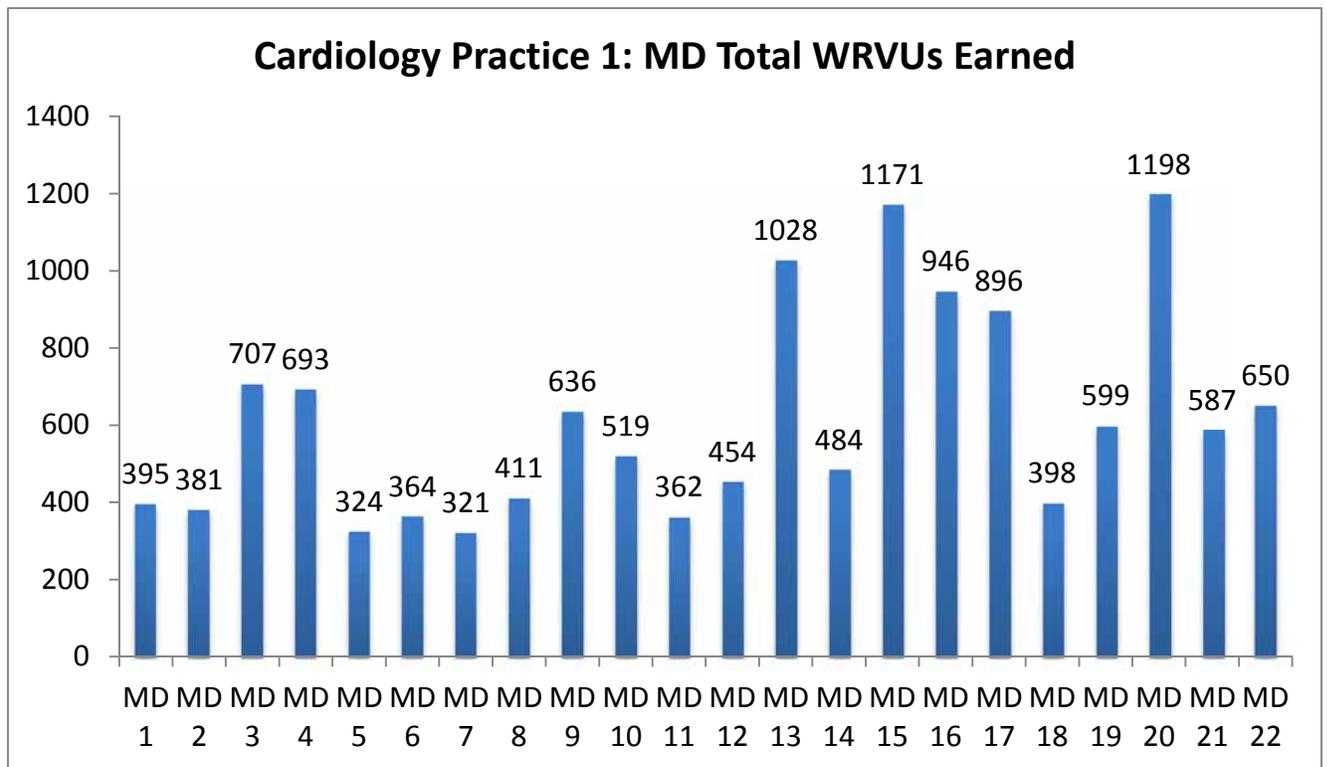
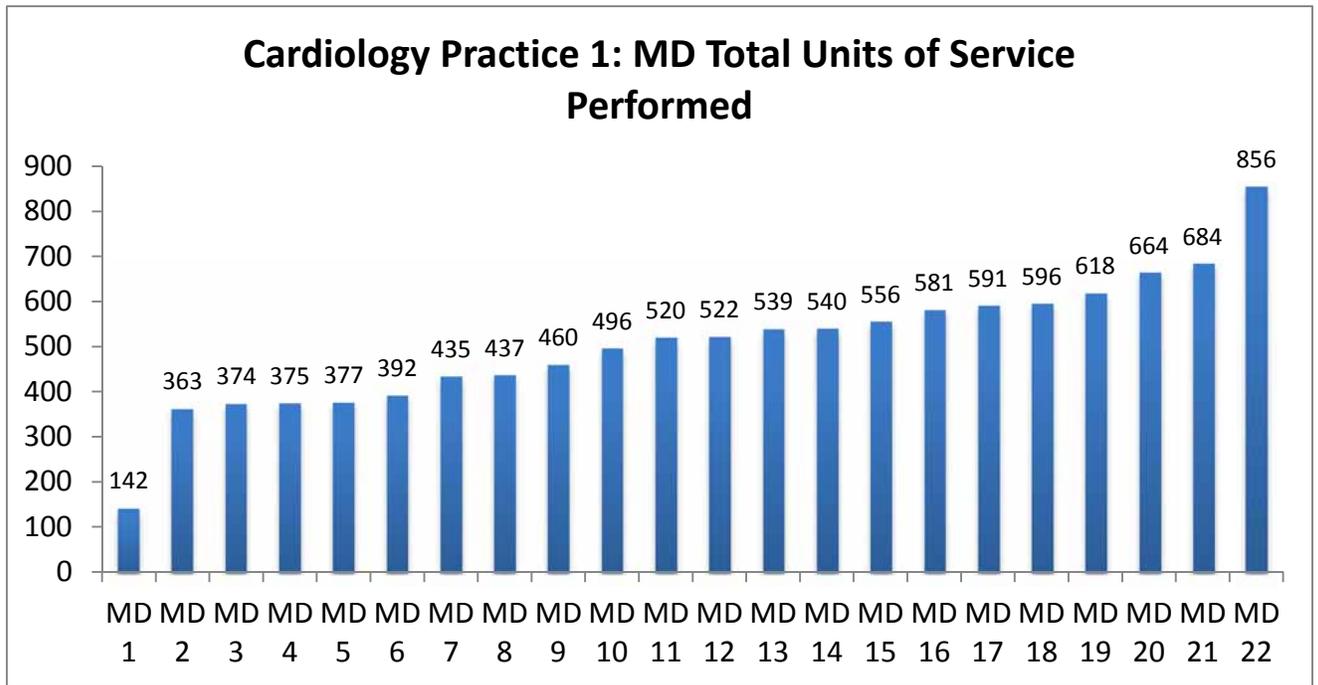
- 36% of physician work is exclusive which means that 36% of the total number of units of service performed by physicians are units of service that only physicians performed during the observation period.

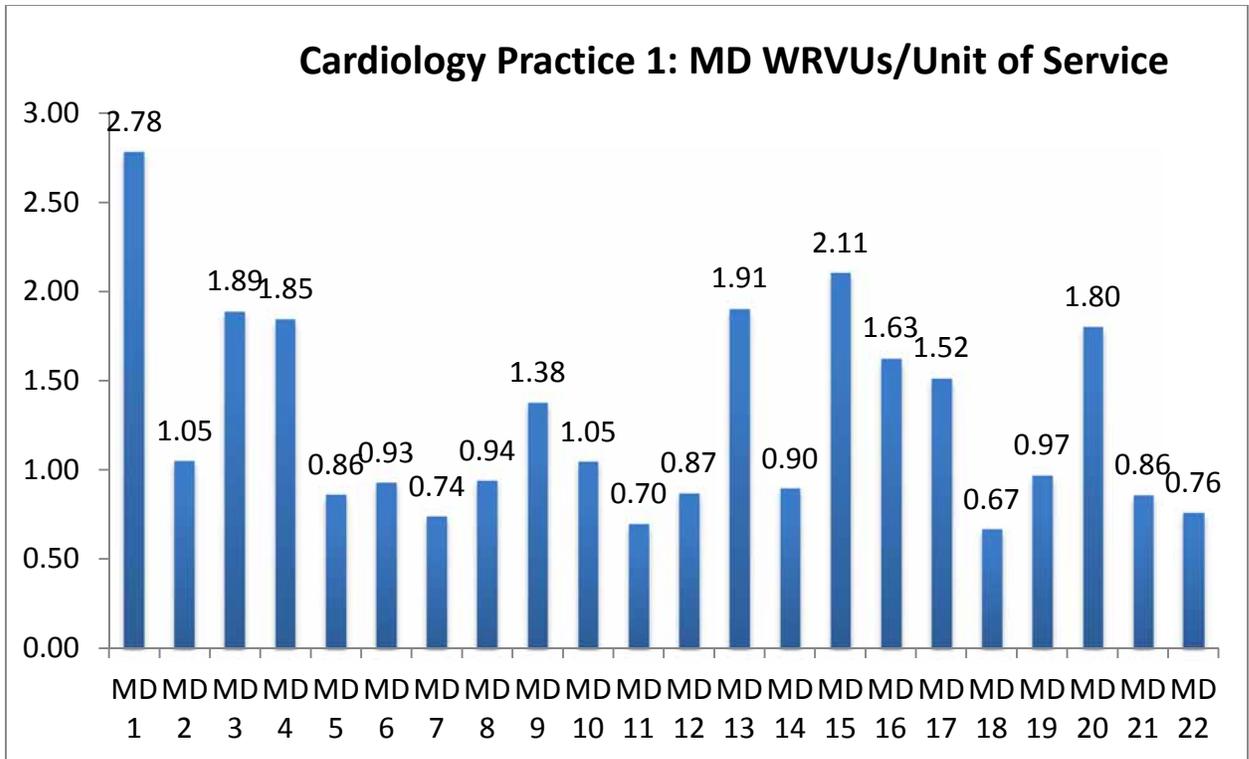
Cardiology Exhibit: C



- These graphs are from each cardiology practice observed as a part of this study.
 - Although 50% and 64% of the physicians' units of service are shared 85% and 63% of the physicians' WRVUs are from the exclusive units of service.
- This indicates that the WRVUs from exclusive units of service are much higher than the WRVUs from shared units of service.

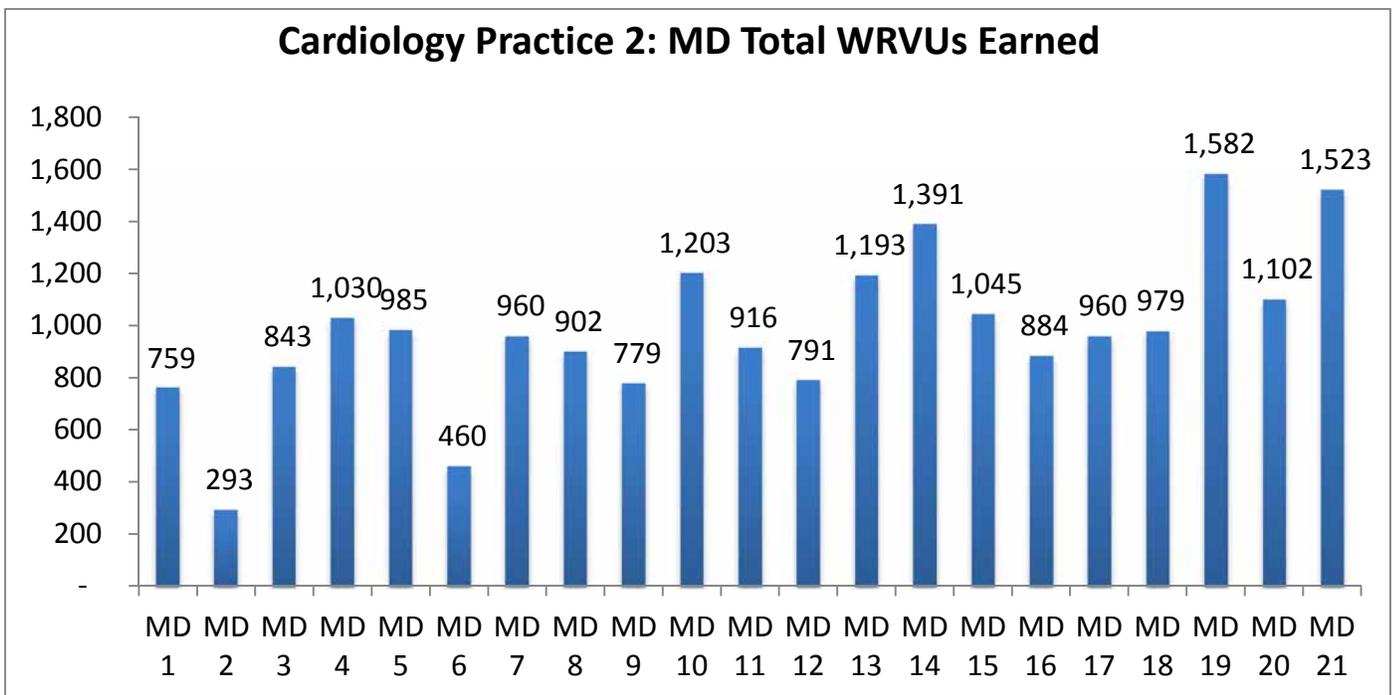
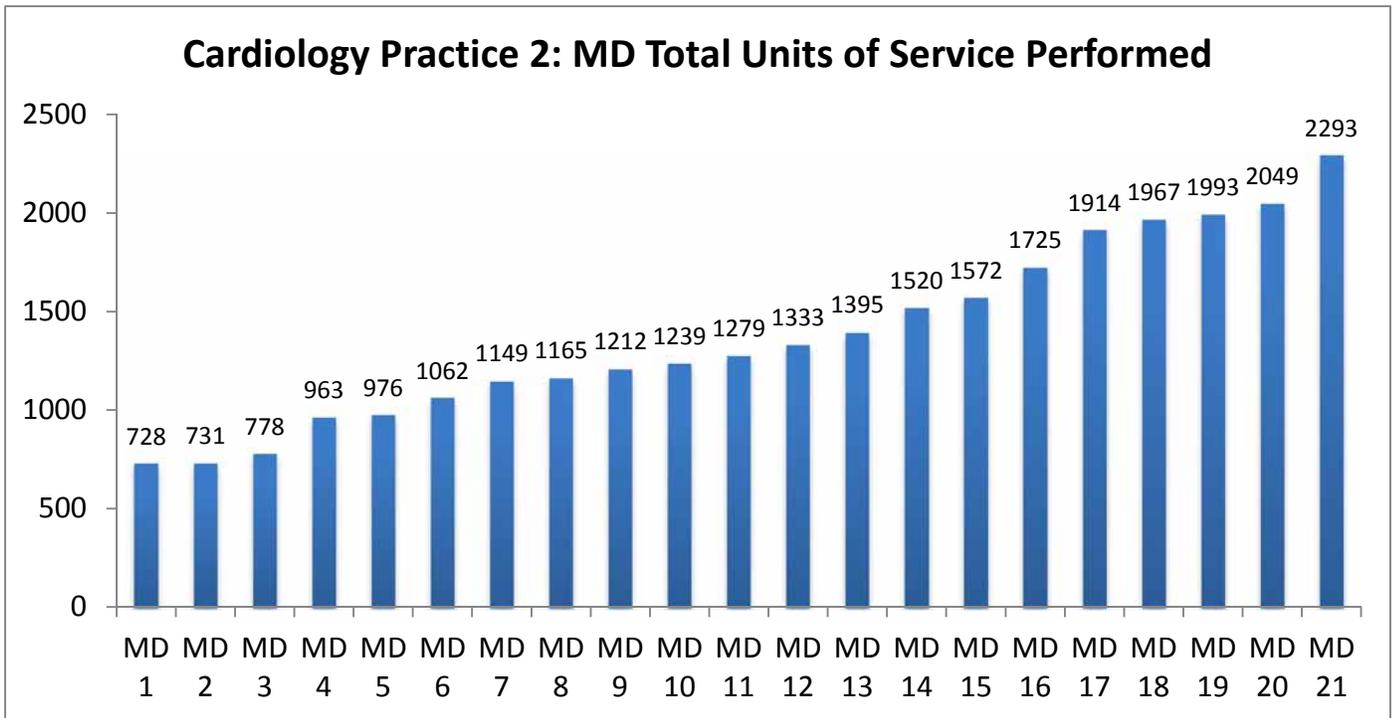
Cardiology Exhibit: D

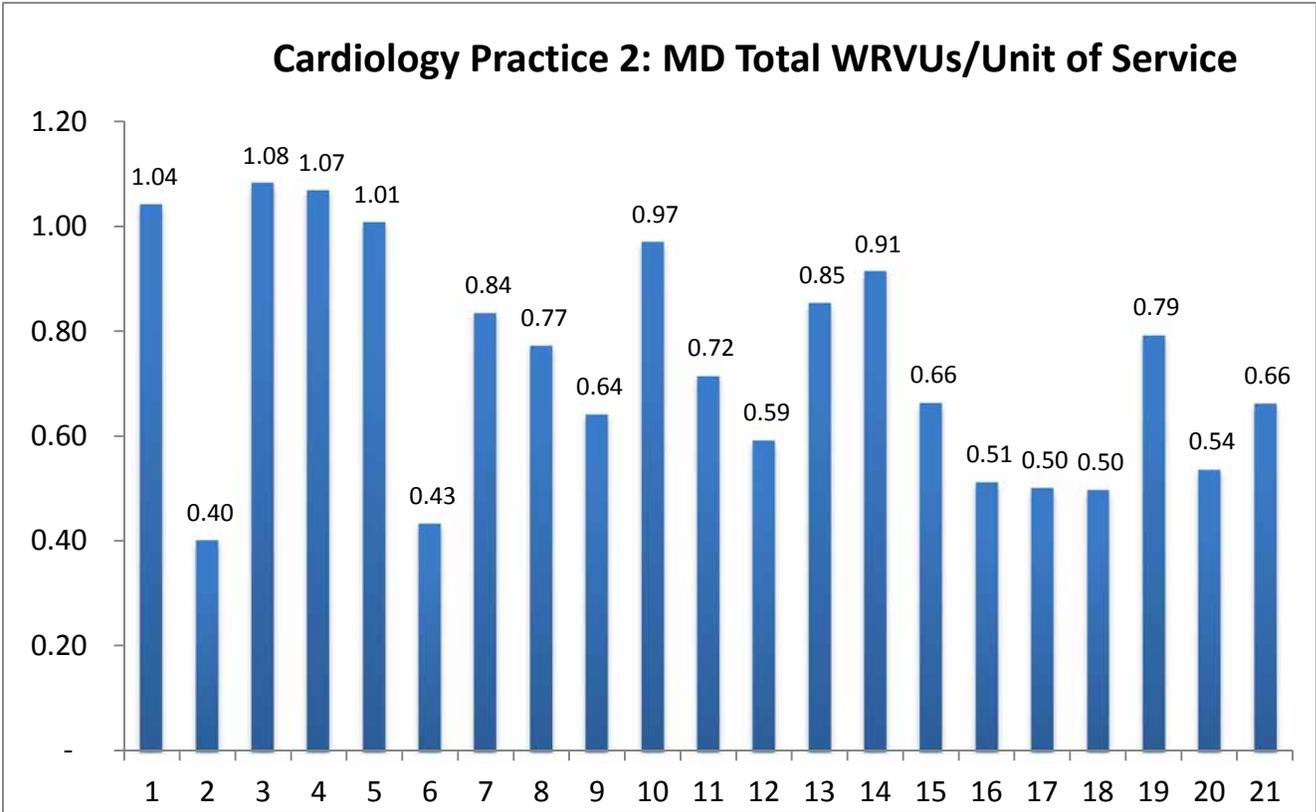




- These graphs show the number of units of service performed, WRVUs earned, and average WRVU/unit of service for MDs in cardiology practice 1.
- There is high variation among physicians in this practice in all three measures.

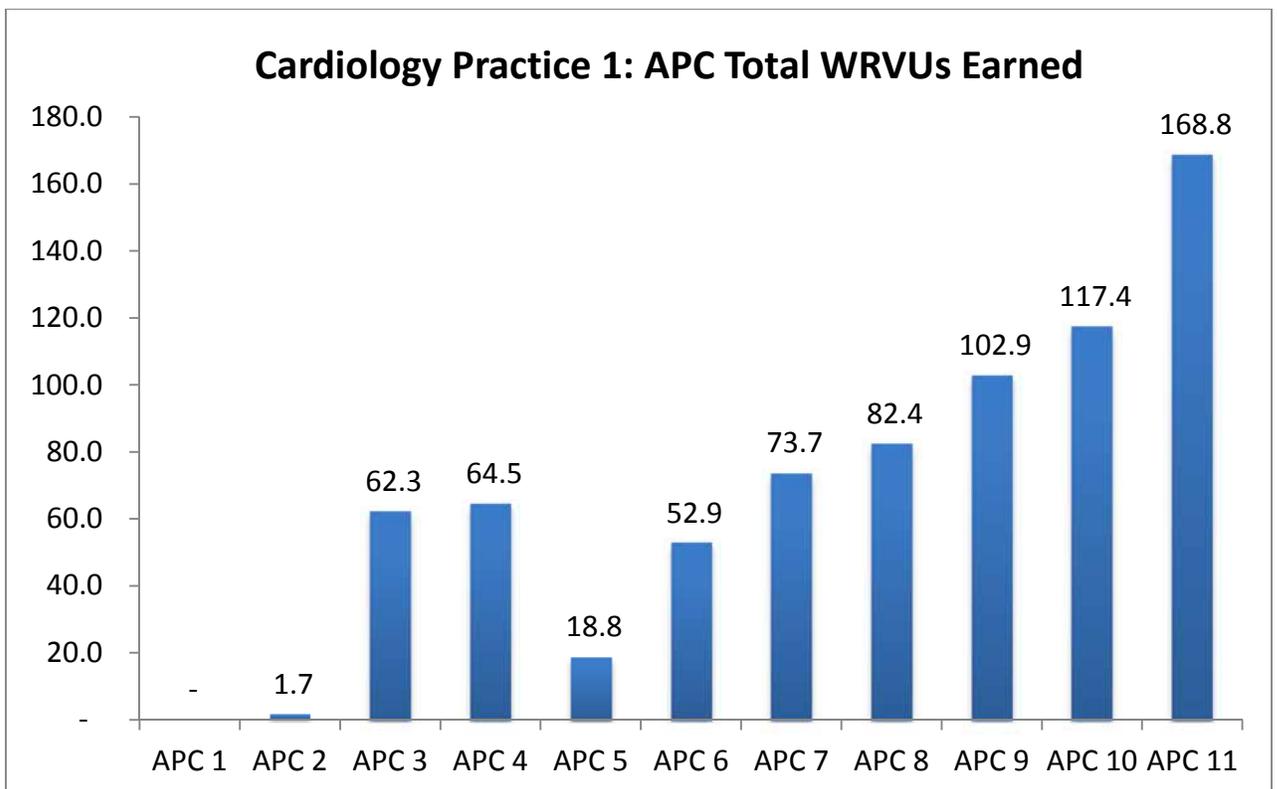
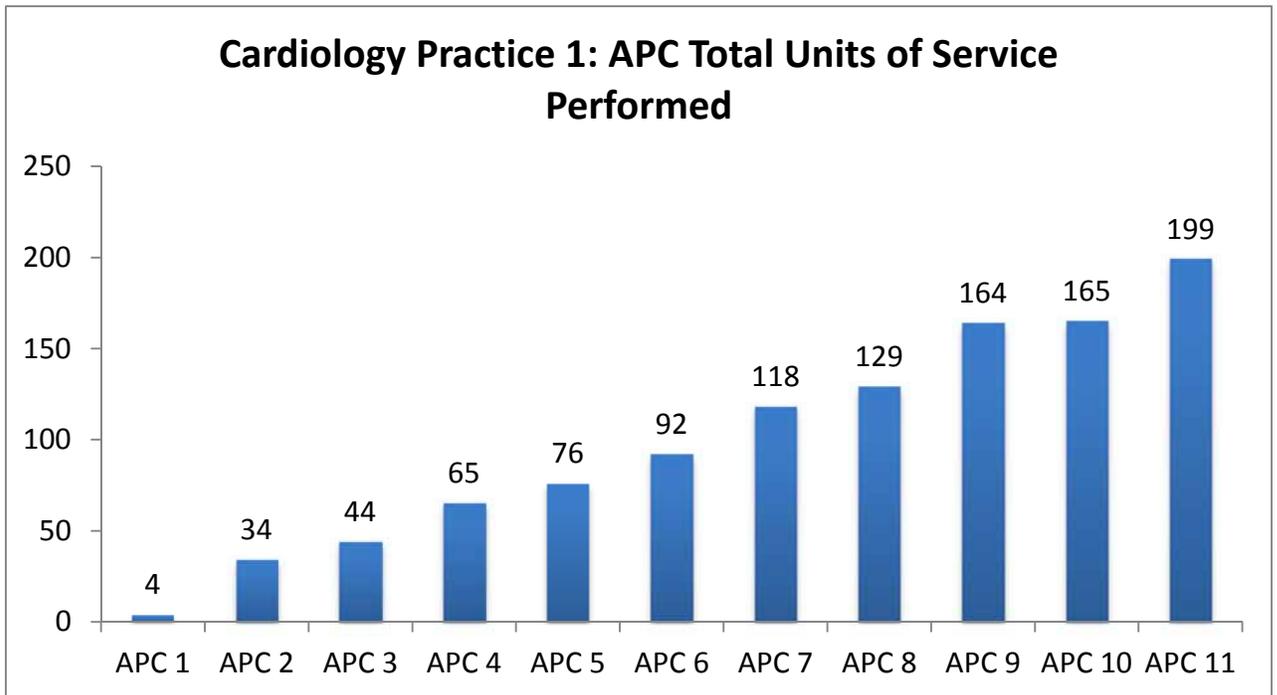
Cardiology Exhibit: E

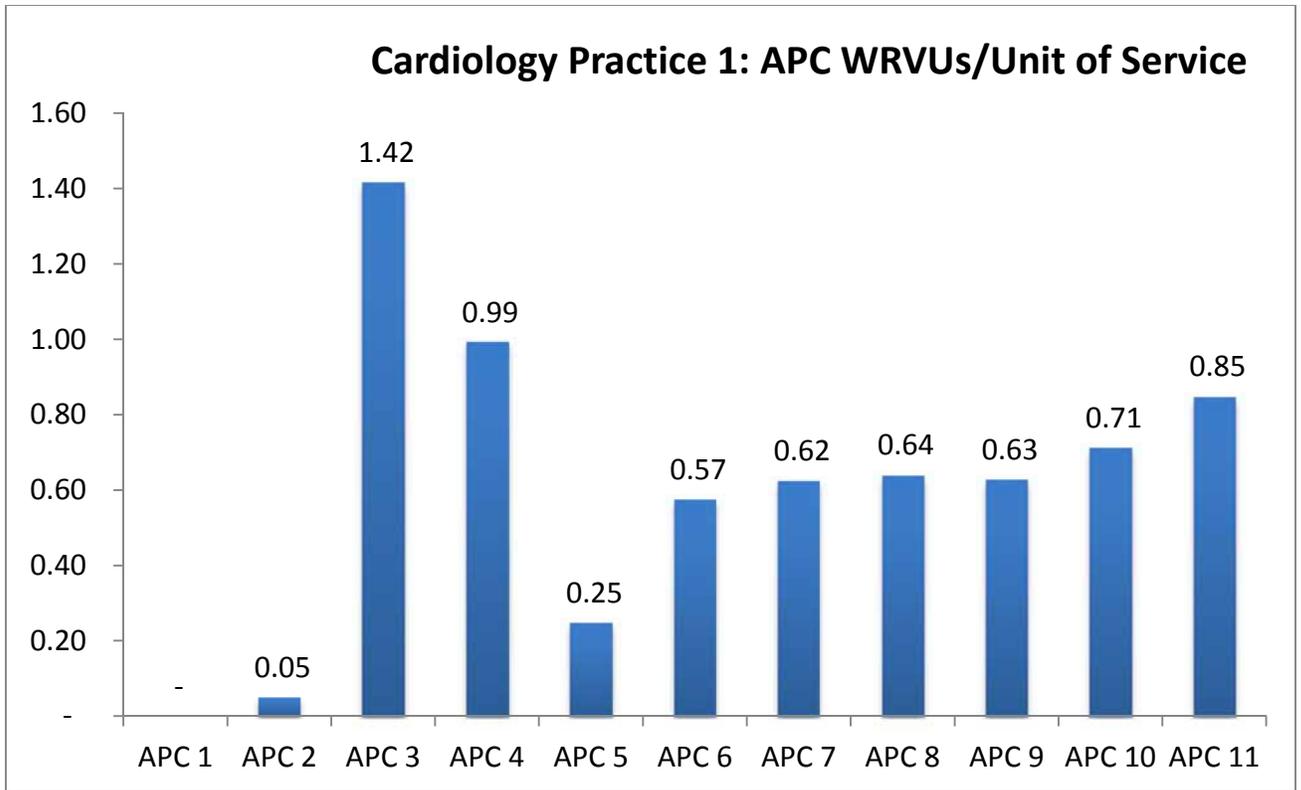




- These graphs show the number of units of service performed; WRVUs earned, and average WRVU/unit of service for MDs in cardiology practice 2.
- Again, there is high variation in the data for this physician practice.

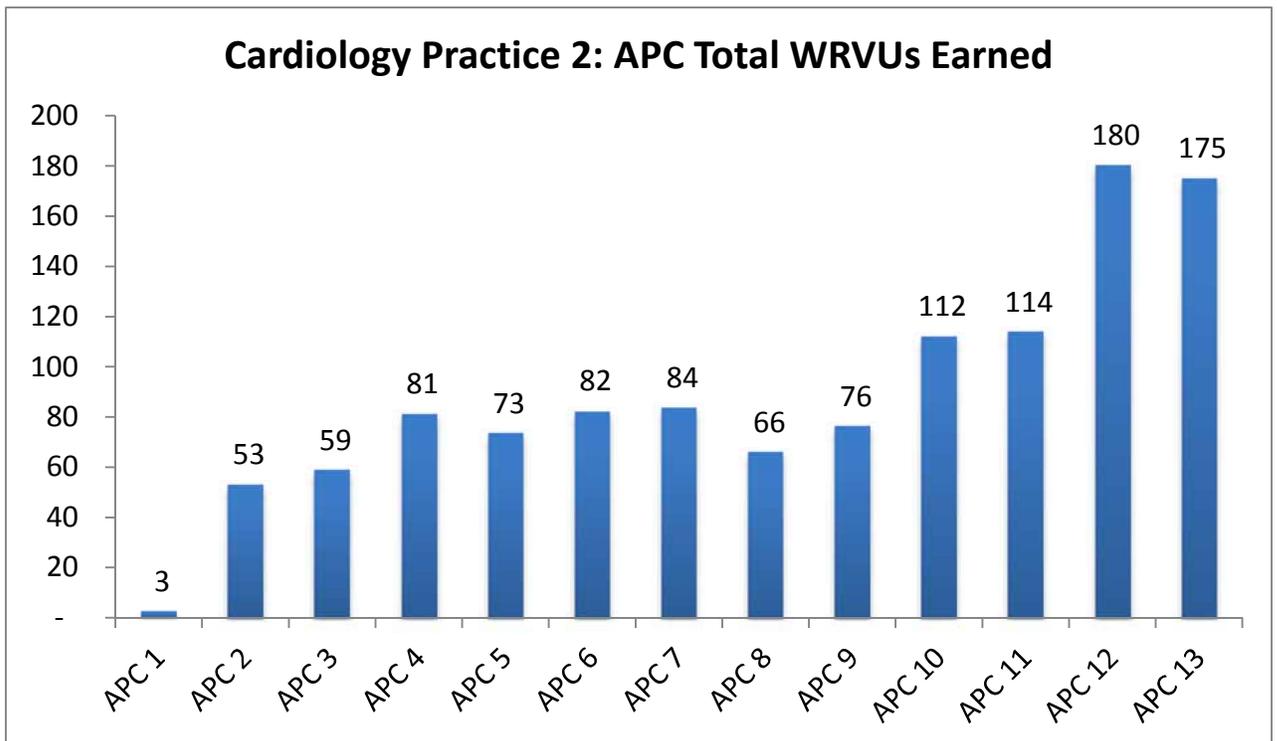
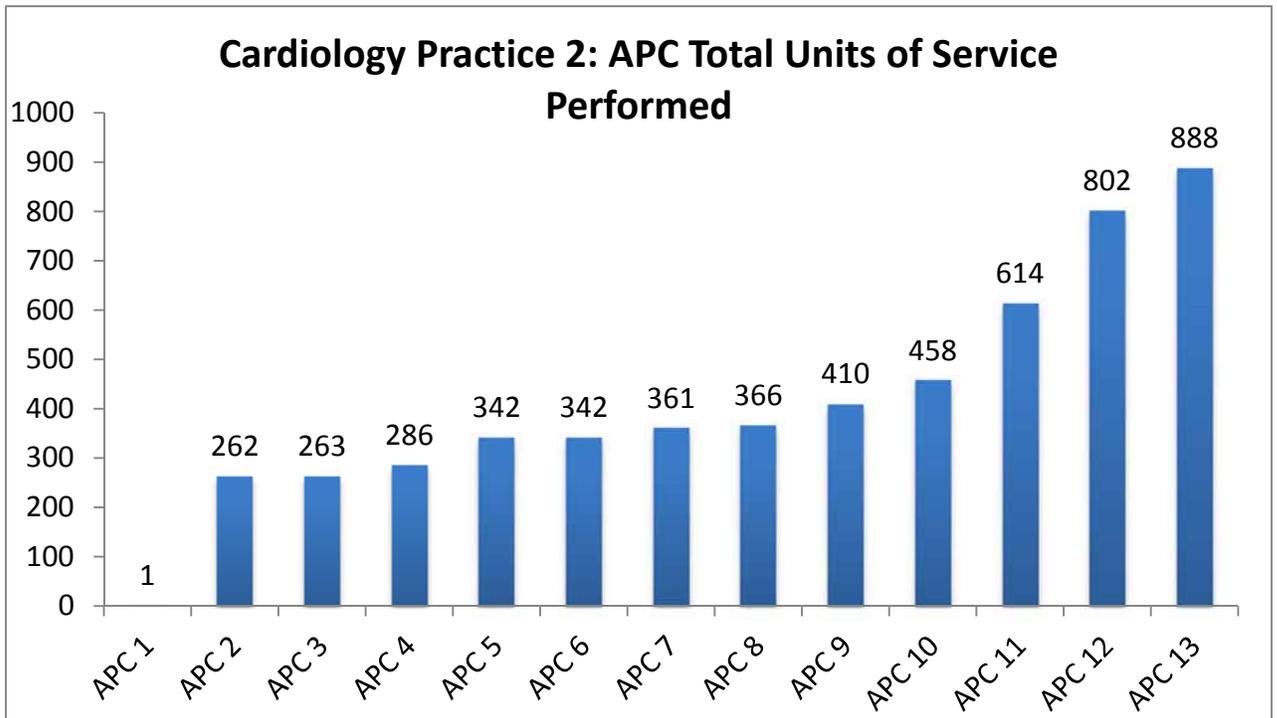
Cardiology Exhibit: F

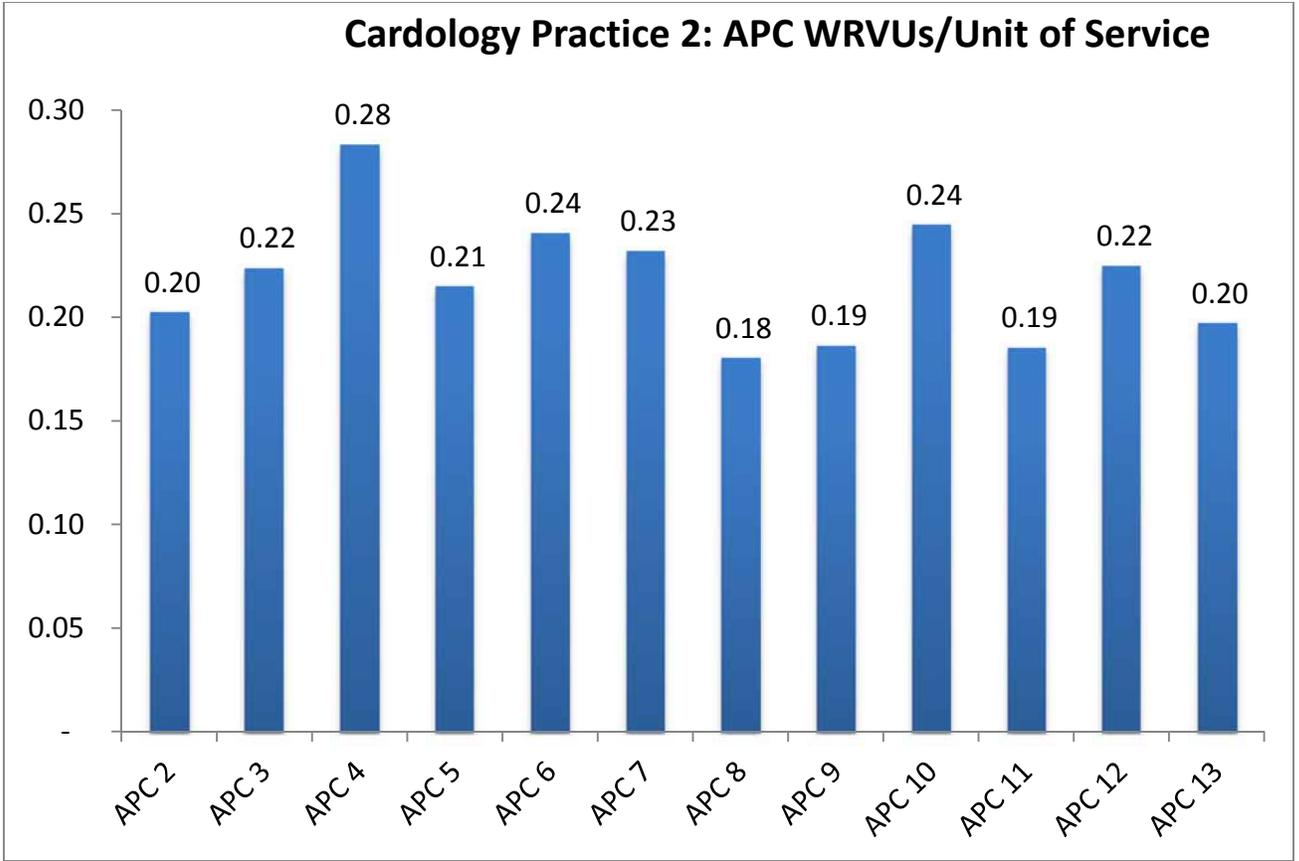




- These graphs show the number of units of service performed, WRVUs earned, and average WRVU/unit of service for APCs in cardiology practice 1.

Cardiology Exhibit: G

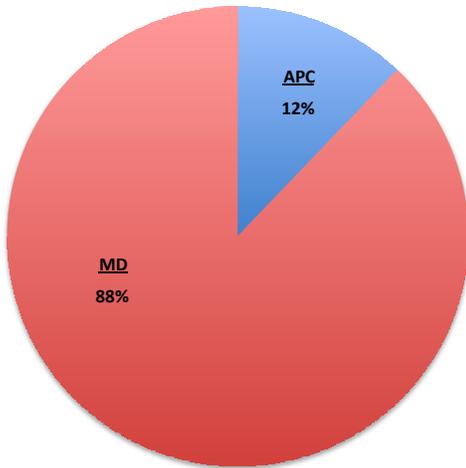




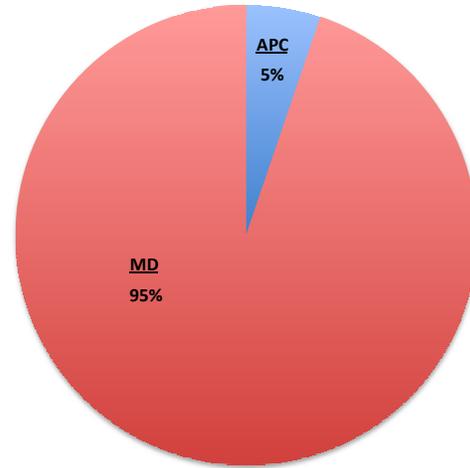
- These graphs show the number of units of service performed, WRVUs earned, and average WRVU/unit of service for APCs in cardiology practice 2.

Cardiology Exhibit: H

Cardiology Practice 1: Percent of Total Production: Units of Service



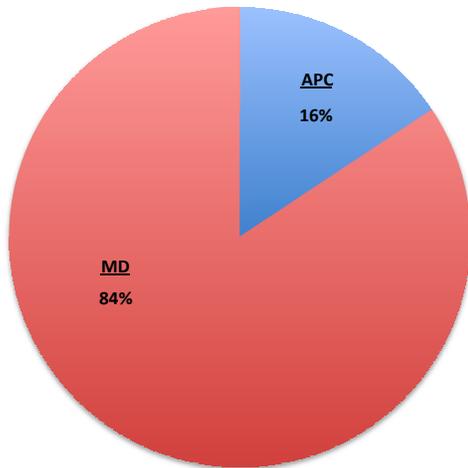
Cardiology Practice 1: Percent of Total Production: WRVUs



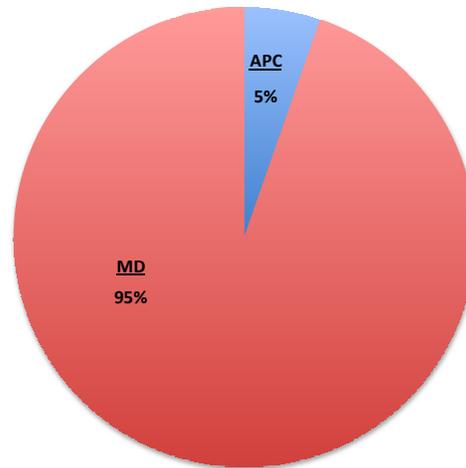
- These pie graphs, from cardiology practice 1, show that MDs perform 88% of units of service and earn 95% of total WRVUs.

Cardiology Exhibit: I

Cardiology Practice 2: Percent of Total Production: Units of Service

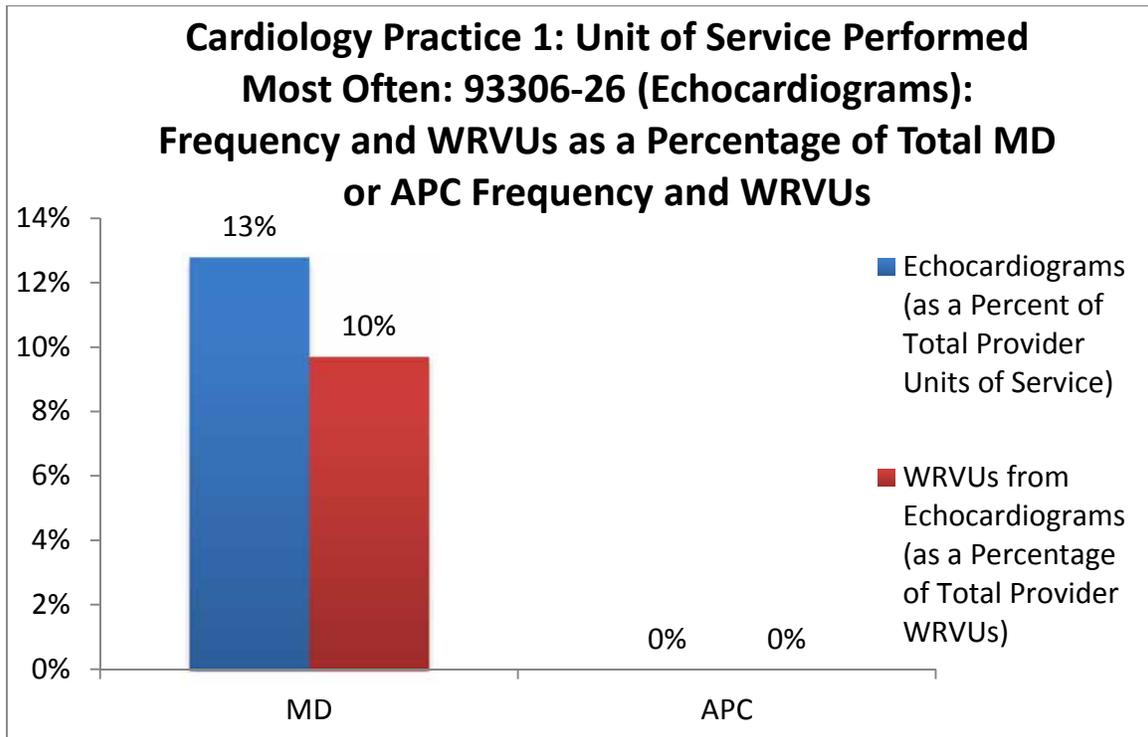


Cardiology Practice 2: Percent of Total Production: WRVUs



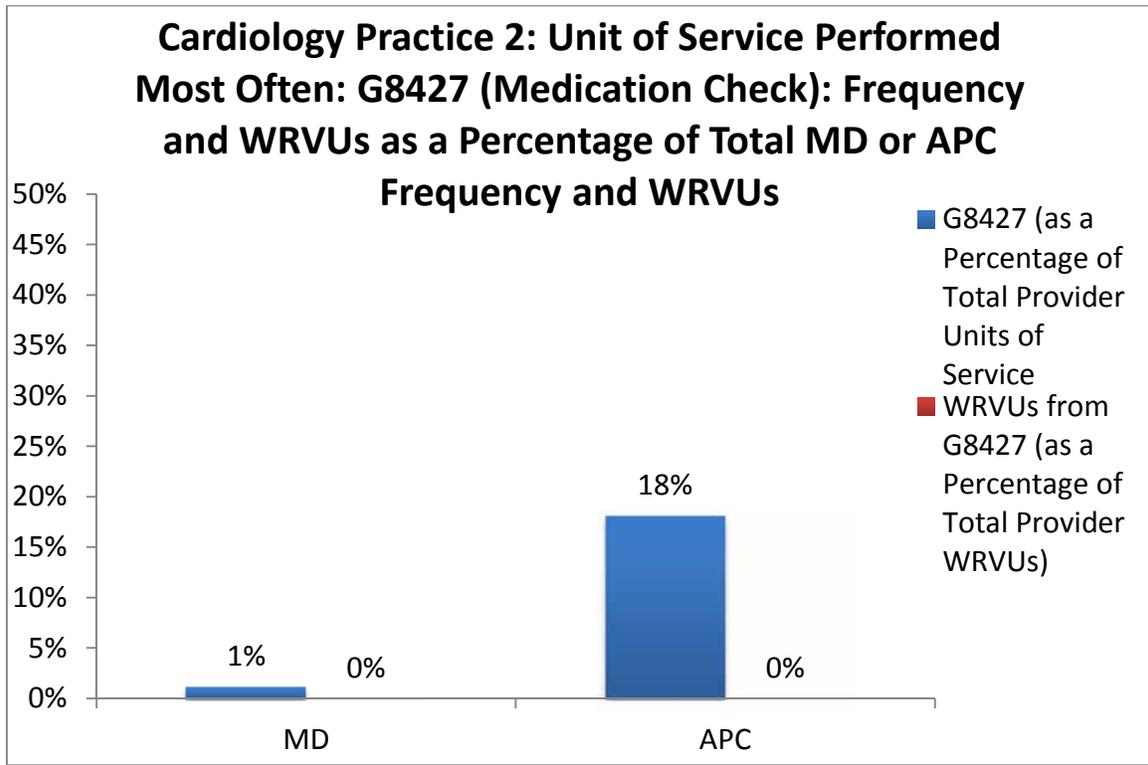
- These pie graphs, from cardiology practice 2, show that MDs perform 84% of units of service and earn 95% of total WRVUs.

Cardiology Exhibit: J



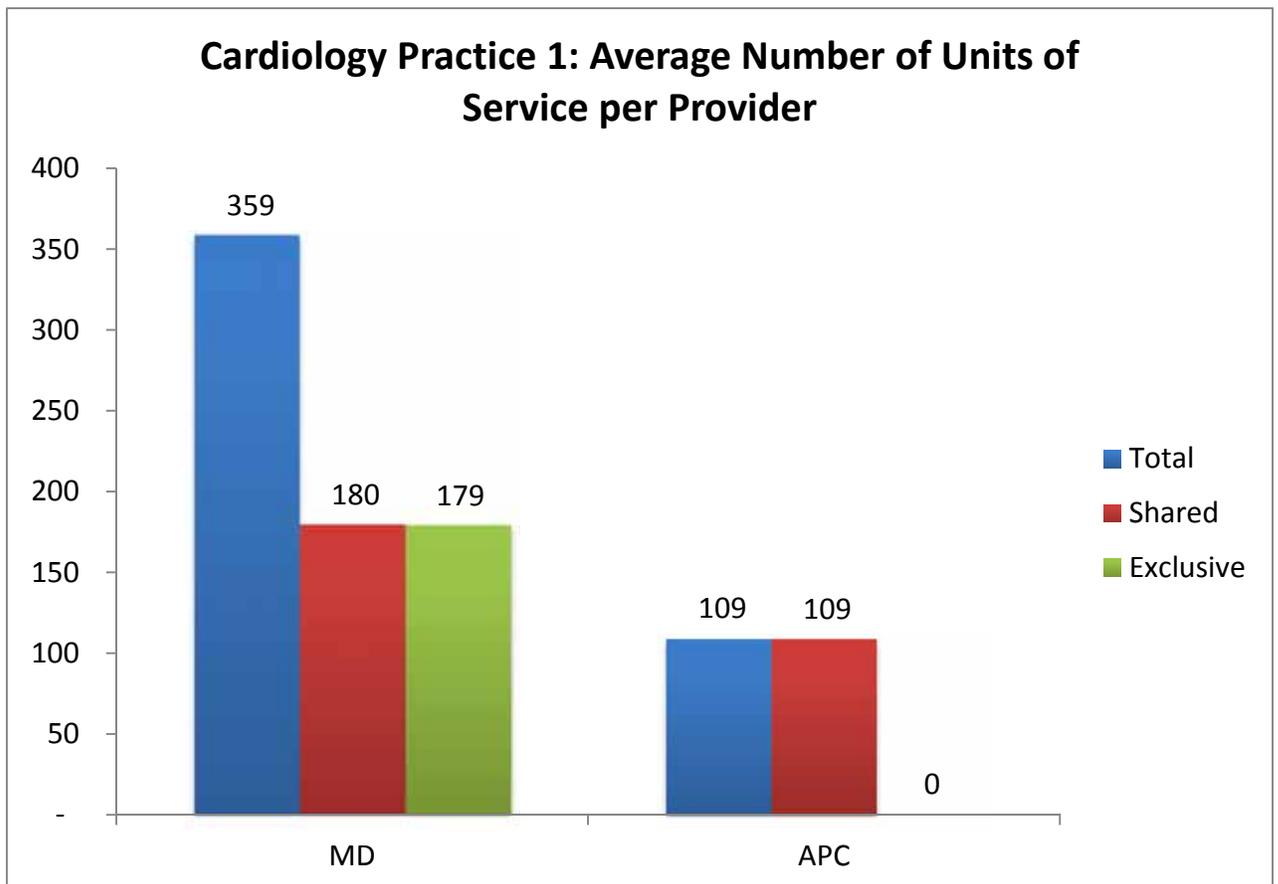
- This graph shows the percent of units of service performed and WRVUs earned from the most commonly billed unit of service, echocardiograms.
- Physicians earn 10% of WRVUs and bill 13% of total units of service from echocardiograms.

Cardiology Exhibit: K



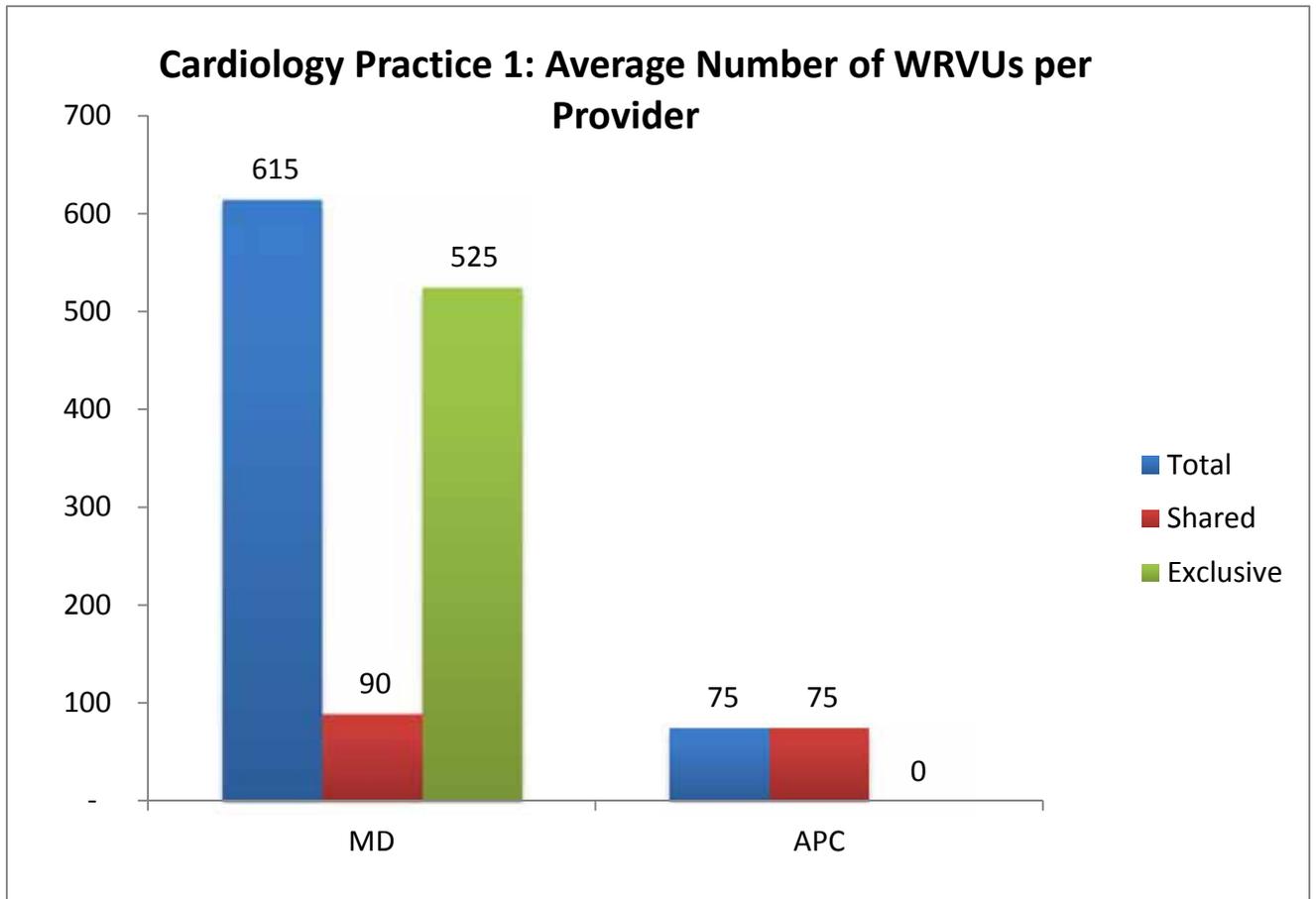
- This graph shows the most commonly billed unit of service in the second cardiology practice, G8427 (a medication check).
- Only 1% of MD units of service are G8427 codes whereas 18% of APC codes are G8427.
- G8427 does not earn WRVUs.

Cardiology Exhibit: L



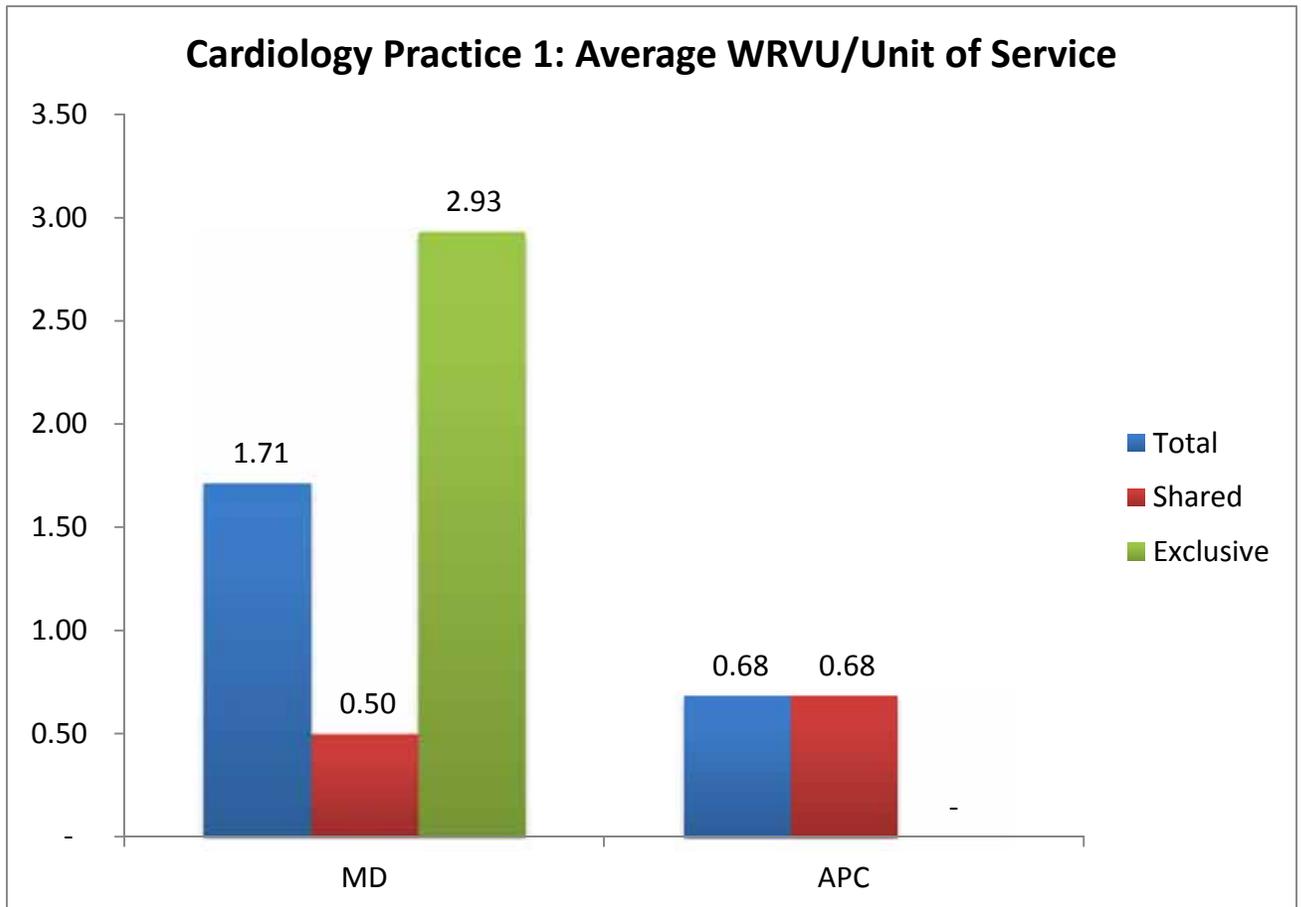
- This graph shows the average number of units of service performed per provider for cardiology practice 1.
- Physicians out-produced APCs in all categories.

Cardiology Exhibit: M



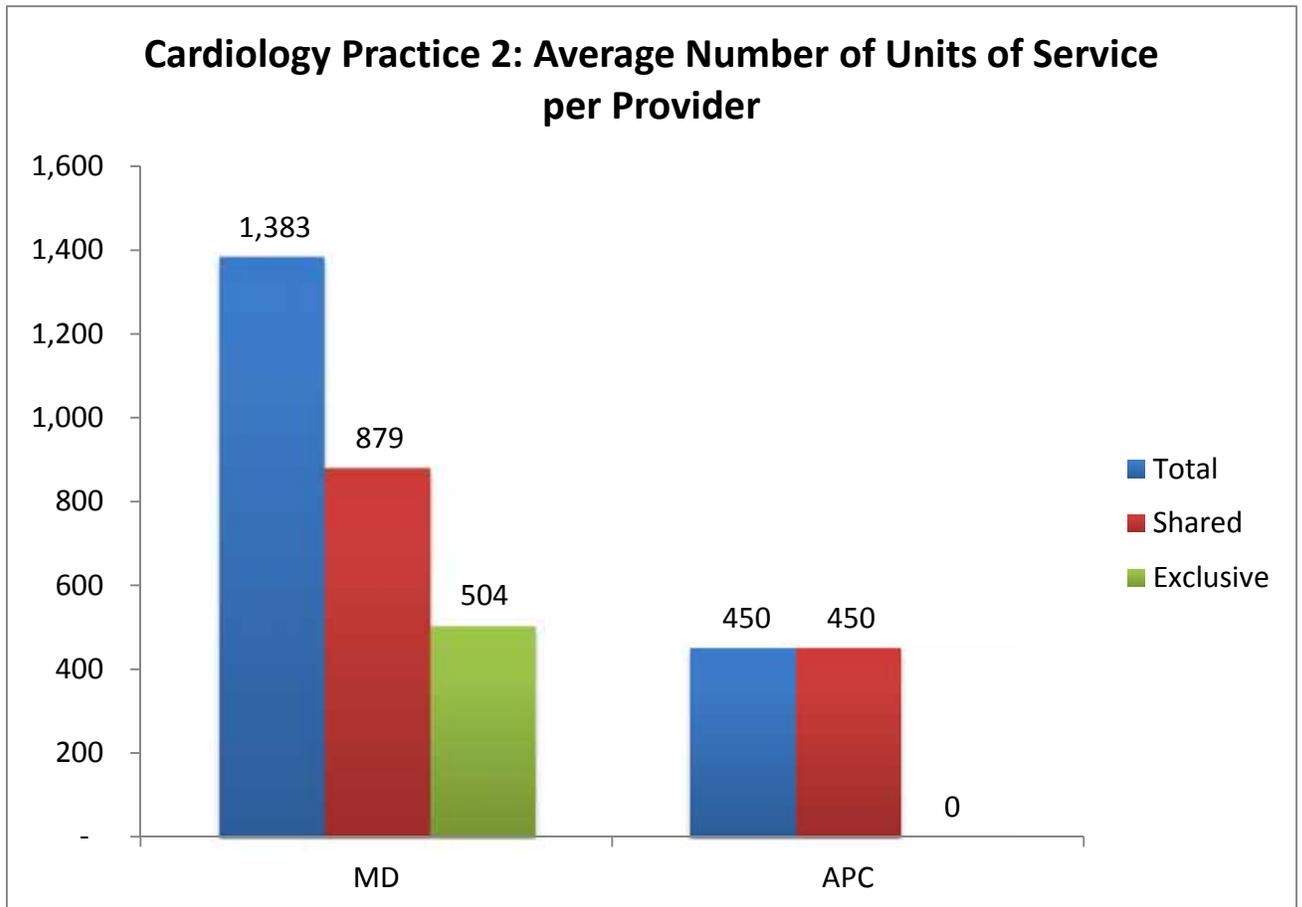
- This graph shows the average number of WRVUs earned per provider for cardiology practice 1.
- MDs out-earned APCs in each category.

Cardiology Exhibit: N



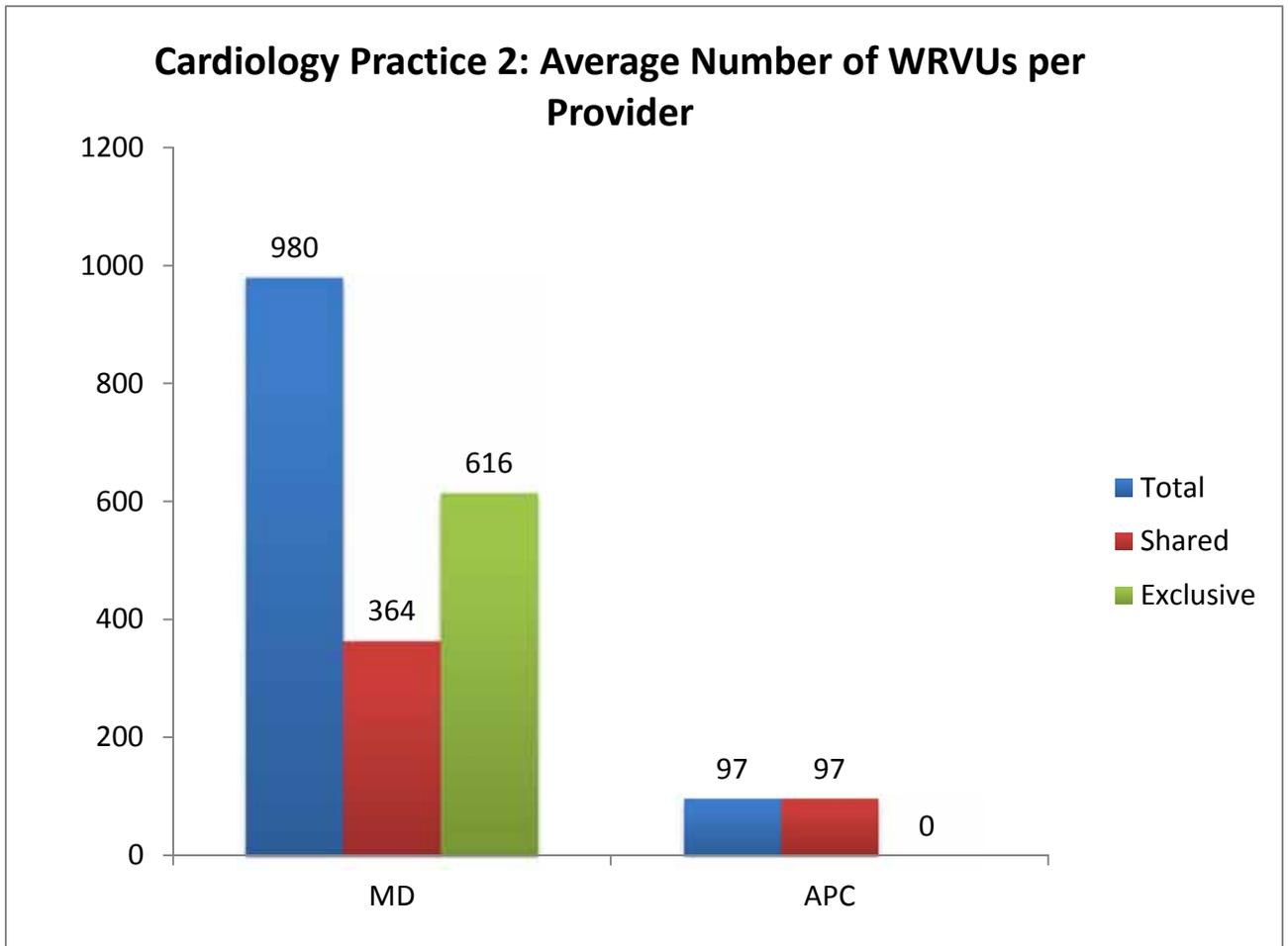
- This graph shows the average WRVU/unit of service earned in cardiology practice 1.
- MDs earned more WRVUs/units of service in total and for exclusive units of service but fewer WRVUs/unit of service for shared units of service.

Cardiology Exhibit: O



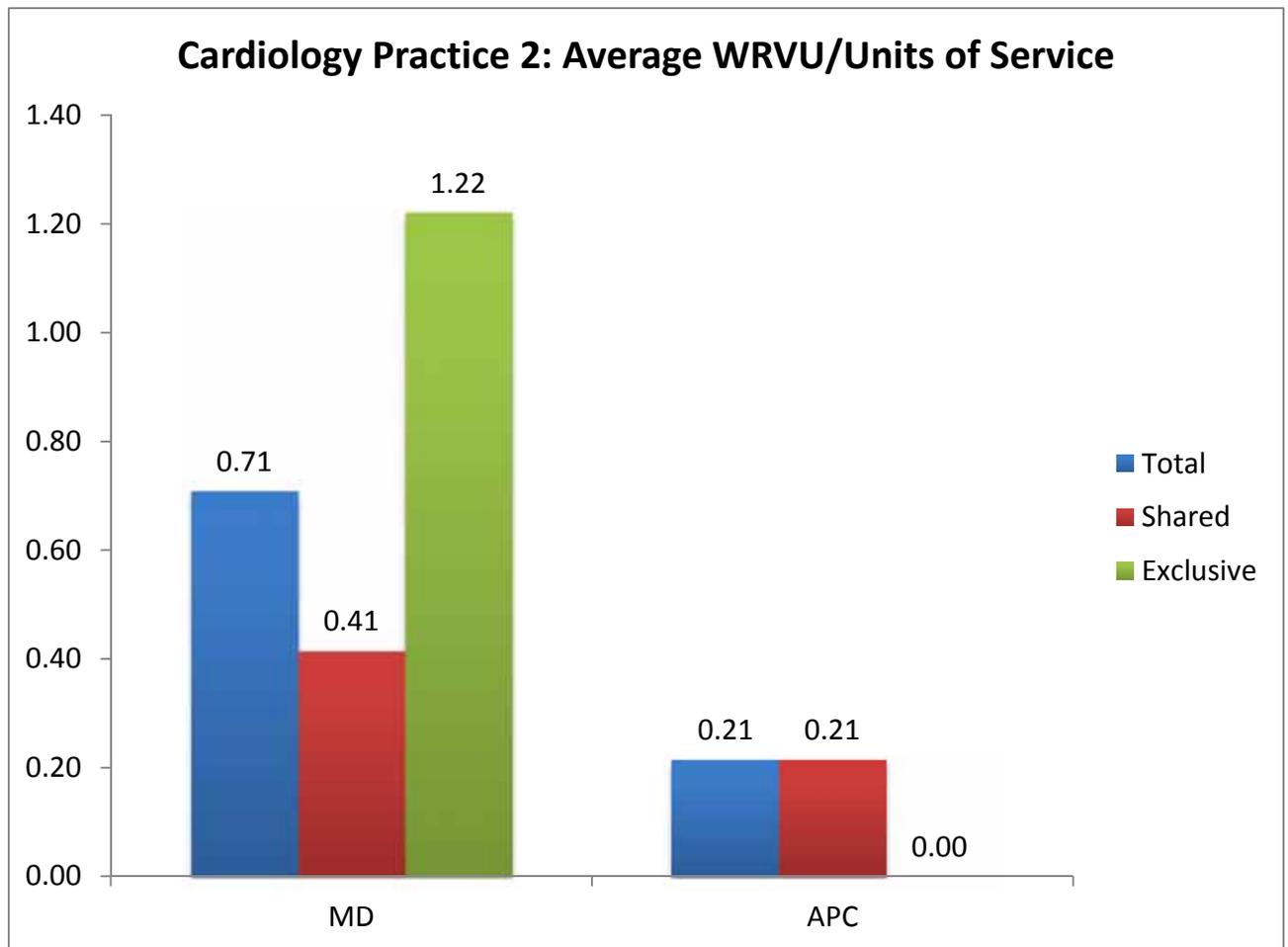
- This graph shows the average number of units of service performed per provider for cardiology practice 2.
- Physicians out-produced APCs in all categories.

Cardiology Exhibit: P



- This graph shows the average number of WRVUs earned per provider for cardiology practice 2.
- MDs out-earned APCs in each category.

Cardiology Exhibit: Q



- This graph shows the average WRVU/unit of service earned in cardiology practice 2.
- MDs earned more WRVUs/unit of service in all categories.

Note: The graphs “Average Units of Service per Provider by Service Category,” “Average WRVUs per Provider by Service Category,” and “Average WRVU/Unit of Service per Provider by Service Category” were not included as a part of the cardiology graphs and diagrams due to data limitations from both practices.

All Specialties Exhibits:

All Specialties Exhibit: A

Analysis of Shared Units of Service: Difference in WRVUs/Unit of Service between MD and APC providers						
Participating Practice Specialties: WRVUs/CPT Performed						
	FP	Ortho	Urology	Oncology	Cardiology	Cardiology
MD	0.94	2.15	1.01	2.05	0.50	0.41
APC	1.00	1.31	1.28	2.04	0.68	0.21
Difference: MD-APC	-0.06	0.84	-0.27	0.01	-0.18	0.20

- The above table suggests that for Family Practice, Urology, and Cardiology, of the shared units of service, the APCs earned more WRVUs/unit of service than did the MDs.

Major Themes Findings and Discussion Section:

- 1) For the independent and integrated practice models the internal physician compensation plan will be an important driver of the potential for application of physician services and those of licensed APCs.

Examples:

- a) With the participating orthopedics practice, the operating expenses associated with the use of APCs are managed as a direct allocation to the physicians' operating revenue production; a deduction before net compensation returns to the physicians using APCs. Consequently, the use and application models for APCs are products of individual physician preferences, with the model design geared to individual physician production and compensation targets and professional practice style preferences of each physician using APCs in his/her practice.
- b) For primary care practices, physicians will often have a production-based compensation plan with the identified unit of production being the work relative value unit (WRVU). Here compensation earned is a product of the number of WRVUs produced multiplied by the total available internal value of the WRVU. Total available compensation equals the total physician compensation pool produced. WRVU value is derived by dividing this pool by the total WRVUs produced yielding the available value per WRVU for a given accounted period (e.g., a month, quarter, etc.).

Primary care physicians practicing in such models may have compensation affected by APCs that practice with them. For example:

- a) they are provided “WRVU credit” for supervising APCs; or
 - b) all revenue produced by the APCs is credited to the physician minus, accounted direct and indirect costs associated with the APC; or
 - c) the APC essentially develops his/her own parallel practice with his/her own panel of patients and is compensated by way of a fixed salary or salary plus production bonus model.
- 2) Radiology: The participating radiology group’s use of physician APCs was negligible. If APCs were used at all, their use was confined to procedure assists to interventional radiology subspecialists.

Leadership of this participating group was convinced that for imaging radiologists, APCs provide little productivity enhancement potential. Advancements and ongoing enhancements of productivity of imaging radiologists have been and are likely to be derivative more of digital production, storage, retrieval and movement of images than the application of licensed APCs. The potential for the greatest productivity advancements will most likely come from the reliability of “computer reads” minimizing the need for human over-reads.

- 3) Lack of known, best practices for the application of APCs across clinical specialties and practice types (e.g., independent or integrated health system owned). No

participating practices expressed a reference from “the literature” on physician productivity enhancement models.

Perhaps the most important finding from the study, as designed and conducted, is the apparent lack of known, available, tested and reported best practices for the application of APCs and other physician productivity enhancement models and methods.

While similarities of basic applied principles exist, the state of the industry, based upon results of this study and the experience of the investigators, is one of idiosyncratic designs and applications based upon:

- a) the culture of the practice; e.g., “each physician can decide”;
- b) the operating incentives of the practice (especially those related to physician compensation); e.g., “you can use APCs if you pay for them”;
- c) state licensing regulations that apply; e.g., states regulate scope of practice of non-physician, licensed providers and payers vary in their reimbursement practices according to state-specific regulations and guidelines; and
- d) economic pressures on practices (whether independent or those integrated with health systems) affect application of physician productivity models and methods variously depending upon prevailing market and economic conditions; e.g., third party payers applying downward pressures on clinical care volumes and reimbursements and/or changes in reimbursement methods

for procedures or episodes of care (e.g., bundled payments, episode payments, etc.).

These findings correlate well with the literature on the design and application of interprofessional teams in healthcare.⁵ Prevailing evidence suggests this to be an immature arena ripe for development.

- 4) The Non-Physician, Licensed Provider Professions: Conversations with one Dean of a University Nursing School and a small sample of advance practice nurses interviewed demonstrates an aversion to being viewed as “mid-levels” or “extenders” dedicated to enhancing physician productivity.

These professionals distinguish themselves from physician assistants (PAs) by an ability to, depending upon state, practice with relative autonomy across several clinical specialties; e.g., primary care, women’s health and behavioral health to name three.

- 5) Clinical Specialties and differences in Division of Labor Models: one of the more interesting and perhaps useful findings of the study is the extent to which productive division of labor occurs between physicians and licensed APCs within and across clinical specialties. For example, for the procedural specialties (e.g., urology,

⁵ Sargeant J., Loney E., Murphy G., “Effective Interprofessional Teams: “Contact is Not Enough” to Build a Team,” *Journal of Continuing Education in Health Professions*, 28 (Fall 2008): 228-234.

cardiology, or orthopedics) certain and specific clinical procedures are not within the scope of practice of licensed advanced practice nurses or other licensed APCs.

Consequently, the opportunity to apply the skills, training and potential of APCs within such clinical specialty delivery models is more limited and obvious (i.e., due to accepted clinical qualifications limitations).

On the other hand, for primary care, the findings of this study support the conclusion that given the nature of the specialty and related scopes of practice (primary care physician and advance practice nurses) there is a higher potential for significant overlap in types and scope of work; i.e., each doing much the same thing. The 88% overlap in scope of work observed in the primary care participants, if generalizable beyond the practice observed in the study, should call into question services reimbursement policies and perhaps, a generally accepted conclusion of a shortage of primary care physicians in the U.S.⁶

- 6) Use of Licensed Clinicians as Patient Services Demand Managers: One cardiology practice observed is large, subspecialized and integrated by way of professional services agreements (PSAs) with its affiliated health system. It uses licensed registered nurses to manage scheduling of new and existing patients to better ensure that patients are well-matched with the right practitioner at the right time. These nurses are not advance practice qualified, but are licensed, registered nurses who have

⁶ Mercer, Marsha, "How to Beat the Doctor Shortage," AARP Bulletin, March 2013, Retrieved at: <http://www.aarp.org/health/medicare-insurance/info-03-2013/how-to-beat-doctor-shortage.html>

considerable experience with cardiovascular services. This practice does use advance practice nurses clinically as well to attend patients in the hospital and patients who participate in ongoing outpatient programming for follow-up chronic conditions.

Senior-level physicians in this practice are paid a salary which better facilitates effective subspecialization and the sharing responsibility for less specialized, but essential clinical services. The clinical services management model focuses on flexibility with the application of physician services within the practice based upon a group-determined, preferred model of care delivery.

An example of this model is physicians “on duty” read echocardiography exams if patients cancel appointments or otherwise are not available for a scheduled physician visit. The goal here is to optimize the productivity of the integrated practice model across all providers and provider capacity available.

- 7) Physicians Working to the “Top of Their License”: Much of the U.S. healthcare industry rhetoric on physician and provider productivity emphasizes the goal of “physicians working to the top of their license”; ostensibly applying productivity incentives models to best ensure that physician capacity is applied to more complex patients, medical conditions and clinical services requiring higher levels of medical training and experience.

Investigators pursued this issue, to a limited degree, asking the question of a few physicians. Experience here demonstrates that, in fact, a limited number and perhaps, small proportion of physicians want to fill each of their daily schedules with the patients who are the most clinically complex and challenging. They report wanting some “easy patients” in the schedule. Likewise, compensation models can affect the incentives for physicians working to the top of their license. Physicians on production-driven compensation plans, whether in an independent practice or as an employee of an integrated health system, may be motivated to produce “work units” from clinical activity that is less intense and time consuming to optimize compensation. The WRVU system (as currently designed) does not, in the opinion of physicians interviewed, sufficiently compensate for longer, more time consuming, “cognitive” clinical services.

It would appear that settings where physicians are employees (e.g., larger integrated health systems) provide the greater potential for interprofessional team care and re-allocation of physician services supply given that such models generally provide for greater discretionary flexibility in physician/provider compensation designs.

8) Physician Practice Leaders Pressured by the Changing Economics of Healthcare.

Whether operating from an independent private practice model or as an employee of a larger health system, physician leaders interviewed reported mounting pressures to do more for less reimbursement. Economics of practices in both types of settings

observed in this study have historically been supported by financial margins earned on related practice ancillaries; e.g., imaging diagnostics, laboratory procedures, technical fees earned from clinical procedures or, for oncology, the margins earned on drugs and chemo-therapy agents. Proceeds (revenues) from professional fees alone are not sufficient to support the physician compensation demands and practice operating expense structures for larger, sub-specialized medical practices; especially the larger, subspecialized independent practices.

Physician leaders/managers in this study report that considerable time and effort is dedicated to attempts to adjust and re-fit practice operating economics to the latest downward pressures on reimbursements and utilization, as well as needs to adapt to new forms of reimbursements and all related and unrelated regulatory changes in their environments.

Some interviewed said they're running out of "tricks in their bags." Risks are more immediate for the independent practices as they lack the full revenue base of the fully integrated health systems.

9) Challenges of Data Extraction, Assembly and Reporting for This Study:

Study participants were eager to comply with the data requests. Most felt the data would be relatively easy to access, although several admitted that they don't routinely examine the data requested in a light of understanding the productivity of leverage methods and models active in their practices. The principal investigator in this study

took this to mean that routine examinations of the productivity of team models of care are not the norm within practices (although the examination of the productivity of individual providers is customary).

The reality of the actual data gathering part of the study demonstrated more time and challenges than expected, which raises interesting collateral issues about the future of practice management for larger medical groups, whether independent or integrated with a health system; issues such as:

- a) the need for management information systems and reporting to support the ongoing evaluation productivity of providers teams; i.e., the need to go beyond the accounting of simple production units produced per individual (e.g., WRVUs) to encompass the productivity of interprofessional teams as they relate to a range of clinical services reimbursement schemes operable within practices; and
 - b) the need to radically change provider compensation models, moving from those based upon unit reimbursement and “per-unit” compensation systems of health care services delivery production and delivery to those that are adaptive to innovations in clinical care reimbursement models.
- 10) Variation on Business Models; Production, Compensation, Reimbursement Methods and Models.

An important secondary finding of this study was the confirmation of variations of provider compensation models and methods. The evidence presented by this study,

coupled with the experience of the investigators, demonstrates considerable variations in provider compensation models and methods that may not comport with the future directions of health services reimbursement models, methods and related economic policy.

Investigators observed several compensation models at work within the participants of this study:

- a) Fixed salary: cardiologist paid on a fixed salary basis working in a group as the sole providers of cardiology services for a community hospital within a large, metropolitan-based health system.

The physician leader of this group believes this compensation model facilitates better interprofessional cooperation and collaboration between subspecialists and advanced practice nurses and is more encouraging of teamwork overall to ensure that “all the necessary work of the practice gets done every day.”

With this model, physicians are not exposed to the reimbursement contracts of the sponsoring health system (e.g., discounts, related payer mix ratios, or special financial risk transfer agreements entered into by the health system) and individual physicians are not influenced to focus their practice on what most efficiently and effectively rewards them financially.

The productivity of individual providers is managed through their scheduling within and across various “clinical slots” available on a given day; the practice produces multi-week internally published schedules which place physicians and advanced practice nurses at various times, locations and clinical services “slots” within the total practice model.

Here physicians (and other licensed providers on the team) “get the clinical work done” and the health system is at risk for the payer mix (and related economics) and operating expense structures of the practice.

- b) Revenues minus expenses: With one large independent practice (N=84 orthopedists) the practice model (and culture) is one that encourages each physician to build his/her own practice to their liking. Their compensation is determined by allocated net operating revenues minus indirect and direct operating expense allocations with some sharing on ancillary clinical services “margin pools.”

The culture and operating philosophy is one of “the practice exists to support your individual goals and objectives.” Physician assistants (or other APCs) are an allocated direct operating expense of each physician who hires and supervises them.

Physicians decide where/how to direct their practice. Patients “belong” principally to individual physicians and not the practice and physicians are free to produce at levels that satisfy their personalized financial and professional needs within the practice model.

- c) Productivity-based WRVU Model: With this model, physicians are paid cash compensation that derives from total work relative value units produced (WRVUs) multiplied by an internal, organizational value factor defined by the health system (as employer) yielding total cash compensation earned for a given accounting period (with a base draw provided per pay period).

With this model, physicians are indifferent to payer, but have a direct incentive to optimize individual productivity (i.e., WRVUs produced).

When working with APCs, this incentive persists, meaning the physician determines which patients he/she sees. APCs exist to optimize the physicians’ productivity.

- 11) Based upon secondary analysis undertaken, it appears that CMS models for estimating time spent by physicians and APC’s may over-estimate time spent by physicians and under-estimate time spent by APCs. The effects seem to be especially pronounced for more procedurally-oriented clinical work undertaken by physicians.

Several hypotheses are worth consideration to explain the effects observed including, as clinical practices grow larger, become more subspecialized and are better appointed with enabling technologies and services (including the use of physician extenders of varying types) physicians are better supported in their abilities to subspecialize and work more efficiently, including delegating less efficient (and perhaps less profitable work, depending upon compensation plan design) to lesser trained and credentialed staff in the practice.

Study Summary Conclusions:

- 1) Whether employed by independent practices or by integrated health systems, so long as physician compensation plans are driven by unit production models (e.g., work relative value units produced by individual physician) it will be a challenge to move to interprofessional team models of clinical services delivery and ongoing care management of patients with chronic conditions. If team-based care reduces physicians' ability to produce WRVUs, they will be less inclined to work in teams. However, if productivity is defined to include other measures besides WRVUs (e.g., quality and outcomes as well as practice productivity overall) then physicians may embrace such models.
- 2) If state-specific regulations and guidelines dictate the scope of practice for licensed clinicians with advanced practice training and credentials, the potential for geographically generalized application of interprofessional team care will be limited.
- 3) Perceived shortages of primary care physicians (and other represented clinical specialties for that matter) in the U.S. may be exaggerated if the findings of this study are generalizable.
- 4) Physicians in independent practices, especially the larger, single-specialty practices are challenged by a fast-changing economic, regulatory and health policy environment. If the pressures, as reported in this study are persistent and pervasive, the U.S. healthcare marketplace can expect more consolidation and integration of independent physicians as employees of community health systems. A market risk is a precipitous collapse of the independent practice business models; i.e., physician

owners of independent practices realize marked reductions in financial returns on their ownership positions causing the closure or “sale” of practices.

Ostensibly, such occurrences could result in community hospitals “picking up the pieces” by employing physicians within the communities they serve. However, as with the experience with St. Paul Heart in the Twin Cities (as reported by public media), there are no guaranties that physicians can afford the collapse of the practices they own.

- 5) The field of interprofessional team care is nascent. It seems to hold great promise for cost effective clinical care models for acute and chronic medical conditions.

However, the state of the art and science of the discipline is either not well advanced, or effective best practices have yet to pervade community standards of practice. Or, best practices are known, but prevailing financial incentives influenced by predominant third party payer practices are thwarting ready adoption by independent medical practices and medical practices integrated with community health systems.

- 6) Independent medical practices, and to an extent fully integrated medical practices, have been dependent upon the positive financial margins derivative of the economics of clinical ancillary services; especially diagnostic imaging, laboratory tests and outpatient therapeutic procedures. To the extent that these margins are diminished due to direct downward pressures on fee-for-service reimbursements and/or downward pressures on utilization, the effects will likely translate quite directly to physician services compensation, which is important for several reasons; paramount among

these is the direct effects on practice models and the related organization of physician services.

- 7) Future studies in the vein of this one should focus efforts on practices, either independent or integrated, that have, as a goal the leveraging of physician services to higher levels of productivity as defined in terms that have, as their principal focus, the highest and best utilization of physician competencies and training, not productivity defined as financial production for the practice or derivative compensation for participating physicians. The principal rationale for this admonition is the need of the U.S. healthcare economy to optimize the application of an increasingly scarce resource; i.e., highly trained and licensed clinical professionals. Future study methods should focus on organizations capable of producing related data that informs from several important perspectives:
- a. it relates individual providers productivity by; clinical service type, service site, patient condition (diagnosis), presenting acuity and whether the patient's condition is acute or chronic;
 - b. all licensed clinicians participating in a specific patient's care and the sequencing of clinical services provided, including what type of provider delivered what service and when in the ongoing continuum of care;
 - c. how services provided comport with or deviate from accepted, evidence-based best practices;
 - d. total costs of care required to achieve expected/predicted clinical milestones of care; and

- e. clinical outcomes derivative of any course of care as evidenced by data available from clinical services documentation practices (e.g., the electronic health record) or clinical services accounting and billing practices.

Summary Observations of Interest: Opportunities for Reimbursement of Policy Re-Design

The results of this study point to value to be derived from follow-on work; value derivative of observations made from this work.

- 1) Larger, single-specialty physician practices, whether organized and operated as free-standing medical groups or embedded with integrated health systems (a health system that controls hospital and physician services) will typically employ practice designs aimed toward enhanced physician productivity for the subspecialties represented within the practice. For example, a cardiology group practice composed of subspecialized cardiologists will employ models and methods to enhance the productivity of the physicians across the subspecialties represented in the practice.

However, the state of the industry, at the time of this study, suggests little consensus across specialties on “best-practice” methods and models. Whether it’s the use of APCs, office-based ancillary services or the electronic health record; practice productivity methods and models are, for the most part, idiosyncratic; i.e., they are what the physicians want them to be at their site, based largely upon culture and the incentives operating from the compensation plan in-place.

- 2) Related to observation #1, is the challenge of “scalability” of the clinical services production and delivery at the points of services delivery.

While larger health systems and free-standing medical groups see value in achieving “economies from scale”, for the most part, efforts in this regard appear to be confined largely to such areas as: corporate overhead and support services,

electronic information systems, supplies, pharmaceuticals and devices and other “back-office” functions. Scalability of patient services production and delivery methods at the points of patient service are not often a driving goal even for practices where optimization of WRVU production is important to physician compensation; i.e., scalability may be sacrificed in favor of individual practice style preferences and physicians’ abilities to produce WRVUs within the practice model and compensation design.

3) While the goal of “providers working to the top of their license” has become a topic of discussion in the industry, based upon work done for this study, two observations of interest emerged:

a) there is no accepted, standard definition of the concept. Ostensibly, it means licensed providers, physicians especially, dedicating their clinical time and effort to the more complex medical conditions and services leaving the less complex to be attended by lesser trained (and licensed) clinicians.

Based upon this study, the protocols and methods required to achieve such a goal, across clinical specialties, do not exist. Although, at least one practice observed in this study invested in and managed systems to create a “good clinical fit” between patient need and practices assigned; and

b) many physicians interviewed inside and outside of this study were not particularly interested in a daily schedule filled with all complex patients within their specialties. More than one physician stated “I like to have

some of easy stuff in my daily schedule”. Working to the “top of their license” was not a driving goal of many physicians.

- 4) For practices that applied the potential of licensed and billing APCs to their practice models, the degree to which there was “overlap” in clinical services between the APCs and physicians (i.e., seeing the same types of patients) ranged from 45% to 88%. For this study some clinical sub-specialties appear to do a better job managing this observed overlap to the lower end of the range than do primary care practices; likely due to the need to provide diagnostic and therapeutic services that are outside the scope of license for certain licensed APCs.

The obvious questions begged by this observation is if a defined proportion of clinical services demand can be satisfied by practitioners available at lesser cost, why would more expensive practitioners be applied?

One physician observed commented, “Why don’t the insurers pay the practice more for APC visits? They do the same things as physicians.”

- 5) Scope of practice for APCs is often limited by state-controlled licensing guidelines which challenges and limits the potential to generalize derived interprofessional team best practices within specialties across the U.S.

The principal investigator for this study has suggested the opportunity for an institutional license for qualified provider organizations; a license that would provide greater freedoms for the practice to re-design and apply clinical services delivery models while maintaining (or enhancing) operating economics of the practice.

- 6) Generally the electronic health record is seen as essential in the healthcare market place of today and tomorrow. However, its applications are often seen as being counterproductive to physicians' productivity (i.e., "slows me down").

A number of providers do see the longer-term value, especially as the clinical data bases created can be mined for their value in the creation of clinical services management strategies that are productive for clinicians and organizations; i.e., value created to better understand and manage total costs of care for defined clinical populations.

- 7) Practices observed, as a rule, do not examine data related to provider productivity patterns for the purpose of understanding the operating economics of the clinical practice leverage models applied, due in part to the inability of the practice billing and accounting systems in use to deliver useful information for decision making beyond the obvious billing and WRVU production and related direct and indirect operating costs data attributable to individual providers or provider groups.

It was not common for groups observed to use billing and related provider production data for purposes of "scenario testing" related to the topic of the operating economics improvements for various clinical models and methods.

- 8) For at least one practice observed (cardiology), there was extensive effort and resources allocated to clinical model innovations directed to an effective and efficient match of patient need with provider, including patients requiring ongoing care for chronic conditions (e.g., heart failure) to the point of employing comparatively more expensive, licensed clinicians (registered nurses) to take patient calls to triage and assign patients to providers within the practice. The goal

is to best match patient with provider for best clinical effectiveness and encounter efficiency for the patient care provider.

To achieve the desired outcomes, the practice must be of sufficient size, scope and scale to be effective, and, physician compensation designs must favor efficient division of work across available providers.

Potential Reimbursement Policy Implications of This Study:

To the extent that payers, whether commercial or governmental, could modify clinical services reimbursement policies and procedures in favor of optimization of provider productivity (physician and non-physician) with the goal of better ensuring that:

- a) the right provider was used at the right time;
- b) known evidence-based clinical best practices are applied;
- c) effective management of clinical quality and total costs of care for a given clinical condition is optimized; and
- d) physicians are not unduly motivated toward practice patterns and styles that optimize personal income; these changes/modifications could take the form of:

1. reimbursing at rates consistent with the “evidence” on level of provider capable of providing the service (even if such providers are not available in the practice; e.g., reimbursing physicians less for services that could be provided by lesser credentialed professionals);
2. reimbursements for ancillary diagnostic services (e.g., laboratory and imaging services) would be observed (and reimbursed) in association with individual or groupings of related professional services; i.e., “bundled” and reimbursed according to known best practices, regardless of which provider or provider organization delivered the service.

3. the totality of care provided for a patient within a specific clinical diagnostic category (or categories) is evaluated for ongoing clinical services efficacy. Billing practices reflect ongoing protocol adherence within reasonable limits; and
4. accurately reimbursing for services provided. Said otherwise, ensuring that WRVUs awarded to physicians are commensurate with the actual time and effort necessary to perform a given clinical task.

Methods Considerations for Future Work:

To the extent that MedPAC (or other agencies) would elect to pursue the questions related to the potential to leverage physician productivity through clinical services model innovations, there are several considerations useful to the design and operations of such follow-on studies.

- 1) Required data elements must be readily available and reportable from existing electronic practice management systems, specifically:
 - a) encounter-specific billed and coded units of service;
 - b) WRVU values associated with each coded unit of service;
 - c) data differentiation by provider; the ability to distinguish which physician or APC in the practice performed a specific unit of service;
 - d) data differentiation by kind of provider to determine which specific unit of service was performed by which physician or APC;
 - e) categorization of units of service to distinguish type of service (procedures, consultations, etc.); and
 - f) time required per service by provider and patient type

Clinical productivity data must be retrievable and reportable at the individual and identified clinical provider level; i.e., not “grouped” under a physician name for purpose of physician productivity, billing practices and physician compensation plan management.

- 2) For practices with physicians working alongside various licensed APCs, data retrieval and analysis methods must be sufficiently refined to answer questions

related to the overlap of physician and APC productivity i.e., clinic services produced “in common.”

- 3) Physician services productivity analysis methods should be applied to test the extent to which clinical encounter intensity varies within and across physicians; i.e., the extent to which the aggregate physician productivity profiles vary in clinical intensity and complexity:
 - for individual physicians;
 - between physicians practicing within the same subspecialty; and
 - across sub-specialties within a practice.
- 4) Time allocated by physicians to the supervision of clinical teams or other individual providers should be identifiable and distinguishable from clinical work, with an ability to estimate the financial effects of substituting physician clinical services production potential for clinical supervising work.
- 5) Evaluation of the extent to which physicians are financially motivated by compensation plan incentives affecting both quantity and intensity of clinical care services as a function of time units; i.e., determine the extent to which is it to the providers advantage to focus on less complex clinical services given the availability of a unit of clinical time.
- 6) The ability to distinguish specific patterns of productivity related to financial productivity of the practice and the individual physician and the financial effects of various clinical practice pattern modification scenarios.
- 7) Evaluation of patterns of patient access to the practice, including any differences in type of patient (clinical condition or acuity) and operating economics and

financial implications for the practice. Here, the question pertains to the extent to which a specific practice (or physician within a practice) controls or restricts access for type of patient (or payer) to the practice within a clinical specialty for purposes of managing the operating and financial performance of the practice, including compensation yield to the provider(s).

- 8) Development of simulations on how evidence-based best practices, within specific clinical specialties, can be “scaled” to optimize clinical outcomes and applications of clinical provider potential at multiple levels of licensure. These simulations would include reimbursement implications for services provided to Medicare enrollees.
- 9) Development of methods to estimate, with precision, physician allocations of time to various billable, clinical activities under evolving practice models including: subspecialization within specialty practices, various applications of interprofessional care model designs and more advanced health systems designs; especially those with advanced information technologies and clinical models that facilitate collaborative care management within an integrated system of care.

Appendices

Appendix A

MedPAC Project #3

Data Gathering Protocol

Purpose of this Memo: To describe the data gathering protocol for all participating medical groups – MedPAC Project #3

Purpose of the Project: The principal goals of the project are:

- (1) To better understand how the more productive specialty medical practices (free-standing or integrated) employ and apply specialized personnel, technologies and other methods and processes to expand and enhance the productivity of the practice; and
- (2) In gaining such understandings through this proposed pilot project work, to devise a reliable and efficient model (and method) to evaluate such efforts in an expanded sample of specialty practices across a range of U.S. health system designs.

Principal Value of the Project:

To provide “visibility” to MedPAC on practice productivity enhancement methods and opportunities, so as to inform considerations for future physician services reimbursement policy changes and revisions.

Beginning Assumptions:

- (1) Larger, subspecialized specialty medical practices (whether fee-standing or integrated with health systems) have the potential to employ a wide range of personnel, technologies and processes (clinical and operational) to affect the productivity of the practice overall.
- (2) The definition of “practice productivity” varies as a function of: the goals of the practices, its ownership structure (i.e., whether fee-standing or part of a larger integration health system) and the means and methods by which revenues flow to the organization (e.g., by fee-for-service, bundled payments, other risk arrangements, etc.).

Data Collection Goal

A principal goal is to use existing retrospective data and information accounting methods; i.e., data, that are already resident in practice-owned, electronic data bases. The rationale for this goal is:

- (a) Data gathering efficiency, reliability and comparability; and
- (b) To enable the creation of an efficient and replicable model of data gathering for application to project expansion, and ultimately, use with policy-making considerations and efforts.

Areas (categories) of data collection:

1. Physician work relative value unit (wrvu) production and related CPT code classification for all billable services (i.e., evaluation and management and any ancillary services codes) within five categories of effort:
 - (a) Hospital inpatient, consultative
 - (b) Hospital inpatient procedural
 - (c) Ambulatory consultative
 - (d) Ambulatory procedural
 - (e) Diagnostic interpretations (imaging and other)
2. Estimated physician work effort (time)⁷ allocated to each category of effort (cited above). Please include the source of time allocation (i.e., schedules maintained by practice managers).
3. Licensed APC⁸ work relative value unit production (wrvu) and CPT code production classifications within the same five categories as applied to physicians, including any wrvu or CPT code production that is billed under a supervising

⁷ Hours worked include time spent by health care providers on patient care services and related tasks, such as seeing patients, reviewing tests, preparing for and performing surgery and procedures, communicating with patients and family members, consulting and communicating with other health professionals about patient care, and completing medical charting or electronic medical record data entry. We exclude any hours worked on administrative functions (such as staff meetings or trainings), travel, breaks, or on-call time from the dataset. Other health professional procedures and hours include those billed incident to and independent of a supervising physician. Procedures conducted by physician extenders and billed as incident to a supervising physician are attributed to the physician extender. Procedures conducted by physician extenders and billed independently are also attributed to the physician extender.

⁸ Licensed extenders are defined here as those providers who have billing capabilities. For example, an RN who does not bill would not be classified as a physician extender but a nurse practitioner who does bill would be so classified.

- physician. For example, a wrvu produced by a nurse practitioner but billed through a supervising physician should be attributed to the nurse practitioner.
4. Licensed APC work effort (time) allocated to each category of effort cited.
 5. Licensed, but non-billable professionals who have a direct role in administering and managing patient services within the practice:
 - (a) Specific patient services roles beyond the more typical (rooming patients, taking vitals, etc.). Roles requiring decision-making regarding such services as: triaging patients to specific providers, programs, or types of clinical appointments, etc.
 - (b) Effort in this area of data collection will include:
 - (1) Numbers of staff used per category
 - (2) FTE's per category (and hours worked)
 - (3) Summary description of roles and responsibilities
 6. Other specially qualified and credentialed clinical/technical staff; e.g.,
 - (a) Imaging technologies
 - (b) Lab technologies
 - (c) Other

These staff will be identified by:

1. Numbers (people in the positions)
2. FTEs (hours worked)
3. Methods and accounting of work units produced

7. An estimate is provided of the total, aggregate work effort of all physicians as allocated to affiliated hospitals; e.g.

(a) Abbott Northwestern: 80%

(b) Regions: 15%

(c) UMMC: 5%

These allocations will pertain to the hospital portions of physician wrvu productivity. In other words, for all physician productivity that is allocable to a hospital, what proportion is allocable to each (must add to 100%).

8. The practice leader will identify the array of physician subspecialties with the group by:

(a) FTE per specialty (including an estimate of time spent)

(b) wrvu productivity (by subspecialty)

(c) an estimate of “shared” proportion of total physician wrvu effort (work effort in common as a percentage of the whole)

9. Total work effort (wrvu) and (CPT codes) dedicated to office-based ancillary services along with operating revenues apportioned as a function of: (a) professional services and (b) office-based ancillary services (ratio of professional services operating revenues to ancillary services operating revenues)

10. Provider (physician and APC) work effort and compensation design:

(a) Type of design; e.g., salary, salary + bonus, production.

(b) wrvu production by category (physician or APC)

11. Use of EMR in the practice (yes/no)

12. Use of (leadership's opinion):

- (a) Order sets (Yes/No with description)
- (b) Standardized care protocols (Yes/No with description)
- (c) Use of evidence-based best practices (Yes/No with description)

13. Questionnaire (lead physician and lead administrator);

Opinions on how innovative is the practice in many of the areas identified above.

Period of Data Collection: (one full calendar or fiscal year)

Note on Data Display Models (below): The intent of the models is to provide practice leaders with a conceptual model of the required data. Data will (preferably) be aggregated in an excel spreadsheet. The qualitative questions can be answered directly on the practice questionnaire either electronically or with pen and paper.

Approach to Analytics (for study work team):

1. Understand physicians time and effort allocations (wrvu and CPT profile)
2. Understand how licensed APCs work effort (a) expands productivity of the practice and (b) compares with work effort and CPT profile of physicians
3. Understand how other licensed, non-billable clinicians are used to extend/expand practice productivity/efficiency
4. Understand how non-personnel practice productivity tools are applied

5. Understand how existing services billing rules and regulations affect practice productivity innovation potential
6. Determine total practice operating expense as a function of the total physician WRVUs produced

Data Display Model

Data Category #1: Physician Productivity: Category, WRVUs and CPT Code Frequency, and

Provider Time Allocations

Accounting Period: _____

Source of Time Allocations: _____

Category of Effort	Total WRVUs	CPT Frequencies	Total Scheduled Physician Time Allocations
Hospital Inpatient Consultative			
Hospital Inpatient Procedural			
Ambulatory Consultative			
Ambulatory Procedural			
Diagnostic Interpretations (all) Imaging and Lab			
Totals			

Data Category #2: Licensed and Billable Physician Extender (APC) Productivity: Category, CPT
 Frequency, and Provider Time Allocations

Accounting Period _____

Category of Effort	Total WRVUs	CPT Frequencies	Total Extender Time Allocation
Hospital Inpatient Consultative			
Hospital Inpatient Procedural			
Ambulatory Consultative			
Ambulatory Procedural			
Diagnostic Interpretations (all) Imaging and Lab			
Totals			

Data Category #3: Licensed (but non-billing) Physician Extender Productivity (see protocol definition)

Accounting Period _____

Job Title	Number of Staff Used	FTE's	Estimated Total Hours Worked
1.	1.	1.	1.
2.	2.	2.	2.
3.	3.	3.	3.
4.	4.	4.	4.
5.	5.	5.	5.
Totals	Totals	Totals	Totals

Notes: 1. Categories are for licensed but non-billable professionals

2. Provide brief description of work performed by each job category with specifics on work done requiring professional license and experience below.

Data Category #4: Licensed/Credentialed Clinical/Technical Staff (Those Who Work Directly
With Patients, but do not bill independently for services)

Accounting Period _____

Job Title	Number of Staff Used	FTE's	Estimated Total Hours Worked
1.	1.	1.	1.
2.	2.	2.	2.
3.	3.	3.	3.
4.	4.	4.	4.
5.	5.	5.	5.
Totals	Totals	Totals	Totals

Notes: 1. Staff in this class work directly with patients; e.g., “echo tech.”

2. Provide brief job description for each below.

Data Category #5: Leadership estimates the proportion of all physician production allocable to affiliated hospitals. In other words, for all physician productivity that is allocable to a hospital, what proportion is allocable to each (must add to 100%).

Physician Hospital Productivity By Hospital	
Hospital	Proportion of Hospital Production by Hospital
1.	1. %
2.	2. %
3.	3. %
Total	100%

Data Category #6: Physician Productivity by Subspecialty

Practice Leaders will estimate how total physician WRVU productivity, FTEs, and the shared proportion of total physician wrvu effort (work effort in common as a percentage of the whole⁹) are allocated by identified subspecialty physician category; e.g.,

⁹ For example, in a cardiology group, “shared proportion” would mean the percent of time that an interventional cardiologist spends doing work across other subspecialties. The goal is to capture an estimate of the percent of time a subspecialist spends doing work outside of his/her subspecialty.

Physician Subspecialty	Allocation of Total WRVU Production	FTE per Specialty	Estimate of Time Spent	Shared Proportion
1. Inv./Interv. Cardiology	1. 30%	1.	1.	1.
2. Diagnostic Cardiology Imaging	2. 20%	2.	2.	2.
3. E.P.	3. 20%	3.	3.	3.
4. Consultative	4. 30%	4.	4.	4.
Total	100%			

Data Category #7: Use of EMR

- Yes / No
- Brief description of applications to provider productivity management below

Data Category #8: Total work effort (wrvu's) dedicated to office-based ancillary services along with operating revenues apportioned as a function of professional services and office-based ancillary services (ratio of professional services operating revenues to ancillary services operating revenues).

Data Category #9: Provider work effort and compensation design

Describe the compensation design for physicians and other licensed billing practitioners and related wrvu production for each major group such as “all physicians” and “all physician extenders” for the data period identified (fiscal or calendar year)

Compensation Design	WRVU Production % of total for each category
1.	1.
2.	2.
3.	3.

Data Category #10: Use of...

- Order Sets: Yes / No
 - Brief description of applications to provider productivity management and interaction with patient care management below
-
-
-
-

- Standardized Care Protocols: Yes / No

- Brief description of applications to provider productivity management and interaction with patient care management below

- Evidence-Based Best Practices: Yes / No
- Brief description of applications to provider productivity management and interaction with patient care management below

Data Category #11: Aggregate all billable WRVUs for physicians and licensed physician extenders. View this total as if the physicians were responsible for all this productivity. Estimate how this aggregate productivity compares with industry standards; e.g., "our physician group produces at the "x" percentile" as compared with comparable groups in our specialty".

Data Category #12: Leadership Questionnaire (Completed Separately)

Thank You!

Appendix B

MedPAC 3 Study

Integrated Specialty Medical Practice Leadership Questionnaire

Organization Name: _____

Name of Practice: _____

Clinical Specialty: _____

Location: _____

Purpose of Questionnaire with Methods of Administration:

This questionnaire is designed for use with physician and non-physician leaders of integrated medical practices. For purposes of this questionnaire an “integrated” practice can take one of two forms: 1) A medical practice that is affiliated with a health system by ownership, partnership or other form of affiliation, or 2) A medical practice that is free-standing (i.e., has no formal, structured corporate relationship with a hospital or health system) but is internally integrated, meaning it is sub-specialized and makes use of multiple licensed and non-licensed providers and physician extenders, and other performance enhancement methods to optimize practice productivity. For each question that requests a scaled response, please circle one number; 1-7.

The questionnaire is self-explanatory and should be easy to complete. Begin by indicating your position with the practice in the appropriate blank below. (Title):

I am a physician leader within the practice. Title: _____

I am a non-physician leader within the practice. Title: _____

If there are two (or more) leaders from the practice completing the survey, please do not discuss or otherwise collaborate on your responses.

1. To what extent does your practice use **licensed physician extenders** (e.g., APCs) to optimize the performance of the practice in the areas of...

a. Physician Productivity Management

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

b. Clinical Quality Management

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

c. Patient Satisfaction Management

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

d. Practice Operations and Financial Productivity Management

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

2. To what extent does your practice use specially-trained, **non-licensed extenders** (e.g., medical assistants) to optimize the performance of the practice in the areas of...

a. Physician Productivity Management

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

b. Clinical Quality Management

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

c. Patient Satisfaction Management

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

d. Practice Operations and Financial Productivity Management

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

3. To what extent does your practice use (apply) standardized clinical pathways to optimize clinical quality and to enhance productivity (including the reduction of unproductive clinical variation between practitioners)?

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

4. To what extent does the practice, by design, use (apply) physician sub-specialization to enhance practice performance; i.e., to enhance clinical quality, physician and provider productivity and practice efficiency? Said otherwise, is the sub-specialization of physicians, and the deliberate assignment of physicians to work, based upon sub-specialty skills and capabilities, an integral component of practice operations management?

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

5. To what extent does the practice own, control and/or operate “billable” ancillary clinical services for purposes of patient care effectiveness, and practice operations efficiencies and financial productivity?

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

6. To what extent has the practice invested in and made use of advanced information technologies (which may include any form of electronic medical record) to enhance...

a. Clinical Quality

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

b. Practice and Provider Productivity

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

Please specify what advanced technologies are used, if any: _____

7. To what extent does your practice use the physician and provider compensation design to contribute positively to the productivity of the practice (provider productivity and financial productivity)? In other words, to what extent is the physician compensation design instrumental and important to practice productivity performance management?

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

8. To what extent is practice scope of service, operating productivity and/or financial productivity and performance enabled by special licensing held directly by the practice or by an affiliate (e.g., a hospital or health system owner of the practice or practice partner); examples could include, but are not limited to: a surgery center license, imaging diagnostic and treatment facility license, hospital license, etc.?

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

9. To what extent does special facilities design and construction contribute to practice operational and financial productivity (i.e., the extent to which practice facilities have been specialty designed and constructed to optimize practice productivity)?

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

10. To what extent do existing professional and ancillary services billing rules and regulations (including those imposed by governmental payers such as Medicare and Medicaid) hamper or otherwise limit innovations in patient care; especially the use of care methods and/or staff who could effectively provide care to patients appropriately and productively but for provider licensing and billing rules impediments?

Not at All

To a great extent. Our practice is very innovative in this regard

1 2 3 4 5 6 7

Provide a few suggested changes to billing rules and regulations:

11. To what extent does your practice use “E-Care” methods to clinically interact with patients; e.g., use of electronic linkages by way of email, smart phones, and related methods to answer patients’ questions about their care or to proactively guide care to enhance the clinical effectiveness and productivity of the practice.

Not at All

To a great extent. Our practice is
very innovative in this regard

1

2

3

4

5

6

7

Final comments: Please provide your best advice to MedPAC officials regarding changes in related rules, regulations and requirements that if enacted, would best enhance your practice's ability to deliver the highest quality care cost-effectively while, at the same time, improving the productivity of the practice overall. Think broadly, but be specific with your recommendations, especially as they relate to the application of licensed and non-licensed physician extenders and other practice productivity enhancement opportunities.

End of Questionnaire: Thank you!

Appendix C

Participant Interview Format

Description: Interviews were conducted with a number of senior, clinical service line leaders affiliated with larger, medical group practices and integrated health systems.

Interviews were guided by a structured format

Interview questions provided included:

- 1) Has your organization identified specific goals relating to the “leverage” (enhancement) of physician productivity in your organization? (Please list and describe).
- 2) Has your organization developed principles of design for these efforts? For example, the design, development and management of inter-professional teams.
- 3) What are the “elements” of innovation design in this regard; such as the use of licensed physician extenders, etc.?
- 4) Are there clinical specialties that are more important for applications of your organization’s plans to leverage physician productivity, and, if so, what are they, what is the thinking behind the selection of these clinical specialties?
- 5) Is there a preferred model (approach) to the leverage of physician productivity?
- 6) What do you measure, monitor and evaluate to understand the effectiveness of your approach; what are your “metrics”?
- 7) Do you have observations to share regarding how third party billing practices/requirements aid or hinder your efforts to enhance physician productivity leverage and, do you have suggestions to improve third party billing and reimbursement

practices to facilitate innovation to promote inter-professional team care delivery practices?

- 8) How has your organization's efforts affected provider compensation (especially for physicians) and does your organization have a "next generation" provider compensation plan in mind?
- 9) What are the provider leverage model management challenges?

Appendix D: Participant Interview Summary

Interview Matrix 1: Oncology		
Questions	Summary	Quotes
1: What is your approach and/or goals to increasing productivity?	<p>Compensation driven by production (professional receipts) as well as percent shared and percent equal of the ancillary revenue.</p> <p>“Aggressively” incorporating mid-level providers but MDs are now moderating interest in adding more; based on their compensation</p>	<p>“I think the jury’s out on whether [hiring mid-levels] worked or not”</p>
2: In pursuing productivity enhancement, where do you place the most emphasis (a-h)		
a) Developing a team to facilitate task delegation	<p>In Oncology, the patients are very sick and require a lot of care; i.e., chemo. The physician isn’t with the patient during that time so there is a lot of care coordination between physician, pharmacist, radiation oncologist, nurses etc. The patient may see a physician for ½ hour and then spend 4-5 hours getting chemo</p>	
b) Licensed extenders	<p>Nurse practitioners supervise chemo. In smaller hospitals, this may be done by a chemo nurse (RN) with an ER physician down the hall</p>	<p>“It [hospital based oncology treatment] is a different world and it is structured in a totally different way”</p>
c) Technology	No comment	
d) Specialized Facility Design	<p>Designed a new cancer facility in BLANK by BLANK Hospital; it is located right next to BLANK and has lots of other services close by (e.g., wig shop, genetic counseling, rehabilitative from Sister Kenny). This is efficient → patient doesn’t need to travel far. Private rooms: some patients like them but some like the community that forms with other cancer patients - they spend so much time there that they become friends. Also, communal</p>	<p>“patients get that one-stop-shop”</p> <p>“This [chemo] is where a lot of inefficiencies are in an oncology clinic”</p>

	room allows for nurse to catch reactions among other patients, easier. They decided to build a communal space and private rooms	
e) On-site ancillaries	No comment	
f) Clinical protocols	There is a learning curve but then it is useful - allows for suggested care protocol but also allows for physician to deviate based on professional opinion. Regiment planning is very complicated so having the protocol already set up allows for much fewer clicks in the system	“Once you get past how to use them properly, it is productivity enhancing”
g) EMR/E-Care	It allows for some efficiencies like with the clinical protocols (the backbone of the EMR). But, it sounds like it did <i>not</i> increase productivity overall.	“After losing productivity after implementation, I would say our productivity is back to where it should be”
h) Other	No Comment	
3: Tracking Success		
	Largest productivity motivator is internal and external competition. Internal competition driven by referral reports and snapshot reports; they contain information about personal activities, your colleagues activities, and organizational activities (production, receipts, charges, new patients etc.) Also compete with BLANK system which has taken patients from our physicians; they now have capacity to fill	“They want to be busier or busy like they used to be”
4: a-b) How do payers affect your ability to enhance productivity?		
	Drug margins incentives are bad for physicians; makes them “pharmacy managers” instead of physicians. When drugs go generic, it kills profits. Our Practice has been able to negotiate some better generic reimbursements to make the sting less	“Our largest expense is drugs, not labor” “hospitals have a tremendous amount of built-in profit margin”

	<p>severe</p> <p>Hospitals have a huge advantage in drug pricing</p> <p>Cuts to Medicare reimbursements has meant cutting back on capital investments, little salary increases, not filling positions</p> <p>Quality has been defined by protocols/pathways and we think that is where everyone should go</p>	
c) Has productivity enhancement efforts affected compensation?	No Comment	
5: Challenges and Opportunities going forward	<p>Clinical protocols/pathway utilization</p> <p>Changes required in drug margin differential for hospitals and oncology practices</p>	

Interview Matrix 2: Radiology		
Questions		
1: What is your approach and or goals to increasing productivity?	<p>Physician compensation <i>not</i> based on production</p> <p>Very specific productivity goals: radiology to increase 20% through use of imaging technologies. Vascular surgeons to increase 10%.</p> <p>Pulmonology, sleep medicine, and intensivist are as productive as they can be → goal is to shift some work to midlevel's.</p> <p>Must continue to increase 20% to maintain salary and maintain competitiveness in the marketplace</p>	
2: In pursuing productivity enhancement, where do you place the most emphasis (a-h)		
a) Developing a team to facilitate task delegation	<p>Physicians don't team up to care for patients but physicians and midlevel's often team up to enhance productivity for pulmonologists and the intensivists</p> <p>Other, non-billing providers are used less now; because everything has gone digital, they don't need people managing/hanging the films.</p> <p>The vascular surgeons use scribes but they only have a small impact on productivity</p>	
b) Licensed extenders		
c) Technology	<p>In the past a transcriptionist would edit a physician's report. Now the physicians use voice to text and have to then have to do their own editing for the reports. This has made physicians 7-10% less productive. But, the digital images have greatly improved efficiency, especially for those in less busy areas. Now they send the less busy physicians images from other sites to read. That means that they have cut down on the</p>	<p>"Now we can pretty much level out each of the slots, whereas before we might need 1.4 FTEs per slot because of the inefficiencies but now we are down to 1.2 to 1.1, with that workload balancing technology [sending images to the less busy physicians]"</p>

	number of required staff.	
d) Specialized Facility Design	None	
e) On-site ancillaries	They typically don't own the ancillaries	
f) Clinical protocols	They don't use them much but when they do it slows productivity. They physician has to keep on referring to the protocol instead of just doing it how s/he has always done it	
g) EMR/E-Care	The best investments of all have been the digital imaging transmission, the PACS (Picture Archiving and Communications System), and the RIS (Radiology Information Systems), which have integrated the clinical data, the scheduling data, the actual image data, and the report data. These technologies were phased in over the course of a few years	
h) Other		
3: Tracking Success		
	<p>They don't keep good data on each physician because they don't incent/pay that way. They do keep track of overall WRVU/provider (average) on a monthly, quarterly, or annual basis.</p> <p>No Financial/quality or care metrics. It really boils down to WRVU/Provider</p> <p>Have tracked ROI of IT investments; large returns for radiology → MUCH more productive. Still negative returns for EMR implementation for pulmonology and vascular surgery but it was only implemented 1 year ago</p>	<p>“We should do a lot better job of it... The metrics that we are using are at a very high level... What it really comes down to is RVU generation per provider.”</p>
4: a-b) How do payers affect your ability to enhance productivity?		
	<p>Payers have helped push the practice to reduce overhead which has provided more money for physician's salaries.</p> <p>Little impact from payers on physician productivity.</p> <p>Differential between physician and midlevel reimbursement disincented the practice from using midlevel's</p>	<p>“on all counts, they [payers] have actually helped [business productivity]” note: business, not physician, productivity</p>

c) Has productivity enhancement efforts affected compensation?	Will be moving to a production/quality payment model	
5: Challenges and Opportunities going forward	In 5 years, if they produce the same number of WRVUs they will have to have 20% fewer physicians - potentially replaced by nurse practitioners.	

Interview Matrix 3: Orthopedics		
Questions		
1: What is your approach and or goals to increasing productivity?	<p>Compensation: Physicians pay equally for rent etc. and then dictate their own productivity → share expenses and then it is up to the physician to produce revenues</p> <p>Physician practices are physician-directed → they can personalize the EMR templates but also can use the templates provided. They set their own schedule.</p>	<p>“One of the things that seem to help productivity is happiness. If you have happy people working that like their jobs and feel they have the freedom to make personal choices on how they do things, I think it helps their productivity.”</p>
2: In pursuing productivity enhancement, where do you place the most emphasis (a-h)	<p>Productivity is determined on a personal level</p> <p>No one comes to speak to a physician about working harder unless they are getting close to not being able to cover their expenses. The physicians can meet with the CFO or someone else to review their practice and get some help on how to manage the practice.</p> <p>Also, all physicians get to see all other physicians’ productivities. This encourages more productivity</p>	<p>Interviewer: “The model is almost like a confederation; with common goals, etc., and shared expenses but it still has the liberty of each physician to determining how they are going to live their lives. Is that correct?”</p> <p>Respondent: “Right. ... we don't care how much you work so much. We just care that you do a good job.”</p> <p>“[our practice] still allows people to be different but it [seeing other physicians’ productivity] at least gives you an idea of what the spectrum is, and no one seems to like to be on the bottom”</p>
a) Developing a team to facilitate task delegation	No Comment	
b) Licensed extenders	<p>PAs and NPs work with physicians. Sometimes a midlevel is assigned to one specific physician, other times they are shared (more economical for the individual physician). Some midlevel’s have their own patient</p>	

	panel or can see patients if the physician is out of town 30-34 midlevel's total	
c) Technology	PACS system has improved productivity a LOT. It is much easier to find old patient records, look up old scans, share images across locations etc.	
d) Specialized Facility Design	If there are more than 3 or 4 MDs per x-ray then it becomes a bottleneck. They designed the facility with pods - rooms for 3 MDs and one x-ray. Each pod has its own waiting room as well because then the patients get to the right pod easier and it is quieter	
e) On-site ancillaries	They own their MRI → it might improve productivity marginally just because it might be a little more accessible	
f) Clinical protocols	Not as good at this as they should be - the subspecialized physicians have more protocols than the generalists	
g) EMR/E-Care		
h) Other	Big focus on: happy doctors means productive doctors	See question 1 quote section Interviewer: "As we are doing these interviews, one of the strings that is running through many of these is that EMR has transferred many of its secretarial work to the physician and you are addressing it by having different methods of using EMR by the docs." Respondent: "It's caused us to get scribes... You know how it would be if you are trying to tell your doctor something and they are typing, it really is hard to pay attention." Interviewer: "So you had to increase staff"

		because of EMR for two reasons, one is for patient relationship and also for productivity.” Respondent: “Yes”
3: Tracking Success	Track productivity across all physicians and share the information. However, no one monitors unless unable to pay expenses	
4: a-b) How do payers affect your ability to enhance productivity?	CMS is easier in some ways than private because with CMS the rules are spelled out better. With private, pre-certification can take a long time; up to a week even for the patients that obviously need the service. They don’t take into consideration the kind of patient when providing care but the private payer patients can be harder to schedule, which can reduce productivity	
c) Has productivity enhancement efforts affected compensation?	They get paid \$0.57 on the dollar for private patients but only \$0.25 on the dollar for Medicare They also don’t let doctors turn away Medicare - they have to see everyone Some don’t like seeing workers comp patients because they are really time consuming even though they pay well	
5: Challenges and Opportunities going forward	As more patients age, there will be more demand and more need to be efficient so that wait times aren’t too long. Idea to improve: bill by the minute instead of the very complicated coding system - prevents upcoding and is easy to catch a physician who is billing two hours for one hour of work.	“ICD10, which again is going to make it harder and slower to see more patients. That’s really not the goal of a doctor so much to do all that paperwork... It’s also very expensive to have an EMR and to maintain it, it’s somewhat of a negative but it’s also a positive because you can keep track of things. You can make it efficient if you

		don't have too many rules to follow."
--	--	---------------------------------------

Interview Matrix 4: Cardiology

Questions		
1: What is your approach and or goals to increasing productivity?	FFS and lump sum compensation - not WRVU driven and a lot of other work outside of WRVUs that aren't accounted for when doing a fair market analysis of compensation Split compensation fairly evenly and use a team based structure	"Obviously when you are not-for-profit, we have to get our services "market" evaluated and unfortunately the market still out there is all about what is your RVU's. They don't take into account that there is a lot of dollar's at risk in terms of what happens with re-admissions, and there is a lot of work in re-admissions... it isn't reflected on work RVU's."
2: In pursuing productivity enhancement, where do you place the most emphasis (a-h)		
a) Developing a team to facilitate task delegation	Measured as a team Use teams in chronic disease management	"We do monitor people's productivity, but it's more in fact a global productivity."
b) Licensed extenders	Use extenders for chronic disease management but cannot have their own patients. All patients see MD and then some can do follow up with PA/NP who reports back to MD. Also used in inpatient to round with the MD so NP/PA knows the patient for inpatient follow up. Also used to triage/prioritization	"As time goes by, I see that ratio continuing to increase for more NPs, PAs per cardiologists. There is just a lot of things that the financial models don't support having cardiologists do. I think that there are certain things that, particularly in

		structured areas, like chronic heart failure, pulmonary hypertension management that NPs get a lot of experience that they become very good at when they are in a very structured clinic setting. I think that is very good for patient care.”
c) Technology	Technology allows for hospitals to be hyper focused on being the “safest hospital system in the country” and that makes things take longer Telemedicine and telemonitoring makes things more efficient but the cost isn’t worth the reimbursement	“I think if you went back ten years ago, in some respects we were more efficient than we are now.” “IT costs are overwhelming”
d) Specialized Facility Design	Talk about it a lot but can’t figure out an efficient way to actually do it. Suspects that most clinics are still set up in the traditional way.	
e) On-site ancillaries	Yes, this is very important both for efficiency and the patient experience.	
f) Clinical protocols	Protocols: Yes, some. But there is pushback from the system because everything needs to be laid out so exactly. Guidelines: yes, they use them to check their processes if their results aren’t coming out right	
g) EMR/E-Care	Bad for productivity because physicians have to do a lot of work that should/used to be done by lower skilled labor. They force MDs to work below their license, if implemented poorly	“Meaningful use with EMR’s, that slows us down in clinic... They want you to build your workflows around the EMR, rather than build an EMR around the workflows.”
h) Other	Work flows have been the best over the past 5 years. Greatly increases patient experience and helps productivity too. The workflow is also	

	important in measuring outcomes	
3: Tracking Success	<p>PEAK Teams (performance excellent alignment of knowledge teams) within subspecialties. Each has a dashboard with metrics to track success; mostly quality with some financial and some productivity.</p> <p>Physicians do give feedback on their productivity and they try to take it into account but the focus is on quality because they cannot hire new physicians easily if one starts to slip on quality</p>	<p>“It’s just in our gut, be efficient... we can’t go back and get another physician, willy nilly, it has to go through a very stringent process review if we want to hire an additional physician”</p>
4: a-b) How do payers affect your ability to enhance productivity?	<p>Payers not paying for telemedicine for physicians who would have to travel 60 miles but paying for physicians who have to travel 100 miles.</p> <p>Payers not supporting the care that is needed to keep patients from readmission (“observation units, outpatient infusion therapy, those things that are much less expensive than inpatient care but not cheap”)</p> <p>Payers don’t understand “the cost of doing stuff” and don’t support/compensate for legitimate work that isn’t currently billable</p>	<p>“Admission is prevented by outpatient care not by inpatient care”</p>
c) Has productivity enhancement efforts affected compensation?		<p>“If you talked to the hospital administrators they are scared to death on work RVU’s because they don’t think that physicians will work very hard once the work RVU’s go away.”</p>
5: Challenges and Opportunities going forward	<p>More pressure to produce WRVUs Productivity has to be redefined to</p>	<p>“I don’t think that [WRVUs] is a full</p>

	include more than just WRVUs	definition or should be a full definition of productivity. Again, I cannot be as productive in the hospital as I could have been ten years ago. Why? Patients are a lot sicker”
--	------------------------------	---

Interview Matrix 5: Urology		
Questions		
1: What is your approach and or goals to increasing productivity?	<p>Compensation based in part on individual productivity - WRVUs</p> <p>Some providers in the practice are already at highest productivity - anymore and they would sacrifice quality</p> <p>Set goals and push to increase productivity primarily for new physicians</p>	
2: In pursuing productivity enhancement, where do you place the most emphasis (a-h)		
a) Developing a team to facilitate task delegation	Cross train support staff (LPN, MA) in all different subspecialties so they can help out wherever.	“[Before cross-training support staff] There were times when we had to cancel a physician’s clinic because we didn’t have the [properly trained] support staff.”
b) Licensed extenders	5 PAs in the practice - they round and do consults. Two have a particular expertise (Erectile Dysfunction) They also assist in the OR	
c) Technology	Sold their imaging equipment and never had own MRI	
d) Specialized Facility Design	They built a facility but then regulations changed and it didn’t meet code. Instead of reinvesting they just bought into other ASCs	
e) On-site ancillaries	Has lab onsite. Also, bowel feedback and uro-dynamics	
f) Clinical protocols	No Comment	
g) EMR/E-Care	UroChart, a urology specific EMR - many physicians say it decreased productivity because they do more charting than before (60% of a visit spent charting)	
h) Other		

<p>3: Tracking Success</p>	<p>4 different IT systems that could be used to track success (practice management system, lab information system, general accounting system and EMR) but they haven't been able to extract meaningful data from them Currently they just use gross measures to track: such as RVU's, patient visits, revenue.</p>	<p>"So we ask questions like, what is our most profitable procedure that is something we should be able to easily answer but the reality is that we haven't been able to get at that data."</p>
<p>4: a-b) How do payers affect your ability to enhance productivity?</p>	<p>Onerous documentation, particularly by CMS Reimbursement changes affect what kinds of procedures the physicians perform Suggests an advisory board of physicians to better understand when and how reimbursements should change Wants CMS to look at the cost of a physician in his practice to perform a procedure versus someone elsewhere who would do that procedure invasively</p>	
<p>c) Has productivity enhancement efforts affected compensation?</p>	<p>WRVUs have stayed the same but income for the urologists have dropped over the past 5 years - has put more and more pressure on maintaining or increasing WRVUs</p>	<p>"with groups that want to remain independent, with reimbursement shrinking, and their income dropping, it's going to put more pressure to increase their RVUs"</p>
<p>5: Challenges and Opportunities going forward</p>	<p>Have to get bigger, have to become more productive and efficient with more economies of scale Some discussion around getting rid of midlevel's</p>	<p>"The general discussion has been, in order for us to survive we need to get bigger." "There has been discussion from some of our providers that perhaps we should do-a-way with our mid-levels and have</p>

		our younger partners in our point position that are newer to the practice, to absorb some of those responsibilities.”
--	--	---

Interview Matrix 6: CMO Clinic Division (mostly primary care and some specialty care)		
Questions		
1: What is your approach and or goals to increasing productivity?	<p>Paid on WRVUs</p> <p>Goals vary by physician but each has individual productivity goal set at a minimum at median productivity</p> <p>Productivity enhancement: “It’s fundamental, if we don’t have productive physicians we can’t survive as an organization and we can’t invest in the structure we need and the quality improvement that we need and we can’t pay them at market competitive rates.”</p>	<p>“We expect ramp ups when we hire new people and we have some areas where for strategic reasons we modify that goal but that is where we always start, to have a market median productivity goal”</p> <p>“We believe that going forward, work RVUs will be an inadequate and insufficient measure of productivity. Obviously right now, physicians and other healthcare providers do all sorts of work that are not measured through work RVU but to-date, we feel that it is still a relatively fair comparison because most groups cross country have about the same ratio of productive and non-productive work that they are asking their providers to do. As we move into population management, we’ll be expecting our physicians and others to do more work that’s highly valuable that doesn’t lead directly to a work RVU.”</p>

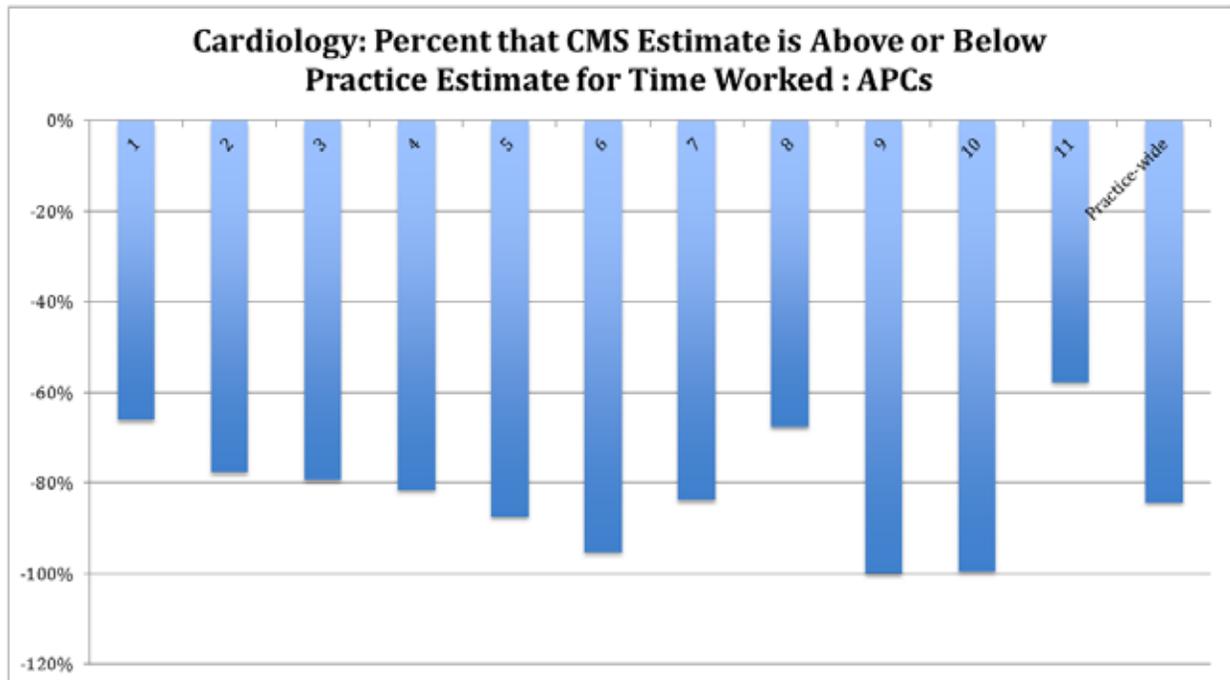
2: In pursuing productivity enhancement, where do you place the most emphasis (a-h)		
a) Developing a team to facilitate task delegation	No Comment	
b) Licensed extenders	<p>Some have their own patient panels but they are moving more towards shared panels with physicians as active managers - particularly for popular physicians</p> <p>Started an active management pilot recently - adjusting the comp model to reflect the incentives: two members of the team (MD and NP) will share productivity goals so that they don't have to worry who does the work based on WRVUs.</p>	<p>"We think patients will welcome that [seeing APC if physician is too busy]; we think they will enjoy seeing the PA or NP for education, or sometimes for health maintenance exams. It may vary by team but the point will be that the team together will divide the work so that the patients feel well supported and engaged and they can both use their skills to the highest level. That's our dream."</p>
c) Technology	No Comment	
d) Specialized Facility Design	Moving MD and NPs desks close together so they can communicate easier - not as much email/instant messaging etc.	
e) On-site ancillaries	Yes, depending on the size of the clinic. Ancillaries are not tied to physician productivity credits and are only there for patient satisfaction purposes	
f) Clinical protocols	No Comment	
g) EMR/E-Care	Formal course to learn about EMRs. Rethinking staffing ratios and hiring people to aid in patient engagement all with the intent of freeing time for the physician to finish added burden of charting	When it was introduced "it gave great benefits to patient care but at the expense of physician and provider time."
h) Other	Schedule management to make sure	

	that supply of providers in clinic meets the demand - time of day and day of week	
3: Tracking Success	Ensuring that physicians aren't working too hard is also important - spreading out scheduling to ensure they don't have "killer days" Regarding the pilots: they track patient experience, quality, financial metrics	
4: a-b) How do payers affect your ability to enhance productivity?	Reporting requirements - if there were global requirements that were the same then practices wouldn't have to devote so much resources to the reporting Ordering protocols (pre-authorization etc.) are time consuming and demoralizing	"Globally, the kinds of reporting we do need to be aligned." "Those are surprisingly demoralizing to healthcare providers, I think."
c) Has productivity enhancement efforts affected compensation?	If MD and APCs were paid the same amount then the clinic would have more freedom to arrange for the most efficient provision of care	"I think the unintended consequence of the paying less for the work provided by PAs and NPs is it will hold us back, it will restrict our ability to hire them and use them and it will impair our ability to solve the primary care crisis that we have..."
5: Challenges and Opportunities going forward	Opportunities: engagement teams Challenges: Population management in a FFS world In the future: new ways to compensate physicians - leading teams and education. More tools are needed to support those things. Also, tele/E-healthcare will be more prevalent.	

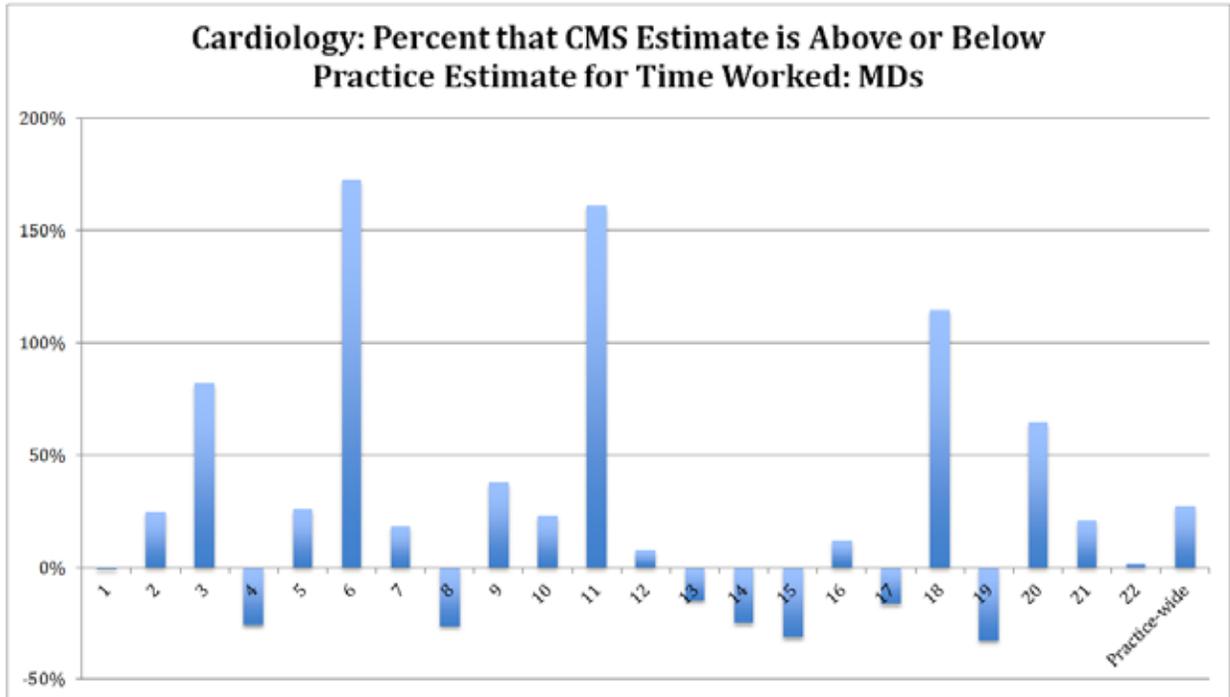
Appendix E

Analysis of CMS estimate of time worked for physicians and APCs as compared with actual calculated for:

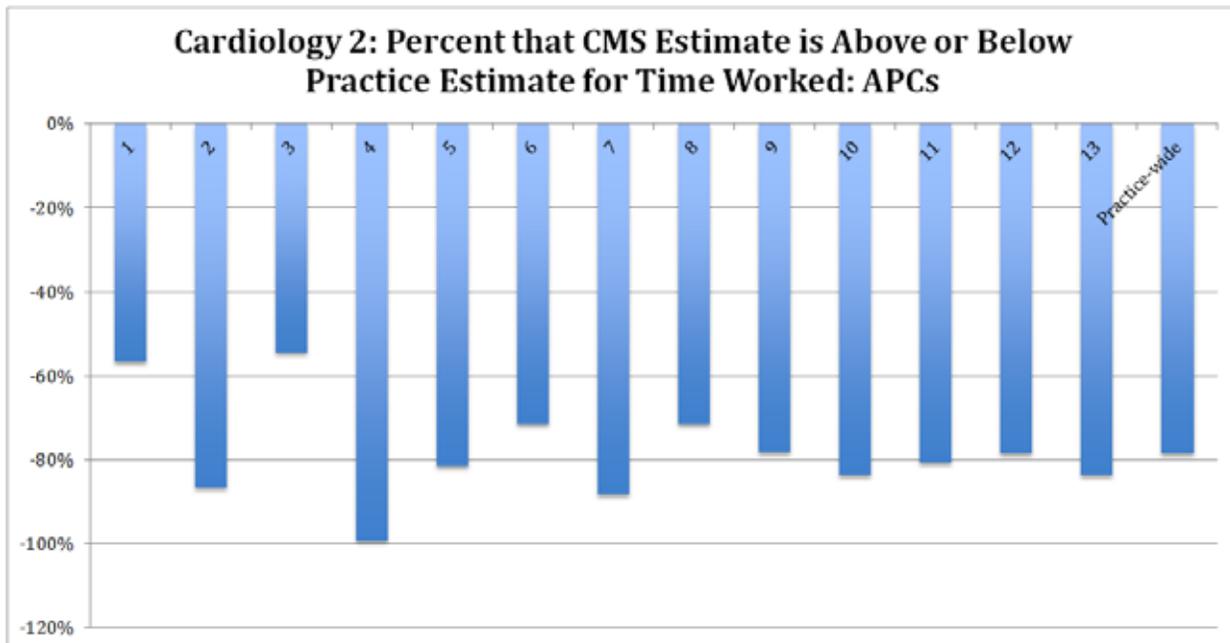
- Cardiology
- Family Practice
- Orthopedics
- Urology



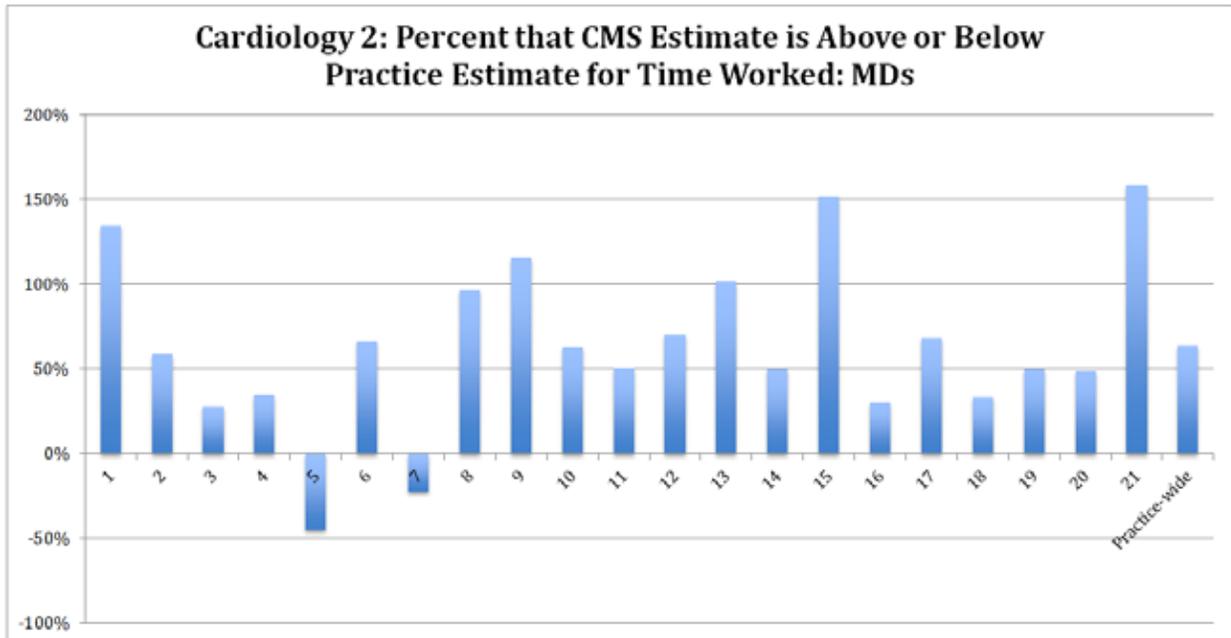
The above graph demonstrates that, for APCs in this cardiology practice, the number of hours actually worked far exceeds the number of hours calculated from billed CPT codes.



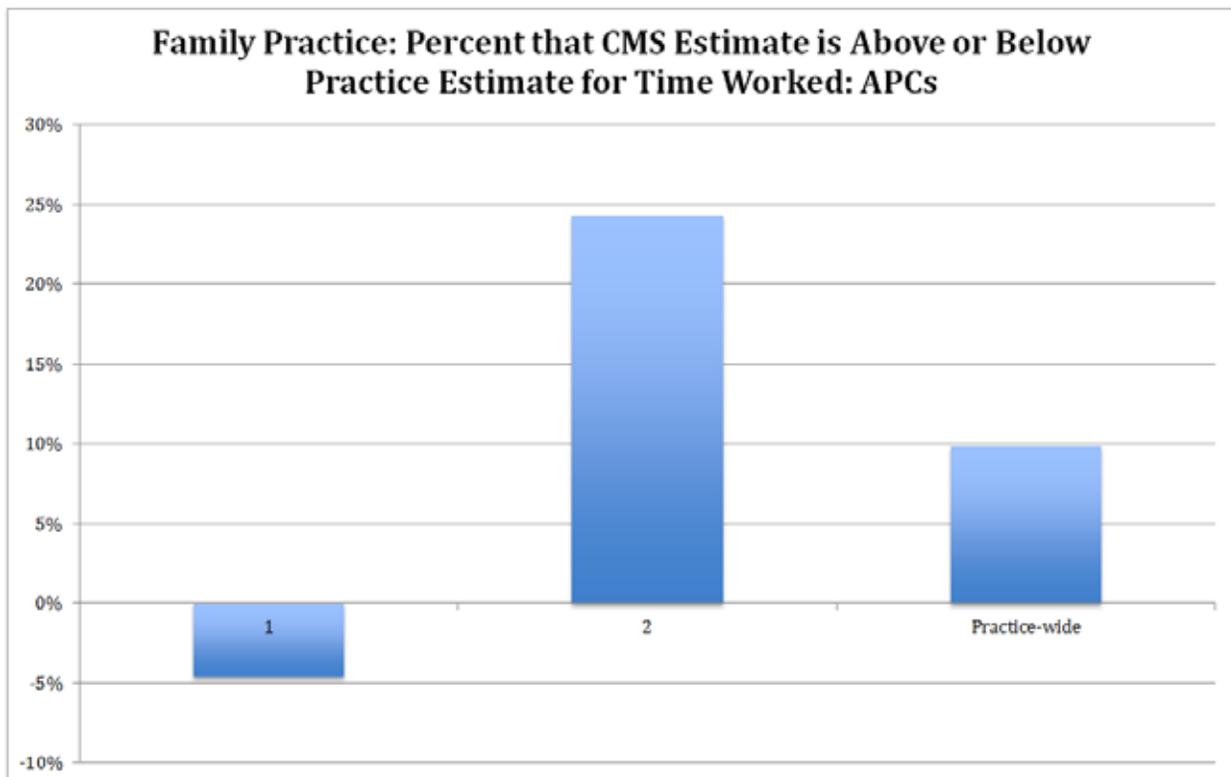
The above graph demonstrates that there is significant variation among physicians in this cardiology practice in terms of actual hours worked and the number of hours calculated from billed CPT codes. However, overall, the practice's calculated hours based on CPT codes is higher than the actual number of hours worked.



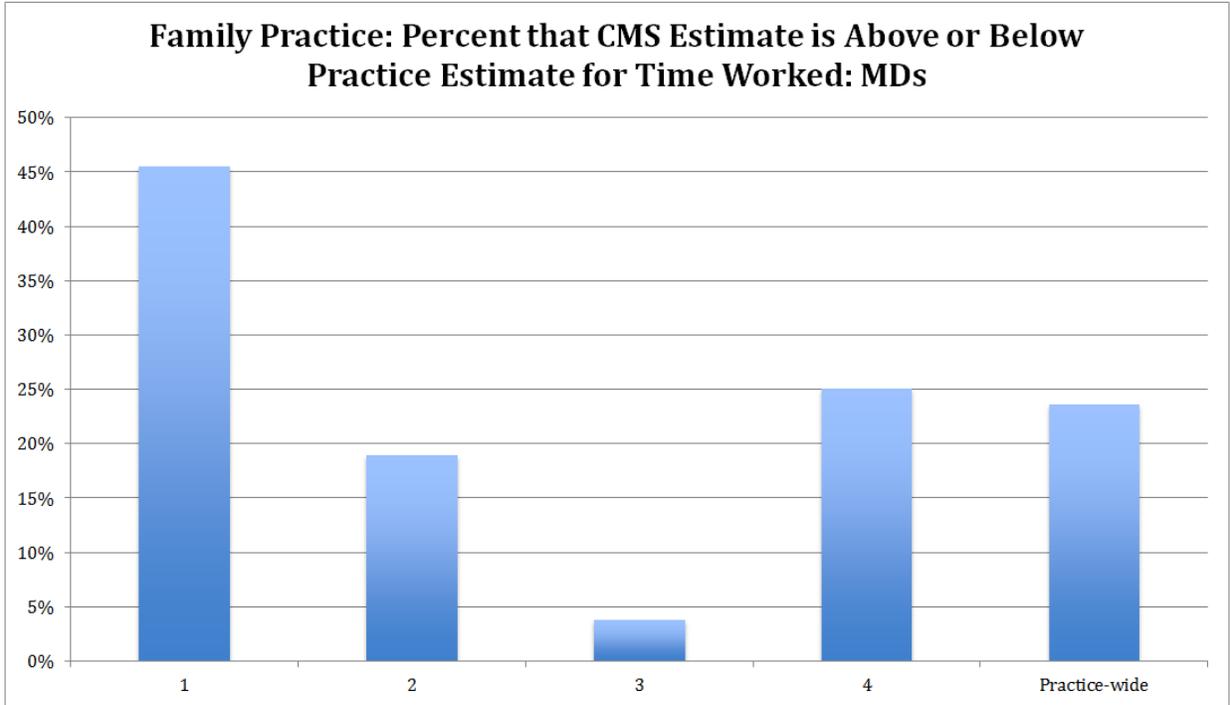
The above graph demonstrates that, for APCs in this cardiology practice, the number of hours actually worked far exceeds the number of hours calculated from billed CPT codes.



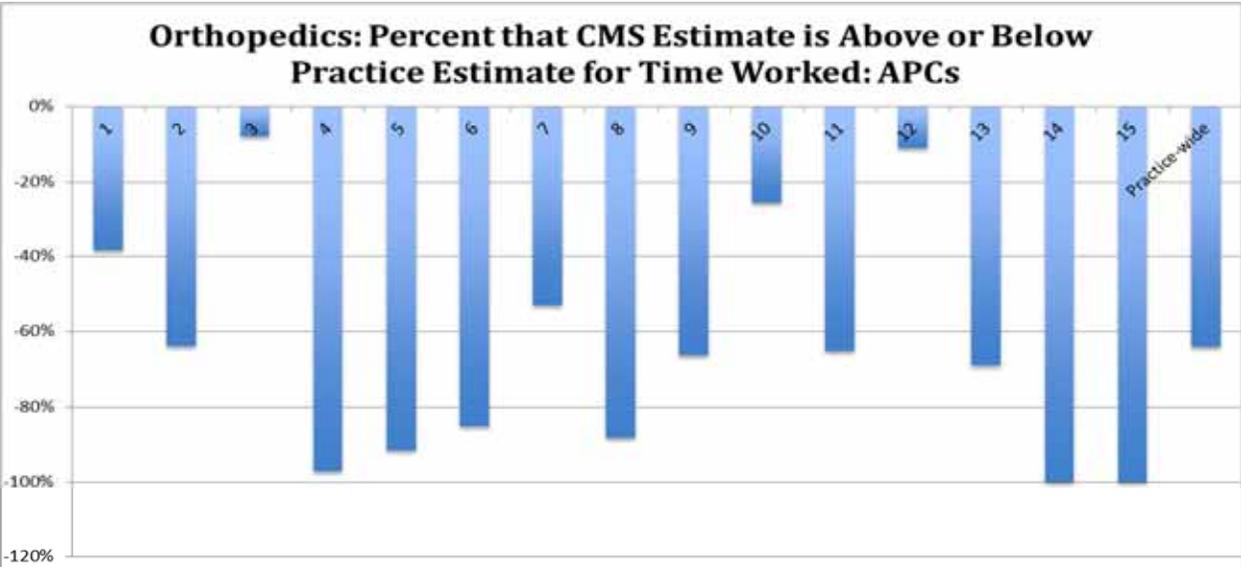
The above graph demonstrates that there is significant variation among physicians in this cardiology practice in terms of actual hours worked and the number of hours calculated from billed CPT codes. However, overall, the practice's calculated hours based on CPT codes is higher than the actual number of hours worked.



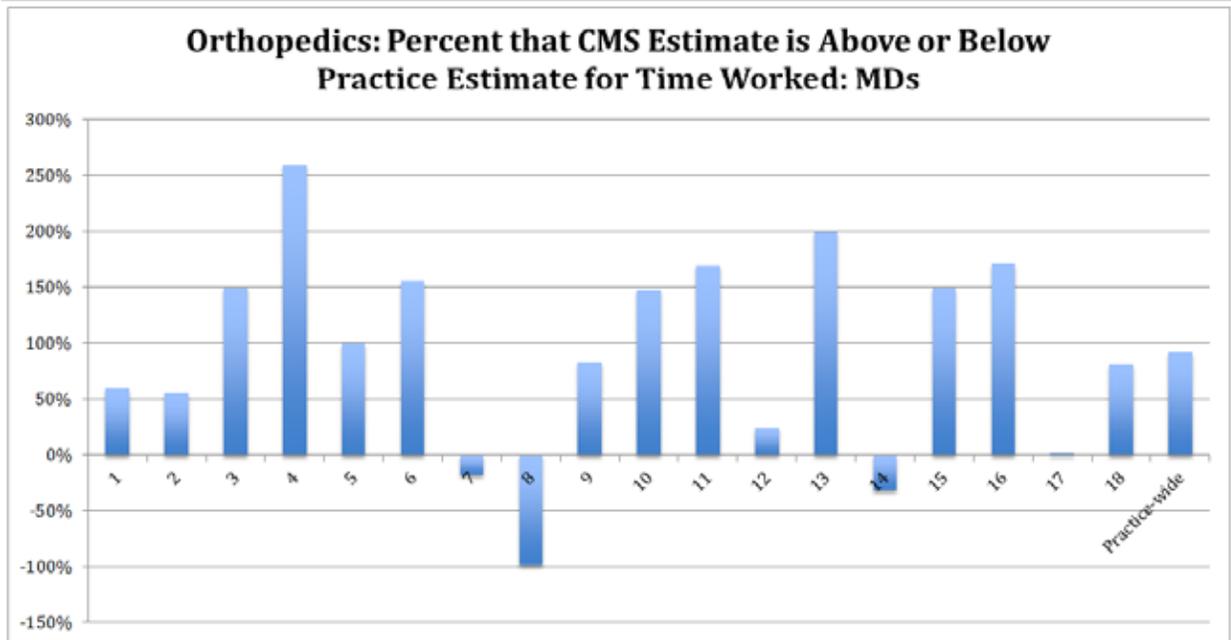
Overall, the hours calculated from APC-billed CPT codes for this practice are greater than the actual hours worked.



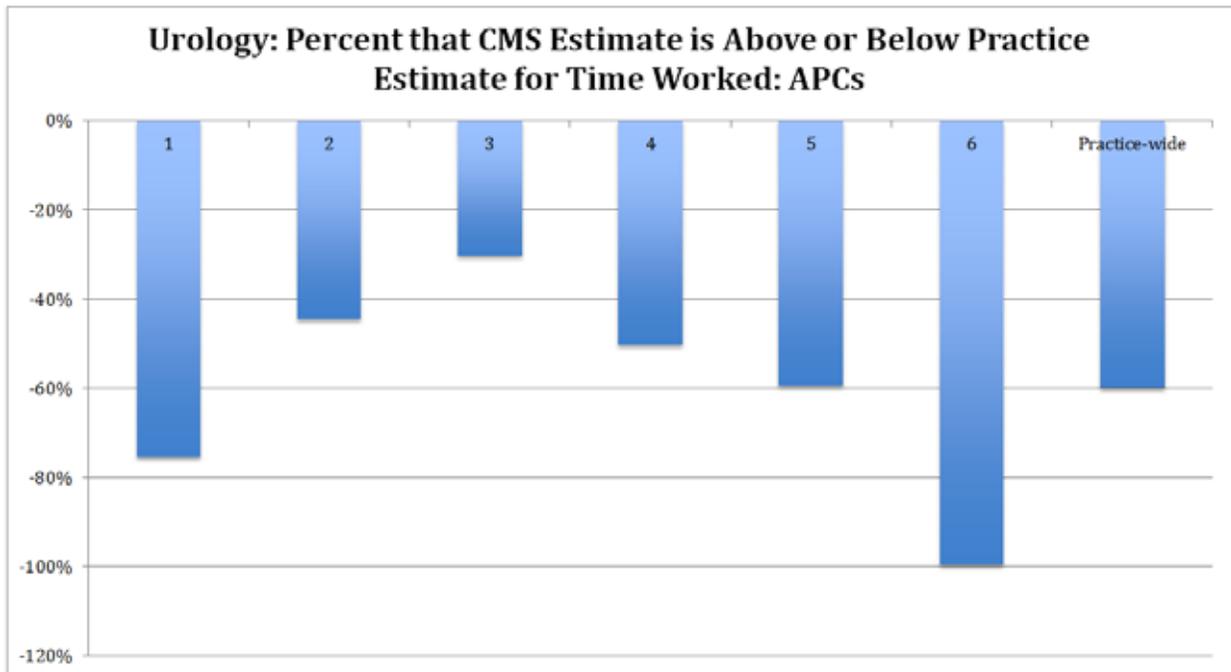
The above graph demonstrates that there is significant variation among physicians in this family practice clinic in terms of actual hours worked and the number of hours calculated from billed CPT codes. However, overall, the practice's calculated hours based on CPT codes is higher than the actual number of hours worked.



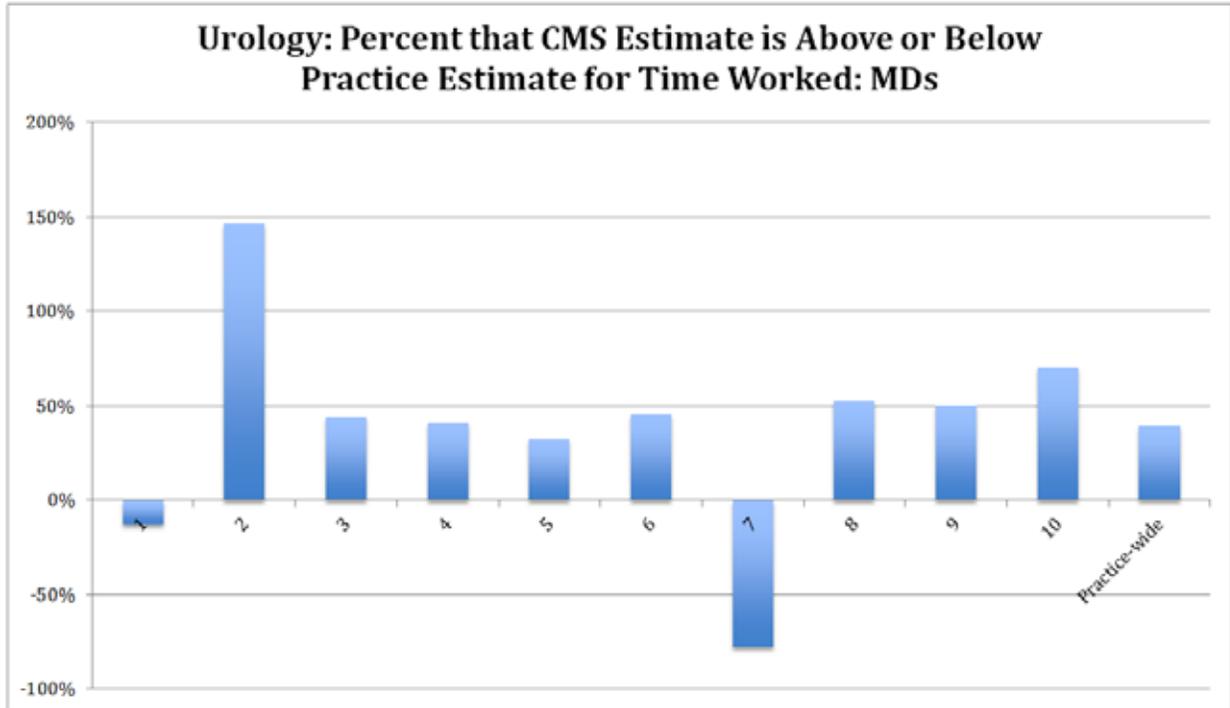
The above graph demonstrates that, for APCs in this orthopedics practice, the number of hours actually worked far exceeds the number of hours calculated from billed CPT codes.



The above graph demonstrates that there is significant variation among physicians in this orthopedics practice in terms of actual hours worked and the number of hours calculated from billed CPT codes. However, overall, the practice's calculated hours based on CPT codes is higher than the actual number of hours worked.



The above graph demonstrates that, for APCs in this urology practice, the number of hours actually worked far exceeds the number of hours calculated from billed CPT codes.



The above graph demonstrates the there is significant variation among physicians in this urology practice in terms of actual hours worked and the number of hours calculated from billed CPT codes. However, overall, the practice's calculated hours based on CPT codes is higher than the actual number of hours worked.