Constantino, Mike

From: Anne Cooper [ACooper@Polsinelli.com]
Sent: Friday, April 15, 2011 9:57 AM
To: Constantino, Mike
Cc: 'Ramon G'; Kara Friedman
Subject: Hispanic American Endoscopy Center (Proj. No. 10-088)
Attachments: Hispanic American - Supplemental Information (04-15-2011).pdf¤.pdf; RAND Working Paper (09-2008).pdf¤.pdf; AHA - twjuly2006migration.pdf¤.pdf; AmbulatorySurgeryCentersPositiveTrendHealthCare.pdf¤.pdf; KNG Study (06-05-2009).pdf ¤.pdf; MedPAC - Ch 05 (Mar 2011).pdf¤.pdf; MedPAC Public Hearing Transcript.pdf¤.pdf

Mike,

Attached please find additional information for Hispanic Endoscopy Center (Proj. No. 10-088) in response to the intent to deny issued at the March 21, 2011 HFSRB meeting. If you have any questions or need any additional information, please feel free to contact me.

Thanks.

Anne

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Add me to your address book...

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be used, and any such tax advice cannot be used, for the purpose of avoiding penalties that may be imposed by the Internal Revenue Service.

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April 15, 2011

FEDERAL EXPRESS
ELECTRONIC MAIL

Mr. Dale Galassie
Chair
Illinois Health Facilities and Services Review Board
525 West Jefferson Street, 2nd Flood
Springfield, Illinois 62761

Re: Hispanic American Endoscopy Center (Proj. No. 10-088)

Dear Mr. Galassie:

Pursuant to Section 1130.670, I am writing on behalf of Hispanic-American Endoscopy Center ("Hispanic-American") to submit additional information in connection with Health Facilities and Services Review Board ("HFSRB") Project No. 10-088 (the "Proposal"). During the March 21, 2011 HFSRB meeting, the Proposal, which seeks to add urology services to an existing single specialty surgery center received four votes in favor of approval, one opposed and one member was absent. This letter and the attached materials provide additional information supporting the applicant's case for approval of the Proposal.

Surgery centers have and continue to produce benefits that extend far beyond the patients who choose to have surgery in them. In fact, many important advances in outpatient surgery, such as laparoscopic and endoscopic techniques and faster-acting anesthesia drugs, were either pioneered in surgery centers or gained widespread acceptance because of their use and refinement in surgery centers. Surgeries that only a few years ago required major incisions and extended stays in a hospital are now routinely performed in easily accessible local surgery centers. As the technology and standards of care evolve, patients having surgery at hospitals or in physician offices also benefit as the result of the role played by surgery centers in the advancement of more convenient, higher quality and less costly outpatient care.

Impact on Existing Health Care System

The Proposal positively impacts health care delivery in the relevant market. It does not add surgical capacity to the market because it is an existing surgery center which does not

propose to increase its operating room capacity. The facility has a single procedure room and is, in fact, landlocked in an urban neighborhood environment with no ability to expand its footprint. The volume of cases at issue in this matter is relatively minor compared to the volume of surgical utilization in the Chicago planning area (HSA 6) as most recently reported in 2009. Specifically, the proposal impacts approximately 300 surgical cases a year. The 2009 Illinois Department of Public Health ("IDPH") Health Systems Development profile for HSA 6 (the City of Chicago) indicates that the surgical cases performed in Chicago facilities in 2009 were 240,436.[1]

Importantly, surgery centers, like Hispanic American, provide high quality, low cost health care compared to hospital outpatient departments ("HOPDs"). With payors moving towards more outcomes-based payment and health care reform aimed at reducing costs, delivery of health care that is appropriate in the outpatient setting is moving away from the traditional acute institutional care delivery model to an ambulatory care based setting. In fact, the Medicare Payment Advisory Commission ("MedPAC"), the agency charged with advising the U.S. Congress on Medicare issues, has articulated that the movement of surgical procedures from HOPDs to surgery centers can reduce aggregate Medicare spending and beneficiary cost sharing.[2] Accordingly, the movement of surgical procedures from HOPDs to surgery centers is a judicious use of scarce health care resources.

Moreover, studies show that patients prefer surgery centers over HOPDs. The most important factors influencing patient decisions are ease of scheduling, shorter wait times, greater comfort and less bureaucracy.[3] Additionally, a recent survey showed over 90% of surgery center patients reported high satisfaction with procedures performed at surgery centers.[4]

Finally, as physicians face ever increasing reimbursement pressure, increased efficiency is important. Physicians value the reliability of scheduling in surgery centers where elective surgical procedures will not be postponed by procedures that come through the hospital emergency department[5] or by other urgent cases. Surgery centers are significantly more efficient

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[1] According to these profiles, HSA 6 hospital surgical cases totaled 199,645 and HSA 6 surgery cases totaled 40,791.

[2] MEDPAC, REPORT TO THE CONGRESS: MEDICARE PAYMENT POLICY 99-116 (Mar. 2011) *available at* http://www.medpac.gov/documents/Mar11_EntireReport.pdf (last visited Apr. 13, 2011).

[3] Id. at 108; Barbara O. Wynn et al, *Medicare Payment Differentials Across Ambulatory Settings* 43 (Rand Health, Working Paper) *available at* http://www.rand.org/content/dam/rand/pubs/working_papers/2008/RAND_WR602.pdf (last visited Apr. 13, 2011).

[4] KNG HEALTH CONSULTING LLC, AN ANALYSIS OF RECENT GROWTH OF AMBULATORY SURGICAL CENTERS FINAL REPORT 19 (Jun. 2009).

[5] MEDPAC, REPORT TO THE CONGRESS: MEDICARE PAYMENT POLICY 99-116 (Mar. 2011); AM. HOSP. ASS'N, TRENDWATCH, THE MIGRATION OF CARE TO NON-HOSPITAL SETTINGS: HAVE REGULATORY STRUCTURES KEPT PACE WITH CHANGES IN CARE DELIVERY? (Jul. 2006); KNG HEALTH CONSULTING LLC, AN ANALYSIS OF RECENT GROWTH OF AMBULATORY SURGICAL CENTERS FINAL REPORT (Jun. 2009).

in terms of controlling a physician's time and providing consistent, qualified staff. They are geared for very short turnover and are efficient and user-friendly. HOPDs typically cannot offer the same ease of scheduling, predictability, and service to physicians.[6] As a result, surgery centers are often a more viable alternative to HOPDs for short, uncomplicated cases.

Change in Scope of Services

While Hispanic-American acknowledges that some surgical facilities within the geographic service area are operating below the HFSRB's 80% utilization standard, it is important to note that one of the underutilized facilities is Hispanic-American. This project is designed to increase utilization at Hispanic-American and will not create additional capacity in the planning area. Moreover, as physicians face increasing reimbursement pressure, it is becoming more important that they increase efficiency when providing services. Physicians find it more efficient to practice in a surgery center. A community can get more services from the same number of surgeons when a surgery center is available. With the impending shortages of surgeons predicted and increasing surgical demands, this will become even more important. Scheduling multiple procedures at a single surgery center is one way to increase efficiency by reducing physician travel time, consistently working with the same staff, and having predictable scheduling. Additionally, most patients treated at Hispanic-American are patients of Garcia Medical Center. They are familiar with the facility's location adjacent to the medical office and with its staff.

Limited Access to Lower Cost Surgery Centers in Chicago

Chicago residents deserve high quality, low cost alternatives to HOPDs. Many vulnerable population groups in Chicago lack adequate access to critical health care services. Over 20% of Chicagoans are living below the federal poverty level and more than 27% identify themselves as Hispanic.[7] Surgery centers provide high quality surgical care, excellent outcomes, and high levels of patient satisfaction at a lower cost than HOPDs.

There are currently only 21 surgery centers with 52 operating rooms in the HSA 6, which is defined as the City of Chicago. This figure is approximately only one-third of the number of surgery centers and operating rooms in HSA 7 consisting of the more affluent suburban Cook and DuPage Counties where in 2009 there were 43 surgery centers and 148 operating rooms.[8] This is especially striking given the population of suburban Cook and DuPage Counties is only 20% higher than the City of Chicago. Additionally, one surgery center in Chicago will be closing this year, however, the HFSRB has only approved two surgery centers in Chicago in the

[6] MEDPAC, Public Meeting Dec. 4, 2008, Commentary from Commissioner Karen R. Borman, M.D. 120-121.

[7] U.S. Census Bureau, 2009 Population Estimates

[8] There were only 525 urology procedures performed in ASCs in Chicago in 2009 compared to 6,015 in the suburban area (HSA 7). This is striking given that the population of HSA 7 is less than 20% bigger than the City of Chicago.

past seven years; one project involves the conversion of a HOPD to a surgery center and the other project is for a limited specialty surgery center. During this same time, 11 surgery centers were approved for HSA 7.[9] Expansion of the scope of services at Hispanic-American is needed to ensure the underserved populations of Chicago have adequate access to critical health care services. As noted in the CON application for the Proposal, the number of operating rooms per patient in the City of Chicago is much lower than most other areas of the State.

Thank you for your time and consideration of this supplemental information.

Sincerely,

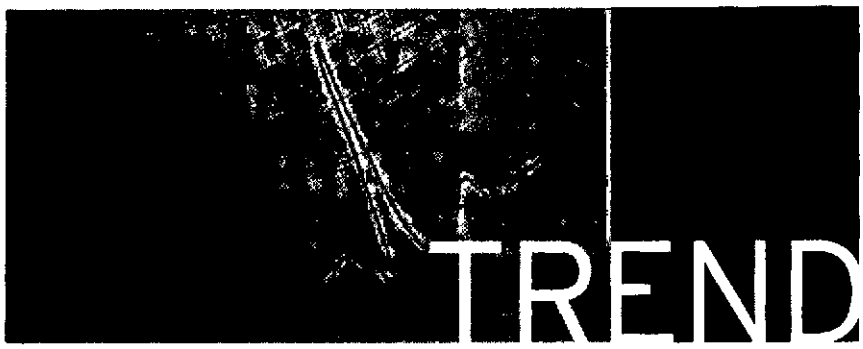
Anne M. Cooper

Anne M. Cooper

Enclosures

cc: Ramon Garcia, M.D.

[9] In the past seven years there has been a net increase of 1 OR in the City of Chicago (Southwestern Medical Center (-3), South Loop Endoscopy (+1), Swedish Covenant (+3)). During the same time there have been 23 operating rooms added in HSA 7.



AMERICAN HOSPITAL ASSOCIATION
JULY 2006

TRENDWATCH

The Migration of Care to Non-hospital Settings: Have Regulatory Structures Kept Pace with Changes in Care Delivery?

A growing number of increasingly complex procedures are moving from the inpatient to the outpatient environment, and out of hospital settings into physicians' offices and free-standing ambulatory surgery or diagnostic facilities. Many of these care settings involve physician ownership and self-referral. This edition of TrendWatch explores the impact these trends have on health care urilizarion and costs, quality of care and patient safety, access to care, and the health care system overall. It also addresses whether oversight of these facilities to ensure quality and safety has, or has not, responded to the shift in care from the hospital outpatient department (HOPD) to non-hospital settings.

Services Provided Outside the Hospital Have Grown and Become More Complex

The number of surgeries, imaging studies and diagnostic tests performed away from HOPDs is growing rapidly. These procedures and services are primarily moving to ambulatory surgery centers (ASCs) which provide outpatient surgical services not requiring an overnight stay, independent diagnostic and testing facilities, and physician offices. From 1997 ro 2004, the volume of ASC procedures provided to Medicare beneficiaries rose 145 percent while the number of ASCs climbed 67 percent – on average, 240 additional ASCs per year between 1998 and 2004. The most common ASC procedures include those in ophthalmology, gastroenterology and orthopedics.[1]

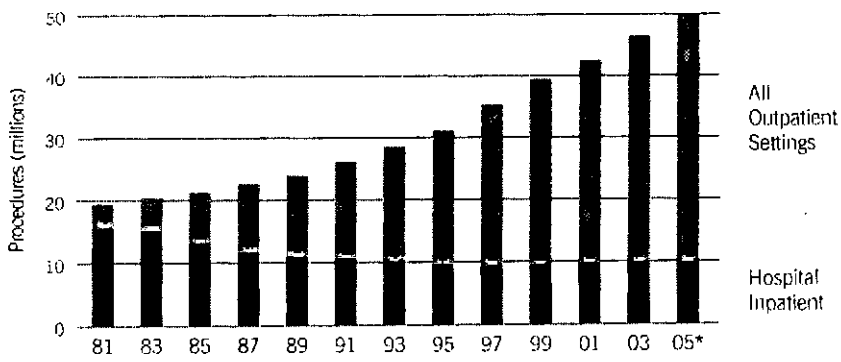
The number of procedures and tests performed in physician offices also has been increasing – particularly imaging services. In 2004, physician offices provided about 60 percent more imaging services than in 1996.[2] And since the early 1980s, the share of outpatient surgeries performed in hospitals has fallen from over 90 percent to 45 percent, while the share performed in ASCs and physician offices has grown from less than 5 percent to 38 and 17 percent, respectively.[3]

Not only is the number of procedures performed outside of HOPDs rising, so too is their complexity. When ASCs first opened in the 1970s, procedures were limited – simple breast biopsies, cataract removals, etc. ASCs now handle complex orthopedic, gastroenterological and gynecological surgeries.[4]

Innovation in medical techniques and technology, along with the preferences of multiple players in the health

Increasing numbers of surgical procedures are moving from the inpatient to the outpatient setting.

Chart 1: Inpatient vs. Outpatient Surgery Volume, 1981-2005



Source: Avalere Health analysis of Verispan's Diagnostic Imaging Center Profiling Solution, 2006, and American Hospital Association Annual Survey data for community hospitals, 1981-2004. *2005 values are estimates.

American Hospital Association

care system, have driven the migration of care to non-hospital settings. Less invasive surgical techniques and advances in anesthesia have made it possible for more procedures to be performed in outpatient settings where recovery time is limited.

Physicians value the reliability of scheduling procedures in non-hospital settings where operating room schedules are not interrupted by emergency patient needs. In addition, many physicians have ownership in ASCs which offers them added income along with a role in managerial decision-making. And some patients prefer the convenience and aesthetics of non-hospital settings.

Vendors of medical equipment and technology have encouraged physician investment as a part of their marketing strategy. Companies such as General Electric (GE) have increased their marketing to physician offices and tailored promotional messages to focus on the return on investment in imaging equipment, noting that physicians see imaging as a new and potent source of revenue. GE also helps physicians with financial concerns, and recently acquired a company that specializes in financing for physicians and dentists, helping to ease purchase of in-office equipment.[5]

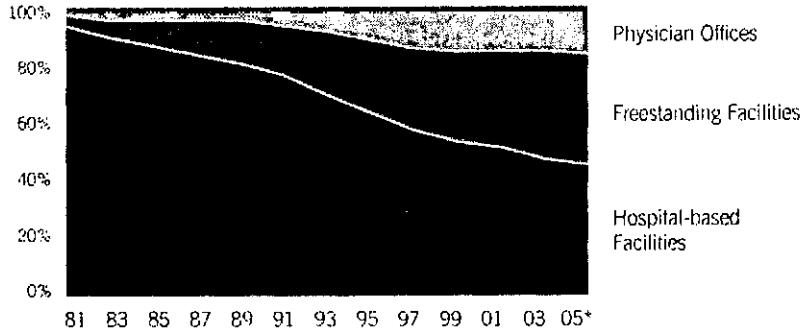
Finally, payers – both private and public – want to pay the least amount

55%

Percentage of outpatient surgeries done in physicians' offices or freestanding surgery centers, 2005

Outpatient surgery is quickly migrating to non-hospital settings...

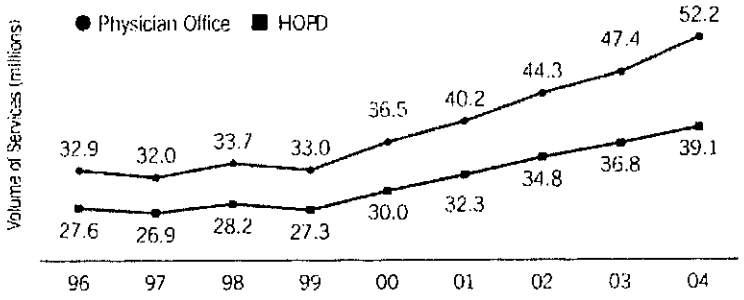
Chart 2: Percent of Outpatient Surgeries by Facility Type, 1981-2005



Source: Verispan's Diagnostic Imaging Center Profiling Solution, 2004. *2005 values are estimates.

...while imaging is growing faster in office-based settings than in HOPDs.

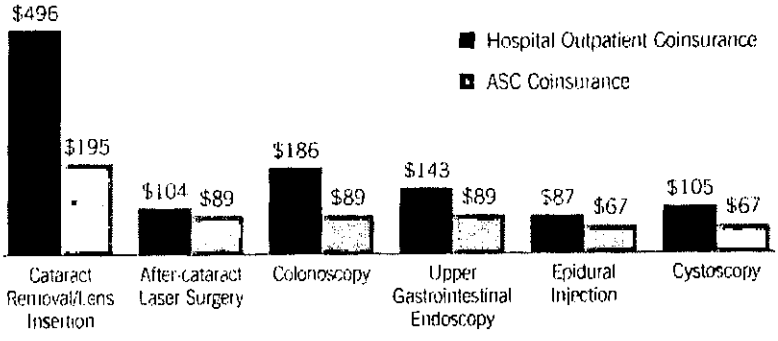
Chart 3: Volume of Medicare Imaging Services Delivered, 1996-2004



Source: Avalere Health analysis of Part B Physician/Supplier Procedure Summary Master Record.

Lower copayments may make ASCs more attractive to Medicare beneficiaries.

Chart 4: Medicare Required Procedure Coinsurance Rates for ASCs and Hospital Outpatient Departments, 2006



Source: Federal Register, *Medicare Program: Update of Ambulatory Surgical Center List of Covered Procedures; Interim Final Rule*, May 4, 2005, and Centers for Medicare & Medicaid Services, CMS-1501-FC, *Changes to Hospital Outpatient IPPS for Calendar Year 2006, Addendum B.*

possible for each service and these settings often, though not always, have lower per-service rates.

The Centers for Medicare & Medicaid Services (CMS) has long allowed ASCs to serve Medicare patients, hoping to save money on each episode of care. Since 1990, CMS has approved more than 1,100 procedures for ASCs and set payment rates that in some cases exceed the rates paid to hospitals. Due to the different payment systems for the HOPD and ASC, beneficiaries often pay lower coinsurance at an ASC than at an HOPD. Beneficiaries pay 20 percent of the Medicare payment for care at an ASC, but Medicare requires beneficiaries pay as much as 45 percent of the total payment for care received at an HOPD.

However, the potential for increased service use due to supply-induced and/or physician-induced demand – particularly in self-referral situations – has some payers concerned that the shift in care is driving overall costs for outpatient services *up*, not down.[6] In addition, as the procedures performed in these settings have become more complex, patient safety and quality have come into question.

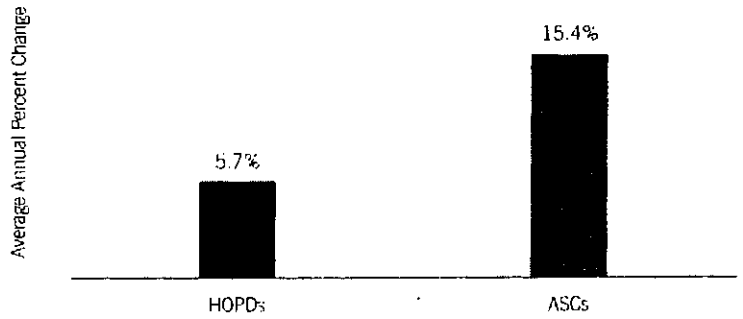
Rapidly Rising Utilization Raises Concerns

The Medicare Payment Advisory Commission (MedPAC), the independent federal body that advises Congress on issues affecting the Medicare program, has expressed concern about rising Medicare utilization and costs for both ASCs and outpatient imaging. Growth in the volume of services provided in non-hospital settings has outstripped growth in services performed in hospital outpatient departments. From 2001 to 2004, the number of ambulatory surgeries delivered to Medicare beneficiaries grew by only 5.7 percent annually for HOPDs while increasing 15.4 percent annually for ASCs.[7]

Medicare payments for services done outside the hospital also have grown at an extraordinary pace. Medicare expenditures directed to ASCs nearly tripled from 1995 to 2004 – from $849 million to $2.5 billion. Additionally, payments for physician office imaging more than doubled between 1996 and 2004.[9]

The growth in Medicare spending for outpatient surgery in ASCs has raised concerns about excess utilization...

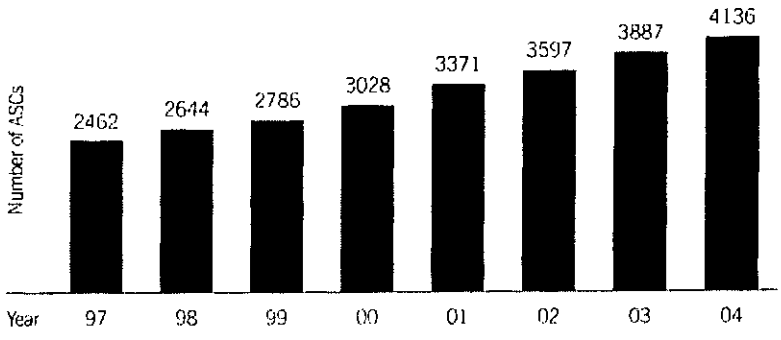
Chart 5: Average Annual Percent Change in Medicare Outpatient Surgical Volume, ASC vs. Hospital, 2001-2004



Source: The Moran Company analysis of Part B Physician/Supplier Procedure Summary Master Record and Hospital Outpatient PPS Files.

...as the number of ASCs has increased rapidly.

Chart 6: Number of Medicare-approved ASCs, 1997-2004



Source: MedPAC, *A Data Book: Healthcare Spending and the Medicare Program*, June 2005.

Capacity Growth Linked to Regulatory Policies

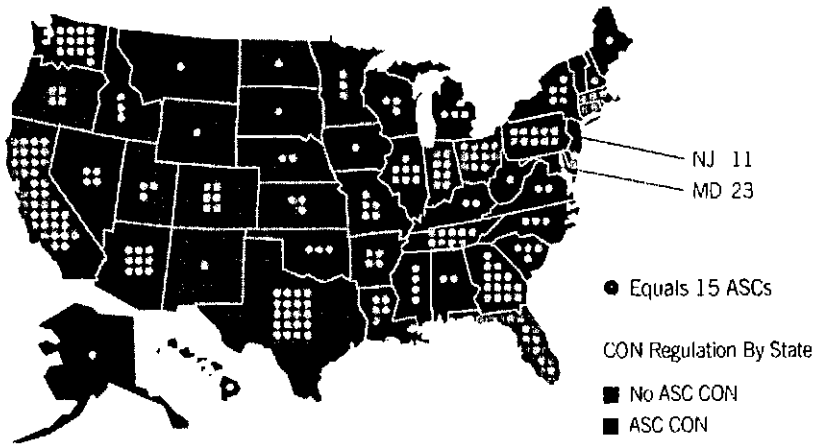
Differential regulation across care settings at both the state and federal levels has fostered the growth of procedures in ASCs and physician offices.

The relaxation or outright elimination of certificate of need (CON) laws at the state level has allowed imaging and surgical capacity growth, which in turn has helped drive the migration of care out of hospitals. CON laws require hospitals that wish to add beds, services or capital equipment, or entities seeking to build new facilities, to demonstrate that doing so would address an unmet health care need. Today, 37 states have some CON oversight in place.[10] But often those same restrictions are not placed on other ambulatory settings. In New York, for example, hospitals and licensed centers must receive approval under the state's CON laws to purchase imaging equipment while physicians do not face the same requirements when purchasing equipment for their offices.[11] ASCs are more prevalent in states having minimal or no applicable CON rules.

The regulation of self-referral varies across care settings, providing opportunities for physician investment in ASCs and office-based surgery and diagnostics that are precluded in many other settings. At the federal level, the Ethics in Patient Referrals Act (physician self-referral law) prohibits physicians from referring Medicare patients for designated health services to entities with which they have financial relationships. Designated health services include clinical laboratory, radiology, physical therapy, and inpatient and outpatient hospital services. ASCs, however, are not designated health services

ASCs are more prevalent in states lacking CON requirements...

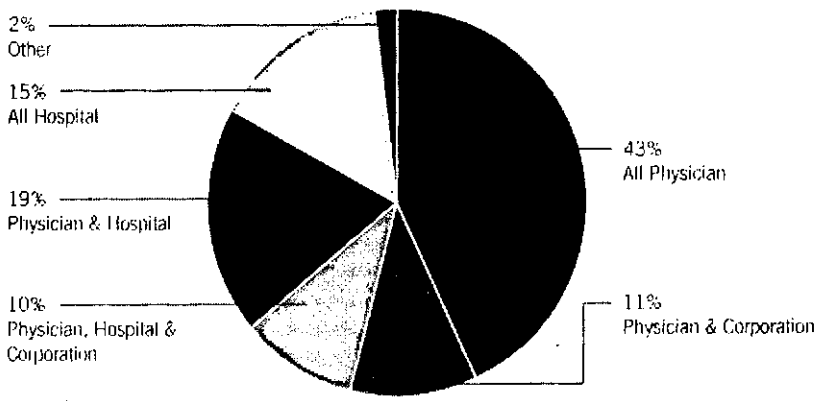
Chart 7: Number of ASCs Relative to CON Laws Governing ASCs, by State, 2005



Source: Federated Ambulatory Surgery Association (FASA), *Medicare Certified ASCs 2005*, available at www.fasa.org, and American Health Planning Association (AHPA), *2005 Relative Scope and Review Thresholds: CON Regulated Services by State*, updated January 19, 2005.

...and 83 percent of ASCs are wholly- or partly-owned by physicians.

Chart 8: Ownership Structures of ASCs, 2004



Source: American Association of Ambulatory Surgery Centers, *ASC Ownership Survey*, February 2004.

" "
from the field

"What concerns us most is whether doctors are keeping to the appropriate kinds of surgery," said Richard McGarvey, a spokesman for the Pennsylvania Health Department, "And whether only the most appropriate people are being treated."[12]

under this law. To the extent that one of the designated services is provided in an ASC owned by the referring physician, the physician self-referral statute does not prohibit the referral as long as there is no separate payment for the designated service (i.e., it is part of the bundled ASC Medicare payment). In addition, there are a variety of exceptions under the physician self-referral law which allow self-referral for services offered in a physician's office or group practice. Exceptions also permit self-referral in rural areas and in the "whole hospital" setting.

As of February 2004, physicians had ownership interests in 83 percent of ASCs, and they owned 43 percent outright.[13] The number of physicians offering in-office diagnostic and surgical services is rising.

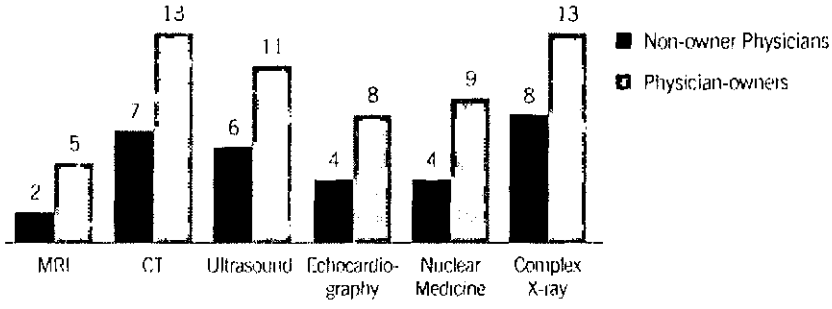
Past research reveals that physician self-referral contributes to higher usage and total overall costs. One study found that physicians who performed imaging services in their own offices were 1.7 to 7.7 times more likely to utilize imaging than physicians who referred patients to radiologists. Average imaging charges per episode of care were 1.6 to 6.2 times greater for the self-referring physicians.[14]

Financial incentives also influence where physicians direct referrals. Two case studies in which ASCs entered markets to compete with community hospitals found that physician investors moved their patient caseloads from HOPDs to the new ASCs but non-owners did not. In both instances, the number of surgeries that physician investors performed at the hospital dropped drastically – by 50 to 75 percent.[15]

More recent research has found increased utilization rates for inpatient cardiac surgery associated with the opening of physician-owned cardiac hospitals, but limited data exist on self-referral in the ASC setting.[16] Only a handful of states collect data on procedures performed in ASCs and/or require financial disclosure of physician ownership interests.

Self-referral has been linked to increased utilization of diagnostic services...

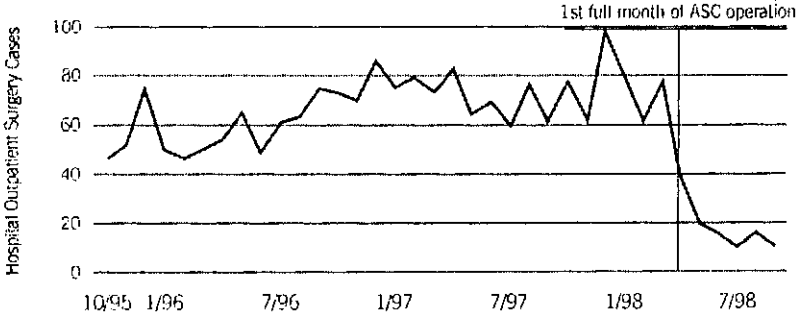
Chart 9: Number of Imaging Services Ordered per Physician-owner vs. Non-owner, 1990



Source: United States Government Accountability Office, *Medicare Referrals to Physician Owned Imaging Facilities Warrant HCFA Scrutiny*, GAO/HEHS-95-2, October 1994.

...and financial incentives influence where physician-owners direct and treat patients.

Chart 10: Orthopedic Surgeries Performed by Physician-owners at a Full-service Hospital System Before and After ASC Opening, October 1995 - September 1998



Source: Lynk WJ and Longley CS, (2002). "The Effect of Physician-owned Surgicenters on Hospital Outpatient Surgery," *Health Affairs* 21: 218.

83%

Percentage of ASCs owned at least in part by physicians, 2004

States Consider Legislative and Regulatory Action on CON and Self-referral

Some state legislatures and regulatory agencies have taken action in response to what is believed to be supplier and/or physician-induced demand.

In Pennsylvania, a state with no CON requirements for ASCs, 48 new ASCs opened between July 2003 and May 2004, and patient visits during that period jumped 83 percent, from 279,000 to more than 510,000.[17] As a result, Pennsylvania is considering reinstating CON laws.

More states have considered reinstating or enhancing CON laws and others, such as Indiana and Texas, have tried to pass laws to restrict or prohibit physician referral of patients to facilities in which they have ownership or investment interests. At least two states also proposed laws to require disclosure to patients of physicians' financial interests in entities to which they refer patients.

Recent state measures aim to curb supply-induced and physician-induced demand and growth in ASCs.

Chart 11: Proposed State Legislative Efforts to Restrict Growth of ASCs

Massachusetts	Massachusetts legislators are debating HB 2711 which would ban physicians and physician groups from referring patients to non-hospital-based facilities in which they have an investment or ownership interest for MRI studies, PET scans, or linear accelerator treatment.
Indiana	Legislation effective July 1, 2005, requires that physicians make written disclosure to patients of their investments in health care entities, including diagnostic and surgical services, before referring a patient to that entity. The individual must be informed that he/she can request another referral. This notice must be signed by the patient except in emergencies.
Pennsylvania	Legislation is expected to be introduced in the senate that would prohibit virtually all physician self-referrals.
Texas	Several bills were introduced in 2005, but not passed, that would have limited physician self-referral to ASCs. HB 3281 would have prohibited physician referral for designated health care services, including ASC and imaging services to facilities in which the provider has an interest. HB 3316 would have required limited-service hospitals, ASCs, and imaging centers to disclose the names of physicians with ownership interests via signs, notifications to patients prior to receipt of services, advertising, and other similar materials.

Source: *FASA State Update* July/August 2005, and Choudhry S, Choudhry NK, and Brennan TA, "Specialty Versus Community Hospitals: What Role for the Law," *Health Affairs*, August 9, 2005, Web Exclusive.

Quality and Patient Safety Standards Have Not Kept Up with Shift in Care

Hospitals and HOPDs are subject to more quality and safety regulation than are ASCs or physician offices. Though comparable surgical procedures may be performed in an HOPD, ASC or physician office, Medicare standards are less stringent for ASCs than for HOPDs, and are non-existent for office-based surgery. State licensing requirements vary in the degree to which they fill these gaps.

The majority of ASCs also seek private accreditation. However, an estimated 500 ASCs are not accredited. The standards for accreditation by these private organizations also vary in the degree to which they address gaps in the Medicare standards for ASCs as compared to hospitals. Three accrediting bodies share most of the ASC segment: the American Association for Accreditation of Ambulatory Surgery Facilities (AAAASF) accredits approximately 2,000 ASCs; the Accreditation Association for Ambulatory Health Care (AAAHC) accredits more than 1,000 ASCs; and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) accredits more than 500 ASCs.[18]

State licensure is required for hospitals everywhere and, in 43 states, for ASCs. Few states require licensure of physician offices, just of physicians themselves – and that licensure is not procedure-specific. In states that regulate office surgery, safety and personnel standards are highly variable. In the area of imaging, HOPDs are held to hospital-level Medicare standards for patient and staff safety, equipment maintenance and staff qualifications. With

" " *from the field*

"If you run into complications, you don't have a diverse group of doctors right there for backup," said James Lyons, M.D., a plastic surgeon in Connecticut and member of a panel for the Connecticut State Medical Society to define standards in free-standing ASCs.[19]

Medicare's standards for ASCs and physicians' offices fall short of those required for hospitals...

Chart 12: Medicare Standards for Hospitals, ASCs and Physician Offices

Hospital Standard*	ASC Standard**	Physician Office†
Must have an infection control officer who develops and implements policies governing infections and communicable disease	No standard	No standard
Hospital must develop a system for identifying, reporting, investigating, and controlling infections and communicable diseases of patients and personnel	Must establish a program for identifying and preventing infections, maintaining a sanitary environment, and reporting results to the appropriate authorities	No standard
Hospital CEO, medical staff, and director of nursing must ensure that there is a hospital-wide quality assurance and training program	No standard	No standard
Operating room must be supervised by an experienced nurse or physician	No standard	No standard
There must be a complete history and physical workup in the chart of every patient prior to surgery, except in emergencies	No standard	No standard
An individual qualified to administer anesthesia must perform a pre-anesthesia evaluation within 48 hours prior to surgery, and provide an intra-operative anesthesia record	A physician must examine the patient immediately before surgery to evaluate the risk of anesthesia and the procedure to be performed	No standard
A hospital must inform each patient or, when appropriate, the patient's representative, of the patient's rights in advance of furnishing care	No standard	No standard

* 42 CFR 482.42, 482.51, 482.52, 482.13 ** 42 CFR 416.44, 416.45 † No federal standards govern surgery performed in physician offices.

...while states' licensing requirements vary in filling in the gaps...

Chart 13: Federal and State Requirements for Hospitals and ASCs

	State Requirement of ASC (Selected States)									
Medicare Requirement of Hospital But Not ASC	AZ	CO	FL	IL	MD	MI	PA	RI	SC	TX
OR supervised by experienced nurse or physician			✓							
Roster of practitioners specifying surgical privileges of each	✓	✓				✓			✓	
Complete history and physical workup in patient's chart pre-surgery, except emergencies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Designated infection control officer develops, implements policies	✓		✓					✓	✓	
Facility-wide quality assurance and training program	✓	✓	✓		✓	✓	✓	✓	✓	✓

Source: 42 CFR 482.42, 482.51, 482.52, 482.13, 42 CFR 416.44, 416.45; Avalere Health analysis of state regulation and administrative code.

...as do accreditation requirements.

Chart 14: Accreditation Requirements for ASCs

Medicare Requirement of Hospital But Not ASC	ASC Accreditation Requirements of Accrediting Organizations*		
	AAAASF (# ASCs ~2,000)	AAAHC (# ASCs ~1,000+)	JCAHO (# ASCs ~500+)
OR supervised by experienced nurse or physician	✓	Recommended supervision by anesthesiologist, physician, or dentist	No requirement
Roster of practitioners specifying surgical privileges of each	No requirement	No requirement	No requirement
Complete history and physical workup in patient's chart pre-surgery, except emergencies	Only required for patients undergoing major surgery or minor surgery with risk factors	✓	✓
Designated infection control officer develops, implements policies	No requirement	✓	✓
Facility-wide quality assurance and training program	✓	✓	✓

Sources: Avalere Health analysis of accreditation standards for ambulatory care. ASC accreditation numbers from phone conversations with representatives of each organization: April 2006.
* Note: American Osteopathic Association (AOA) also accredits ASCs; currently fewer than 10 ASCs are accredited by AOA.

the exception of mammography, there are no federal standards governing physician office imaging services. In response to concerns about safety and technical quality, some private insurers have instituted their own inspections of freestanding outpatient imaging facilities.[20]

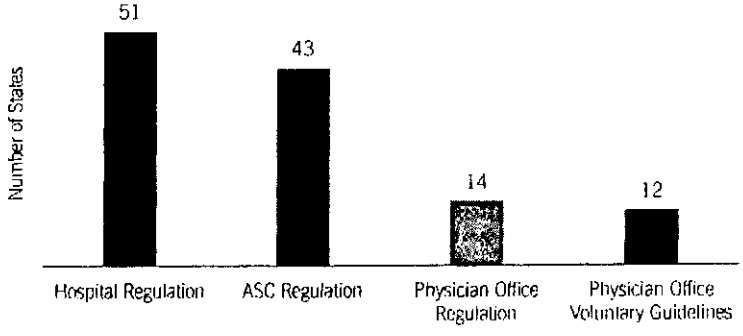
MedPAC has recognized this variation in oversight and recommended implementing quality standards for physicians who receive payment for performing and interpreting imaging studies. MedPAC notes that this policy recommendation is justified by the rapid growth in use of imaging studies, the migration of imaging from the HOPD to the physician office and freestanding centers, and evidence of variation in the quality of physician interpretations.[21] Further, MedPAC also recommends strengthening rules that restrict physician investment in imaging centers to which they refer patients.

A U.S. Department of Health and Human Services Office of the Inspector General (OIG) study on quality oversight of ASCs found that states' ability to oversee ASCs on behalf of Medicare is eroding because of the growth in ASCs and states' limited resources. Of state-surveyed ASCs, one-third (872) had not undergone a recertification survey in over five years. The OIG also found that CMS gives little oversight to ASC surveys and accreditation, and CMS does not make findings readily available to the public as it does for hospitals and other types of providers.[22]

Despite the lack of oversight, recent proposals by MedPAC and in Congress

Few states regulate surgeries performed in physician offices...

Chart 15: Number of States Regulating Hospitals, ASCs, and Physician Offices



Sources: Accreditation Association for Ambulatory Health Care, *Ambulatory Regulations*; Franko, ER "State Laws and Regulations for Office-based Surgery;" FASA, "The Regulation of Ambulatory Surgery Centers;" Hochstadt, A, "How States Regulate Office Surgery – A Primer;" and Avalere Health analysis of state regulations.

...and for those that do, regulation is variable.

Chart 16: Comparison of State Regulations of Physician Office-based Surgery

	CA	FL	NJ	RI	TX
Reporting of adverse events	✓	✓	✓		
Training and qualification of surgeon, nurse and other personnel			✓		✓
Personnel requirements	✓	✓	✓	✓	✓
Quality assessment/improvement systems	✓	✓			
Restrictions on procedures performed				✓	
Emergency protocols	✓	✓			✓
Infection control practices			✓		
Equipment requirements			✓	✓	✓
Record keeping	✓			✓	

Sources: Franko, FP, "State Laws and Regulations for Office-based Surgery;" Hochstadt, A, "How States Regulate Office Surgery – A Primer;" Sutton, JH, "Office-based Surgery Regulation: Improving Patient Safety and Quality Care;" and Avalere Health analysis of state regulations.

would eliminate the current approach of approving ASC procedures on a procedure-by-procedure basis and replace it with a list of excluded procedures.[23] Without an explicit process to determine what is safe, a list of excluded procedures is likely to be based on where problems occur. This change could put patients at risk of undergoing procedures in ASCs before those procedures are deemed safe specifically for ASCs.

1/3

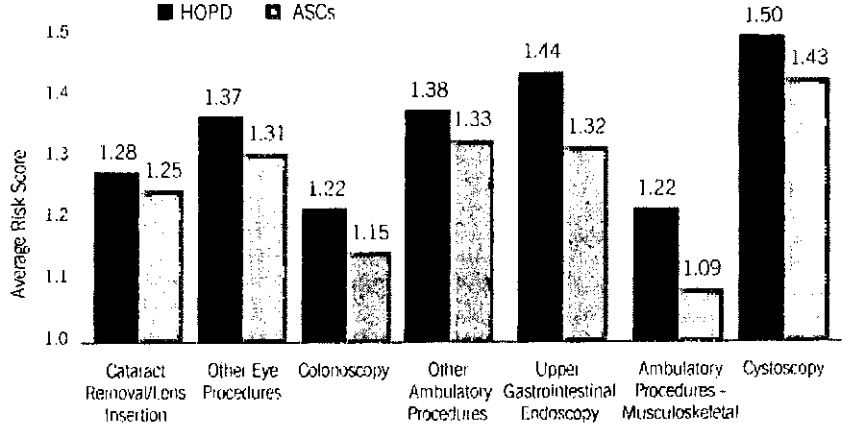
Medicare-certified ASCs not undergoing recertification survey in over five years

The Migration of Care May Weaken the Overall Delivery System

Patients and payers like aspects of ASC and physician office care, but the migration out of HOPDs may hurt the health care system as a whole. Physician ownership of ASCs and in-office imaging equipment not only sets up financial incentives for physicians to increase utilization but also encourages the steering of patients by acuity and payer, directing the more complex, costly and less well-insured patients to hospitals. A study of procedures with the highest share of Medicare payments to ASCs found that patients treated in ASCs had lower average risk scores than those treated in HOPDs.[24] Findings from an industry survey of ASCs illustrate their small share of Medicaid and charity care patients.[25]

ASCs treat a less complex mix of Medicare patients...

Chart 17: Average Risk Score for Medicare Patients in HOPDs vs. ASCs, 1999



Source: Winter, A, (2003), "Comparing the Mix of Patients in Various Outpatient Surgery Settings," *Health Affairs*, 22: 68-75.

The loss of elective cases for healthier insured patients creates a financial challenge for full-service hospitals. Full-service hospitals need adequate volumes of patients to support a wide range of services and technologies for all patients – inpatient and outpatient, elective and emergency. They also depend on well-paid services and patients to subsidize care for low-income patients, 24-hour access to care, disaster readiness, and high-intensity standby resources such as trauma centers and burn units.

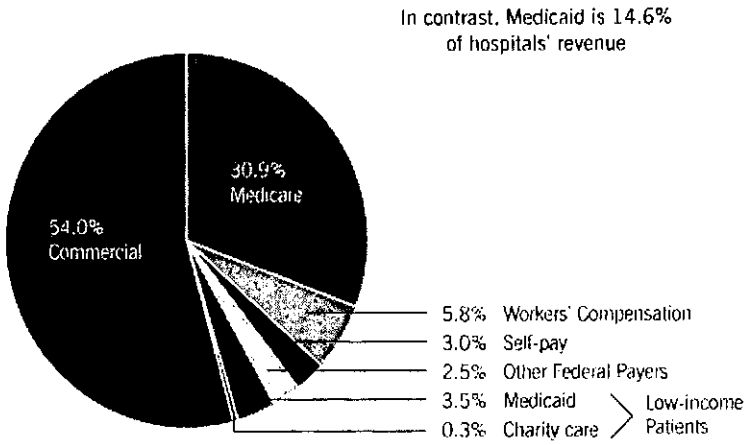
Many hospitals also are facing declining physician engagement as the migration of care out of the hospital setting has made physicians less dependent on hospitals as a practice site. This trend is weakening the ability of full-service hospitals to maintain access to care for their communities. Hospitals struggle to hang onto specialists to provide on-call support, staff clinics and teach medical students.

In a recent survey by the American College of Emergency Physicians, 51 percent of emergency department (ED) directors reported deficiencies in on-call coverage because specialists left their hospital to practice elsewhere.[26] The top five specialties cited were orthopedics; plastic surgery; neurosurgery; ear, nose, and throat; and hand surgery. More than one-third of hospitals report paying for coverage in some specialty areas.[27]

Ironically, ASCs rely on but generally don't support the emergency standby capabilities of hospitals. ASCs do not typically maintain the complement of resources to respond to the full range of complications that can occur during a procedure or post-discharge. When their patients become unstable and require

...and ASCs treat a smaller portion of low-income patients.

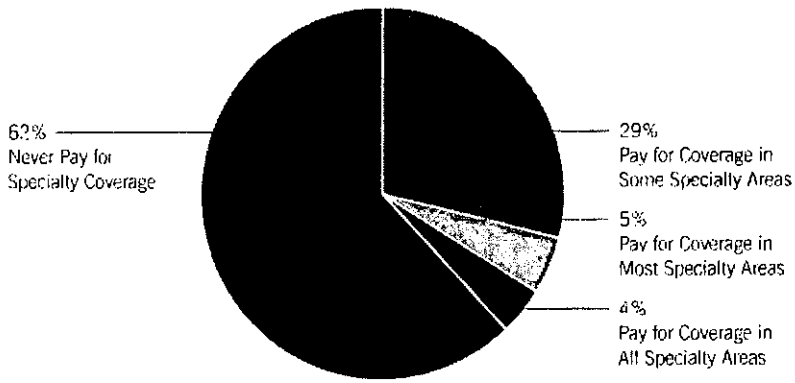
Chart 18: Percent of ASC Patients by Payer



Source: Medical Group Management Association (MGMA), *Ambulatory Surgery Center Performance Survey* 2005 Report, and AHA Annual Survey.

More than one-third of hospitals now pay for on-call coverage in some specialty areas.

Chart 19: Percent of Hospitals Paying for Specialty On-call Emergency Department Coverage, 2006



Source: American Hospital Association, *The State of America's Hospitals: Taking the Pulse*, 2006.

from the field

"There are two community hospitals in my district, and one is really struggling," said Massachusetts State Rep. Paul Kujawski, author of HB 2711, which would restrict physician self-referral for imaging, "Hospitals rely on the ability to perform diagnostic services for their community."[28]

emergency care they send them to a hospital for stabilization. Hospitals have obligations under EMTALA to screen and stabilize patients presenting to their EDs. That means that they must provide back-up services to ASCs whose patients develop complications, even though ASCs have no obligation to support the hospitals' emergency capacity. Further, under EMTALA a hospital must follow a rigorous protocol when transferring an unstabilized patient from the ED to another hospital for services that they can't provide, but ASCs are not required to follow any similar transfer protocols to protect their patients' safety when transferring them to a hospital. ASC patients suffering from complications can appear in a hospital ED with no warning call, no medical history, no operative report, no information on the anesthesia used, and often no ability to reach the ASC's surgeon for consultation.

Post-Surgical Recovery Care Centers

Post-Surgical Recovery Care Centers (PSRCCs) provide medical and nursing services for patients requiring short-term supervision following surgery. These facilities predominantly serve individuals who have received care in an ASC. A survey found PSRCCs in 34 states.[29] Many states limit PSRCC stays to less than 24 hours, though more than one-third of states permit patients to stay longer. The maximum length of stay is typically 72 hours, or three days.[30] The patients served by a combination of ASCs and PSRCCs – especially PSRCCs allowed to keep patients up to three days – may look increasingly like hospital inpatients whose average length of stay is not much longer. If PSRCCs are, in essence, providing hospital-type inpatient care, should they also meet hospital-level standards for inpatient care?

As more complex procedures are performed in ASCs, there is growing demand for the longer duration of post-operative care delivered by PSRCCs. Some patients may prefer the amenities of PSRCCs but hospital post-operative units are more likely to be better equipped to handle complications from surgical procedures.

Many private payers cover treatment in PSRCCs; Medicare does not. MedPAC found insufficient evidence that Medicare coverage of PSRCC services would reduce the cost or elevate the quality of surgical care.[31]

POLICY QUESTIONS

- In what ways, and to what degree, does the migration of care to non-hospital settings affect patient safety, quality of care and patient outcomes?
- Is the public aware of differences in certification and quality standards across settings of care including hospitals, ASCs and physician offices?
- Is the public aware of the risk associated with frequent radiological imaging or of the standard safety procedures for which they should watch?
- Should ASCs be required to disclose the limitations of their service capabilities to patients?
- What changes are required – in federal or state statute, in regulation or policy, and in accreditation protocols – to ensure comparable patient safeguards across all settings of care for like procedures?
- What is the cost to the health care system as a whole of the migration of services out of the hospital setting?
- How has the shift in care out of hospitals affected access to care for all patients and the health care safety net for patients of limited means?
- Should the provisions of the federal laws that allow physicians to profit from self-referral in non-hospital facilities be revisited, given new data showing higher frequency of use by physician-owners?
- In what ways should payment policy be realigned to appropriately recognize the varying roles of each of these settings of care and the resources required to provide care, particularly taking into account patient risk factors?
- How might state and federal regulation of the creation and operation of health care facilities help to level the playing field for hospitals and non-hospital providers of ambulatory services?

ENDNOTES

1 MedPAC. *A Data Book: Healthcare Spending and the Medicare Program*. June 2005; and The Moran Company analysis of Part B Physician/Supplier Procedure Summary Master Record.

2 Avalere Health analysis of Part B Physician/Supplier Procedure Summary Master Record.

3 Verispan's Diagnostic Imaging Center Profiling Solution, 2004.

4 Brooks, A. "Walk Inside, Have Surgery. But is it Safe?" *NY Times* June 14, 2005.

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8 The Moran Company analysis of Part B Physician/Supplier Procedure Summary Master Record.

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24 Winter, A. (2003). Comparing the Mix of Patients in Various Outpatient Surgery Settings. *Health Affairs* 22: 68-75.

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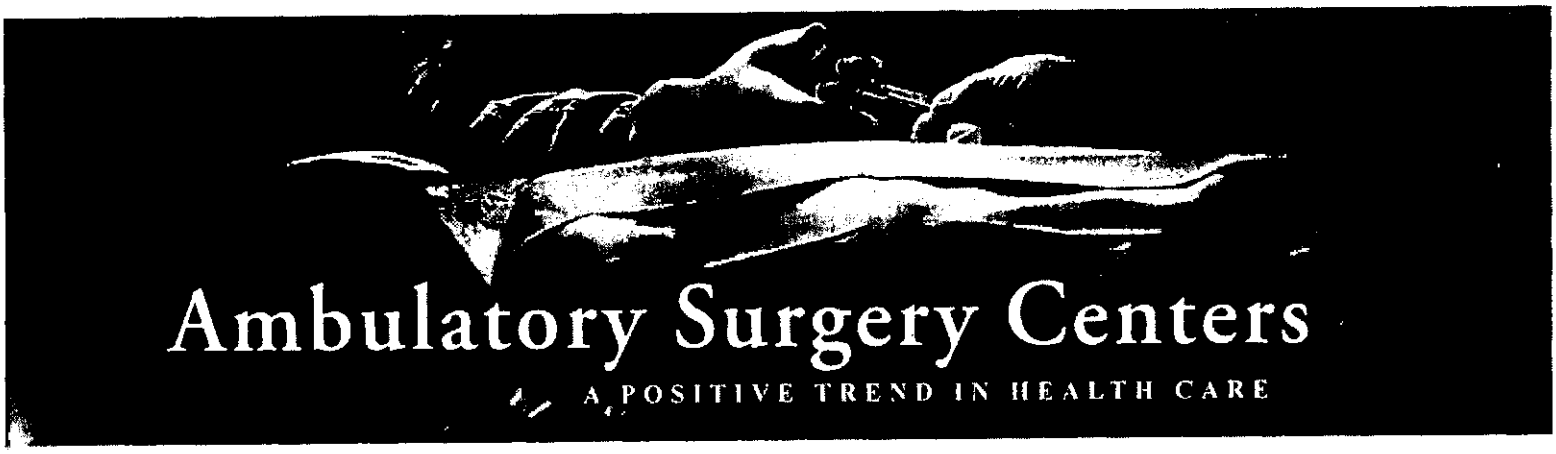


Ambulatory Surgery Centers

A POSITIVE TREND IN HEALTH CARE

Ambulatory surgery centers (ASCs) are health care facilities which offer patients the opportunity to have selected surgical and procedural services performed outside the hospital setting. Since their inception more than three decades ago, ASCs have demonstrated an exceptional ability to improve quality and customer service while simultaneously reducing costs. At a time when most developments in health care services and technology typically come with a higher price tag, ASCs stand out as an exception to the rule.

A PROGRESSIVE MODEL FOR SURGICAL SERVICES

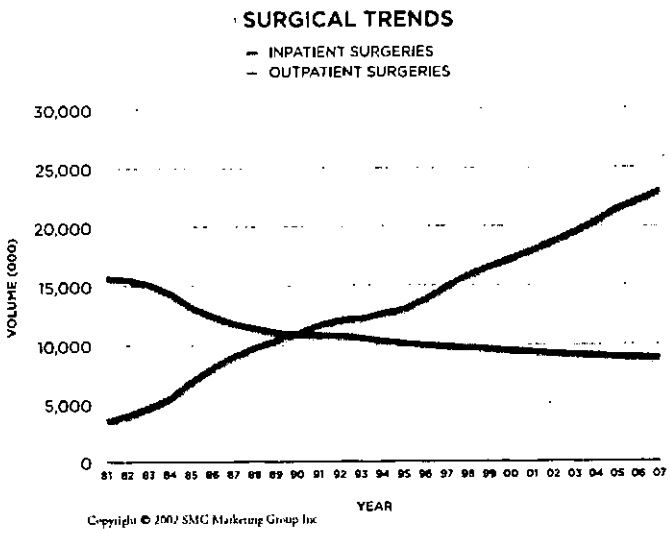
As our nation struggles with how to improve a troubled health care system, the experience of ASCs is a rare example of a successful transformation in health care delivery.

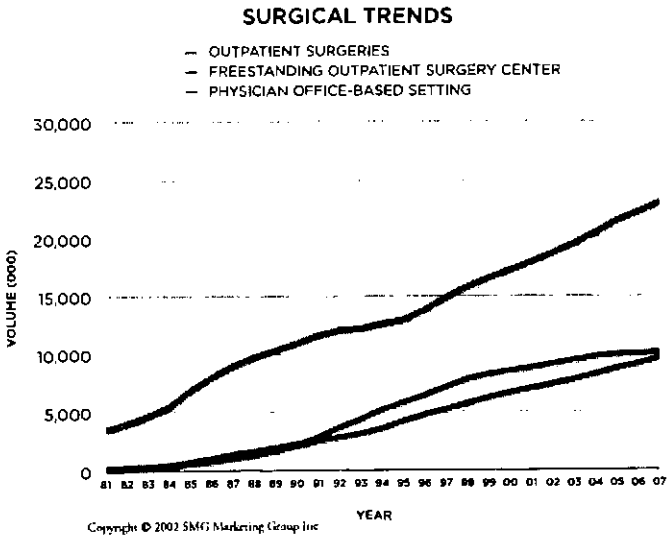
Thirty years ago, virtually all surgery was performed in hospitals. Waits of weeks or months for an appointment were not uncommon, and patients typically spent several days in the hospital and several weeks out of work in recovery. In many countries, surgery is still like this today, but not in the United States.

Physicians have led the development of ASCs. The first facility was opened in 1970 by two physicians who saw an opportunity to establish a high-quality, cost-effective alternative to inpatient hospital care for surgical services. Faced with frustrations like scheduling delays, limited operating room availability, and challenges in obtaining new equipment due to hospital budgets and policies, physicians were looking for a better way - and developed it in ASCs.

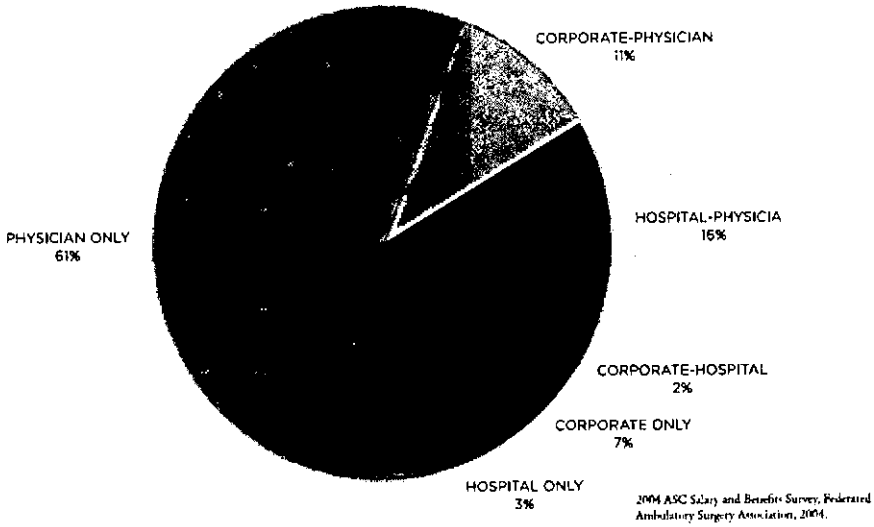
Physicians continue to provide the impetus for the development of new ASCs. By operating in ASCs instead of hospitals, physicians gain the opportunity to have more direct control over their surgical practices.[1] In the ASC setting, physicians are able to schedule procedures more conveniently, assemble teams of specially-trained and highly skilled staff, ensure the equipment and supplies being used are best suited to their technique, and design facilities tailored to their specialties. Simply stated, physicians are striving for, and have found in ASCs, the professional autonomy over their work environment and over the quality of care that has not been available to them in hospitals. These benefits explain why physicians who do not have ownership interest in ASCs (and therefore do not benefit financially from performing procedures in an ASC) choose to work in ASCs in such high numbers.

Given the history of their involvement with making ASCs a reality, it is not surprising physicians continue to have ownership in virtually all (90%) ASCs. But what is more interesting to note is how many ASCs are jointly owned by local hospitals that now increasingly recognize and embrace the value of the ASC model. According to the most recent data available, hospitals have ownership interest in 21% of all ASCs; 3% are owned entirely by hospitals.[2]





ASC OWNERSHIP STRUCTURE



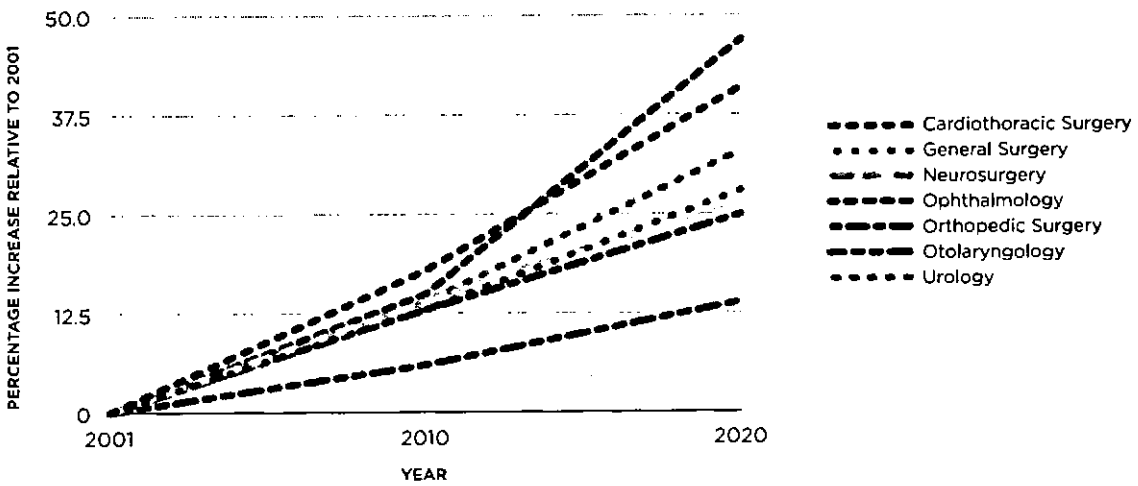
2004 ASC Salary and Benefits Survey, Federated Ambulatory Surgery Association, 2004.

ASCs ALLOW PHYSICIANS TO WORK EFFICIENTLY

A recent analysis examined the impact of the aging population on the demand for surgical procedures and attendant need for surgical subspecialists. This study concluded that the aging population would be a major force in driving significant growth in the demand for surgical services. The forecasted growth in work by the year 2020 varied from 14 percent to 47 percent, depending on specialty.[3] Meeting these surgical needs will be a challenge. Solutions include increasing the number of surgical residency positions, increasing the workloads of surgeons in the workforce, and improving the efficiency of surgeons.

Utilizing settings that allow physicians to practice efficiently will help mitigate the impact of the aging population on the anticipated shortage in the surgery workforce. ASCs offer physicians the ability to work more efficiently and are therefore uniquely positioned to play an important role in managing the increased need for surgical services as it arises in the years ahead.

FORECASTED DEMAND GROWTH IN THE NUMBER OF PROCEDURES BY SPECIALTY



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ASCs ARE HIGHLY REGULATED TO ENSURE QUALITY AND SAFETY

Health care facilities in the United States are highly regulated by federal and state entities. ASCs are not excluded from this oversight.

The safety and quality of care offered in ASCs is evaluated by independent observers through three processes: state licensure, Medicare certification and volunrary accreditation.

Most states require ASCs to be licensed in order to operate. Each state determines the specific requirements ASCs must meet for licensure. Most state licensure programs require rigorous initial and ongoing inspection and reporting.

All ASCs serving Medicare beneficiaries must be certified by the Medicare program. In order to be certified, an ASC must comply with standards developed by the federal government for the specific purpose of ensuring the safety of the patient and the quality of the facility, physicians, staff, services and management of the ASC. The ASC must demonstrate compliance with these Medicare standards initially and on an ongoing basis.

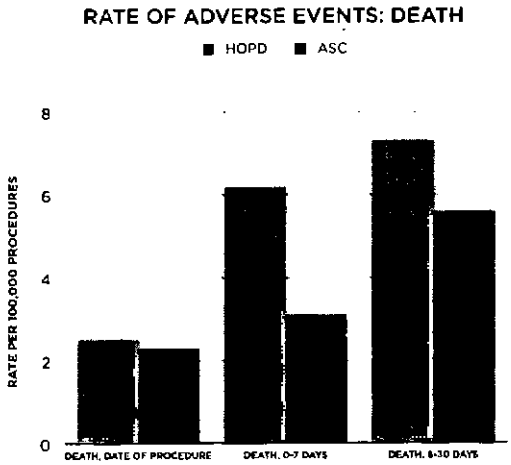
In addition to state and federal inspections, many ASCs choose to go through voluntary accreditation by an independent accrediting organization. Accrediting organizations for ASCs include the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), the Accreditation Association for Ambulatory Health Care (AAAHC), the American Association for the Accreditation of Ambulatory Surgery Facilities (AAAASF) and the American Osteopathic Association (AOA). ASCs must meet specific standards during on-site inspections by these organizations in order to be accredited. All accrediting organizations require an ASC to engage in external benchmarking, which allows the facility to compare its performance to the performance of other ASCs.

In addition to requiring certification in order to participate in the Medicare program, federal regulations also limit the scope of surgical procedures reimbursed in ASCs.[5] Generally, services are limited to elective procedures with short anesthesia and operating times not requiring an overnight stay. These limitations do not apply to bospital outpatient departments (HOPDs).[6]

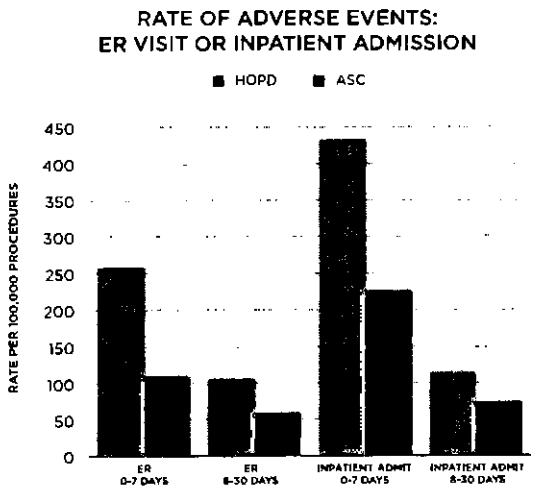
The federal government views ASCs and HOPDs as distinct types of providers. As a result, the federal regulations governing HOPDs and ASCs differ. Another reason for differing regulations is that, in a hospital, the same operating room may be used interchangeably to provide services to both inpatients and outpatients. For example, a procedure room in the HOPD may be used to perform a service for an inpatient and then used to perform the same procedure for an ambulatory patient who is discharged home immediately thereafter. In other words, ambulatory patients seen on an outpatient basis in an HOPD may utilize exactly the same facilities used to provide services to patients who have been admitted to the hospital. Consequently, the inpatient standards for hospitals are applied to HOPDs.[7]

On the other hand, ASCs provide services in facilities specifically designed to perform selected outpatient surgical services. The different requirements developed by the federal government appropriately reflect the fundamental differences in the hospital setting versus the ASC.[8]

ASCs consistently perform as well as, if not better than, HOPDs when quality and safety is examined. A recent study[9] included an examination of the rates of inpatient hospital admission and death in elderly patients following common outpatient surgical procedures in HOPDs and ASCs. Rates of inpatient hospital admission and death were lower in freestanding ASCs as compared to HOPDs. Even after controlling for factors associated with higher-risk patients, ASCs had low adverse outcome rates.



Fleisher LA, Pasternak LR, Herbert R, Anderson GF. Inpatient hospital admission and death after outpatient surgery in elderly patients: importance of patient and system characteristics and location of care. Arch Surg. 2004 Jan;139(1):67-72.



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SPECIFIC FEDERAL REQUIREMENTS GOVERNING ASCs

In order to participate in the Medicare program, ASCs are required to meet certain conditions set by the federal government designed to ensure the facility is operated in a manner that ensures the safety of patients and the quality of services. Some of these requirements are highlighted in more detail below.

ASCs are required to maintain complete, comprehensive and accurate medical records. The content of these records must include a medical history and physical examination relevant to the reason for the surgery and the type of anesthesia planned. In addition, a physician must examine the patient immediately before surgery to evaluate the risk of anesthesia and the procedure to be performed. Prior to discharge each patient must be evaluated by a physician for proper anesthesia recovery.

CMS requires ASCs to ensure patients do not acquire infections during their care at these facilities. ASCs must establish a program for identifying and preventing infections, maintaining a sanitary environment, and reporting outcomes to appropriate authorities. The program must be one of active surveillance and include specific procedures for prevention, early detection, control, and investigation of infectious and communicable diseases in accordance with the recommendations of the Centers for Disease Control. In fact, ASCs have historically had very low infection rates.[10]

A registered nurse trained in the use of emergency equipment and in cardiopulmonary resuscitation must be available whenever a patient is in the ASC. To further protect patient safety, ASCs are also required to have an effective means of transferring patients to a hospital for additional care in the event an emergency occurs. Written guidelines outlining arrangements for ambulance services and transfer of medical information are mandatory. An ASC must have a written transfer agreement with a local hospital, or all physicians performing surgery in the ASC must have admitting privileges at the designated hospital. Although these safeguards are in place, hospital admissions as a result of complications following ambulatory surgery are rare.[9,11]

Continuous quality improvement is an important means of assuring patients are receiving the best care possible. ASCs are required to implement and monitor policies that ensure the facility provides quality health care in a safe environment. An ASC, with the active participation of the medical staff, is required to conduct an ongoing, comprehensive assessment of the quality of care provided.

The excellent outcomes associated with ambulatory surgery reflect the commitment that the ASC industry has made to quality and safety. One of the many reasons that ASCs continue to be so successful with patients, physicians and insurers is their keen focus on ensuring the quality of the services provided.

Medicare Requirements for ASCs and Hospitals Are The Same Where Services are Comparable

Compliance with state licensure law	☑	☑
Governing body	☑	☑
Surgical services	☑	☑
Evaluation of quality	☑	☑
Environment	☑	☑
Medical staff	☑	☑
Nursing services	☑	☑
Medical records	☑	☑
Pharmaceutical services	☑	☑
Laboratory services	☑	☑
Radiologic services	☑	☑

Source: 42 CFR 416, 42 CFR 482

THE ASC INDUSTRY IS COMMITTED TO REPORTING QUALITY MEASURES

A fundamental change in the way the government assures the quality of health care services is well underway. The Department of Health and Human Services has launched its Quality Initiative to assure quality health care through accountability and public disclosure.

The ASC industry is excited to have the opportunity to make its excellent outcomes more widely known to the public through this initiative. Leaders from the ASC industry, along with associations and related organizations with a focus on health care quality and safety, have come together in a collaborative effort to identify specific measures for quality appropriate to ASCs. This group, the ASC Quality Collaboration, strongly endorses the vision that measures of quality which are appropriate to ASCs should be congruent with measures utilized for other outpatient surgery settings. The continued development of these measures will involve a number of different stakeholders including ASC clinical and administrative leaders, health policy researchers, CMS and other key federal and state governmental agencies. The group will also work with the National Quality Forum to achieve consensus on the proposed quality measures.

PATIENT SATISFACTION

Patient satisfaction is a hallmark of the ASC industry. This year, more than eight million Americans will undergo surgery in an ASC. Virtually all of those patients will return home the same day and will resume most normal activities within a matter of days. Talk to these patients and you will hear how overwhelmingly satisfied they are with their ASC experience. Recent surveys show average patient satisfaction levels in ASCs exceeding 90 percent.[4] Safe and high quality services, ease of scheduling, greater personal attention and lower costs are among the main reasons cited for the growing popularity of ASCs as a place for having surgery.

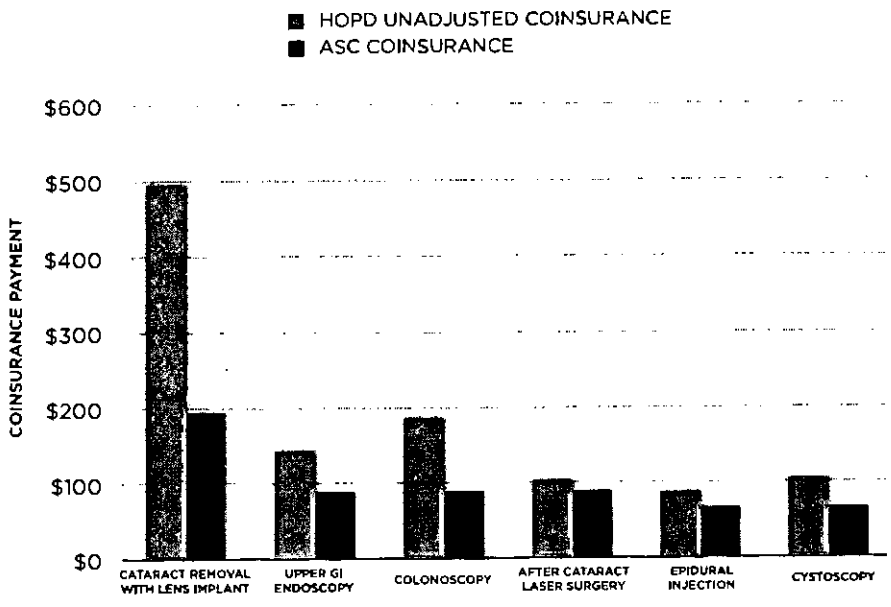
ASCs PROVIDE CARE AT SIGNIFICANT COST SAVINGS

Not only are ASCs focused on ensuring patients have the best surgical experience possible, the care they provide is also more affordable. One of the reasons ASCs have been so successful is they offer valuable surgical and procedural services at a lower cost when compared to hospital charges for the same services. Beginning in 2007, Medicare payments to ASCs will be lower than or equal to Medicare payments to HOPDs for comparable services for 100 percent of procedures.[12]

In addition, patients typically pay less coinsurance for procedures performed in the ASC than for comparable procedures in the hospital setting. For example, a Medicare beneficiary could pay as much as $496 in coinsurance for a cataract exrraction procedure performed in a HOPD, whereas that same beneficiary's copayment in the ASC would be only $195; a Medicare beneficiary could pay as much as $186 in coinsurance for a colonoscopy performed in a HOPD, whereas that same beneficiary's copayment for the same procedure performed in an ASC would be only $89. By having surgery in the ASC the patient may save as much as 61%, or more than $300, compared to their out-of-pocket coinsurance for the same procedure in the hospital.

Without the emergence of ASCs as an option for care, health care expenditures would have been billions of dollars higher over the past three decades. Studies have shown the Medicare program would pay approximately $464 million more per year if all procedures performed in an ASC were instead furnished at a hospital.[13] Private insurance companies tend to save similarly, which means employers also incur lower health care costs by utilizing ASC services. Employers and insurers, particularly managed care entities, are driving ASC growth in many areas, because they recognize ASCs are able to deliver consistent, high quality outcomes at a significant savings. As the number of surgical procedures performed in ASCs grows, the Medicare program may realize even greater savings - and of course Medicare beneficiaries will realize additional out-of-pocket savings as well.[13]

MEDICARE COINSURANCE RATES ARE LOWER IN ASCs



MedPAC, Report to the Congress: Medicare Payment Policy, March 2004.

THE ASC INDUSTRY SUPPORTS DISCLOSURE OF PRICING INFORMATION

It is the general practice of ASCs to make pricing information available to the patient in advance of surgery. The industry is eager to make price transparency a reality, not only for Medicare beneficiaries, but for all patients. To offer maximum benefit to the consumer, these disclosures should outline the total price of the planned surgical procedure and the specific portion for which the patient would be responsible. This will empower health care consumers as they evaluate and compare costs for the same service amongst various health care providers.

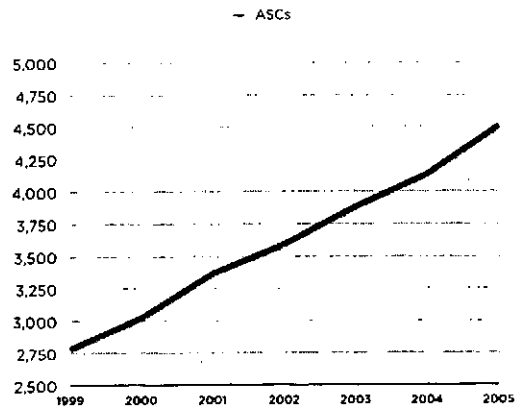
ASCs IMPROVE PATIENT CHOICE, DEMAND FOR ASCS GROWS

Technological advancement has allowed a growing range of procedures to be performed safely on an outpatient basis. Faster acting and more effective anesthetics and less invasive techniques, such as arthroscopy, have driven this outpatient migration. Procedures that only a few years ago required major incisions, long-acting anesthetics and extended convalescence can now be performed through closed techniques utilizing short-acting anesthetics, and with minimal recovery time. As medical innovation continues to advance, more and more procedures will be able to be performed safely in the outpatient setting.

The number of ASCs continues to grow in response to demand from the key participants in surgical care – patients, physicians and insurers. This demand has been made possible by technology, but has been driven by high levels of patient satisfaction, efficient physician practice, high levels of quality and the cost savings that have benefited all. The number of Medicare certified ASCs has grown from 2786 in 1999 to 4506 in 2005, with an average annual growth rate of 8.3%.[14]

Further impetus to future ASC growth has been given by MedPAC, which has recommended that the CMS list of approved ASC procedures be expanded. This would allow a broader range of choice for patients and surgeons. Specifically, MedPAC has recommended the procedures approved for the ASC setting be revised so that ASCs can receive payment for any surgical procedure, with the exception of those surgeries requiring an overnight stay or which pose a significant safety risk when furnished in an ASC.8 Adoption of these recommendations would allow Medicare beneficiaries to access an extended range of surgical services – a range of surgical services which is already available to patients with private insurance.[15]

NUMBER OF MEDICARE-CERTIFIED ASCs



MedPAC, Data Book, June 2006.

ASCs WILL CONTINUE TO LEAD INNOVATION IN OUTPATIENT SURGICAL CARE

As leaders of the revolution in surgical care who led to the establishment of affordable and safe outpatient surgery, the ASC industry has shown itself to be ahead of the curve in identifying promising avenues for improving the delivery of health care.

With a solid track record of performance in stakeholder satisfaction, safety, quality and cost management, the ASC industry is already embracing the changes that will allow it to continue to play a leading role in raising the standards of performance in the delivery of outpatient surgical services.

As always, the ASC industry welcomes any opportunity to clarify the services it offers, the regulations and standards governing its operations, and the ways in which it ensures safe, high-quality care for patients.

POLICY CONSIDERATIONS

Given the continued fiscal challenges posed by administering health care programs, policy makers and regulators should continue to focus on fostering innovative methods of health care delivery that offer safe, high-quality care so progressive changes in the nation's health care system can be implemented.

Support should be reserved for those policies that promote the utilization of sites of service providing more affordable care while maintaining high quality and safety standards. In light of the many benefits ASCs have brought to the nation's health care system, it will be important for future payment and coverage policies to continue to strengthen access to and utilization of ASCs.

ENDNOTES

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Alabama Ambulatory Surgery Association

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AmSurg

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Arkansas Ambulatory Surgery Association

California Ambulatory Surgery Association

Colorado Ambulatory Surgery Center Association

FASA

Florida Society of Ambulatory Surgical Centers

Foundation for Ambulatory Surgery in America

Freestanding Ambulatory Surgery Center Association of Tennessee

Georgia Society of Ambulatory Surgery Centers

Healthmark Industries Co

HealthSouth

Idaho Ambulatory Surgery Center Association

Illinois Freestanding Surgery Center Association

Indiana Federation of Ambulatory Surgical Centers

Iowa Association of Ambulatory Surgery Centers

Kansas Association of Ambulatory Surgery Centers

Kentucky Ambulatory Surgery Center Association

Louisiana Ambulatory Surgery Association

Maine Ambulatory Surgery Center Coalition

Maryland Ambulatory Surgical Association

Massachusettes Association of Ambulatory Surgery Centers

Mississippi Ambulatory Surgery Association

Missouri Ambulatory Surgery Center Association

National Surgical Care

Nevada Ambulatory Surgery Association

New Hampshire Ambulatory Surgery Center

NovaMed

Nueterra Healthcare

Ohio Association of Ambulatory Surgery Centers

Pennsylvania Ambulatory Surgery Association

South Carolina Ambulatory Surgery Center Association

South Dakota Association of Specialty Care Providers

Symbion Healthcare

Texas Ambulatory Surgery Center Society

United Surgical Partners International

Utah Ambulatory Surgery Center Association

Washington Ambulatory Surgery Center Association

Wisconsin Surgery Center Association

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An Analysis of Recent Growth of Ambulatory Surgical Centers

Final Report

Prepared By:

Lane Koenig, PhD
Julia Doherty, MHSA
Jennifer Dreyfus, MBA
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Prepared For:

ASC Coalition

June 5, 2009

KNG HEALTH CONSULTING LLC

answering today's health policy questions

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KNG Health Consulting, LLC (KNG Health) is a health economics and policy firm specializing in objective and data-driven analyses that address real-world challenges. KNG Health contributes to improving the efficiency and effectiveness of healthcare by applying economic concepts ond rigorous analytic techniques to understand healthcare markets. The company provides o broad array of consulting services to health provider and insurer associations, health plans, and Federal and State governments.

Executive Summary

This study assesses the factors that have contributed to growth in the number of ambulatary surgical centers (ASCs). ASCs are facilities that provide surgical procedures exclusively on an outpatient basis. ASCs and other ambulatory settings, which include hospital outpatient departments (HOPDs) and physician offices, offer alternative sites of service for certain surgical procedures that do not require an overnight stay.

Conceptual Model and Approach

The potential causes of growth in ASCs are numerous and may include changes in population demographics, disease prevalence, new surgical techniques, Medicare and other payer coverage and reimbursement decisions, and differences in reimbursement levels for ambulotory surgery across care settings. Because of the complexity of the issue, we developed a conceptual model to guide our analysis.

Our conceptual model recognizes three levels of factors that determine the volume of surgical procedures provided by ASCs.

- Level 1: Relates to the overall need for healthcare procedures, including both inpatient and outpatient care, and includes factors that are largely related to characteristics of the population or changes in diognostic screening recommendations. However, technological change, including new surgical and diagnostic techniques, is also a significant contributor to overall use of surgical procedures.

- Level 2: Relates to whether a procedure is performed on an inpatient basis or done in an outpatient setting. This level is concerned primarily with technologically-driven substitution as a result of improvement in surgical techniques and anesthesia.

- Level 3: Relates to site-of-service decisions. This level addresses how providers and patients select one site of service over another.

Guided by this conceptual model, our technical approach includes both qualitative and quantitative methods. We first conducted a literature search of PubMed for studies published in the last 10 years for each of the three levels of ASC-use determination. In addition, the project team conducted interviews with five experts and stokeholders in the ambulatory surgery community. The purpose of these interviews was to enhance our understanding of the growth foctors associated with ombulatory surgery, the changing healthcare and ombulatory environment, and private payment trends.

We conducted a number of quantitative analyses to assess the factors responsible for the growth in services provided in ASCs. These onalyses relied on Medicare data and primarily included: a decomposition of Medicare spending, an analysis of shift in site of ambulatory surgery, and regression modeling.

Our decomposition analysis determines the share of growth in total Medicare ASC spending attributable to changes in:

1. Medicare fee-far-service (FFS) papulation;
2. Average number af services (NOS) per beneficiory;
3. Average relative weights (ar camparative value); and
4. Medicare reimbursement levels.

Ta camplete the analysis af a shift in ambulatary surgical setting, we determined what ASC service valume would have been had it grown at the same rate acrass all ambulatory surgical settings. We then compared the actual growth to this "expected" growth rate. We attributed any ASC volume growth above the "expected" grawth to a shift in setting (fram HOPDs and physician affices).

Finally, we used regressian modeling ta test the induced-demand hypathesis and quantify the contributian of specific demand and supply factors to ASC growth. The regression models assessed the impact af ASCs on the tatal provision of services across ambulatory settings and identified the factors that drive ASC market share.

These three quantitative appraaches complement each ather. The decomposition of growth and site-of-service analyses allow for statements about the contributions several broad factors make to ASC growth, including population growth, chonges in the number of services per beneficiary, and shifts in site of service. The regression models ollow us to test whether we can rule out induced demand as a significant growth factor.

Growth of Ambulatory Surgical Centers: An Introduction to the Issues

The number of Medicare-certified ASCs grew at an average annual rate of 7.3 percent from 2000 through 2007, with Medicare payments to ASCs increasing by an average of 11.4 percent per year over this period (MedPAC, 2008). By contrast, Medicare spending for hospital outpatient services grew, an average, by 6.9 percent annually over the same time period (MedPAC, 2008). As a result of the relatively rapid growth of ASCs, some policymakers have raised concerns about the potential overuse of ASCs. Because the factors influencing ASC growth are not well understood, the extent to which the increase in ASC use reflects an appropriate respanse to patient needs and an efficient allocation of healthcare resources is unclear.

The increased use of ASCs could benefit patients and providers. According to MedPAC, ASCs may offer more convenient locations, shorter waiting times, and easier scheduling for patients (MedPAC 2009). Beneficiary coinsurance amounts are lower for services provided in ASCs as compared to HOPDs as are Medicare program payments for services. A review of the literature by Chukmaitov et al. suggests that the specialized, "focused factory" characteristics of many ASCs could improve patient autcomes (Chukmaitov, et. al., 2004); additional studies in this review of other settings confirm a relationship between procedural volume and quality. Finally, the ASC setting gives patients access to the most recent technological advances (ibid).

Moving volume to ASCs from HOPDs could result in savings to the Medicare program. Medicare's payments to ASCs were at 86.5 of HOPD in 2003. Several subsequent policy changes lowered ASCs payments even further relative to the HOPD. The Deficit Reduction Act of 2005 (DRA) limited Medicare ASC reimbursement rates ta the lesser of the standard ASC rate or the rate under the hospital outpatient prospective payment system. Less than 11 percent of ASC-eligible services were affected by this policy. These affected services represented 7 percent af the ASC surgical volume in

2007, indicating that most ASC services were already being paid at or below the HOPD Medicare rate (MedPAC 2009).

In 2008, the Centers for Medicare and Medicaid Services revised its Medicare payment system for ASCs. The new system reduced payments for many high volume ASC services while increasing payments for other ASC services. CMS also changed the criteria for determining which procedures Medicare would cover in the ASC setting, based upon a MedPAC recommendation. This change resulted in about 800 more procedures being covered in ASCs.[1] According to MedPAC, the new payment system and other changes are expected to result in ASCs receiving an average 59 percent of HOPD payment rates in 2009, a significant reduction from the 86.5 percent in 2003.

Because ASCs offer a lower-cost alternative to HOPDs for surgical services, it is possible that growth in ASC use has slowed the growth in Medicare spending. MedPAC and others point to two factors, however, that may offset the cost-reducing effects of ASCs. First, 91 percent of ASCs have at least one physician owner (ASC Association 2008). Some policymakers are concerned that physician ownership of ASCs could provide a financial incentive for physicians to perform more surgical services than they would if they could provide outpatient surgical services only in an HOPD (i.e., "induced demand"). Second, growth in ASCs expands the overall capacity for outpatient surgery, which could lead to a higher overall volume of surgery.

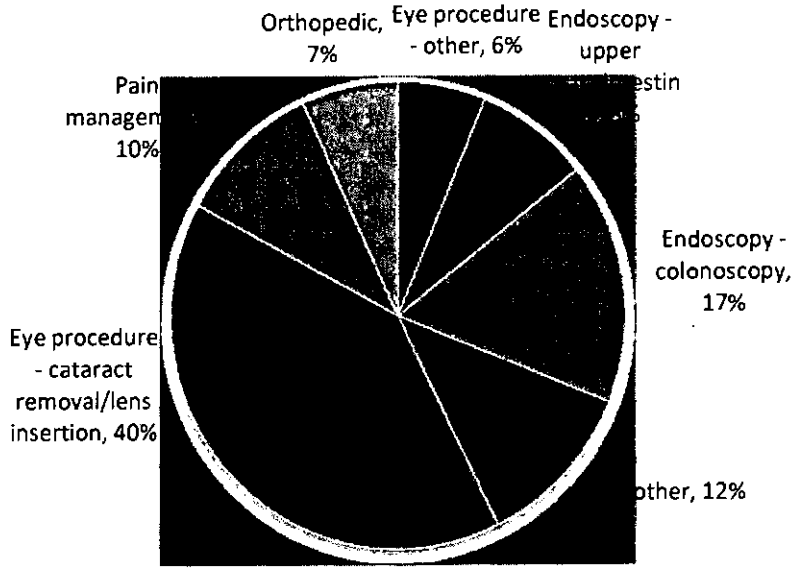
Evidence points to a number of possible reasons why surgical volume may increase with access to ASCs, unrelated to physician ownership. Evidence indicates that physicians prefer ASCs to HOPDs, because ASCs offer physicians better control over their work environment: surgeries are not "bumped" due to demands from the hospital while short turnaround times and specialized focus by nurses and other support staff at ASCs increase the efficiency of the surgeon (Haugh, 2006; AHA, 2006). In addition, ASCs may offer patients more convenient locations, ease in scheduling surgeries, shorter waiting times, and overall higher patient satisfaction with their experience (MedPAC 2009). Consequently, more access to ASCs may increase the demand for surgical services and cancer screening. These factors could contribute to an observation that the number of ASCs is associated with higher surgical volumes. Regression modeling is used to test the hypothesis that ASCs increase overall surgical volumes.

Findings

In 2007, Medicare payments to ASCs totaled approximately $2.8 billion or $88 per Medicare beneficiary. The distribution of Medicare ASC payments by service category in 2007 is presented in Figure ES1 below. Forty-six percent of Medicare payments to ASCs were for eye procedures, with most of that for cataract removal/lens insertion procedures (40 percent). Colonoscopy and upper GI procedures accounted for 25 percent of Medicare ASC payments in 2007. Cataract removal and colonoscopies, two services essential to the Medicare population, accounted for 57 percent of total Medicare payments to ASCs. In 2007, Medicare ASC spending for pain management and orthopedic services were 10 and 7 percent, respectively.

[1] It should be noted that this report does not reflect changes in use of ASCs as a result of the 2008 changes as the most recent ASC data are from 2007 and this system did not begin until 2008 and will not be fully phased in until 2011.

Figure ES1. ASC Share of Medicare Allowed Charges by Service Category, 2007
Source: KNG Health analysis of PSPS files. Includes FFS Medicare claims only.



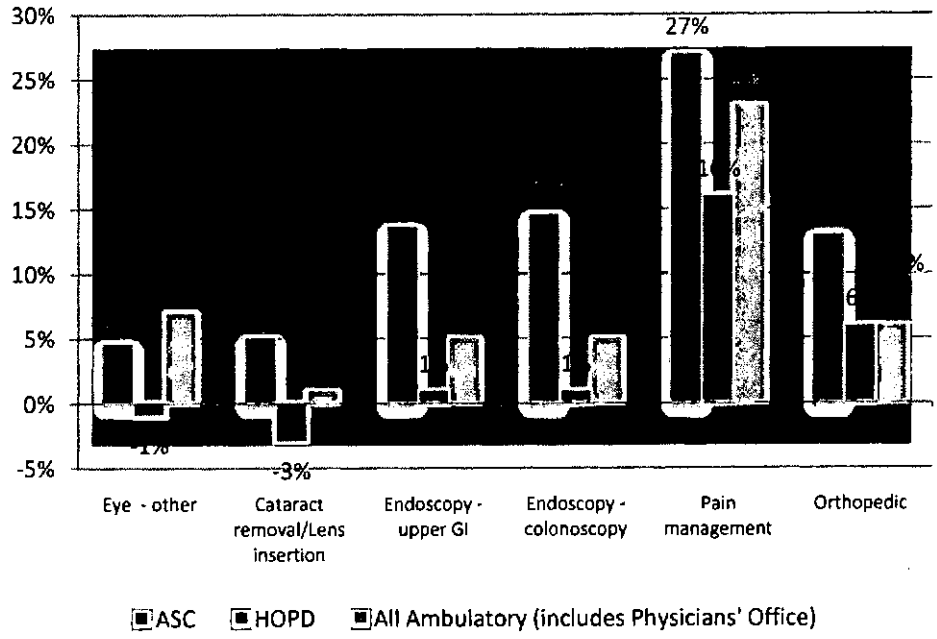
On a per Medicare beneficiary basis, Medicare ASC spending grew at an average annual rate of 9.7 percent between 2000 and 2007, with allowed services[2] growing by 13.3 percent annually. The growth in Medicare spending for ASCs slowed between 2002 and 2007, from a high of 14 percent to a low of 5 percent in 2007. The moderating growth of Medicare payments to ASCs reflects, in large part, low-reimbursed services, such as colonoscopies, becoming a greater share of total ASC services.

Accounting for the growth in Medicare ASC spending

In Figure ES2, we show the average annual growth per capita in Medicare allowed services for select types of service from 2000 to 2007. Although eye procedures represent the largest share of Medicare spending for ASCs, these services experienced the slowest growth since 2000, with eye procedures growing by 5 percent a year in ASCs. Colonoscopy and endoscopic upper GI procedures increased by an average annual rate of 15 and 14 percent, well above the growth rate for these groups of services across all ambulatory settings. Orthopedic services increased by 13 percent per year in ASCs. Pain management services grew the fastest for ASCs and across all ambulatory settings at 27 and 23 percent, respectively.

[2] In this paper, allowed services refer to services that are allowed for payment purposes under Medicare.

Figure ES2. Average Annual Growth in Medicare Allowed Service per Beneficiary by Place of Service, 2000 to 2007



Source: KNG Health onalysis of Medicare PSPS files. Includes FFS Medicare claims only.
Notes: Chort includes mix of BETOS categories (eye procedure - cataract removal/lens insertion (P4B), Endoscopy – colonoscopy (P8D), Endoscopy - upper GI (P8B), Eye procedure – other (P4E)) and specialty (Pain Management Orthopedics). Mapping of procedure codes to specialty provided by the ASC Association.

The rapid growth of pain management services in ASCs and other ambulatory settings may reflect the recent development of techniques (some pain management capabilities are only ten years old) and a growing recognition by providers and Medicore beneficiaries that pain is a treatable condition. In these respects, pain management could be characterized as a relotively new medical service. In contrast, cotaract surgeries have been accepted and provided in an inpatient setting since the 1970s and began moving in significant numbers to the outpatient setting in the 1980s. As the base rate of use for a medical service grows, grawth rates tend to stabilize. Pain management also differs from procedures such as cataract surgery or calonoscopy because therapeutic protocols often require multiple injection procedures aver the course of treatment; thus the number af pain management pracedures can be expected ta graw more rapidly than procedures involving a single intervention.

We determined the contributian of each service categary ta overall ASC service volume growth. Twa factors determine a service category's contribution to growth: (1) its growth rate; and (2) the share of ASC spending accounted for by the service group. A service's contributian ta overall growth increases with its share of tatal spending and its growth rate. Based on our data analysis, the follawing observations can be made:

1. Despite its relatively modest grawth rate, the category Eye Procedure – Cataract Removal/Lens Insertion accounted for the largest share of Medicare spending growth for ASCs between 2000 and 2007. This finding is a function of the large share of Medicare

ASC spending for these services. Eye procedures (i.e. cataract removal/lens insertion and Eye – Other) accounted for a combined 29 percent of the growth since 2000.

2. Endoscopic procedures represented the next largest contributar ta growth. Together, colonoscopy and upper GI endoscopic procedures were the largest drivers of ASC growth, accounting for 32 percent of the total change in Medicare payments.

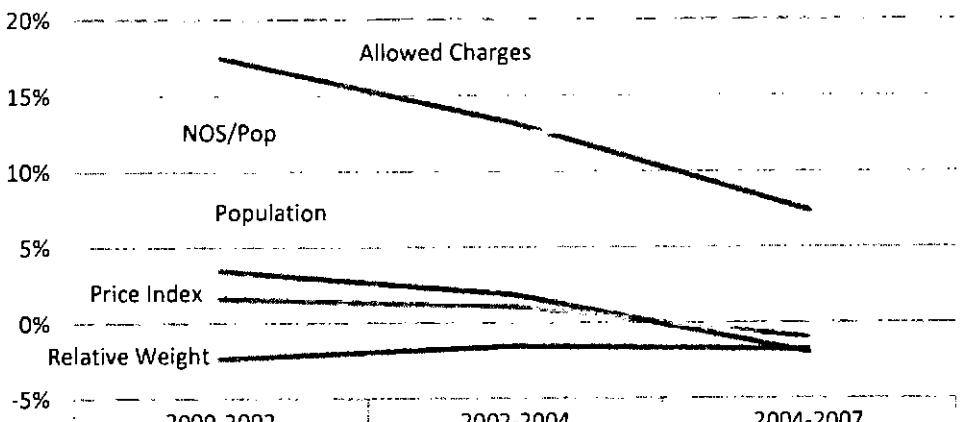
3. Although they accounted far 10 percent of total Medicare spending for ASCs, pain management services explained 17 percent of the growth in Medicare allowed charges, as a result of their rapid growth over the time period studied.

Changes in Service Volume, Comparative Value, Price, and Site of Service

In Figure ES3, we report findings from our decomposition analysis. This analysis examined the extent to which growth in Medicare population, number of services (NOS) per beneficiary, comparative value, or price changes explain the overall growth in Medicare spending for ASC services. Our measure of comparative value is based on the relative average Medicare payment for a service after holding constant any year-to-year price fluctuations. Changes in price over time are captured in the price index.

Our findings indicate that almost all of the growth in total Medicare spending (allowed charges) for ASC services was due to growth in the number of services per beneficiary. This can be observed by the high growth rates for number of services (NOS) per beneficiary and low rates of growth for all other explanatory factars. Medicare population growth and price changes account for a small but positive amount of the growth. Reductians in average comparative values for ASC services offset some of the growth due ta service, population, and price increases. The average Medicare payment far a service fell by around 11 percent between 2000 and 2007, reflecting the growing share af screening services provided by ASCs, which receive relatively low reimbursements as compared to cataract surgery.

Figure ES3. Average Annual Change in Total ASC Medicare Charges, Medicare Population, Number of Allowed Services, Average Relative Weights and Price for Select Years



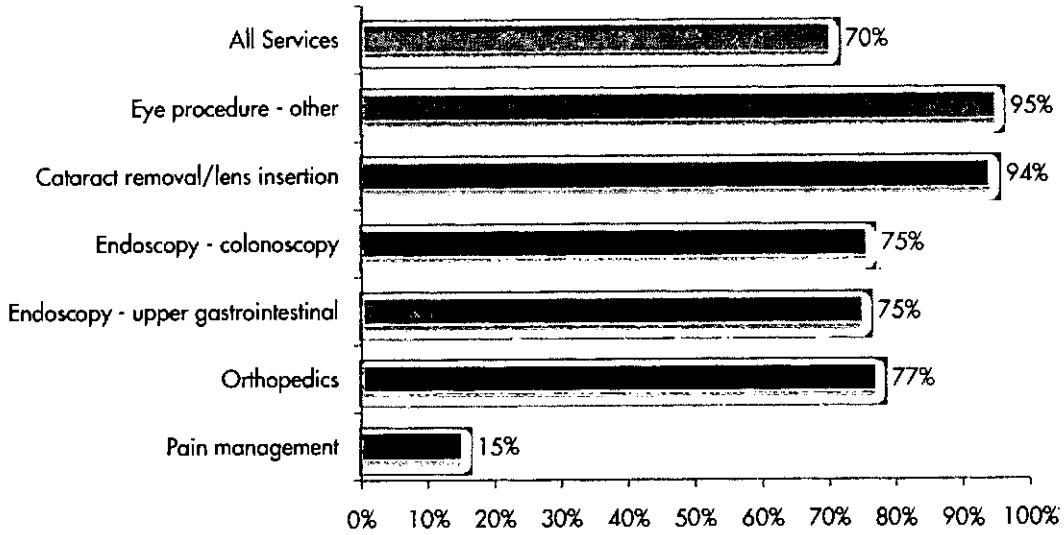
	2000-2002	2002-2004	2004-2007
Allowed Charges	17%	13%	7%
Population	3%	2%	-2%
NOS/Pop	15%	12%	14%
Relative Weight	-2%	-2%	-2%
Price Index	2%	1%	-1%

Source: KNG Health analysis of Medicare data. Includes FFS Medicare claims only.
Notes: NOS = Number of services. Population = Medicare FFS beneficiaries. Average relative weight reflects service mix. Decreasing average relative weights indicates that lower reimbursed services are increasing as a share of all services performed in an ASC. The price index reflects year-to-year changes in average Medicare reimbursement rates for ASC payment groups holding constant the mix of services.

Given the role the number of services per beneficiary played in driving growth in Medicare ASC spending, we determined the portion of growth in NOS per beneficiary that was due to care shifting either from (or to) HOPDs or physicians' offices. We estimated that 70 percent of the growth in the total volume of ASC services per beneficiary between 2000 and 2007 can be attributed to increased ASC market share (i.e., services shifting toward ASCs and away from other settings). The remaining 30 percent is due to general growth in ambulatory services. Most of the growth in ASC market share come from HOPDs. For colonoscopy and upper GI services, for example, HOPD share fell from 75 to less than 60 percent between 2000 and 2007, while physicians' offices share remained at 5 percent.

The growth due to shift in site of service showed some variation across types of services. On average, 75 percent of the volume growth in colonoscopy and endoscopic GI procedures was due to a shift in site of service. Ninety-four percent of the growth in cataract and other eye procedures was accounted for by the some shift in site of service from HOPDs to ASCs. By contrast, we estimated that 15 percent of the growth in pain management services was due to site of service changes. This result is consistent with the general pattern of growth observed for pain management procedures across all ambulatory surgical settings, including ASCs.

Figure ES4. Percent of ASC Growth in Allowed Services due to Shift in Site of Service for Select Service Categories, 2000-2007



Source: KNG Health analysis of Medicare PSPS files. Includes FFS Medicare claims only.
Notes: Table includes a mix of BETOS categories (eye procedure - cataract removal/lens insertion (P4B), Endoscopy – colonoscopy (P8D), Endoscopy - upper GI (P8B), Eye procedure – other (P4E)) and specialty (Pain Management Orthopedics). Mapping of procedure codes to specialty provided by the ASC Association.

The Role of Demographics, Provider Supply, and Technological Change in ASC Growth

To assess how much issues like provider supply, demographics, and technological advancements may have fueled ASC growth, we estimated state-level regression models using cross-sectional, time-series data. Separate models were developed for each of the top volume service categories. Two specifications were used. First, we examined the effects of state-level provider supply and Medicare population demographics on the total number of services per 1,000 beneficiaries. The dependent variable, total volume of procedures per 1,000 beneficiaries, includes volume for all ambulatory settings. This model tests the induced demand hypothesis by examining whether the number of ASCs is associated with totol ambulatory service volume. Second, we estimated o state-level regression model in which the dependent variable was the share of Medicare procedures done in the ASC. This two-step strategy to the regression modeling is consistent with our conceptual model. Each model was estimated using state and year fixed effects and included the following explanatory variables:

- ASCs per 100,000 population
- Shart-term general haspitals per 100,000 populatian
- Office-Based Physicians per 10,000 population
- Number of surgical physicians as a share of total number of physicians
- % Population Age 75 to 84
- % Population Age 85+
- % Population Male
- % Population Hispanic

- % Population African American
- % Population 65+ Reporting Fair or Poor Health
- Medicare Disabled Share
- Median Household Income

After controlling for population demogrophic factors and provider supply, we generally found no statistically significant relationship between the number of ASCs and total Medicare service volume per beneficiary, with the exception of poin monagement. Thus, we conclude that induced demand is not an important driver of ASC volume. For pain monagement, we found that each additional ASC per 100,000 people would increase the number of Medicare pain management services by 26 percent. While we cannot rule out that induced demand may have contributed to the growth in pain management services for ASCs, there are likely other factors involved in the observed growth. These services have grown rapidly across all ambulatory settings and are the subject of public efforts to improve the treatment of pain. We are unable to separately identify any effects associated with physician and potient preference for ASCs. Also, pain management differs from procedures such as cataract surgery or colanoscopy because a patient may require multiple injection procedures over the course of a standard treatment protocol.

In addition, we found that each additianal ASC per 100,000 people would increase ASC market share for colonoscopies and upper GI endoscopies by roughly 22 and 30 percent, respectively. Much smaller market share effects from an additianal ASC were found for pain management (6%).

Discussion

We conducted a comprehensive study of the growth factors for ASCs. Although aur qualitative analyses, including literature review and expert interviews, covered Medicare and non-Medicare populatians, we were primarily limited ta Medicare data in conducting our quantitative analyses. We highlight the major study findings below.

- Grawth in surgeries performed in ASCs parallels the historic shift away from hospital inpatient surgeries toward outpotient settings.

- A number of factors accaunt for the growth in ASCs including population health guidelines for disease screening (e.g., colorectal cancer screening), shift in site of services away from the hospital outpatient setting to ASCs, payer incentives to pay for care in the most cost-effective setting, demographic changes, and consumer and physician preferences.

- Much of the growth in outpatient surgeries was made possible by technological improvements that have allowed for faster patient recovery times. These advances include improved surgical techniques, anesthesia, and pharmaceuticals to better manage post-operative pain.

- Patients may prefer ASCs because they offer lower copayments, more convenient locations, shorter waiting times, and easier scheduling for patients.

- Physicians report preferring to treat patients in an ASC because it provides an opportunity to better control staffing decisions, equipment selection decisions, and process and scheduling

decisions (FASA, 2007). The ability to manage their work environment, along with short turnaround times and specialized focus by nurses and other support staff at ASCs (Haugh, 2006; AHA, 2006) creates the potential for higher professional revenue through increased productivity. Physicians with an ownership interest in the facility may derive a portion of their income through ownership equity.

- Eye procedures represent the largest share of Medicare spending for ASCs, but these services have experienced the slowest growth since 2000. Colonoscopy procedures increased by 15 percent per year, on average.

- Colonoscopy and upper gastraintestinal endoscopic (GI) procedures accounted for almost a third of Medicare ASC spending growth between 2000 and 2007. This finding is consistent with growing demand for essential cancer and other screening services among Medicare beneficiaries.

- Almost all of the growth in Medicare spending for ASC services was due to growth in the number of services per beneficiary. Medicare population growth and price changes account for a small but positive amount of the growth. The average price of procedures performed in the ASC fell by around 11 percent between 2000 and 2007, reflecting the growing share of screening services provided by ASCs.

- We estimate that 70 percent of the growth in ASC service volume per Medicare beneficiary between 2000 and 2007 can be attributed to ASCs capturing market share from HOPDs (also referred to as a shift in site of service). The remaining 30 percent is attributed to overall growth in outpatient surgical services across all settings.

- We find little evidence that induced demand is a driver of ASC service volume. After controlling for population demographic factors and provider supply, we generally find no statistically significant relationship between the number of ASCs and the total Medicare service volume per beneficiary. For pain management, we are not able to reject the hypothesis of induced demand, although physician and consumer preferences along with treatment protocols that require multiple injection procedures for ASCs may contribute to the finding that the number of ASCs is positively correlated with the total volume of pain management services.

The number of ASCs has grown significantly since 2000, along with the number of Medicare services provided in these facilities. We found that most of the growth in Medicare services since 2000 resulted from a movement of services from the HOPD to the ASC. Almost 60 percent of the growth in Medicare spending for ASCs since 2000 was due to growth in cataract surgeries, colonoscopies, and upper gastrointestinal procedures. These procedures are strongly associated with age and represent essential services to Medicare beneficiaries. These findings along with the observation that ASCs have been paid less than HOPDs, on average, suggest that the Medicare program may have spent less as a result of the movement of services to ASCs.

Despite the strong growth over the last several years, increases in the number of Medicare-certified ASCs have slowed recently. Whether this trend will continue is uncertain, but a number of factors point to this possibility. In the short term, the economic environment is likely to discourage the establishment of new ASCs. The transition to a new Medicare payment system is reducing payment

far some high-volume services, while rates are increasing for many low volume services. Although the net effect of these reimbursement changes on ASC growth may be mixed, the large differential between Medicare payments to ASCs and HOPDs may have altered the incentives far development of ASCs. Even more fundamentally, physician supply constraints may limit the growth rates in future years.

I. Purpose of Study

This study assesses the factors that have contributed to growth in ambulatory surgical centers (ASCs). ASCs are facilities that provide surgical procedures exclusively on an outpatient basis. ASCs and other ambulatory settings, which include hospital outpatient departments (HOPDs) and physician offices, offer alternative sites of service for certain surgical procedures that are nat expected to require an overnight stay.

The number of Medicare-certified ASCs grew at an average annual rate of 7.3 percent from 2000 through 2007, with Medicare payments to ASCs increasing by an average of 11.4 percent per year over this period (MedPAC, 2008). By comparison, Medicare spending for hospital outpatient services grew, on average, by 6.9 percent annually over the same time period (MedPAC, 2008). As a result of the relatively rapid growth of ASCs, some policymakers have raised concerns about the potential overuse of ASCs. The factors influencing ASC growth, however, are not well understood. Consequently, the extent to which the increase in ASC use reflects an appropriate response to patient needs is unclear.

The ASC Coalition, consisting of ASC associations and companies, engaged KNG Health Consulting, LLC to conduct a comprehensive review of the factors that have led to the growth of ASCs. A better understanding of the factors that have contributed to ASC growth is essential to inform policy discussions. Our empirical analyses focuses primarily on Medicare spending, although we consider factors that encourage the use of ASCs by all patients.

II. Growth of the Number of Ambulatory Surgical Centers: An Introduction to the Issues

To provide context for the rest of the paper, we present background on the growth of ASCs and review some of the policy issues.

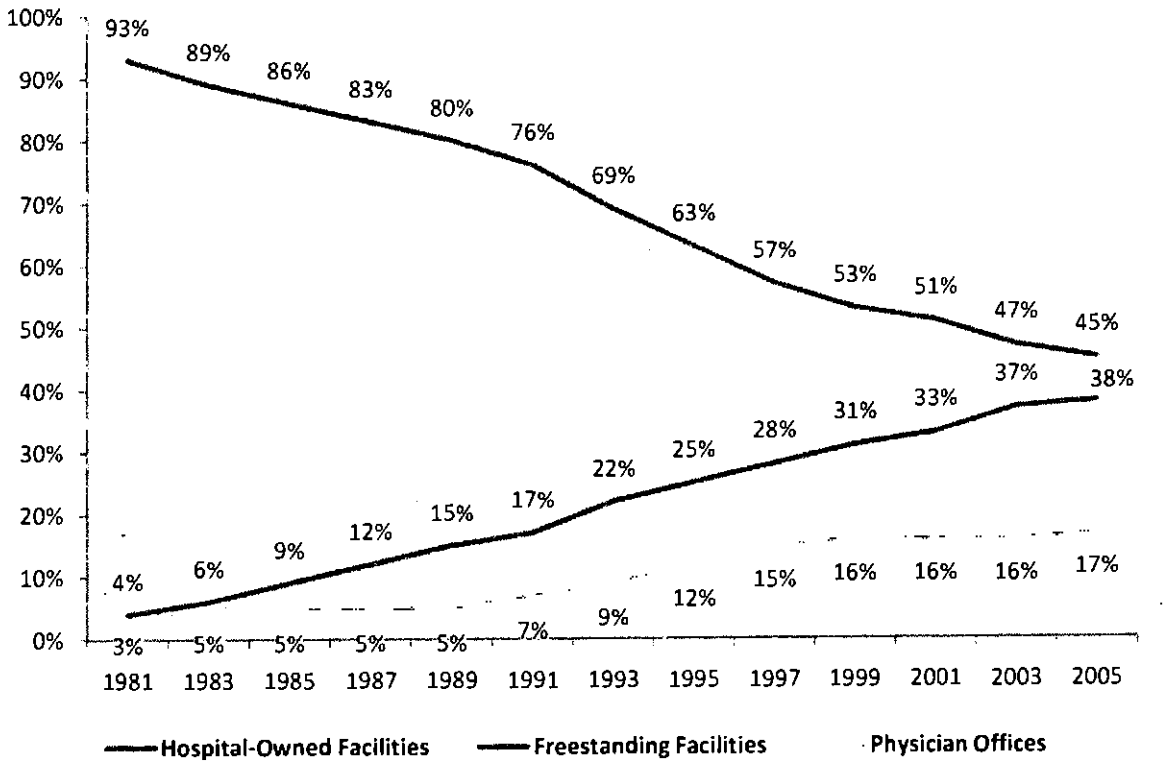
a. Characteristics of the ASC Industry

The first ASCs were established in the early 1970s, with Medicare first offering coverage for ASC services under Part B in 1982. At that time there were only 30 surgical procedures that met government guidelines for coverage. Since the 1980s, the share of surgeries performed in outpatient settings has grown significantly. In 1981, approximately 81 percent of surgeries were performed in hospitals on an inpatient basis. By 1999, inpatient surgeries represented only 37 percent of all surgeries, compared to 63 percent for outpotient surgeries. These shares have remained stable for the past several years.

At the same time, there has been a steady movement of surgery away from hospitol outpatient settings toward ASC and physician offices (Figure 1; the labels for this figure come from the data source. Freestanding facilities ore primarily ASCs). In 1981, the vost majority (93 percent) of outpatient surgeries were performed in hospital outpotient departments. The share of surgeries performed in HOPDs (or hospital-owned facilities) fell to 45 percent by 2005, with the share of surgeries performed in freestanding facilities increasing almost four-fold.

Figure 1. Percent of Outpatient Surgeries by Facility Type

Source: AHA, Trendwatch Chartbook, 2008, Supplementary Data Tables, Organizational Trends

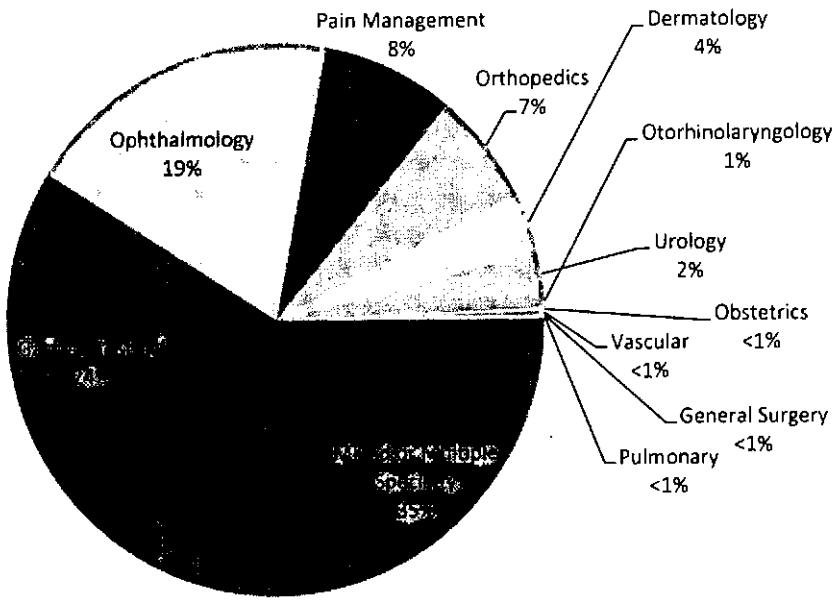


In 2008, there were approximately 5,149 Medicare-certified ASCs in the United States.[3] This number has increased steadily over the past ten years. The vast majority of ASCs remain under private ownership. The number of HOPDs, on the other hond, has remained fairly stable over the years, despite an overall increasing trend in the number of outpotient surgeries. There were slightly more than 4,800 HOPDs in 2008. ASCs are concentrated heavily in California, Florida, and Texas, with 694, 387, and 347 facilities in each state in 2008, respectively (See Maps 1 and 2 at the end of the document).

ASCs offer a variety of surgical services (Figure 2). Thirty-five percent of ASCs are multi-speciolty providers in that they provide a mix of surgical services. A number of facilities were identified as speciolizing in either gostrointestinal procedures or ophthalmology.

[3] Excluding 23 ASCs located in Puerto Rico and 2 in Guam.

Figure 2. Percent of ASCs by Specialty

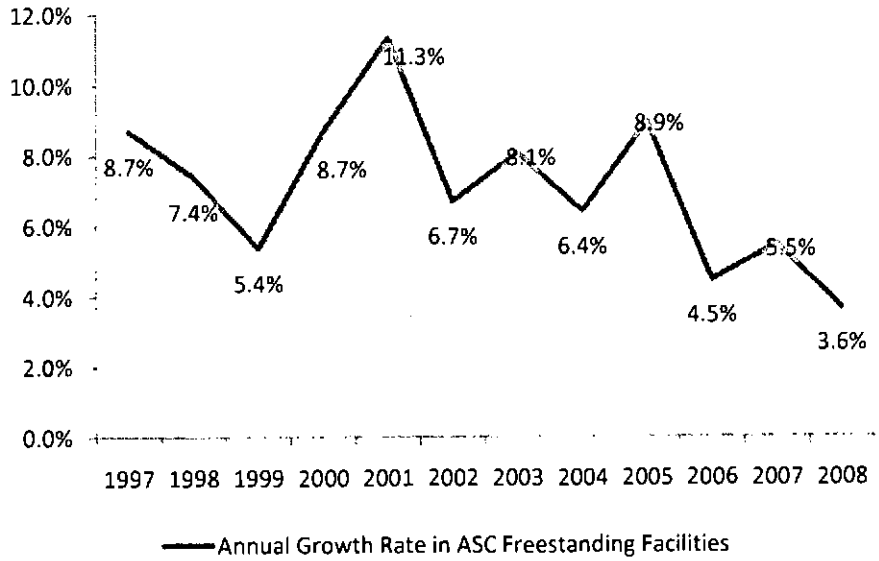


Source: 2007 PSPS file.

The number of Medicare-certified ASCs grew at an average annual rate of 7.1 percent from 1997 to 2008 (Figure 3). Since 2000, an average of 341 new Medicare-certified ASCs entered each year, with a net gain of 273 ASCs after accounting for closures and mergers (MedPAC, 2008). Although the growth rate has varied from year to year, the trend since 2001 is downward. In 2001, the ASC growth rate reached its highest point of 11.3 percent (since 2000). In 2008, the number of ASCs grew by 3.6 percent, its lowest rate since 2000.

Figure 3. Annual Net Growth Rate in Medicare-Certified ASC Facilities

Source: CMS Provider of Service Files (various years) and MedPAC March Report 2003



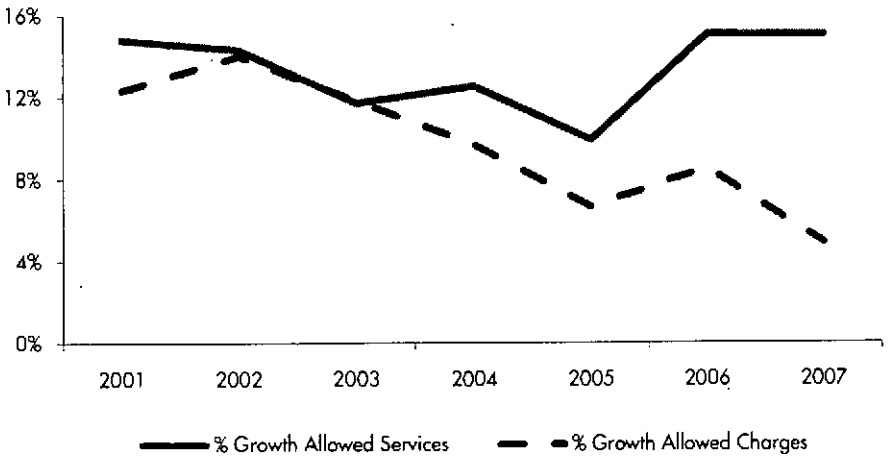
Medicare ASC spending per beneficiary grew at an average annual rate of 9.7 percent between 2000 and 2007, with allowed services[4] growing by 13.3 percent annually (Figure 4). This rate is higher than the growth in Medicare spending for hospital outpatient services, which grew by an average annual rate of 6.9 percent over the same period (Chart 8-6 and 8-13, MedPAC, 2008). Nevertheless, with the exception of 2006, the rate of growth in Medicare spending for ASC services has fallen each year since 2002.

The rate of growth in Medicare spending varied significantly ocross states, with 16 states having annual growth rates of more than 14 percent (See Map 7 at end of document).

The moderating growth of ASC Medicare payments reflects two factors. First, ASC payment rates under Medicare were frozen from 2003 through 2009. With the tronsition to the new ASC payment system, rates for individual procedures changed, but these changes were implemented in a budget neutral manner so no overall increase occurred. In addition, payment rates for 11 percent of services (7 percent of service volume) decreased in 2007 as a result of provisions in the Deficit Reduction Act of 2005 (DRA), which limited Medicare payments for ASC services to no more than Medicare payments under the OPPS for the same service. Although not observed in the data analyzed far this report, payments for nearly all of the most common ASC procedures were reduced in 2008 and are scheduled for further reductions through 2011 as the revised payment system is phased in.

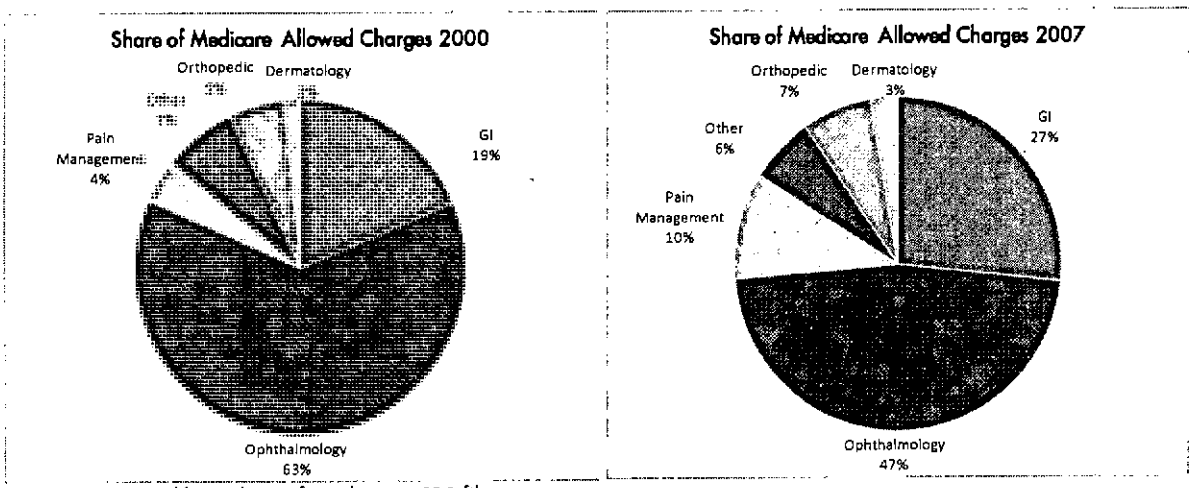
[4] In this poper, allowed services refer to services that are allowed for payment purposes under Medicare.

Figure 4. Percent Growth in Medicare Allowed Charges and Allowed Services for ASCs
Source: KNG Health analysis of the PSPS file



Second, ond more importontly for the moderating growth in Medicare payments, ASCs are providing more low-reimbursed services to Medicare beneficiaries. For example, ophthalmology services such as cotaract surgery, for which ASCs receive a relatively high payment, fell from 63 to 47 percent as a share of totol ASC Medicore spending between 2000 and 2007. At the same time, gastrointestinal (GI) services, such as colonoscopy which are paid at a lower rate, increased from 19 to 27 percent (Figure 5).

Figure 5. Share of Medicare ASC Allowed Charges by Specialty



Source: KNG Health analysis of Medicare PSPS file.

Pain management services as a share of total Medicare ASC spending increased by 6 percentage points, growing from 4 to 10 percent of Medicare spending between 2000 and 2007. Medicare spending for orthopedic and dermatological services as a share of total ASC spending increased

only a small amount in absolute percentage terms over this time period, although their relative growth rates were robust.

With respect to Medicare, ASCs have increased their market share for most service types (Table 1). We defined a market as the total number of services provided in either physician's offices, HOPDs, or ASCs. The growth in GI services since 2000 has been the most notable: ASCs provided almost 37 percent of all GI services performed on Medicare beneficiaries in 2007, an increase of 19.4 percentage points from 2000. 2007, ASCs provided roughly 30 percent of ophthalmology and pain management Medicare services.

Most of the growth in ASC market share came from HOPDs. For colonoscopy, for example, HOPD share fell from 73 percent to 54 between 2000 and 2007, while physicians' offices share remained at 5 percent. For pain management, the share of services done in physicians' offices grew from 47 to 52 percent, while the HOPD share fell from 29 to 19 percent. Similar patterns were observed for other service types whereby HOPD shares fell while the share of services done in physicians' offices remained stable or increased.

Based on our review of the characteristics of the ASC industry, we conclude:

1. Growth in the number of Medicare-certified ASCs averaged around 7 to 8 percent since 2000, but the growth has slowed in recent years.

2. Medicare growth in spending for ASCs has also slowed, primarily as a result of a changing mix of services performed at ASCs, tending toward lower reimbursed services.

3. ASCs are capturing greater market share for a number of services, particularly for GI procedures (e.g., colonoscopy).

Table 1. ASC Medicare Market Share by Specialty (Based on Allowed Services)

Specialty	2000 ASC Share	2007 ASC Share	Share Change
Gastrointestinal (GI)	17.3%	36.6%	19.4%
Ophthalmology (OP)	28.2%	30.6%	2.4%
Poin Management (PM)	23.7%	29.2%	5.5%
Orthopedics (OR)	2.6%	3.9%	1.4%
Dermatology (DR)	0.3%	0.6%	0.3%
Other	0.1%	0.4%	0.3%

Source: KNG Health analysis of Medicare PSPS file. Mapping of procedure codes to specialty provided by the ASC Association.

b. Policy Issues around Ambulatory Surgical Centers

Although subsequent sections explore the potential reosons for ASC growth, it is worth considering issues ond possible implicotions of the increasing use of ASCs for the Medicare progrom ond its beneficiaries. The increased use of ASCs could benefit patients and the Medicare program. According to MedPAC, ASCs may offer more convenient locations, shorter waiting times, and easier scheduling for patients (MedPAC 2009). Beneficiary coinsuronce amounts are lower for services provided in ASCs as compared to HOPDs as ore Medicare program poyments for services. A review of the literature by Chukmoitov et al. suggests that the specialized, "focused factory" chorocteristics of many ASCs could improve potient outcomes (Chukmaitov, et. al., 2004); additional studies in this review of other settings confirm o relationship between procedural volume and quality. Finolly, the ASC setting gives potients occess to the most recent technological advances (ibid).

Moving volume to ASCs from HOPDs could result in savings to the Medicore program. Medicare's poyments to ASCs were at 86.5 of HOPD in 2003. Severol subsequent policy changes lowered ASCs payments even further relotive to the HOPD. The Deficit Reduction Act of 2005 (DRA) limited Medicare ASC reimbursement rotes to the lesser of the standord ASC rote or the rote under the hospitol outpatient prospective payment system. Less than 11 percent of ASC-eligible services were affected by this policy. These affected services represented 7 percent of the ASC surgical volume in 2007, indicating that most ASC services were already being poid ot or below the HOPD Medicore rate (MedPAC 2009).

In 2008, the Centers for Medicore and Medicoid Services revised its Medicore payment system for ASCs. The new system reduced payments for mony high volume ASC services while increasing payments for other ASC services. CMS also changed the criterio for determining which procedures Medicare would cover in the ASC setting, based upon o MedPAC recommendotion. This change resulted in about 800 more procedures being covered in ASCs.[5] According to MedPAC, the new payment system and other changes ore expected to result in ASCs receiving an average 59 percent of HOPD payment rates in 2009.

Because ASCs offer a lower-cost alternative to HOPDs for surgical services, it is possible that growth in ASC use has slowed the growth in Medicare spending. MedPAC and others point to two factors, however, that may offset the cost-reducing effects of ASCs. First, 91 percent of ASCs have ot least one physician owner (ASC Association 2008). Some policymakers are concerned that physician ownership of ASCs could provide a financial incentive for physicians to perform more surgical services than they would if they could provide outpatient surgical services only in an HOPD (i.e., "induced demand"). Second, growth in ASCs expands the overall capacity for outpatient surgery, which could lead to a higher overall volume of surgery.

Evidence points to a number of possible reasons why surgical volume may increase with access to ASCs, unrelated to physician ownership. Evidence indicates that physicians prefer ASCs to HOPDs, because ASCs offer physicians better control over their work environment: surgeries are not "bumped" due to demands from the hospital while short turnaround times and specialized focus by nurses and other support staff at ASCs increase the efficiency of the surgeon (Haugh, 2006; AHA, 2006; RAND, 2008). In addition, ASCs may offer patients more convenient locations, ease in

[5] It should be noted that this report does not reflect changes in use of ASCs as a result of the 2008 changes as the most recent ASC data are from 2007 and this system did not begin until 2008 and will not be fully phased in until 2011.

scheduling surgeries, shorter waiting times, and overall higher potient satisfaction with their experience (MedPAC 2009; RAND, 2008). Consequently, more access to ASCs may increase the demand for surgical services and cancer screening. These factors could contribute to an observatian that the number of ASCs is associated with higher surgical volumes. Regression modeling is used to test the hypothesis that ASCs increase overall surgical volumes.

We focus on identifying factors behind the growth in services provided in ASCs and attempt to quantify their contribution to growth. The issue of the potential impact of ASCs on overoll volume of surgical services is an important one. However, disentangling the effects of any potentially induced demand from other demand (patient preference) and supply (physician preference) factors is difficult. We used regression modeling to attempt to shed some light on the relationship between access to ASCs and surgical volumes.

While we examine the impact of ASCs on Medicare surgical volume and market share in the empirical sections of this paper, some of the issues raised in the literature regarding surgical centers are outside the scope of this study. Specifically, we do not address the issue of the adequacy of Medicare reimbursement for ASCs. In addition, research has examined how the types of patients treated in ASCs differ from those treated in HOPDs in terms of medical complexity (Winter, 2003) and insurance coverage (e.g., Medicaid versus private insurance) (MGMA 2006). These issues are outside the scope of the current study.

III. Conceptual Model and Methods

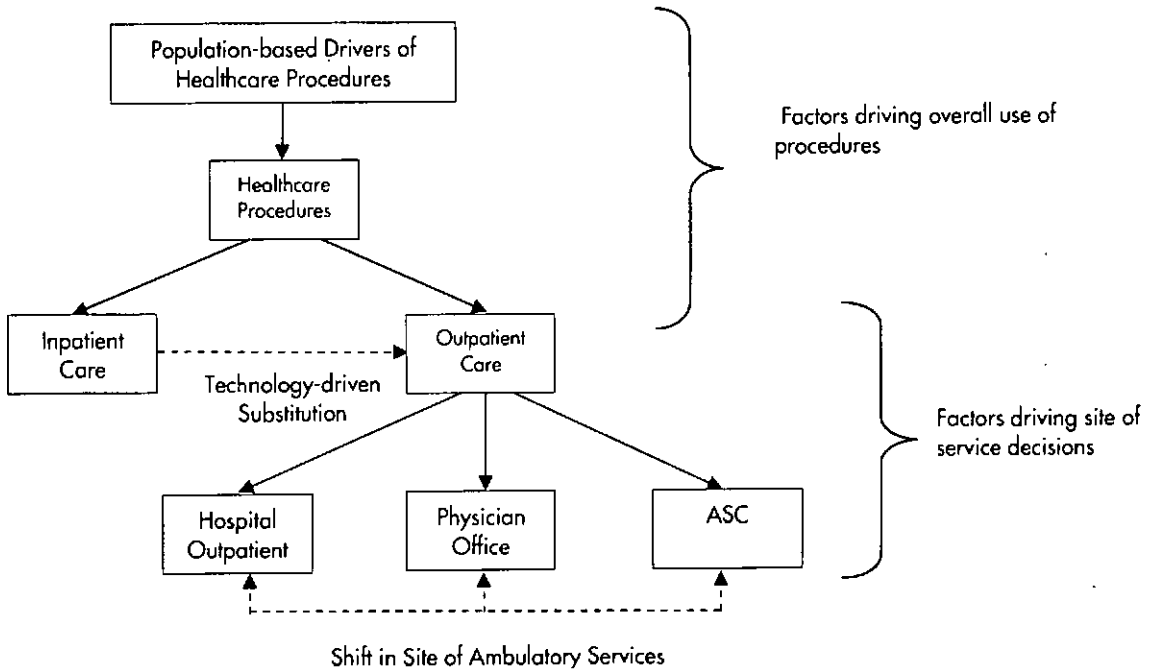
The potential causes of growth in ASCs are numerous and may include changes in population demographics, disease prevalence, new surgical techniques, Medicare and other payer coverage decisions, and differences in reimbursement levels for ambulatory surgery across care settings. Because of the complexity of the issue, a conceptual model is helpful in guiding the analysis and in systematically classifying potential cantributors to growth.

Figure 6 presents our conceptual model of ASC growth. This model served as a guide in developing and implementing our technical approach. The madel identifies essentially three levels of factors that determine the volume of surgical procedures provided by ASCs. The first level relates to the overall need for healthcare procedures, including both inpatient and outpatient care. The factors thot determine the need for healthcare procedures in general are largely related to characteristics of the population, changes in screening protocols, and technalogical change in the form new surgical and diagnostic techniques. The second level relates to whether a procedure is performed on an inpatient basis or done in an outpatient setting. This level relates primarily to technologically-driven substitution as a result of improvement in surgical techniques and anesthesia, although inpatient capacity may also be an important considerotion. The third level relates to site-of-service decisians as to which ambulatory setting the surgical service is to be performed (e.g., HOPD, ASC, or physician office).

Within each level, the factors that determine the use of ASCs can be further categorized into demand-side and supply-side factors. Demand-side factors are those elements that result in the need for healthcare and/or the reasons people seek care. Examples include an aging population, increased disease prevalence, or an increase in screening for specific diseases or conditions. Supply-side foctors are those elements that affect the availability of ambulatory surgery and,

specifically, ASCs. Examples of supply-side factors include relative price (reimbursement) changes and insurance coverage of new procedures.

Figure 6. Conceptual Model: the Growing use of ASCs and Place of Service Determination



Guided by our conceptual model, our technical approach included both qualitative and quantitative methods to address the three levels of ASC-use determination.

a. Literature Review

We conducted a literature review to assess the factors affecting overall use of healthcare, the shift from inpatient to outpatient settings, and the issues associated with the decision to provide or obtain services in specific ambulatory care settings. The literature review included a PubMed search as well as Google searches and searches of the Federal Register and key websites related to ambulatory surgery, including the websites of the Centers for Medicare and Medicaid Services, and the MedPAC.[6]

b. Expert Interviews

In addition to performing a literature review, the project team conducted interviews with five experts and stakeholders in the ambulatory surgery community. The purpose of the interviews was to enhance our understanding of the growth factors associated with ambulatory surgery, the changing healthcare and ambulatory environment, and private-payer reimbursement trends.

[6] The PubMed search was limited to studies published in English during the last 10 years.

We developed an interview protocol, which guided the discussions with the experts. The protocols asked interviewees to identify and rank the most import drivers of ASC use. We then asked interviewees about specific types of services, such as colonoscopy and orthopedic surgery.

c. Quantitative Analyses

We conducted a number of quantitative analyses to assess the factors responsible for the growth in ASC service volume. These analyses relied on Medicare data and included: a decomposition of Medicare spending growth, an analysis of shift in site of ambulatory surgery, and regression modeling.

In reporting our findings on ASC volume, we generally used either Medicare allowed charges or allowed services. Allowed charges are the fee schedule amounts, which include eligible payments to providers from the Medicare program and from beneficiaries. All Medicare data relate to services for Medicare fee-for-service enrollees and exclude claims for Medicare Advantage enrollees.

The primary data source for the quantitative analyses was the Medicare Physician/Supplier Procedure Summary (PSPS) file for the years 2000 through 2007. The PSPS summarizes all Medicare fee-for-service carrier-paid claims for each calendar year, by Healthcare Common Procedure Coding System (HCPCS) code, modifier, carrier and locality, provider specialty and place of service (e.g., physician office, HOPD, ASC) (See the Methods Appendix for a description of the data sources.)

Decompasition of Medicare Growth Factors. Our decomposition approach characterizes Medicare spending as the product of:

1. Number of Medicare beneficiaries;
2. Average number of services (NOS) per beneficiary;
3. Average relative weight (or comparative value); and
4. Price (dollars per payment weight)

The sum of the percentage change in each factor is approximately equal to the percentage change in total Medicare spending. Therefore, we can use this opproach to determine what percent of the growth in Medicare spending for ASCs is due to Medicare beneficiary papulation grawth, grawth in the number of services per beneficiary, or growth in relative payment weights. Priar to 2008, Medicare did not establish relative weights for ASC services. Instead, the Medicare ASC payment system grouped services inta nine payment groups. We developed a relative weight for each service by dividing the payment amount for a service (using the average payment amount from 2000 to 2007) by the overall average payment amount across all services.

Shift in Site of Ambulatory Surgery Model. We assessed the amount of growth in Medicare ASC procedures due to a shift in site of service using the PSPS file. We determined the effects of a shift in site of service on ASC service growth overall and for select groups of services. To implement the appraach we estimated the distribution of services across ambulatory settings in a base year and then projected the number of services in following years, assuming the distribution across settings had remained unchanged. Put another way, we allowed ASC services to grow at the same rate observed across all ambulatory settings and then determined the extent to which the actual growth

rate differed from this "expected" growth rate. We attributed any difference between the expected and actual growth rates as the growth due to a shift in site of service. For example, consider a service for which ASCs have 10 percent market share and for which there were 100 units of service provided across all ombulatory settings in a base year. If the number of units in the following year were 120, we would expect ASCs to provide 12 of these (or 10 percent). If ASCs provided more than 12, we would attribute these additional services to a shift from HOPDs or physicians' offices to ASCs.

State-Level, Time-Series Regression Model. The decomposition of growth and site-of-service analysis allow us to make statements about the contributions to ASC growth for selected brood factors, such os growth in population, number of services per beneficiory, and shifts in site of service. To quantify the contribution of specific demand and supply factors to growth, we used regression onalysis. We estimated state-level regression models using cross-sectional, time-series data with state and year fixed effects.

The data source for the Medicare service counts is the PSPS files. The dependent variable, the log of the number of procedures per 1,000 Medicare beneficiaries, is not specific to ASCs but includes volume for all ambulatory surgical settings. Technological change and other temporal changes are captured through a series of time dummy variobles. We estimated a second state-level regression model where the dependent variable was the share of Medicare procedures done in the ASC setting. Each equation is estimated for the top groups of services performed in an ASC.

IV. ASC Growth Factors: Findings from a Literature Review & Expert Interviews

The following sections provide background and supporting information on the foctors influencing ASC growth. We organize these sections around the three primary categories of growth factors – overall healthcare growth, migration of procedures from inpatient to outpatient settings, and shift in site of ambulatary surgical settings.

a. Factors Affecting Overall Use of Healthcare Procedures

Technological and clinical advances are factors that researchers consistently identify as important drivers of healthcare spending. Most analysts conclude that the majority of long-term increase in spending arises from the use of new medical services that were made possible by technological advances or what some analysts term the "increased capabilities of medicine" (CBO Testimony, 2008; CBO, 2007).

Other factors thought to influence the growth in medical spending include the aging population, personal income increases, changes in insurance, prices in the healthcare sector, and the growing prevalence of obesity (CBO, 2007). These factors, however, appear to explain less than half of the growth in long-term spending for healthcare (CBO Testimony, 2008).

Population Growth and Aging. Many believe that overall population growth and the gradual aging of the population contributes to the growth in healthcare expenditures. A recent study by Health System Change (HSC) estimates that annual per capita health spending increases by about $74 on average (2001 dollars) for each year between ages 18 and 64. Healthcare spending

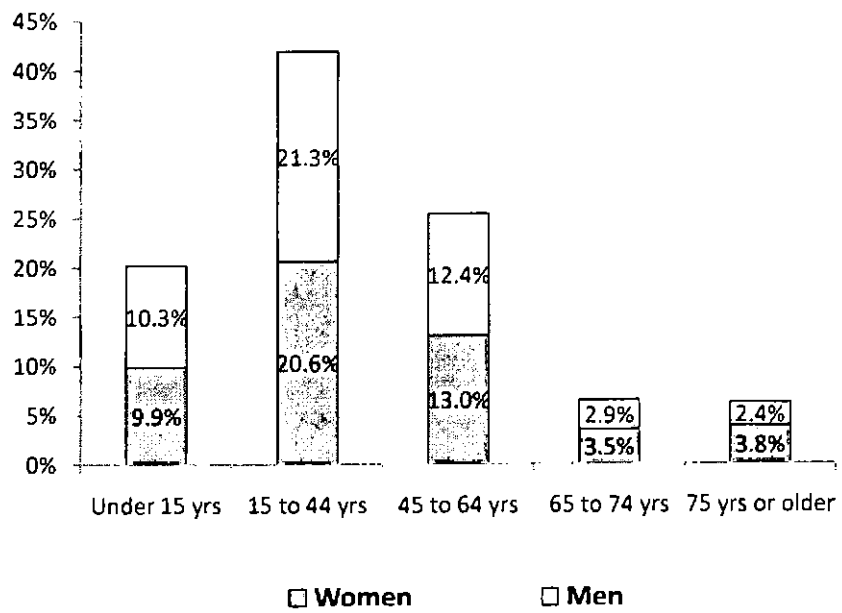
increoses more rapidly ofter age 50 (approximotely $152 for eoch additional yeor between oges 50 and 64). Per capita health spending for people age sixty-five or older tends to overage three to five times that for younger people (Reinhardt, 2003). Despite the growth in the US population and increased spending with oge, analysts have concluded population changes olone ore not large enough to be a major cost driver of healthcare spending (Strunk and Ginsberg, 2002; Reinhardt, 2003). The literature suggests that aging of the population can account far roughly 2 percent of historic growth in Medicare spending (Smith, Heffler, and Freeland, 2000; Cutler, 1995; Newhause, 1992).

Figure 7 displays the relative percentage of men and women by age class. The percentages for each age and each gender class are the percentage of the total population. As the graph shows, age classes belaw 45 years of age (under 15 and 15 to 44 years) have a relative larger proportion of males to females than those age classes above 45 years of age (45 to 64, 54 to 74, and 75 yrs or older). In these older age classes, the relative proportion of females exceeds that af males. The greater proportion of females is particularly pronounced as women age (due to langer life expectancies).

Although populotion growth and aging have had a small effect of healthcare spending overall, the impact may accelerate as a result of the aging of the "baby boom" generation. The aging of this segment of the population can be expected to have a predictable impact on the volume of ASC services, particularly because colon cancer screening guidelines and cataracts are age related. Between 2000 and 2010, for example, the U.S. Census estimated that the papulation age 50 to 75, the age recommended for regular colon cancer screening, grew by 2.7 percent per year, on average. This growth was faster than the growth rate for the general populatian.

Figure 7. General Population Estimates as a Percent of Total Population, Distributed by Gender and Selected Age Groups, July 1, 2007

Source: US Census Bureau, National Population Estimates



Median Incomes. Income is one factor that influences the demand for healthcare services, with demand for health services increasing with income. However, in empirical studies income is often associated negatively with healthcare spending, as higher incomes are usually correlated with better access to care and higher health status. In summarizing the literature, CBO stated that increasing incomes accounted for 5 to 20 percent of long-term healthcare spending growth (CBO January 2008).

Changes in Health Status. Some of the underlying factors influencing the increase in medical spending include the increase in chronic diseases or the increased prevalence of certain diseases. Trends in health status, population health guidelines, shifting diagnosis and reporting patterns, and general lifestyle changes impact the prevalence of chronic diseases (Thorpe and Ogden, 2008). As population health guidelines change to reflect improved ability to screen for certain conditions, this may increase detection and result in a greater proportion of the population reporting those conditions. Similarly, as general lifestyle behavior improves (e.g., nutrition and exercise) disease rates may improve or general health status may improve (Thorpe, 2008). Over the past ten years, the overall trend in health status demonstrates mixed results. Figure 8 displays the self-reported health status for 1998 and 2008.

Individuals self-reporting very good or good health status increased modestly. In these years, those reporting very good health increased from 34 to 35 percent and those reporting good health increased from 28 to 30 percent. However, the percentage reporting excellent health declined and the percent reporting fair or poor health increased. The most significant change in health status appears in the percent of individuals reporting excellent health, where the percent declined from 24 to 20 percent. The increases in fair or poor health were modest (from 10 to 11 percent and 3 to 4 percent, respectively).

We observe a downward trend in the overall health status. However, the trend reflects the growing diversity in the US and the related health and healthcare needs of the changing population (DHHS, 2008). In addition, the trend may reflect the changing health guidelines and the associated awareness of the need for screening and regular medical exams.

Changes in Disease. The three most common chronic diseases – diabetes, high serum total cholesterol and hypertension – are associated with other more serious conditions such as heart disease or chronic kidney disease.

Figure 9 displays the percent of the US population with the selected chronic conditions. The percent of the population reporting diabetes and hypertension has increased over the twenty year period displayed in Figure 9. Diabetes increased from 8 to 10 percent of the US population, while hypertension increased from 26 to 31 percent. However, the percent of the population reporting high serum cholesterol declined from 21 to 16 percent for the same period.

The growth in the population with diabetes may have contributed to the growth in the volume of services provided by ASCs over the last several years. People with diabetes are 60 percent more likely to develop a cataract (American Diabetes Association, 2009). In addition, cataracts develop earlier in those with diabetes and may be more severe than for non-diabetics. People with diabetes also are 40 percent more likely to develop glaucoma (American Diabetes Association, 2009). Thus, growth in the number of diabetics in the U.S. resulted in increase demand for cataract and other eye

surgeries. With the growth in the percent of American that is overweight or obese, the number of people with diabetes is expected to grow, which could contribute to growing use of healthcare services, including necessary surgical services offered by ASCs.

Figure 8. Self-Reported Health Status, 1998 and 2008

Source: Centers for Disease Control and Prevention (CDC), *Behavioral Risk Factor Surveillance System Survey Data*

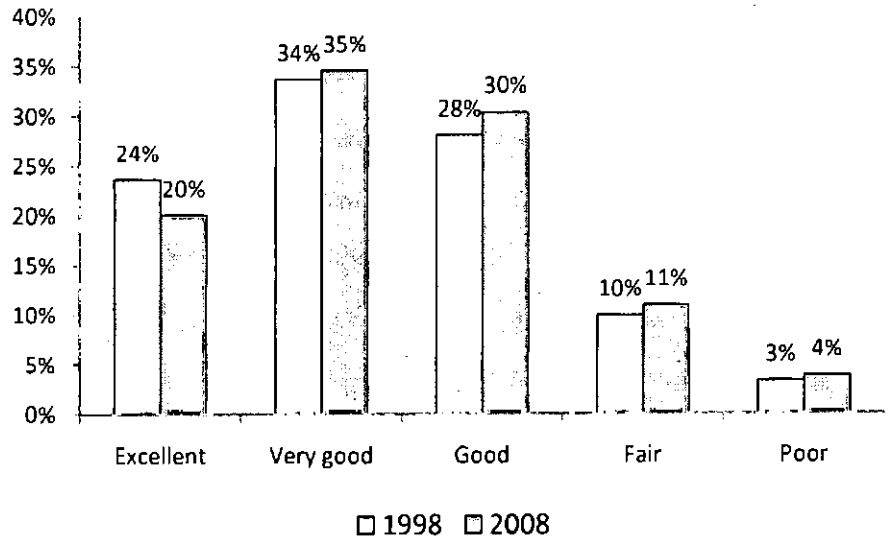
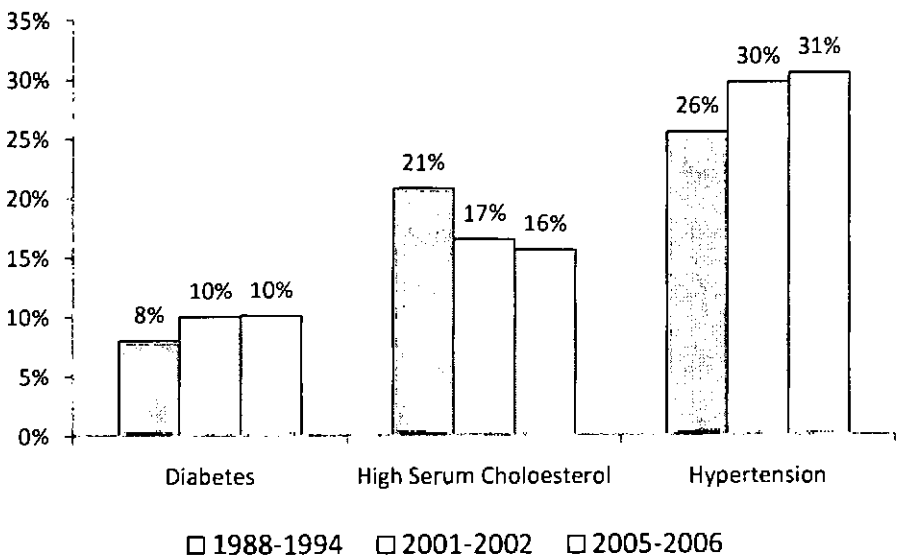


Figure 9 Percent of US Population with Selected Heolth Conditions, Selected Years

Source: CDC/NCHS, National Health and Nutrition Examination Survey



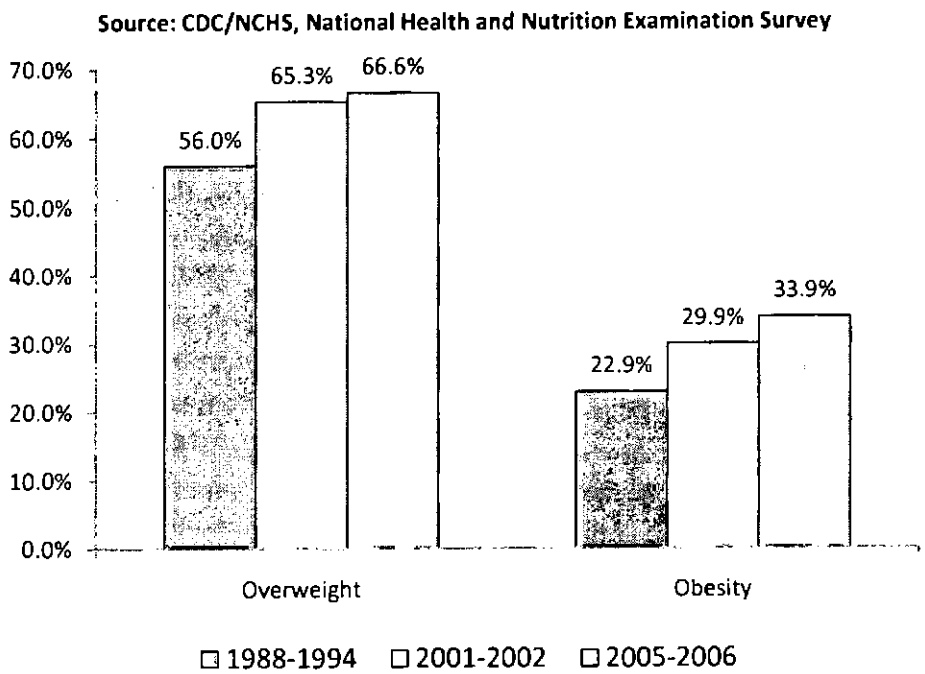
General Lifestyle Changes. Lifestyle choices can influence a person's health and overoll wellness. Three important choices include the use of tobacco products, maintaining appropriate weight, and incorporating physical activity into a regular routine.

Tracking the trends in lifestyle choices provides an indicator of potential health risks (DHHS, 2008). As with the other health indicators, the results are mixed. The trends show significant reductions in the percent smoking and modest increases in the percent incorporating any exercise into their lifestyle. However, efforts to maintain an appropriate weight have fallen short.

Excess body weight is associated with excess morbidity and mortality. Obesity is correlated with excess mortality as well as increasing the risk of heart disease, diabetes, osteoarthritis, and disability. (NIH Guidelines, 1998) Unfortunately, the proportion of American adults who are obese continues to increase, rising to approximately one-third of all American adults. Figure 10 depicts the increase in the US population reporting that they are either overweight or obese. As the graph indicates, the trend is increasing, but appears to slow somewhat in the most recent periods. According to CBO estimates, chonges in body weight can explain about 4 percent of the growth in healthcare spending (CBO 2008).

There is strong evidence associating a higher body-mass index with increased risk of age-related cataract, glaucoma, and other conditions of the eye (Weintraub et al., 2002; Cheung and Wong, 2007). In addition, obesity has been linked to increased prevalence of colon polyps and cancers (Wilkins and Reynolds, 2008; Siddiqui et ol, 2009). Therefore, the rise in number of people who are overweight and obese is a contributing factor to the growth in ASCs.

Figure 10. Percent of Persons in the United States Overweight or Obese, Selected Years



Regular Physical Activity. In recent years, American adults have made only modest progress towards achieving recommended levels of physical activity or strength training. (DHHS, 2008) Less than three percent introduced some physical activity inta their lifestyle.

Physical activity guidelines from the DHHS encourage incorporating exercise, because of the impartance to overall health. Studies suggest that regular exercise may reduce the risk of premature mortality and reduce risks of coronary heart disease, diabetes, calon cancer, hypertension, and osteoporosis (CDC, 1996).

Population Health Guidelines. Evaluating health guidelines for disease screening and clinical practice changes is an ongoing process. As the population demographics change and technological and clinical advances emerge, guidelines are adapted. The U.S. Preventive Services Task Force (USPSTF) is the leading independent panel of private-sector experts in prevention and primary care. The USPSTF conducts impartial assessments of scientific evidence for the effectiveness of a broad range of clinical preventive services, including screening, counseling, and preventive medications. The USPSTF evaluates the benefits of individual services based on age, gender, and risk factors for disease. They make recommendations about which preventive services should be incorporated routinely into primary medical care and for which populations, as well as identify a research agenda for clinical preventive care.

The NGC is an initiative of the Agency for Healthcare Research and Quality (AHRQ, US DHHS) and was created originally by AHRQ in partnership with the American Medical Association and the America's Health Insurance Plans (formerly AAHP). The NGC with its associated programs – Health Care Innovations Exchange and the National Quality Measures Clearinghouse – provides detailed information regarding (current and histarical) health guidelines for patient education, disease and condition screening, os well as changes in treatment for diseases and conditions. The NGC catalogs thousands of guidelines by disease, condition, treatment, and interventions. In addition they provide an ongoing update far guidelines in progress (currently 499 guidelines in pragress). One example of changes in health guidelines includes calarectal cancer screening.

The current clinical guidelines indicate that patients 50 years old (or if African American, 45 years old) with no persanal history af polyps, inflammatory bowel disease, or colorectal cancer shauld begin regular screening for calarectal cancer. Patients with a (single first-degree) relative diagnosed with colorectal cancer before age 60 may put the patient at a slightly increased risk and may indicate earlier colorectal cancer screening. These guidelines replace the original guidelines released in 1995. Those original guidelines are subject to annual updates as additional research becomes available.

The percent reporting that they ever had a colonoscopy or sigmoidoscopy increased fram 41 to 59 percent between 1997 and 2008. Nevertheless, the percent af people age 50 or alder who report having colon cancer screening in the last 5 years varies across states (See Map 4 at the end of the document).

Health Insurance Coverage Statistics. The vast majority of people with private coverage receive this caverage through employer-provided plans. A recent Census Bureau survey indicates that 52 percent of people in the U.S. have employer-provided health insurance coverage. Employer plans

provide an important source of health insurance. However, the proportion of US workers with coverage has declined slightly over the past ten years. (BLS, various years) In addition, the cost to employees associated with this coverage continues to increase over time (KFF, 2008). Twenty-five percent reported having public insurance coverage (including Medicare, Medicaid, and Military programs). Approximately 14 percent had no insurance, public or private, in 2006. Although changes in insurance coverage can be an important determinant of healthcare spending, we do not believe that this was an important driver of ASC service volume since 2000.

b. Factors Affecting the Migration of Services from Inpatient to Outpatient Settings

Payment Policies. As the Medicare inpatient prospective payment system (PPS) was introduced during mid-1980s, hospitals began to shift more surgeries to hospital outpatient departments (Poole, 1999). Since its introduction, many private insurers subsequently adopted systems similar to the Medicare inpatient PPS to pay for inpatient services. Thus, the financial incentives inherent in an inpatient PPS to encourage shifting of services from the hospital inpatient to outpatient settings extends well beyond the Medicare program. In addition, the growth of managed care during the late 1980s and 1990s further encouraged providers to perform more surgery in a less-costly outpatient setting rather than on an inpatient basis (Detmer and Gelijns, 1994).

Technological Advances.[7] Much of the growth in outpatient surgeries would not be possible without technological improvements that have allowed for faster recovery (AHRQ, 2003; MedPAC 2006).[8] These advances include many new surgical techniques, using micro-instrumentation resulting in fewer and smaller wound sites. Improvements in anesthesia and pharmaceuticals include new drugs that minimize nausea and fatigue following administration, more localized and regional approaches to anesthesia resulting in less frequent use of general anesthesia for certain procedures, better monitoring systems for all anesthesia (including pulse oximetry), and better muscle relaxants that wear off sooner. Recovery time immediately following surgery and healing time for many procedures has been significantly reduced.

The introduction of new surgical approaches such as laparoscopic procedures over the past decades has resulted in surgeries taking significantly less time with lower infection rates and less need for wound management. One example of the remarkable advances in surgery is gallbladder surgeries. "Gallbladder surgeries performed in the 1990s would often result in significant scarring and a lengthy recovery period as an inpatient, whereas now patients can go to an ASC and be back at work two days later" (Expert Interviews). Over the past several decades, these laparascopes have become smaller and more flexible and are now being used for hysterectomies and appendectomies.

Colonoscopies are now performed routinely in ASCs. In addition, more frequent colon cancer screening using colonoscopies has resulted in more ancillary treatments such as the removal of

[7] Specifics about technological improvements and medical advances were communicated during the expert interviews. See Section III for a description of methods.

[8] The influence of technological and clinical advances is well documented. See for example, the Medicare Payment Advisory Commission, Further analyses of Medicare procedures provided in multiple ambulatory settings: An introduction, October 2006 and the Health Care and Utilization Project, Fact Book 9, "Ambulatory Surgery in U.S. Hospitals, 2003" documents four procedures that were exclusively performed on an inpatient basis, but now are performed primarily on an outpatient basis.

nodules and hemorrhoid ligations. Scopes ore also used routinely in gostrointestinol surgery to oddress issues such as acid reflux as well as esophageal reflux in pediatric patients.

There have also been significant improvements in the hardware used, such as fusion screws, better plates and other equipment, primarily for orthopedic procedures such as shoulder and knee repairs as well as bone replacements. The volume of these pracedures in ASCs has increased as advances have been made. The advent of regional and localized anesthesia combined with these advances has allowed hip replacements to be performed on an outpatient basis in carefully selected patients.

These advances have also resulted in a significant increase in spine surgeries in the outpatient setting over the past five years. These surgeries are expected to increose further as medical advances occur and further diffuse throughout the country. The primary factors contributing to the growth in spinal surgeries and shift to the autpatient sector have been the faster recovery and earlier mobility of patients following the introduction of micro-instrumentation, minimally invasive procedures, and improvements in anesthesia.

These advances have had a significant impact on impraving convalescence and quality of life for patients. In the past decade, these surgeries "have been the result not so much of new procedures as new approaches to surgery."[9]

Changes in technology interact with patient (and physician) preferences to further drive the use of outpatient surgery. Surgeries that would have earlier been delayed or avoided by patients have become more appealing and manageable. Far example, the advent of laser surgery and new technology for cataracts has cut down the surgical and recovery time. These changes may result in increased patient demand far surgery as well as increased willingness of physicians to perform surgery on patients who were previously considered poar candidates prior to the impravements in treatment.[10] Patient satisfaction appears to be higher for surgery when performed in the most convenient and least intimidating settings, such as ASCs (Press Ganey Associates, Inc., 2008).

c. Factors Affecting the Ambulatory Surgery Site of Service

Consumer preference. As technology and innovations have led to a safer ambulatory surgery experience, patients have been quick to show their preferences. In a RAND, 2008 paper prepared for the Assistant Secretary for Planning and Evaluation at CMS, a specific note was made of a recent survey indicating that patients would prefer to undergo surgery in an ASC or physicians' office over an HOPD. The most important factors influencing patient preferences were shorter waiting periods (because of the speed with which they receive service), greater comfort, and less bureaucracy (RAND, 2008).

[9] Expert interviews. See Section III for o description of methods.
[10] Expert interviews.

Patients value the convenience, aesthetics and non-institutional setting offered by ASCs (AHA, 2006; Haugh, 2006). One recent survey of outpatient surgery patient satisfaction indicated that in excess approximately 90 percent of patients had high satisfaction (Press Ganey Associates, Inc., 2008). Patient satisfaction is seen as a critical competitive advantage of most freestanding surgical centers. Over time, as consumers have became better informed and increasingly health conscious, consumer preference is likely to continue to play an important role in the use of ASCs.

Physician preference. No single explanation exists for the increasing physician preference for performing procedures in a freestanding ambulatory surgical center. A RAND survey participant noted that "practices would perform the procedures in the safest and most convenient location unless the facility payments received were insufficient to cover the cost of the services or insurance requirements mandated physicians to redirect." (RAND, 2008)

ASCs offer a predictability and efficiency in scheduling that HOPDs do not. Physicians value the fact that scheduled surgeries are not "bumped" or delayed by procedures that come through the hospital emergency department. Short turnaround times and specialized focus by nurses and other support staff at ASCs further increase the efficiency of the surgeon. (Haugh, 2006; AHA, 2006).

In addition to avoiding the inefficiencies that may arise from using an operating suite which must also meet inpatient and emergency needs, other simple conveniences available in a freestanding center may also save both physicians' and patients' time. For example, both physicians and patients often need to park further away from the surgical area when arriving at a hospital-based center. In addition, patients may need to take more time off of work to navigate the larger hospital bureaucracy in place for basic business operations such as registration.

Another factor contributing to this shift in care from hospitals to freestanding facilities may be that physicians face increased reimbursement pressure as Medicare reimbursement increases have often not kept pace with their increasing business expenses. One way for physicians to compensate for this decreased margin is to increase efficiency when providing services. Many ASCs offer increased efficiency without sacrificing quality. "If I'm a surgeon and I do a high volume of procedures that lend themselves to ambulatory surgery, it is hugely more efficient for me in terms of controlling my time and in having staff responsive to my needs to be part of an ASC, generally speaking, because they are geared to be very short turnover, very efficient, very user-friendly. The demands upon operating endoscopy facilities in large hospitals are numerous and it is virtually impossible for many of them to offer that same level of scheduling, predictability, and service to users" (MedPAC, Public Meeting 12/4/08. Commentary from Commissioner Karen R. Borman, M.D., p. 120-121).

Hospitals are often partners in ASC joint ventures with physicians. Hospitals undertake such joint ventures or other partnerships for a multitude of reasons. Some hospitals seek to attract more business and stronger collaboration with their staff physicians through strengthening partners and developing more satisfied physicians (Haugh, 2006) Hospitals also may be seeking to improve their community image and presence through centers seen as more "patient friendly" or convenient. Joint ASC ventures between hospitals and physicians can also be part of vertical integration strategies with the goal of further tying physicians into an integrated delivery system. Another reason for joint ventures may also be to avoid the possibility of having physicians competing directly with hospitals should the physicians express interest in establishing their own ASC. Finally, the hospitals may seek to ease the overburden on hospital based operating suites that serve emergency, inpatient and

outpatient surgical cases. Moving ambulatory surgery patients out of the hospital-based suites may provide the necessary extra capacity for inpotients and emergency department services.

Insurer policies including Medicare payment policy. Many commerciol payers recognize that ASCs offer significant savings to their members and are, thus, less restrictive than Medicare has been in the types of services covered in an ASC. As described below, commercial payers have had several tools at their disposal to facilitate the movement of potients from HOPDs to ASCs.

- Many commercial payers offer reimbursement opportunities for freestanding centers. Where a physician is a partner in the center, this reimbursement opportunity may represent a second avenue of compensation far their services, above the reimbursement currently received for professional services.

- Some payers have moved towards monitoring the cost efficiency of their provider network, including offering reports to physicians on their performance. Where freestanding ASCs ore considered efficient, quality providers, physicians are incentivized to move patients to this setting in order to achieve higher performance scores and be recognized as quality and "cost efficient" providers.

- Select payers in specific markets offer impraved professional compensatian for those physicians that move patients to freestanding ASCs. These payers expect the increased expenditure for professianal services will be more than offset by the sovings that are realized by moving patients from the HOPD to a freestanding ASC.

Where physicians have been successfully incentivized to move some or all of their commercial patients to ASCs, often their other patients are moved to the freestanding center os well to maintain their practice efficiency. Thus, when possible, a physician will schedule all surgeries for a given day, regardless of the payer, in one venue. As o result, all payers, regardless of whether they offer an incentive to physicians to use ASCs, often benefit from the movement of patients to a freestanding center.

The ability of commercial payers to continue to drive this growth has became increasingly limited. Much of the capacity has already been maved through the established financial incentives. Where additional procedures could be shifted from hospitals to freestanding facilities, physician supply, CON laws, other regulations or other market forces limit the ability for supply to grow.

Prior to 2008, Medicare did not pay ASCs for procedures that were commonly performed in a physician office. These procedures are now covered when performed in an ASC, although the ASC payment is capped at the non-facility practice expense payment amount in the physician fee schedule. With the 2008 payment rule, CMS has shifted its policy from one where the burden was on providers and others to demonstrate that a service could be safely provided in an ASC to be covered under Medicare to one in which procedures covered in the HOPD are covered in the ASC unless CMS finds them to be unsafe in ASCs or require an overnight stay. CMS itself estimates that this will cause 15 percent of surgical procedures to move from the physician's office to the ASC. (RAND, 2008)

In summary, Medicare designed a freestanding ASC payment system that saves Medicare funds when services are moved from the HOPD to the ASC. This is driven by the payment differential between HOPDs and ASCs.

State regulations. Differing state regulatory requirements have led to varying penetration of ASCs in each state. ASCs are more prevalent in states lacking CON requirements (See Map 3 at end af document). (AHA, 2006). Currently, there are 27 states with CON laws that cover freestanding ASCs; 10 with CON laws that do nat include ASCs; and 14 with no CON laws (data from the ASC Coalition) (See Map 3 at the end of the document). In addition, CON regulations and state practice of medicine regulations may be written in such a manner as to permit ambulatory surgical services to be provided in settings with much in common with traditional freestanding centers but that are governed outside of the CON regulations.

Based on the literature review and expert interviews, we conclude that there are a number of important reasons for the growth of ASCs, some of which are hard to quantify. Overall healthcare drivers, particularly changes in disease prevalence and aging population, are likely to have had a consistent, although relative small, affect on ASC growth rates. Specific examples include growth in diabetes and obesity rates, which increase the incidence of cataracts and other eye problems as well as colon cancer and pre-cancerous polyps. Technological advances that have allowed surgical services to move from inpatient to outpatient settings have also been important. The impact of advances in surgical techniques, instrumentation, pharmaceuticals to manage post-operative pain, and anesthesia seem likely to exert a significant impact on the future demand for care provided in ASCs. Finally, patient and physician preferences for ASC may account for some growth in the use of ASCs, but the impact of these effects is hard to quantify.

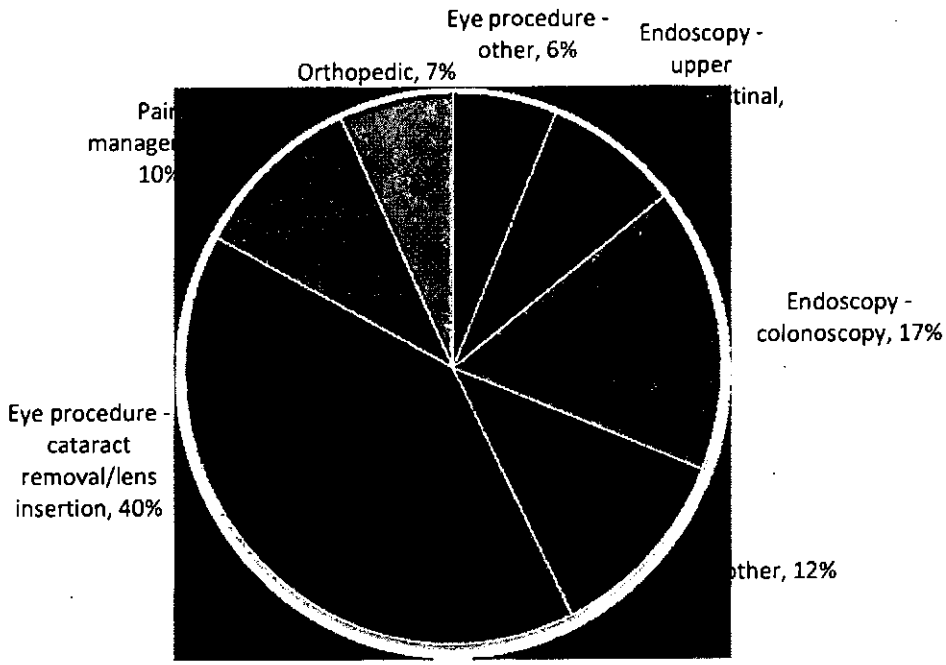
V. Medicare ASC Services: Which Types of Services Have Driven Growth?

In this section, we consider the types of services that have been responsible for the growth in Medicare allowed charges. In reporting growth rates, we consider two approaches to classify services. The first classification system is the Berenson-Eggers Type of Service (BETOS) groupings. The BETOS coding system was developed primarily for analyzing the growth in Medicare expenditures. It covers all HCPCS codes and consists of readily understood and stable clinical categories. The second approach is based on the type of service specialty. The mapping of services to specialty categories was provided by the ASC Association. While there is some overlap between the BETOS categories and ASC specialty ossignment, important differences exist in how they classify the types of services typically provided in an ASC. For example, the BETOS system divides endoscopy services into many subcategories, including Endoscopy - Colonoscopy (P8D) and Endoscopy – Upper GI (P8B), while the ASC specialty groups these services under GI. The ASC speciolty groups break out Pain Management services and Orthopedics into their own category, where the BETOS system does not. Therefore, we report the results by combining the BETOS and select ASC specialty groupings.

In 2007, Medicare payments to ASCs totaled approximately $2.8 billion or $88 per 1,000 Medicare beneficiaries. The distribution of Medicare ASC payments by type of service is presented in Figure 10 below. Forty-six percent of Medicare payments for ASCs were for eye procedures, with most of that going to cataract removal/lens insertion procedures (40 percent) (Figure 11).

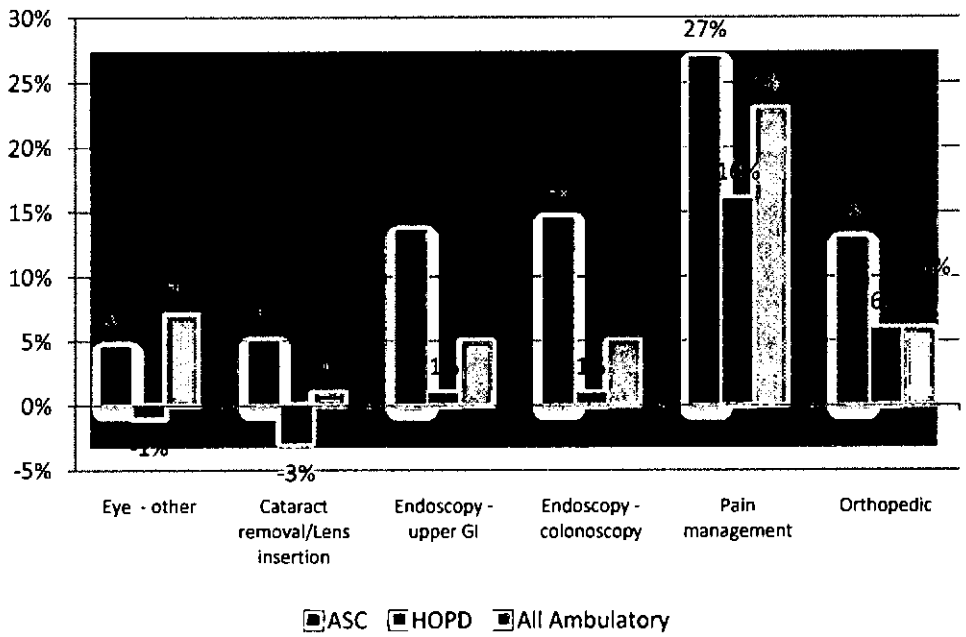
Endoscopy, including colonoscopy and upper GI procedures, collectively accounted for 25 percent of ASC Medicare payments in 2007. Medicare spending on pain management procedures and all other services were 10 and 12 percent, respectively.

Figure 11. ASC Share of Medicare Allowed Charges by Type of Service, 2007
Source: KNG Health analysis of PSPS files. Includes Medicare FFS claims only.



In Figure 12, we show the average annual growth per capita in Medicore allowed services from 2000 to 2007. Although eye procedures represent the largest share of Medicare spending for ASCs, these services experienced the slowest growth since 2000, with eye procedures growing by 5 percent a year in ASCs. Colonoscopy and endoscopic upper GI procedures increased by an average annual rate of 15 and 14 percent, well above the growth rate for these groups of services across all ambulatory settings. Orthopedic services increased by 13 percent per year in ASCs. Pain management services grew the fastest for ASCs and across all ambulatory settings at 27 and 23 percent, respectively.

Figure 12. Average Annual Growth per Capita in Medicare Allowed ASC Services by Category, 2000 to 2007



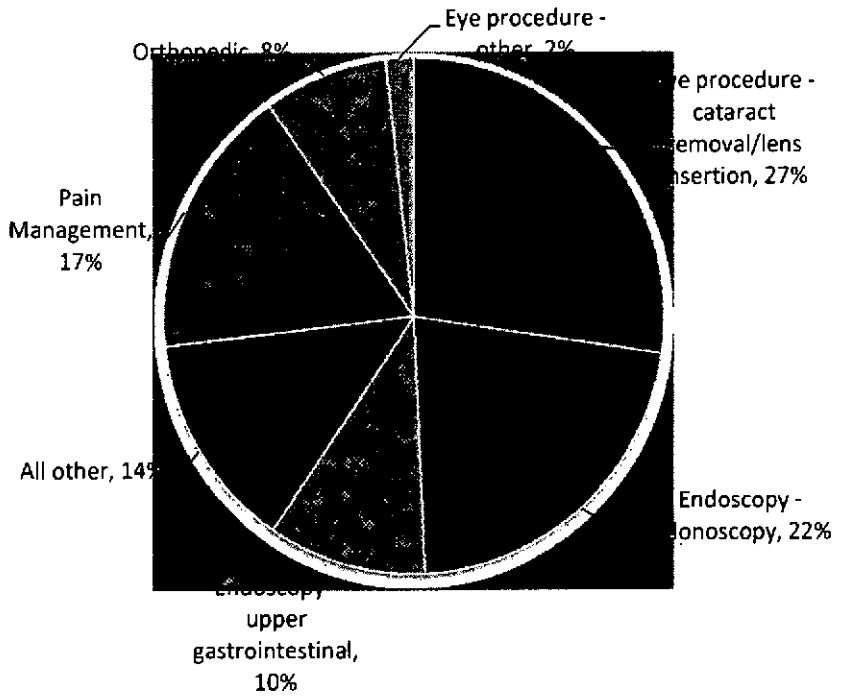
Source: KNG Health analysis of Medicare PSPS files. Includes Medicare FFS claims only.
Notes: Chart includes mix of BETOS categories (eye procedure - cataract removal/lens insertion (P4B), Endoscopy – colonoscopy (P8D), Endoscopy - upper GI (P8B), Eye procedure – other (P4E)) and specialty (Pain Management Orthopedics). Mapping of procedure codes to specialty provided by the ASC Association.

The rapid growth of pain management services in ASCs and in the larger ambulatory market as a whole may reflect the recent development of techniques and a growing recognition by providers and Medicare beneficiaries that pain is a treatable condition. In these respects, pain management can be characterized as a relatively new service line. In contrast, cataract and other eye surgeries have been accepted and provided in HOPDs and ASCs for many years. As a healthcare service area becomes more established, growth rates tend to stabilize.

In Figure 13, we show each category's contribution to the overall growth in Medicare allowed charges for ASCs. Two factors determine a service category's contribution to growth: (1) its growth rate; and (2) the share of ASC spending accounted for by o service group. A service's contribution to overall growth increases with its share of total spending and its growth rate.

Despite its relatively modest growth rate, Eye Procedures – Cataract Removal/Lens Insertion accounts for the largest share of growth in payment between 2000 and 2007. This finding is a function of the large share of Medicare ASC spending for these services. Endoscopy – Colonoscopy represents the next largest contributor to growth. In fact, endoscopic procedures in general are the largest driver of ASC growth, accounting for 32 percent of changes in Medicare payments. By comparison, eye procedures account for a combined 29 percent of the growth since 2000.

Figure 13. Contribution to Growth in Medicare Allowed Charges by Type of Service, 2000 to 2007



Source: KNG Health analysis of Medicare PSPS files. Includes Medicare FFS claims only.
Notes: Chart includes mix of BETOS categaries (eye procedure - cataract removal/lens insertion (P4B), Endoscopy – colonoscopy (P8D), Endoscopy - upper GI (P8B), Eye procedure – other (P4E)) and specialty (Pain Management Orthopedics). Mapping of procedure codes to specialty provided by the ASC Association.

It is useful to examine how the contributions to growth by BETOS ond specialty category have changed over time. In Table 2, we show the contributions to Medicare ASC spending for the period fram 2000-07, 2000-03, 2003-06, and 2006-07. The most notable findings from this table are that the contribution to grawth of pain management services have increased significantly aver time, while Eye Procedures – Other experienced a significant decrease in their contribution ta grawth. Pain management went from representing 4 percent of Medicare ASC spending in 2000 to 10 percent in 2007.

Table 2. Contribution to Growth in Medicare Allowed ASC Charges by Service Category

Service Category	Contribution to Growth Between:			
	2000-07	2000-03	2003-06	2006-07
Eye proc - cotaract removal/lens insertion	27%	29%	23%	36%
Endoscopy - colonoscopy	22%	23%	19%	25%
Endoscopy - upper gastrointestinal	10%	9%	12%	10%
Eye procedure - other	2%	6%	4%	-26%
Pain Management	17%	13%	19%	28%
Orthopedic	8%	8%	9%	7%
All other	14%	12%	14%	20%
Totol	100%	100%	100%	100%

Source: KNG Health analysis of Medicare PSPS files. Includes Medicare FFS claims only.
Notes: Table includes mix of BETOS categories (eye procedure - cataract removal/lens insertion (P4B), Endoscopy – colonoscopy (P8D), Endoscopy - upper GI (P8B), Eye procedure – other (P4E)) and specialty (Pain Management Orthopedics). Mapping of procedure codes to specialty provided by the ASC Associotian.

a. Colonoscopy and Upper GI Endoscopy

Colonoscopy. By specialty, gastrointestinal services have been the biggest contributor to ASC growth since 2000 and, within GI, colonoscopy has been an important factor. In some states, including Florida, Nevada, Tennessee, Washington and others, more than half of all colonoscopies are performed in ASCs. The ASC penetration for upper GI procedures is even higher, with 11 states having more than half of these services performed in ASCs (See Maps 4 and 6 at end of document).

The growth in colorectal cancer screening is critically important from a public health perspective. Colorectal cancer is the third most common type of non-skin cancer in men, following prostate and lung cancer, and in women, after breast and lung cancer (National Cancer Institute (NCI), Colorectal Cancer Screening). The median age for diagnosis of cancer of the colon and rectum is 71 years, with over 50 percent of the diagnoses being made in individuals 65 to 84 years old (NCI SEER, Colon and Rectal Cancer). The age-adjusted incidence rate from 2002 to 2006 was 49.1 per 100,000 men and women per year.

In January 2006 in the United States, there were approximately 1,104,102 individuals alive who had a history of colorectal concer (SEER, p. 2). Colorectal cancer screening detects polyps and lesions which can develop into colorectal cancer. With colonoscopy screening, diagnosis and treatment occur concurrently with the removal of the potential problem areas. It may be one of the most effective ways to prevent colorectal cancer development (NCI, p. 3). In addition, colorectal cancer is generally more amenable to treatment when discovered early in the diseose process (NCI, p. 3). Other forms of detection do not ollow for concurrent treatment.

The National Cancer Institute cited a nearly 26 percent decline in colorectal cancer incidence rates between 1984 and 2004, which it attributed to cancer screening (NCI, Cancer Advances in Focus,

Colorectal Cancer, p. 1). The National Cancer Institute remains concerned that less than half of those fifty years or older are screened, noting the need to better encourage people to take advantage of the available methods far colorectal cancer screening (NCI, Cancer Advances in Focus, Colorectal Cancer, p. 2). In 18 states, fewer than 46 percent of the populatian had received a colonoscopy or sigmoidoscopy in the past 5 years (See Map 5).

Colorectal cancer is the second leading cause of cancer death in the United States (Centers for Medicare and Medicaid Services, Provider Resources: Colorectal Cancer Screening). Medicare has provided coverage for colon and rectal cancer screening to high risk individuals since 1998, and in 2001 the benefit was extended to average risk individuals. Medicare itself noted "the use of this benefit has been less than optimal" with only 52% percent of Medicare beneficiaries being screened between 1998 and 2004 (CMS, Provider Resources: Colorectal Cancer Screening). Currently, for individuals not considered to be at high risk for colorectal cancer, Medicare covers one screening colonoscopy every 10 years, but not within 47 months of a previous screening flexible sigmoidoscopy. For those Medicare beneficiaries considered high risk, one screening colonoscopy every two years is covered.

For the past several years, there has been significant public health outreach initiatives focused on reducing colorectal cancer incidence and mortality rates by increasing colorectal cancer screening. One example of a national goal, as articulated by the Centers of Disease Control (CDC) in *Healthy People 2010,* is to reduce the colorectal cancer death rate by 34 percent and increase the proportion of adults who receive a colorectal cancer screening exam.

Public health efforts include a colorectal cancer screening demonstration program established by the CDC at five sites across the US. This demonstrotion program is designed to increase screening among low-income individuals with no or limited health insurance coverage (CDC web site, cdc.gov/cancer/colorectal/ what_cdc_is_doing). In addition, the CDC is funding projects to identify effective intervention techniques for increasing colorectal cancer screening. CMS has joined with CDC in publishing several brochures on colorectal cancer entitled "Let's Break the Silence, Colon Cancer Screening Saves Lives" and "Basic Facts on Screening", each of which encourages screening for colorectal cancer. To further support colorectal cancer screening, Medicare waived the deductible for screening colonoscopy beginning in 2007 (CMS, MLN Matters, MM5127). In addition, coinsurance for colonoscopy is now 25 percent when performed in ambulatory surgical centers and in non-outpatient prospective payment system hospital outpatient departments (CMS, MLN Matters, MM5387).

CDC also sponsors *Screen for Life: National Colorectal Cancer Action Campaign* which is a multimedia initiative to promote colorectal cancer screening. Spokespeaple for this campaign include Golden Globe® and Academy Award® nominated actor Terrence Howard; Emmy® Award winner Jimmy Smits; Academy Award® winning octress Diane Keaton; and Katie Couric. As noted by the Agency for Healthcare Research and Quality, celebrity spokespersons can have a substantial impact on cancer screening rates (ahrq.gov/research/nov03).) (Cram et al., 2003). The example cited in this article is Ms. Couric's campaign which resulted in a significantly higher post-campaign colonoscopy rate that wos sustained for nine months after the campaign (1.3 per 1000 members in the 14 months prior to the campaign versus 1.8 in the 9 months afterwards).

The *Screen for Life* campaign also has partnerships with 50 state health departments, two tribal orgonizations and the District of Columbia.

Clear recommendations for colorectal cancer screening have been established and were recently updated in 2008 by the USPSTF.[11] The National Guideline Clearinghouse indicates that colonascopy is one recommended method of colon cancer screening (NGC Adult preventive healthcare: cancer screening). The general guideline supported by the American College of Gastroenteralogy (Rex et al, p. 740) is that all patients should be offered colonoscopy at age 50+ years with follow up exams every 10 years. Colonoscopy is the preferred colorectal screening examination. The 2008 American College of Gastroenterology (ACG) Guidelines updated its 2000 guidelines as follows:

- Screening should begin at age 45 for African Americans.
- Screening tests are now divided into cancer prevention and cancer detection tests. Colonoscopy is considered a cancer prevention test which is preferred over detection tests.
- Individuals with a single first degree relative with colorectal cancer or odvanced adenomas diagnosed at age 60 or greoter can be screened every 10 years, instead of more frequently.

The strong preference for cancer prevention tests – colonoscopy – and the earlier age for screening of African Americans have expanded the population to be screened. It is also important to note that there is a compounding effect for screening colonoscopies. Once the initial screening is done, the patient is advised to return for repeated screenings every ten years, unless more frequent screening is clinically indicated. Patients who are screened earlier in their lives receive more screening over their lifetime.

The National Cammittee on Quality Assurance (NCQA) set forth an effectiveness measure to addresses colorectal cancer screening. The current NCQA standard indicates that adults should receive a colonoscopy within the past ten years; double contrast enema in the past five years; fecal occult blood test annually; or flexible sigmoidoscopy in the past five years. Commercial payers are evaluated on their performance against the Healthcare Effectiveness Data and Improvement Set (HEDIS) indicators. As a result, many commercial payers have established outreach efforts designed to increase the use of effective colorectal screening tools. Outreach efforts can be easily identified by reviewing the websites of many commercial plans.

Improvements in anesthesia techniques may have made colonoscopies more acceptable to patients. Over the past 8 or 9 years, propofol has become increasingly popular for colonoscopy sedation. More and more propofol sedation is used in ASCs. Several reseorch studies have indicated that sedotion with propofol leods to faster recovery after the procedure and higher potient satisfaction when compared to the use of traditional drugs for sedotion (Singh et al., 2008). In the Cochrane Collaborative review, twenty randomized controlled trials were reviewed to determine the relative effectiveness, patient acceptance and safety of propofol for colonoscopy when compared to traditional sedatives. The review of these randomized controlled trials determined that recovery and discharge times were shorter with the use of propofol. In addition, higher patient satisfaction was demonstrated.

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[11] See http://www.annals.org/cgi/content/full/0000605-200811040-00243v1

Upper GI Endoscopy. Endoscopies of the upper gastrointestinal tract are known as EGDs. They involve a medical procedure using a scope to exomine the upper part of the digestive tract to both diagnose and treat a variety of problems, such as peptic ulcers and gastroesophageal reflux (GERD or heartburn/ocid reflux). The upper digestive system includes the esophagus, stomach, duodenum and the beginning of the small intestine.

According to the American Gastroenterological Association, "upper GI endoscopy can be helpful in the evaluation or diagnosis of various problems, including difficult or painful swallowing, pain in the stomach or obdomen, ond bleeding, ulcers and tumors. Tiny instruments can be passed through an opening in the endoscope to obtoin tissue samples, coogulate (stop) bleeding sites, dilate or stretch a narrowed area, or perform other treatments."

Studies have found that early diagnosis with upper GI endoscopy can improve care and outcomes for an elderly population with peptic ulcer hemorrhage (Cooper et al., 2009), Barrett esophagus (Cooper et al., 2002), and can be cost-effective in the diagnoses of cancer if used appropriately.

b. Cataract and Other Eye Surgeries

Ophthalmology surgeries were one of the first to be moved to the outpatient setting, due, in part, to a change in Medicare coverage policy which denied payment for overnight stays far cataracts and ather eye surgeries. Today, cataract surgeries that took several hours to perform under general anesthesia in an inpatient setting can now be performed an an outpatient basis in minutes.[12]

As demonstrated from the above data, cataract removal and lens insertian represent the largest segment of all Medicare surgeries performed in ASCs. Nearly all cataract surgery in the United States is performed in an outpatient setting and has been for many years (AAO 2006).

Cataracts are the clouding of the lens in the eye that affects vision and are the leading cause af blindness in the aging population, although they alsa can occur for variaus reasons at earlier ages due to trauma and congenital conditions or as a secondary condition of diabetes, glaucoma, or other conditions. They are also the most treatable cause of vision loss in older Americans. As noted in Table 3 below, by age 80, more than half of all Americans either have a cataract ar have had cataract surgery.

[12] This information was gathered during the expert interviews described in the methodology section of this report.

Table 3. Prevalence of Cataracts among Adults 40 Years and Older in the United States

Age	Cataract	
Years	Persons	(%)
40-49	1,046,000	2.5%
50-59	2,123,000	6.8%
60-69	4,061,000	20.0%
70-79	6,973,000	42.8%
≥80	6,272,000	68.3%
Total	20,475,000	17.2%

Source: National Eye Institute (NEI), Summary of Eye Disease Prevalence Data from Archives of Ophthalmology, Volume 122, April 2004.

Symptams of cataracts include decreased visual acuity, contrast sensitivity and color perception and a glare disability. While certain non-surgical interventions can improve vision in peaple with cataracts, surgery is cammonly performed if the condition worsens (Rosenberg et al., 2008).

While increasing knowledge of toxic chemicals, cotaract-causing drugs and harmful radiation may enable physicians to reduce the incidence of cataracts over time, changes in the volume of cataract pracedures over time is likely to continue to increase. In 2004, 1.8 million cataract pracedures alone were performed on Medicare beneficiaries not enrolled in HMOs (AAO, 2006).

Notwithstanding the volume dota presented above, the magnitude of vision problems in the older US population is not fully understood, since estimates are based on "best corrected visual ocuity and do not reflect the burden of low vision and blindness due to uncorrected refractive error." Individuals with poar eyesight are alsa less likely to get necessary eye screening, thus affecting prevalence estimates. Furthermare, state-based blindness registries have not been successful in documenting prevalence, risk factors, or trends in vision loss (NEI, 2006).

Additional public education and screening efforts ta reduce visian impairments in the United States are likely to increase the number of eye surgeries. One of the goals of Healthy People 2010 is to "improve the visual health of the Nation through prevention, early detection, treatment, and rehabilitation," and it includes abjectives to "reduce visual impairment due ta glaucoma, cataract, and diabetic retinopathy." (NEI, 2006)

The increasing number af Americans wha are obese as discussed earlier in this report, and resulting future increases in the number of Americans with diabetes will likely lead to significant increases in the number with cataracts, diabetic retinopathy and glaucoma. In fact, a recent series of projectians reparted by the Archives af Ophthalmalagy related to eye disease projected that the number of cataract cases in the US "among whites and blacks 40 years or older with diabetes will likely increase 235% by 2050" (Saaddine et al., 2008).

c. Pain Management

Pain is ane of the leading causes of disability in America. Pain affects more Americans than diabetes, heart disease and cancer combined (American Pain Foundation, Pain Facts & Figures). To draw additional attention to the issues of pain, the Centers for Disease Control (CDC) in its annual chartbook included a special feature on pain (National Center for Health Statistics 2006). Pain has been recagnized as an important national issue, and is perhaps best summed up in this 1998 statement by The Natianal Institutes of Health:

"Pain is a significant national health problem. It is the most common reason individuals seek medical care, with millians of medical visits annually; costing the American public more than $100 billion each year in healthcare, compensatian and litigation. Some studies suggest that more than a third of the American population suffers from a chronic pain candition at some paint in their life. Pain-related disability presents a significant and castly liability to workers, employers and society. In the workplace, a significant proportion of emplayees, abaut 14 percent, take time aff from their jobs due to pain conditions."

Pain in older adults is frequently underreparted, "...possibly because of a reluctance to report pain, resignation to the presence of pain, and skepticism about the beneficial effects of potential treatments" (NCHS, 2006). For adults 20 years of age and older who reported pain, 14% percent reported pain lasting 3 months to one year and 42% percent reported pain lasting mare than one year (NCHS, 2006). Those persons age 65 years and older reported pain lasting more than one year 57% percent af the time. Sources of pain are wide ranging including arthritis, back problems, cancer, headaches, muscle injuries, sports injuries, and trauma.

Several federal agencies and others have increased their educational effarts to inform the public and healthcare practitianers about pain related issues. Since 2000, The Joint Commission (JCAHO) has

made pain assessment and management o priority in its national standards. JCAHO has also published a brochure for patients entitled "What You Should Know About Pain Management." Such public health outreach efforts hove both increased awareness of poin related issues and increased the willingness of patients to seek pain relief.

A variety of treatment options are available for managing pain. The National Institute of Neurological Disorders and Stroke has resources describing many aspects of pain and its management. Specifically, the Institute notes that treatment options range from the noninvasive (exercise, counseling, biofeedback) to minimally invasive (chiropractic, over the counter medication, electrical stimulotion) to more invosive techniques such as nerve blocks.

Pain management services provided in the ASC setting generally involve the use of nerve blocks, which employ drugs, chemical agents or surgical techniques to interrupt the relay of pain messages between an affected area and the brain. Local nerve blocks involve the injection of local anesthetics into an area. Regional blocks affect a larger area. Neurolytic blocks use chemical agents to block the pain messages and are used more frequently for treating cancer pain or to block pain in cranial nerves. The American Pain Foundation, Treatment Options: A Guide for People Living with Pain outlines in more detail the various injection and infusion therapies available for pain management. Treatment protocols for pain may involve a series af treatments over weeks or months.

The difficulty in studying pain is that by its very nature pain is subjective. Cultural, social and psychological factors influence perceptions of pain. The subjective nature of pain leads many to be concerned about the potential for overutilization of pain management techniques, including nerve blocks. According ta industry experts interviewed about growth factors for this report, pain management is the one area in which potential overutilization may be an important consideratian, as is evidenced by payers beginning to restrict authorization and payment for invasive procedures for patients who have not yet tried less invasive means of pain management.

In 1997, the American Society of Anesthesialogists (ASA) developed Practice Guidelines for Chronic Pain Management (Anesthesiology, V. 86, No 4, April 1997). Further, the rapid growth in the number of pain management procedures in both HOPDs and ASCs has led to the establishment of specific preauthorization criteria by many payers and other pre-approval techniques designed to ensure that less invasive techniques are tried prior to the use of nerve blocks. The specialty itself has begun to take on these issues by beginning to publish practice guidelines. These guidelines are available on the website for the American Society of Interventional Pain Physicians (http://www.asipp.org/index.html) and include evidence based guidelines for interventional techniques used in treating chronic spinal pain.

It is important to note that growth in interventional pain management techniques is not as a result of procedures shifting from the hospital outpatient department to freestanding centers; it is driven most by a growth in the overall number of procedures across all sites of service.

In September 2005, the American Society of Interventional Pain Physicians and the World Institute of Pain joined together to establish board certification for interventianal pain management. This has led to an increased recognition of interventional pain management as a formal specialty.

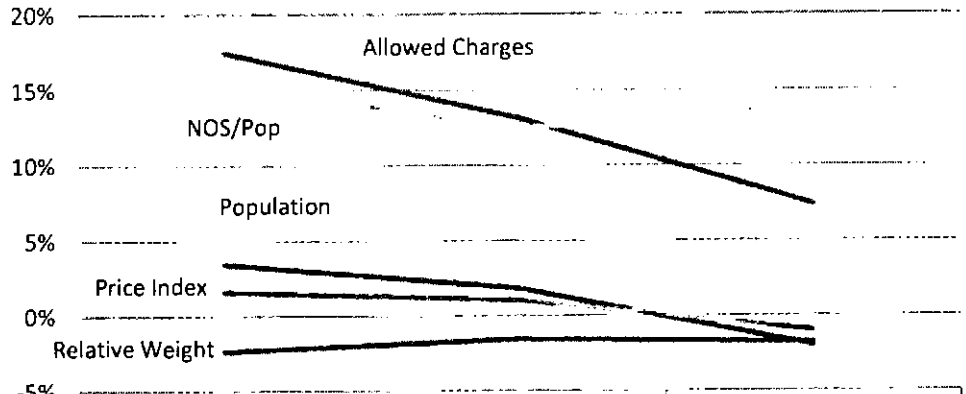
VI. Impact of Changes in Service Volume, Comparative Value, Price, and Shift in Site of Care on ASC Growth

In Figure 14, we report our findings from our decomposition of Medicare ASC spending growth. This analysis examined the extent to which growth in the Medicare population, number of services (NOS) per beneficiary, comparative value, or price changes explain the overall growth in Medicare spending for ASC services. Our measure of comparative value is based on the average Medicare payment for a service after holding constant ony year-to-year price fluctuations. Changes in price over time are captured in the price index.

Our findings indicate that almost all of the growth in Medicare spending for ASC services is due to growth in the number of services per beneficiary. This is evident by the high growth in Medicare allowed charges and number of services per beneficiary (NOS/Pop) as show in Figure 14. The rate of change in number of Medicare beneficiaries, comparative values, and prices has been low or negative. Thus, these factors cannot account for the percent growth in Medicare spending for ASCs. Medicare population growth and price changes account for a small but positive amount of the growth. Prices paid by Medicare for ASC services increased between 2000 and 2006, but they fell in 2007 as a result of the DRA provisions. Reductions in comparative values offset some of the growth due to service, population, and price changes. falling by around 11 percent between 2000 and 2007. This reflects the growing share of screening services provided by ASCs.

Based on our decomposition of Medicare growth factors, we conclude that Medicare population changes and changes in ASC prices accounted for 8 and 4 percent of the growth in Medicare spending for ASCs between 2000 and 2007, respectively. Growth in service volume per beneficiary accounted for 102 percent of the growth in Medicare spending, which was offset by 14 percent due to falling comparative values for ASC services.

Figure 14. Average Annual Change in Total ASC Medicare Charges, Population, Number of Allowed Services, Average Relative Weights and Price for Select Years



	2000-2002	2002-2004	2004-2007
Allowed Charges	17%	13%	7%
Population	3%	2%	-2%
NOS/Pop	15%	12%	14%
Relative Weight	-2%	-2%	-2%
Price Index	2%	1%	-1%

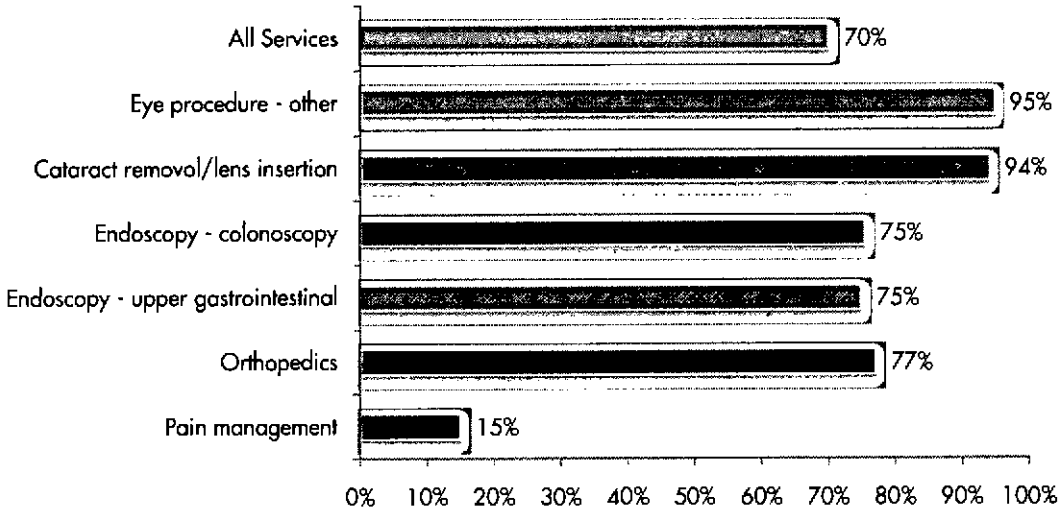
Source: KNG Health analysis of Medicare data.
Notes: NOS = Number of services. Average relative weight reflects service mix. Decreasing average relative weights indicates that lower reimbursed services are increasing as a share of all services performed in an ASC. The price index reflects year-to-year changes in average Medicare reimbursement rates for ASC payment groups holding constant the mix of services.

Given the role that the number of services per beneficiary played in driving growth in Medicare ASC spending, we determined the portion of growth in NOS per beneficiary due to care shifting either from (or to) the HOPD or physician offices. We estimate that 70 percent of the growth in the total volume of ASC services per beneficiary between 2000 and 2007 can be attributed to services shifting toward ASCs and away from other settings. The remaining 30 percent is the "expected growth" based on general growth in ambulatory services.

The growth due to shift in site of service showed some variation across types of services (Figure 15). On average, 75 percent of the volume growth in colonoscopy and other endoscopic GI procedures were due to a shift in site of service. Ninety-four percent of the growth in cataract and other eye procedures was accounted for by the same shift in site of service from other settings to ASC. By contrast, we estimated that 15 percent of the growth in pain management services was due to site of service changes. This result is consistent with the observation that much of the growth in pain management procedures observed for ASCs was also occurring for other ambulatory settings (see Figure 12).

Figure 15. Percent of Growth in ASC Services due to Shift in Site of Service by Selected Category 2000-2007

Source: KNG Health analysis of Medicare PSPS files.



In Table 4, we show how the impact of shift in site of service toward ASCs has changed over time. Generally, we find that the growth due to services moving from the HOPD to the ASC has accelerated over the period from 2000 to 2007. Pain Management shows the largest fluctuations over time in the share of growth that resulted from the shift. The variation for pain management services may be a reflection of the growth and variability in the market for these services.

Table 4. Percent of Growth in ASC Services due to Shift in Site of Service for Select Service Groups and Time Periods

Specialty	2000-07	2000-03	2003-06	2006-07
Endoscopy - upper gastrointestinal	75%	60%	63%	82%
Endoscopy - colonoscopy	75%	69%	68%	88%
Cataract removal/lens insertion	94%	73%	83%	120%
Eye procedure - other	95%	92%	112%	137%
Poin Management	15%	9%	-27%	62%
Orthopedic	77%	74%	60%	86%

Source: KNG Health analysis of Medicare PSPS files.

VII. The Role of Demographics, Provider Supply, and Technological Change

To assess how much issues like provider supply, demographics, and technological advancements may have fueled ASC growth, we estimated state-level regression models using cross-sectional, time-series data. Separate models were developed for each of the top volume service categories. Two specifications were used. First, we examined the effects of state-level provider supply and Medicare population demographics on total number of services per 1,000 beneficiaries. The dependent variable, total volume of procedures per 1,000 beneficiaries, includes volume for all ambulatory settings. This model tests the induced demand hypothesis by examining whether the number of ASCs is associated with total ambulatory service volume. Second, we estimated a second state-level regression model in which the dependent variable was the share of Medicare procedures done in the ASC. This two-step strategy to the regression modeling is consistent with our conceptual model.

Each model was estimated using state and year fixed effects. Fixed-effect models are widely used in the econometric literature. The primary advantage of these types of model is that they allow researchers to control for unobserved factors that affect the outcome of interest (volume of surgical services or ASC market share in our case). By controlling for state and year fixed effects, we are controlling for state- and time-relevant factors that may not be captured in our list of explanatory variables but which may affect the number of surgeries. This makes our regression results more robust.

We included the following explanatory variables in each of the regression models:

- ASCs per 100,000 population
- Short-term general hospitals per 100,000 population
- Office Based Physicians per 10,000 population
- Number of surgical physicians as a share of total number of physicians
- % Population Age 75 to 84
- % Population Age 85+
- % Population Male
- % Population Hispanic
- % Population African American
- % Population 65+ Reporting Fair or Poor Health
- Medicare Disabled Share
- Median Household Income

These variables control for provider supply and demographic and other beneficiary characteristics that are thought to affect the provision of healthcare (See our review in Section IV of potential growth factors). We recognize that this list of variables is not an exhaustive list of potential growth factors. The use of a fixed-effects model, however, allows us to focus on the most relevant factors that vary over time and can be easily measured.

In Table 5, we present national trends for ASC and state-level characteristics included in the regression model. The number of ASCs per 100,000 people (Medicare and non-Medicare) grew from 1.2 in 2000 to 1.7 in 2006, an increase of 42 percent. By contrast, the number of short-term general hospitals per capita has remained almost unchanged. We find an increase of approximately 1.4 office-based physicians per 10,000 people between 2000 and 2007. We

observe little variation over time in the national measures of Medicare population demographics, self-reported health status, or Median household income.

We present the regression model findings in Tables 6 through 9. Each model was run for the top BETOS and specialty groups of services separately. We report the findings with respect to the total ambulatory surgery volume in Table 6 and 7. Findings from the ASC market share models are shown in Tables 8 and 9.

After controlling for population demographic factors and provider supply, we generally found no statistically significant relationship between the number of ASCs and the total Medicare service per beneficiary, with the exception of pain management. Thus, we conclude that induced demand is not a driver of ASC volume.

For pain management, we found that each additional ASC per 100,000 people was associated with a 26 percent increase in the number of Medicare pain management services. (Although this effect seems large, it is important to consider that an additional ASC per 100,000 is equivalent to a 59 percent increase in the number of ASCs per capita from 2007.) While we cannot rule out that induced demand may have contributed to the growth in pain management services in ASCs, there is reason to believe multiple factors are involved in the observed growth. This service sector has grown rapidly across all ambulatory settings evaluated, and against a backdrop of increased focus on the importance of pain management both in the patient and provider communities. We are unable to separately identify any effects associated with physician and patient preference for ASCs. In addition, we found that each additional ASC per 100,000 people would increase ASC market share for colonoscopies and upper GI endoscopies by roughly 22 and 30 percent, respectively. Much smaller market share effects from an additional ASC were found for pain management (6%).

Although not shown, we generally found statistically significant time effects and that these effects were either consistent or increasing over time. These findings demonstrate significant temporal demand effects for the type of surgeries performed in ASCs, which are not captured by other variables in the models. These time effects may be capturing changes in technology over time as well as relative price changes between the HOPD and ASC.

Table 5. Trends in Growth of ASCs and State-level Characteristics

Variables	2000	2001	2002	2003	2004	2005	2006
ASCs per 100,000 pop	1.2	1.3	1.4	1.5	1.5	1.6	1.7
Short-term general hospitals per 100,000 pop	2.4	2.4	2.3	2.3	2.3	2.3	2.4
Office Based Physicians per 10,000 pop	16.8	17.5	17.5	17.9	18.0	18.5	18.2
Share Surgical Physicians	25%	24%	24%	24%	24%	23%	23%
% Pop Age 75 to 84	35%	35%	35%	35%	35%	35%	35%
% Pop Age 85+	12%	13%	13%	13%	13%	14%	14%
% Pop Male	42%	42%	42%	42%	42%	42%	42%
% Pop Hisponic	3%	3%	3%	3%	4%	4%	4%
% Pop African American	7%	7%	7%	7%	7%	7%	7%
% Pop 65+ Reporting Fair or Poor Health	15%	15%	15%	15%	15%	16%	15%
Medicare Disabled Share	13%	13%	14%	14%	15%	15%	15%
Median Household Income	$50,284	$49,540	$48,828	$48,960	$48,845	$49,079	$49,725

Source: KNG Health Consulting analysis of Medicare, U.S. Census, and Area Resource File data.

Table 6. Estimated Effects of ASCs, Provider Supply, and State Characteristics on Total Medicare Services per 1,000 Beneficiaries by BETOS State and Year Fixed Effects Model: 2000-2006

Explanatory Variables	Eye procedure - cataract removal/lens insertion (P4B)	Endoscopy - colonoscopy (P8D)	Minor procedures - musculoskeletal (P6B)	Endoscopy - upper GI (P8B)	Eye procedure - other (P4E)
ASCs per 100,000 pop	0.033	0.027	0.035	-0.035	-0.037
Short-term general hospitals per 100,000 pop	-0.019	0.005	-0.009	-0.014	-0.037
Office Based Physicians per 10,000 pop	-0.023	0.013	0.023**	0.021**	-0.020
Share Surgical Physicians	0.315	1.259	-0.900	2.08*	4.273**
% Pop Age 75 to 84	-1.256	0.821	2.870*	1.125	-4.948**
% Pop Age 85+	-10.248**	-2.551	-2.416	6.149**	5.985**
% Pop Male	-1.580	-7.964	13.02**	7.567	2.754
% Pop Hispanic	-1.083	-0.607	3.48**	1.620	-1.773
% Pop African American	-1.821	-5.803**	5.36**	-1.723	3.416*
% Pop 65+ Reporting Fair or Poor Health	0.000	-0.004	0.006	-0.007*	-0.007
Medicare Disabled Share	-1.425	0.650	1.031	1.104	-1.670
Median Household Income	-0.000	0.000	-0.000**	0.000	-0.000

Source: KNG Health Consulting analysis of Medicare, U.S. Census, and Area Resource File data. Excludes North and South Dakota.
Notes: Dependent variable is log of total number of services ocross ASC, HOPDs, and physician offices per 1,000 Beneficiaries beneficiaries. *Statistical significance at 10%; **Statistical significance at 5%

Table 7. Estimated Effects of ASCs, Provider Supply, and State Characteristics on Total Medicare Services per 1,000 Beneficiaries by Specialty State and Year Fixed Effects Model: 2000-2006

Explanatory Variables	GI	Ophthalmology	Orthopedic	Pain Management	Dermatology
ASCs per 100,000 pop	0.006	0.000	-0.014	0.233**	-0.038
Short-term general hospitals per 100,000 pop	-0.004	-0.024**	-0.003	0.006	0.013
Office Based Physicians per 10,000 pop	0.010	-0.018*	0.023**	0.028	0.010
Share Surgical Physicians	1.312	2.230*	1.291	-5.143	2.896**
% Pop Age 75 to 84	2.307*	-3.209**	0.264	6.792	-0.304
% Pop Age 85+	-1.091	-0.818	-1.708	-6.345	4.249**
% Pop Male	1.812	-0.370	7.447**	18.388	9.759**
% Pop Hispanic	1.279	-0.959	-0.204	4.505	-7.204**
% Pop African American	-2.332	0.726	4.636**	3.520	3.575**
% Pop 65+ Reporting Fair or Poor Health	-0.001	-0.003	0.003	0.007	-0.003
Medicare Disabled Share	1.397	-1.415	-0.463	6.939**	0.696
Median Household Income	0.000	-0.000	-0.000**	-0.000**	-0.000**

Source: KNG Health Consulting analysis of Medicare, U.S. Census, and Area Resource File data. Excludes North and South Dakota.
Notes: Dependent variable is log of total number of services across ASC, HOPDs, and physician offices per 1,000 Beneficiaries beneficiaries. *Statistical significance at 10%; **Statistical significance at 5%

Table 8. Estimated Effects of ASCs, Provider Supply, and State Characteristics on ASC Market Share by BETOS State and Year Fixed Effects Model: 2000-2006

Explanatory Variables	Eye procedure - cataract removal/lens insertion (P4B)	Endoscopy - colonoscopy (P8D)	Minor procedures - mutculoskeletal (P6B)	Endoscopy - upper GI (P8B)	Eye procedure - other (P4E)
ASCs per 100,000 pop	0.142**	0.195**	0.045**	0.268**	0.014**
Short-term general hospitals per 100,000 pop	0.004	0.013	-0.002	-0.034	0.007*
Office Bosed Physicians per 10,000 pop	-0.006	-0.004	0.004	0.007	0.005*
Shore Surgical Physicians	1.4	-0.891	-0.925*	-10.3*	0.524
% Pop Age 75 to 84	-2.0*	1.3	0.801	9.8**	0.675*
% Pop Age 85+	1.5	2.0	-2.2**	-9.5	0.925**
% Pop Male	0.331	2.1	0.309	12.8	1.7**
% Pop Hispanic	1.2	2.8**	0.785**	11.1**	0.584
% Pop African American	1.1	-1.8*	0.334	5.1	0.660*
% Pop 65+ Reporting Fair or Poor Health	-0.002	-0.003	0.001	0.010	0.002
Medicore Disabled Share	-0.20	0.604	-1.4*	-11.4*	0.476
Median Household Income	-0.000	-0.000	-0.000	-0.000	0.000

Source: KNG Health Consulting analysis of Medicare, U.S. Census, and Area Resource File data.
Notes: Dependent variable is ASC services as a share of total number of services across ASC, HOPDs, and physician offices.
*Statistical significance at 10%; **Statistical significance at 5%

Table 9. Estimated Effects of ASCs, Provider Supply, and State Characteristics on ASC Market Share by Specialty
State and Year Fixed Effects Model: 2000-2006

Explanatory Variables	GI	Ophthalmology	Orthopedic	Pain Management	Dermatology
ASCs per 100,000 pop	0.198**	0.087**	0.020**	0.062*	0.005**
Short-term general hospitals per 100,000 pop	0.014*	0.007	0.001	-0.010	0.000
Office Based Physicians per 10,000 pop	-0.004	-0.006	0.001	0.029*	0.000
Share Surgical Physicians	-1.2*	0.210	0.093	-2.1	0.051*
% Pop Age 75 to 84	1.3	-1.2*	-0.159	0.365	0.019
% Pop Age 85+	2.0	-1.9**	-0.288	-2.5	0.004
% Pop Male	1.6	-2.2	0.455	3.0	-0.054
% Pop Hispanic	2.7**	-0.137	-0.131	-3.3**	-0.027
% Pop African American	-2.1**	-0.667	-0.127	3.7**	-0.020
% Pop 65+ Reporting Fair or Poor Health	-0.003	0.000	0.000	-0.004	0.000
Medicare Disabled Share	0.106	0.105	-0.281*	-7.5**	0.003
Median Household Income	-0.000	-0.000	-0.000	-0.000**	-0.000

Source: KNG Health Consulting analysis of Medicare, U.S. Census, and Area Resource File data.
Notes: Dependent variable is ASC services as a share of total number of services across ASC, HOPDs, and physician offices.
*Statistical significance at 10%; **Statistical significance at 5%

VIII. Discussion

We conducted a comprehensive study of the growth factors for ASCs. Although our qualitative analyses, including literature review and expert interviews, covered Medicare and non-Medicare populations, we were primarily limited to Medicare data in conducting our quantitative analyses. We highlight the major study findings below.

- Growth in surgeries performed in ASCs parallels the historic shift away from hospital inpatient surgeries toward outpatient settings.

- A number of factors account for the growth in ASCs including population health guidelines for disease screening (e.g., colorectal cancer screening), shift in site of services away from the hospital outpatient setting to ASCs, payer incentives to pay for care in the most cost-effective setting, demographic changes, and consumer and physician preferences.

- Much of the growth in outpatient surgeries was made possible by technological improvements that have allowed for faster patient recovery times. These advances include improved surgicol techniques, anesthesia, and pharmaceuticals to better manage post-operative pain.

- Patients may prefer ASCs because they offer lower copayments, more convenient locations, shorter waiting times, and easier scheduling for patients.

- Physicians report preferring to treat patients in an ASC because it provides an opportunity to better control staffing decisions, equipment selection decisions, and process and scheduling decisions (FASA, 2007). The ability to manage their work environment, along with short turnaround times and specialized focus by nurses and other support staff at ASCs (Haugh, 2006; AHA, 2006) creates the potential for higher professional revenue through increased productivity. Physicians with an ownership interest in the facility may derive a portion of their income through ownership equity.

- Eye procedures represent the largest share of Medicare spending for ASCs, but these services have experienced the slowest growth since 2000. Colonoscopy procedures increased by 15 percent per year, on average.

- Colonoscopy and upper gastrointestinal endoscopic (GI) procedures accounted for almost a third of Medicare ASC spending growth between 2000 and 2007. This finding is consistent with growing demand for essential cancer and other screening services among Medicare beneficiaries.

- Almost all of the growth in Medicare spending for ASC services was due to growth in the number of services per beneficiary. Medicare population growth and price changes account for a small but positive amount of the growth. The average price of procedures performed in the ASCs fell by around 11 percent between 2000 and 2007, reflecting the growing share of screening services provided by ASCs.

- We estimate that 70 percent of the growth in ASC service volume per Medicare beneficiary between 2000 and 2007 can be attributed to ASCs capturing market share from HOPDs (also referred to as a shift in site of service). The remoining 30 percent is attributed to overall growth in outpatient surgical services across all settings.

- We find little evidence that induced demand is a driver of ASC service volume. After controlling for population demographic factors and provider supply, we generally find no statistically significant relationship between the number of ASCs and the total Medicare service volume per beneficiary. For pain management, we are not able to reject the hypothesis of induced demand, although physician and consumer preferences for ASCs along with treatment protocols that require multiple injection procedures may contribute to the finding that the number of ASCs is positively correlated with the total volume of pain management services.

The number of ASCs has grown significantly since 2000, along with the number of Medicare services provided in these facilities. We found that most of the growth in Medicare services since 2000 resulted from a movement of services from the HOPD to the ASC. Almost 60 percent of the growth in Medicare spending for ASCs since 2000 was due to growth in cataract surgeries, colonoscopies, and upper gastrointestinal procedures. These pracedures are strongly associated with age and represent essential services to Medicare beneficiaries. These findings along with the observation that ASCs have been paid less than HOPDs, on average, suggest that the Medicare program may have spent less as a result of the movement of services to ASCs.

Despite the strong growth over the last several years, increases in the number of Medicare-certified ASCs have slowed recently. Whether this trend will continue is uncertain, but a number of factors point to this possibility. In the shart term, the economic environment is likely to discourage the establishment of new ASCs. The transition to a new Medicare payment system is reducing payment for some high-volume services, while rates are increasing for many low volume services. Although the net effect af these reimbursement changes on ASC grawth may be mixed, the large differential between Medicare payments to ASCs and HOPDs may have altered the incentives for development of ASCs. Even more fundamentally, physician supply constraints may limit the growth rates in future years.

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Detailed Methods Appendix

This study reports on the factors of growth for ambulatory surgical centers. The quantitative analysis consists of four components:

- Descriptive analysis
- Decomposition of Medicare-related growth in ASCs into a set of broad factors
- Estimates of the impact of shift in site of ambulatory surgical care on ASC Medicare growth
- Regression modeling to determine the effects of specific factors on ASC Medicare use

This Appendix provides a detoiled description of the data sources ond technical approach for eoch of the components.

1. Dota Sources

We utilized multiple data sources to complete this study. A description of these data sources and how they were used in the study is provided in the table below.

The principol dato sources, which we used to measure the growth in the use of ASCs in the Medicore was the Physician/Supplier Procedure Summary Master File (PSPS). The PSPS file, which is produced by the Centers for Medicare and Medicaid Service, summorizes all Medicore Part B carrier (and DMERC) claims for Medicore fee-for-service enrollees. The summarized fields include total submitted services and charges, total allowed services and chorges, total denied services and charges, ond total payment amounts. The PSPS is on annual file ond contains informotion on ASC services ond physician-billed services provided in ombulatory care settings, including physicion offices and hospital outpatient deportments. We used the PSPS files for the years 2000 through 2007 (the most recent year for which data ore avoilable at the time of this report).

The NSAS is a survey produced by the CDC, Notional Center for Health Statistics. The NSAS is a national survey of ASC care provided in hospital-based ond freestanding facilities. Dato ore ovailoble on patient, expected sources of payment, and patient diagnoses ond procedures performed. The survey was initially fielded onnually and collected dota for 1994 through 1996. After a period of inactivity, the survey was fielded again 2006. We use the 1996 and 2006 survey dota from the NSAS.

Primary Data Sets and their Purpose for ASC Study		
Data Sources	**Description**	**Use**
PSPS File	CMS produces the PSPS file, which is a summary of all Part B Carrier (and DMERC) claims. The summarized fields include total submitted services and charges, total allowed services and charges, total denied services and charges, and total payment amounts. The PSPS is an annual file and contains information on ASC services and physician-billed services provided in ambulatory care settings.	Multiple years of the PSPS file were used to the construction estimates of ASC use at the state and national level.
Provider of Service	The Provider of Services (POS) Extract is created from the Online Survey and Certification Reporting System (OSCAR) database. These data include information on Medicare-approved providers, including ASCs and hospitals.	The POS provided information on number of Medicare-certified ASCs and HOPD as well as the types of services provided.
Area Resource File (ARF)	The Health Resources and Service Administration produces the ARF which collects data from more than 50 sources, including the: AMA, AHA, US Census Bureau, CMS, BLS, and the NCHS. The ARF contains information on health facilities including Ambulatory Surgical Centers, health professions, resource scarcity measures, health status, economic activity, health training programs, and socioeconomic and environmental characteristics.	The ARF provided important resources necessary for the state level regression analysis.
Behavioral Risk Factor Surveillance System (BRFSS)	The BRFSS from the CDC is a state-based system of health surveys that collects information on health risk behaviors, preventive health practices, and healthcare access primarily related to chronic disease and injury.	This source provided the basis for much of the descriptive analysis of ambulatory surgery in the US as well as the actuarial projections of future need
Census Data	US Census Bureau provides annual projections based on the most recent census. The current projections rely on Census 2000 and contain information about the 115.9 million housing units and 281.4 million people covered in that census. Detailed projected demographic statistics are available by age, race, and gender.	

2. Methods

a. Decompasition of Medicare-related Growth Factors

We decomposed the growth of Medicare spending for ASCs into broad categories following an approach similar to the "residual" approach used by CMS's Office of the Actuary to examine the contribution of technological change to overall healthcare spending growth.[13] This opproach recognizes that Medicare spending can be estimated as the product of:

1. Medicare FFS population (Pop)
2. Average number of services (NOS) per beneficiary
3. Average relative weight (or comparative value) (RW)
4. Medicare prices (payment per relative weight) (Pr)

The decomposition analysis is based on the following relationship:

$AC_t = Pop_t * (\sum_i NOS_{it})/Pop_t * (Pr_{avg}*(\sum i\ NOS_{it} * RW_{i,avg}))/(\sum i\ NOS_{it})) * (Pr_t*(\sum i\ NOS_{it} * RW_{it})/(Pr_{avg}*(\sum i\ NOS_{it} *RW_{i,avg}))$,

where AC equals Medicare allowed charges, Pop equals Medicare FFS populatian, NOS equals number of services, RW equals relative weight, Pr equals Medicare price or reimbursement level, t equals year, i equals HCPCS, and avg. is average.

We define each component of the formula in the table below.

Components of Allowed Charges Formula

Components	Formula
Medicare FFS Enrollment	Pop_t
Number of Service per Beneficiary	$(\sum_i NOS_{it})/Pop_t$
Average RW per Service	$Pr_{avg}*(\sum i\ NOS_{it} * RW_{i,avg}))/(\sum i\ NOS_{it}$
Medicare Prices	$Pr_t*(\sum i\ NOS_{it} * RW_{it})/(Pr_{avg}*(\sum i\ NOS_{it} *RW_{i,avg})$

Until recently there were no Medicare relative weights far ASCs. Instead, ASC services were grouped inta a nine payment categories with each group having a separate payment amount. We constructed relative weights by constructing an average payment amaunt using the 2006 distribution af ASC services by payment group. Althaugh the Medicare program changes Medicare prices for groups of ASC services, this approach allows us to separate out the effects of a change in the mix of

[13] Smith S, Heffler SK, Calfo S et al. National health projections through 2008. Health Care Financing Review. 1999;21:211-235.

services to either more or less resaurce intensive services from changes in Medicare price levels for ASC services.

We constructed each component show in Table X for each analysis year and calculated the percent of growth in allowed chorges due to each component based on the following formula:

$\%\Delta AC_{t-(t-1)} \approx \%\Delta Pop + \%\Delta NOS/Beneficiary_j + \%\Delta$ Relative Weight + $\%\Delta$Medicare Prices.

Where $\%\Delta$ is the percent change in a variable. The percent of growth associated with, for example, Medicare FFS population growth is calculoted as $\%\Delta Pop_{t-(t-1)}/\%\Delta AC_{t-(t-1)}$, where $\%\Delta AC_{t-(t-1)}$ is derived fram the sum af the individual percent changes as shown in the formula above. As a result of this decomposition analyses, we will repart the percent of nationol growth in ASC services due ta chonges in population, Medicare prices, number and relative weight.

Far this anolysis, the Medicare frequency af and allowed charges for ASCs services were developed with the Physician/Supplier Pracedure Summary Master File. We identified ASC services in the PSPS based an cades for type of service, place of service, and specialty. Type of Service = "F", Place of Service ="24", and Specialty="49".

a. Shift in Site of Ambulotary Care Madel

We estimated the amaunt of growth in Medicare ASC pracedures due to a shift in site af service using the PSPS. We estimoted effects of a shift in site of service an ASC service growth averall and at the BETOS level. Ta implement the appraoch we estimated the distribution af where services were perfarmed in a base year and projected the number af services in a following year if the distribution ocross settings had remained the same. Put anather way, we allowed an ASC service to grow at the same rate as across all ambulatory settings ond then determined the extent to which this "expected" growth rate differed from the actual growth rate. We attributed any difference between the expected and actual grawth rates as the growth due to a shift in site of service.

Algebraically, the shift in site of service calculation required the construction of the following measures:

- ASC Actual Growth for Procedure i= $X_{ASC,it+1} - X_{ASC,it}$
- ASC Share of Procedure i in Period t = $X_{ASC,it} / \sum_j X_{jit}$, where j={ASC, HOPD, Physician Office}
- ASC Expected Volume in Period t+1 = $\sum_j X_{jit+1} * (X_{ASC,it} / \sum_j X_{jit}) = \tilde{x}_{ASC,it+1}$
- ASC Growth Attributed to Shift in Ambulatory Site of Service = $\sum_i (X_{ASC,it+1} - \tilde{x}_{ASC,it+1}) / \sum_i (X_{ASC,it+1} - X_{ASC,it})$,

where X is the volume of services, i is procedure, t is time period, and j is ambulatory setting.

We measured volume across all ambulatory sites of services using the 2007 ASC relative weights derived in the cost decomposition analysis. We applied these weights to value services performed in the hospital outpatient setting and physician offices. The PSPS does not include claims submitted by HOPD. It does, however, include physician-billed claims for service performed in an outpatient setting. We used these services to estimate the number of procedures performed in HOPDs.

b. State-Level, Time-Series Regression Model

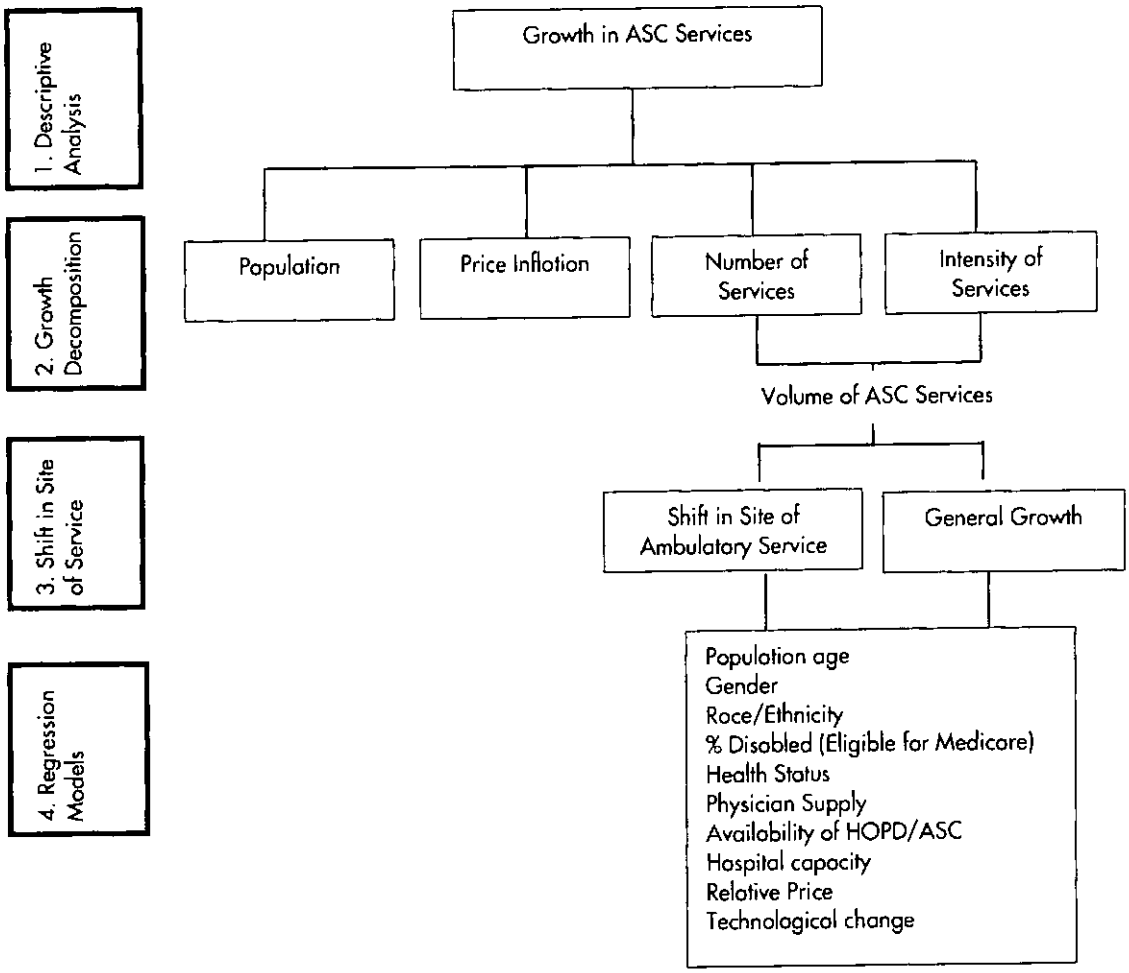
The decompositian of growth and site-of-service analysis allowed us to make statements about the contributions to ASC growth af some broad factors, such as growth in population, number of services per beneficiary, and shifts in site of service. To be able to quantify the contributian to growth of specific demand and supply factars, we used regression analysis. It is worth emphasizing that a regression-based appraach to assessing the contributions ta growth in ASCs has many challenges, including issues af omitted variable bias (how can you capture all relevant demand and supply factors?) and difficulty in quantifying technological change.

That said, we estimated state-level regressian models using cross-sectional, time-series data. We regressed Medicare services per beneficiary against demand- and supply-side factors. The data source for the Medicare service counts were the PSPS files. The dependent variable, volume of procedures, is not specific to ASCs but, instead, included valume for all ambulatory settings. Technological change was captured through a series of time dummy variables.

We estimated a second state-level regression model where the dependent variable is the share of Medicare procedures done in the ASC. This second model relates to shift in site of service and included those supply-side variables identified as important for determining whether a procedure is done in an ASC or another ambulatory setting. Notice that this two-step strategy to the regression modeling tracks with our conceptual model.

How the different methods and models fit together

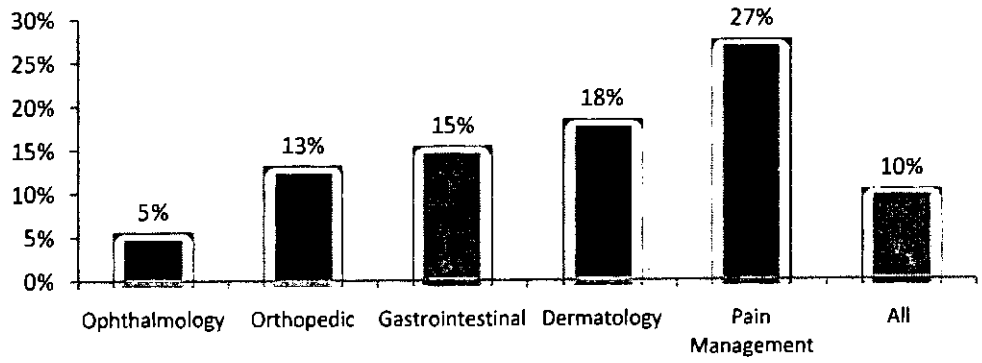
Figure 1.
Relationship between ASC Study Models and Analyses



Appendix Charts: Results by Specialty

Growth in Medicare Allowed Charges per Beneficiary for ASCs by Specialty from 2000 to 2007

Source: KNG Health analysis of Medicare PSPS files.



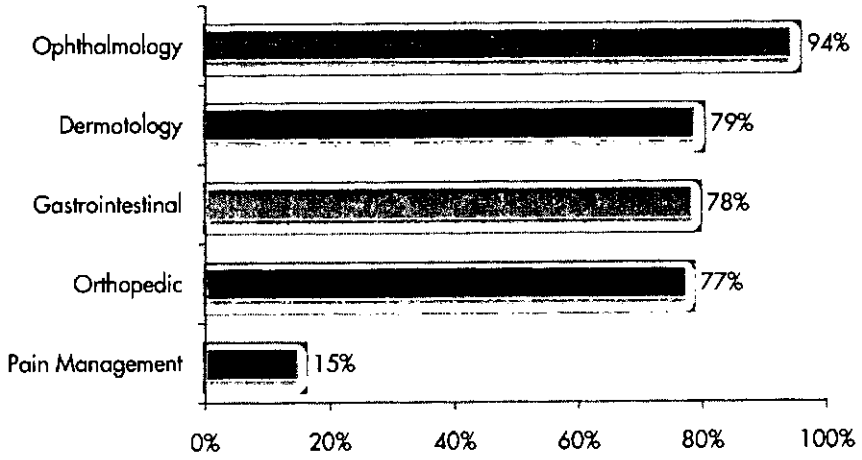
Contribution to Medicare ASC Growth in Allowed Charges by Specialty

	Contribution to Growth Between:			
Specialty	2000-07	2000-03	2003-06	2006-07
Gostrointestinal	35%	37%	34%	37%
Ophthalmology	29%	35%	27%	10%
Pain Management	17%	13%	19%	28%
Orthopedic	8%	8%	9%	7%
Dermatology	4%	3%	7%	-3%
Other	6%	4%	4%	21%
Total	100%	100%	100%	100%

Source: KNG Health analysis of Medicare PSPS files.

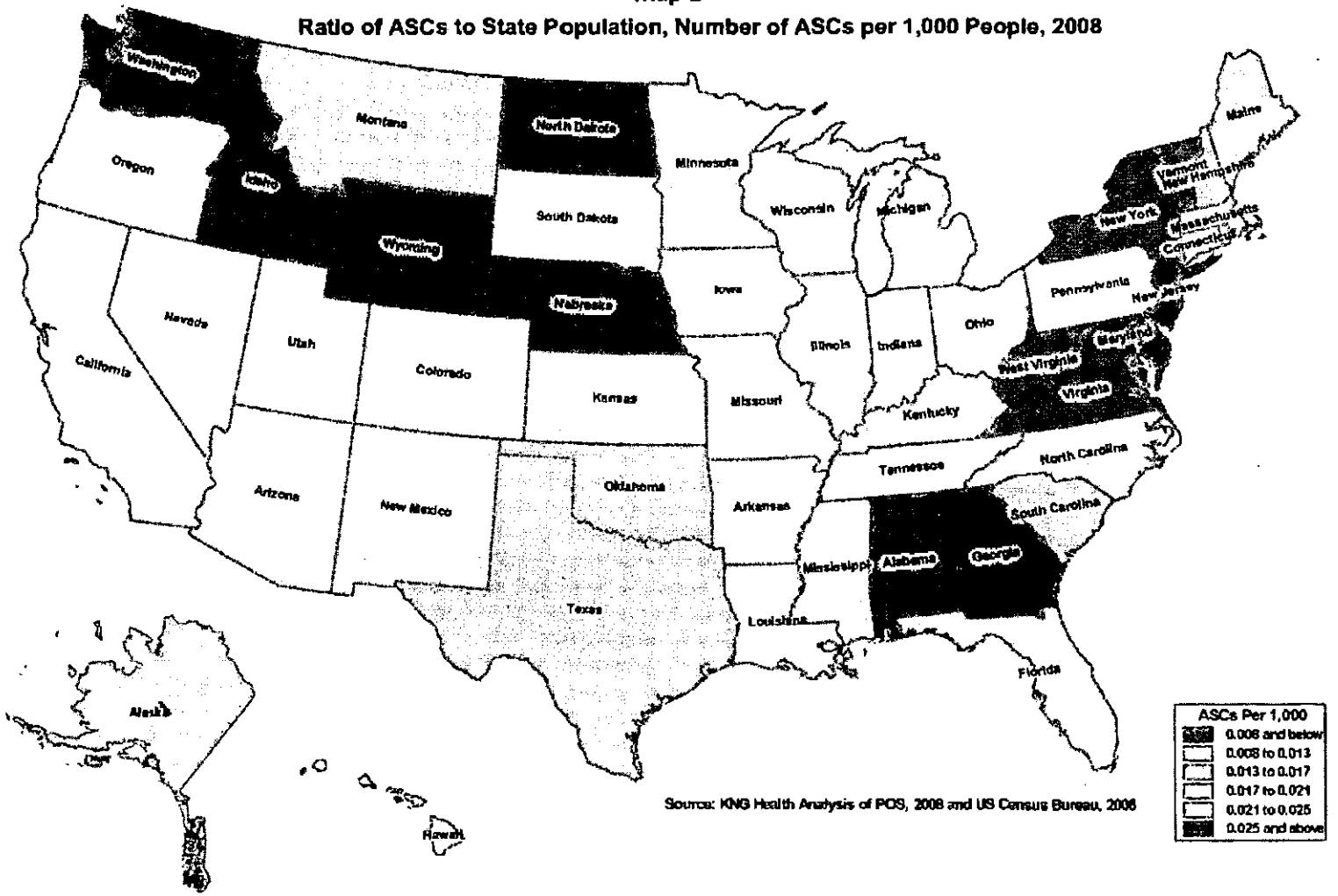
Growth in Medicare ASC Allowed Services from a Shift in Site of Service

Source: KNG Health analysis of Medicare PSPS files.



Map 1

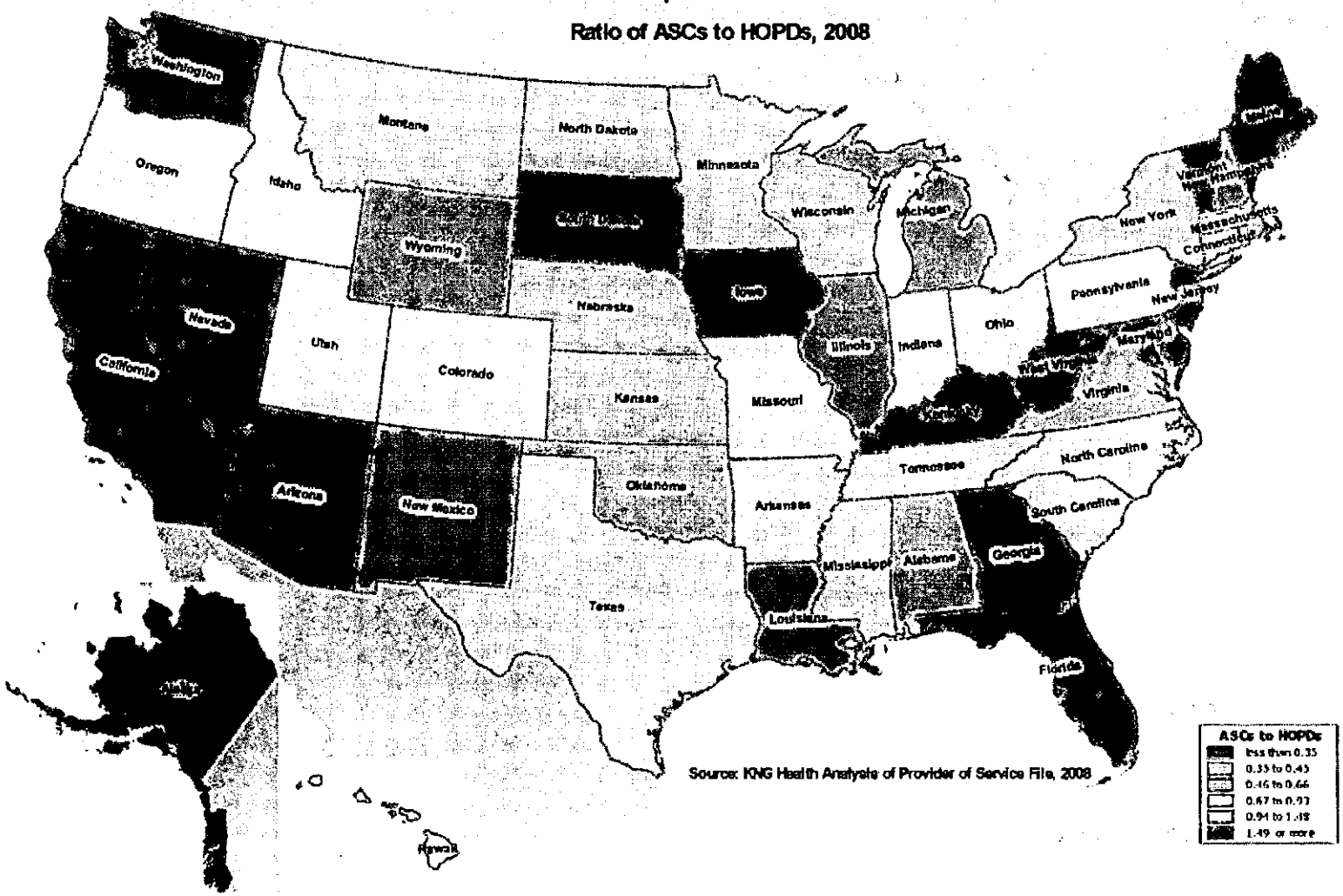
Ratio of ASCs to State Population, Number of ASCs per 1,000 People, 2008



Source: KNG Health Analysis of POS, 2008 and US Census Bureau, 2008

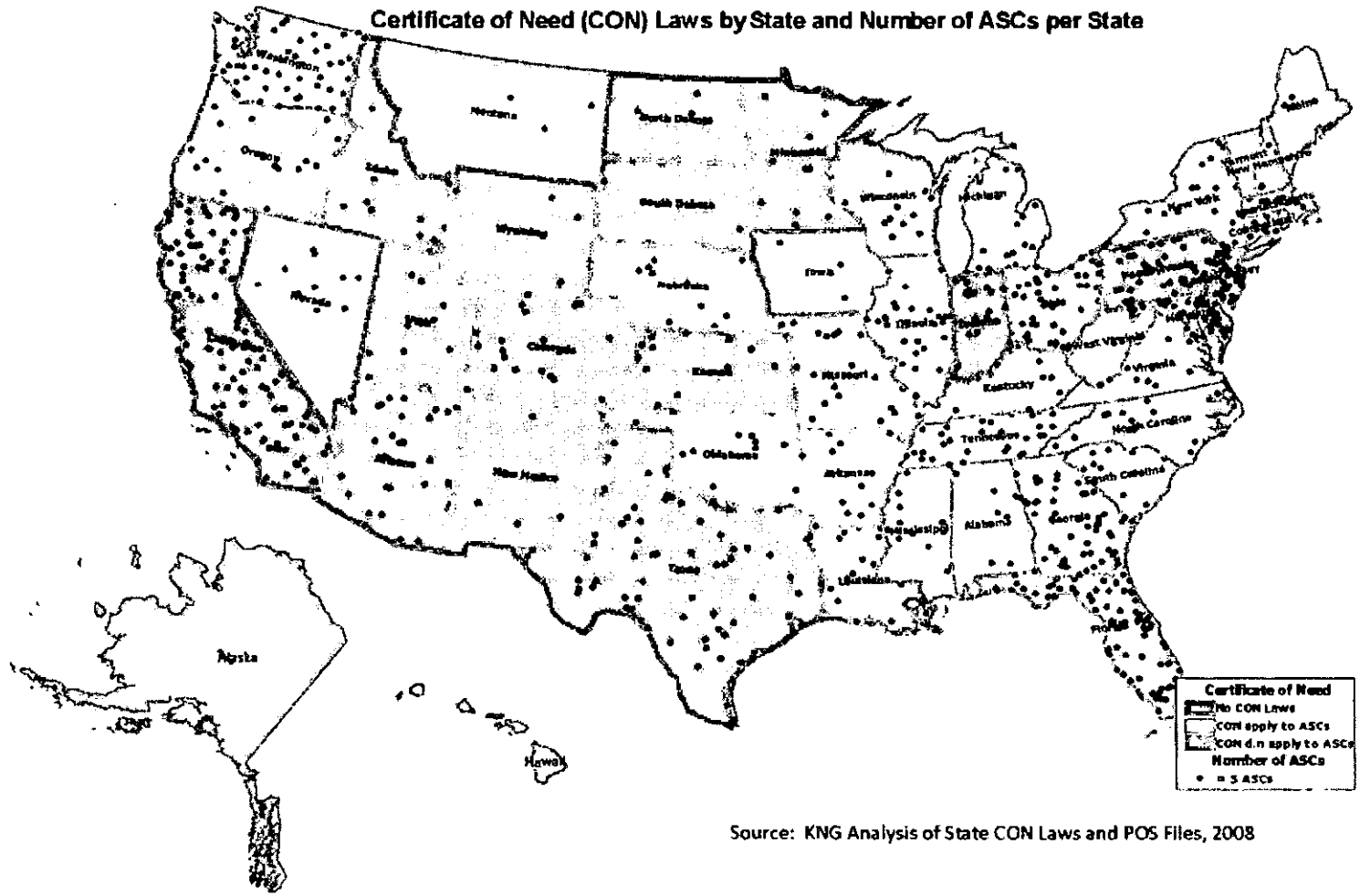
Map 2

Ratio of ASCs to HOPDs, 2008



Map 3

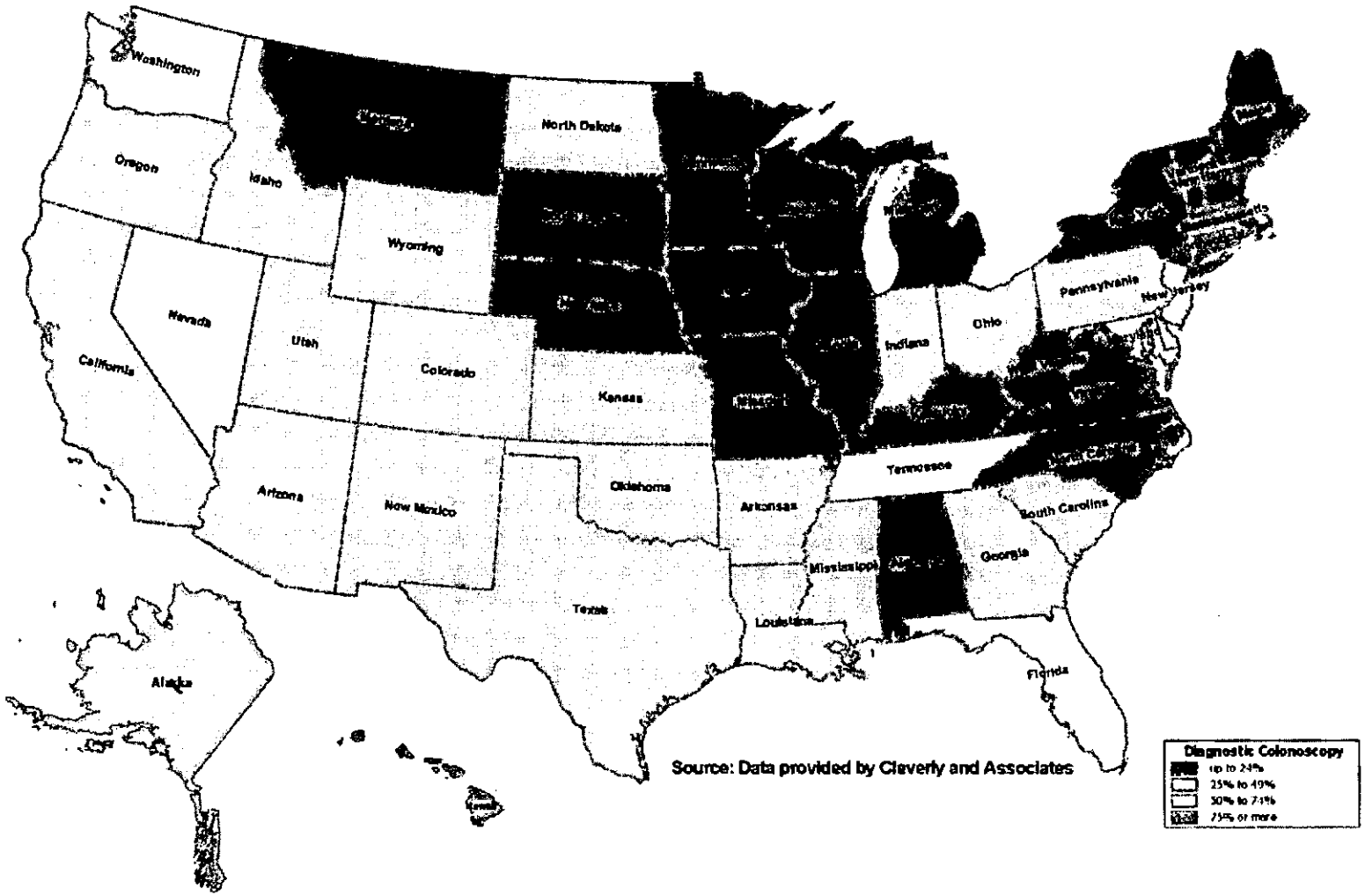
Certificate of Need (CON) Laws by State and Number of ASCs per State



Source: KNG Analysis of State CON Laws and POS Files, 2008

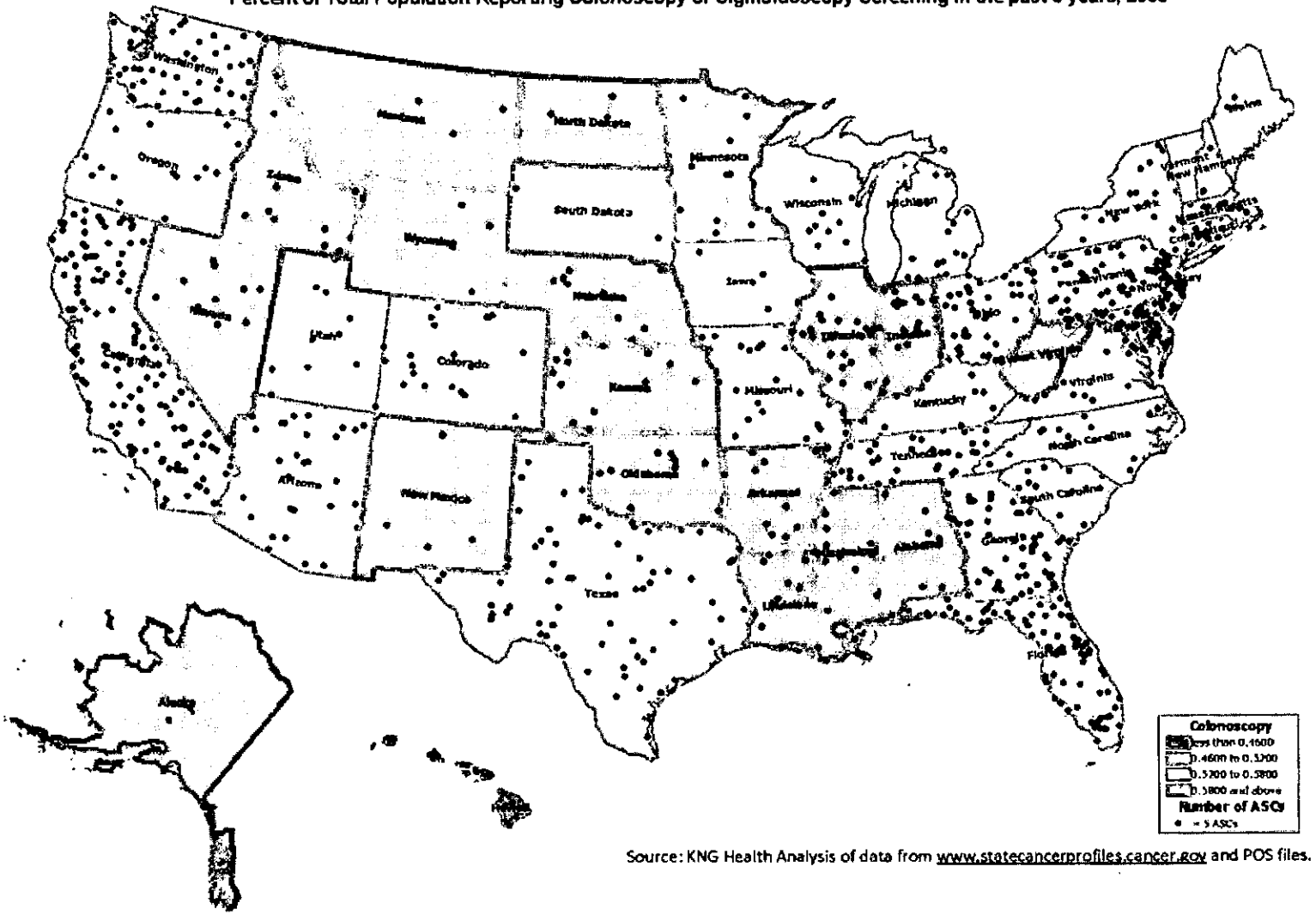
Note: In Missouri, CON may be required if ASC includes major medical equipment over $1m. Las Vegas, Reno and all other counties over 100k are exempt from CON.

Map 4
Estimated Percentage of Diagnostic Colonoscopy Performed in ASC Setting in 2006, CPT 45378



Map 5

Percent of Total Population Reporting Colonoscopy or Sigmoidoscopy Screening in the past 5 years, 2006



Source: KNG Health Analysis of data from www.statecancerprofiles.cancer.gov and POS files.

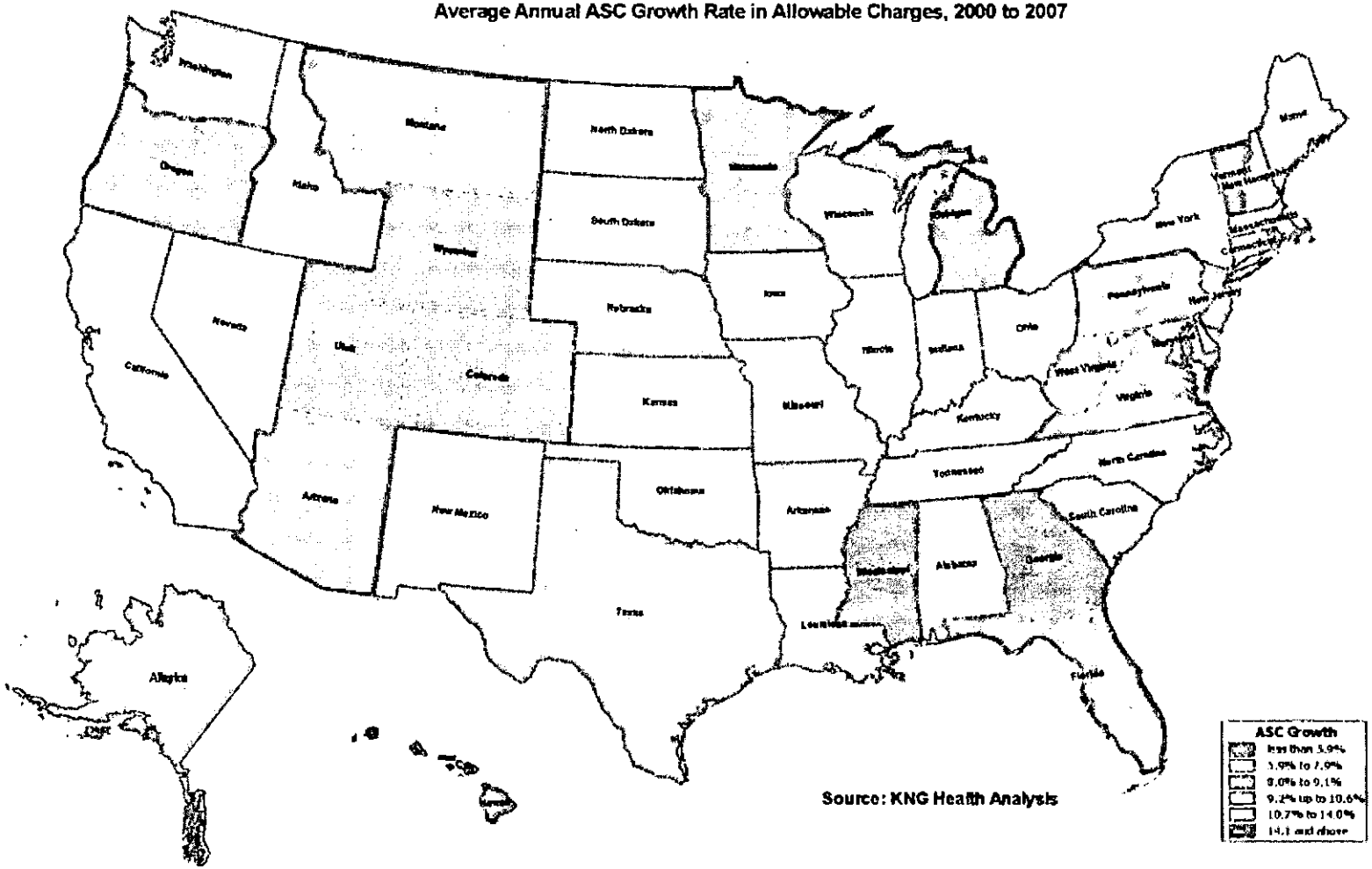
Map 6

Estimated Percentage of Upper GI, Endoscopy, & Biopsy Procedure Performed in ASC Setting in 2006, CPT 43239

Note: Volume in Vermont is zero, as there are no ASCs in Vermont.

Map 7

Average Annual ASC Growth Rate in Allowable Charges, 2000 to 2007



Source: KNG Health Analysis

CHAPTER 5

Ambulatory surgical centers

RECOMMENDATION

5 The Congress should implement a 0.5 percent increase in payment rates for ambulatory surgical center services in calendar year 2012 concurrent with requiring ambulatory surgical centers to submit cost and quality data.

COMMISSIONER VOTES: YES 15 • NO 1 • NOT VOTING 0 • ABSENT 1

CHAPTER 5

Ambulatory surgical centers

Chapter summary

Ambulatory surgical centers (ASCs) furnish outpatient surgical services to patients not requiring hospitalization and for whom an overnight stay is not expected after surgery. In 2009,

- ASCs served 3.3 million fee-for-service (FFS) Medicare beneficiaries, an increase of 1.2 percent over 2008;
- there were 5,260 Medicare-certified ASCs, an increase of 2.1 percent (109 ASCs) over 2008; and
- Medicare combined program and beneficiary spending on ASC services was $3.2 billion, an increase of 5.1 percent per FFS beneficiary over 2008.

Assessment of payment adequacy

Most of the available indicators of payment adequacy for ASC services, discussed below, are positive and exhibit little change from 2008. The Patient Protection and Affordable Care Act of 2010 did not change the basic structure of the ASC payment system, and Medicare still does not require ASCs to submit cost or quality data.

Beneficiaries' access to care—Our analysis of facility supply and volume of services indicates that beneficiaries' access to ASC care has generally been adequate.

In this chapter

- ***Capacity and supply of providers***—From 2004 through 2009, the number of Medicare-certified ASCs grew by an average annual rate of 5.1 percent. However, the growth slowed to 2.1 percent in 2009. The slower growth in 2009 may reflect the downturn in the U.S. economy. Also, the ASC payment system underwent a substantial revision in 2008 (see online Appendix A from Chapter 2C of our March 2010 report at http://medpac.gov/chapters/Mar10_Ch02C_APPENDIX.pdf), and investors may be responding to the large change in payment rates that occurred under that revision.
- ***Volume of services***—From 2004 through 2009, the volume of services per beneficiary grew by an average annual rate of 8.1 percent; in 2009, volume increased by 3.4 percent.

Quality of care—CMS does not require ASCs to submit data on the quality of care they provide. Consequently, we do not have sufficient data to assess ASCs' quality of care.

Providers' access to capital—ASCs' access to capital appears to be adequate as the number of ASCs has continued to increase.

Medicare payments and providers' costs—From 2004 through 2009, ASCs' Medicare revenue increased from $2.5 billion to $3.2 billion. Also, from 2004 through 2008, Medicare payments per FFS beneficiary increased at an average annual rate of 7.2 percent and in 2009 by 5.1 percent. ASCs do not submit data on the cost of care they provide to the Medicare program. Therefore, we cannot calculate a margin as we do in other sectors to assist in assessing payment adequacy. ■

Background

An ambulatory surgical center (ASC) is a distinct entity that furnishes outpatient surgical procedures to patients who do not require an overnight stay following the procedure. Most ASCs are freestanding facilities rather than part of a larger facility, such as a hospital. About one-quarter of ASCs in 2008 were jointly owned by physicians and hospitals (Medical Group Management Association 2009). In addition to receiving ambulatory surgical procedures in ASCs, beneficiaries may also receive such procedures in hospital outpatient departments (HOPDs) and, in some cases, physicians' offices.

Since 1982, Medicare has made payments for surgical procedures provided in ASCs. Physicians who perform procedures in ASCs or in other facilities receive separate payments for their professional services. In addition, about 90 percent of ASCs have at least one physician owner (Ambulatory Surgery Center Association 2008). Physicians who perform surgery in an ASC that they own receive a share of the ASC's facility fees in addition to their professional fees.

To receive payments from Medicare, ASCs must meet Medicare's conditions of coverage for ASCs, which specify standards for administration of anesthesia, quality evaluation, operating and recovery rooms, medical staff, nursing services, and other areas.

Medicare pays for a bundle of facility services provided by ASCs, such as nursing, recovery care, anesthetics, and supplies. This payment system underwent substantial revisions in 2008 (see online Appendix A from Chapter 2C of our March 2010 report at http://medpac.gov/chapters/Mar10_Ch02C_APPENDIX.pdf). The most significant changes included a substantial increase in the number of surgical procedures covered under the ASC payment system, allowing ASCs to bill separately for certain ancillary services, and large changes in payment rates for many procedures. To help ASCs adjust to the changes in payment rates, CMS phased in the new payment system over four years, from 2008 through 2011; 2011 is the first year ASC payment rates will be based entirely on the revised rates. Beneficiaries are responsible for paying 20 percent of the ASC payment rate.

Medicare covers about 3,500 surgical procedures under the ASC payment system. For most covered surgical procedures, the relative weight is based on its relative weight under the outpatient prospective payment system (PPS)—the system Medicare uses to set payments for most services furnished in HOPDs. This linkage to the outpatient PPS is consistent with a previous Commission recommendation to align the relative weights in the outpatient PPS with the ASC payment system (Medicare Payment Advisory Commission 2004). For most covered surgical procedures, the payment rate is the product of its relative weight and a conversion factor set at $41.94 in 2011. Because the outpatient PPS conversion factor for 2011 is $68.88, payment rates are lower in ASCs than in HOPDs.

The reason for the difference in conversion factors is that CMS set the ASC conversion factor so that total ASC payments in 2008 would equal what the program spent on ASC services in 2007, the year before CMS implemented the revised ASC payment system. In the outpatient PPS, CMS sets the conversion factor so that payments in that system equal what the program spent on hospital outpatient services the year before CMS implemented the outpatient PPS. CMS updates both the ASC and outpatient PPS conversion factors over time to reflect changes in input prices. Because of the lower payment rates in ASCs, movement of surgical services from HOPDs to ASCs can reduce aggregate program spending and beneficiary cost sharing provided that the growth of ASCs does not result in an increase in the overall number of surgical services.

Lower payment rates for ASCs relative to HOPDs are appropriate because, according to prior Commission analysis, ASCs likely incur lower costs than HOPDs, as HOPDs must meet additional regulatory requirements and treat patients who are more medically complex (Medicare Payment Advisory Commission 2003, Medicare Payment Advisory Commission 2004). Unlike ASCs, hospitals are subject to the Emergency Medical Treatment and Active Labor Act, which requires outpatient departments to stabilize and transfer patients who believe they are experiencing a medical emergency, regardless of the patients' ability to pay. In addition, patients treated in HOPDs are, on average, more medically complex than patients treated in ASCs, and these more complex patients are likely more costly (Medicare Payment Advisory Commission 2003). A comparison of ASC costs and HOPD costs by the Government Accountability Office confirmed that ASC costs are, on average, lower than HOPD costs (Government Accountability Office 2006). However, it is not clear how much lower ASC payment rates should be relative to HOPD rates because we lack adequate cost data from ASCs to make that determination.

An important exception to the link between the relative weights in ASCs and HOPDs is the procedures that are

performed predominantly in physicians' offices and that were first covered under the ASC payment system in 2008 or later. In ASCs, payment for these "office-based" procedures is the lesser of the amount derived from the outpatient PPS relative weights or the nonfacility practice expense amount from the Medicare physician fee schedule (MPFS). CMS set this limit on the rate for office-based procedures to prevent migration of these services from physicians' offices to ASCs for financial reasons. Because CMS updates payment rates in the outpatient PPS and the MPFS independently of each other, it is possible for the ASC payment rate for an office-based procedure to be based on the outpatient PPS rate in one year and on the MPFS rate the next year (or vice versa).

The ASC payment system generally parallels the outpatient PPS in terms of which ancillary services are paid separately and which are packaged into the payment of the associated surgical procedure. Starting in 2008, ASCs receive separate payment for these ancillary services:

- radiology services that are integral to a covered surgical procedure if separate payment is made for the radiology service in the outpatient PPS,
- brachytherapy sources implanted during a surgical procedure,
- all pass-through and non–pass-through drugs that are paid separately under the outpatient PPS when provided as part of a covered surgical procedure, and
- devices with pass-through status under the outpatient PPS.

The links between the ASC payment system, the outpatient PPS, and the MPFS raise broader questions about how Medicare should pay for the same services that are provided in different settings. Should Medicare pay the same amount regardless of where a service is delivered? If so, how should that amount be determined? Alternatively, should the payment vary based on the cost of efficient providers in each setting, with an adjustment for the quality performance of providers? The current ASC payment system exhibits elements of each approach. Payments for many office-based procedures performed in ASCs are equal to the nonfacility practice expense amount in the MPFS, and ASCs and HOPDs receive the same amount for pass-through drugs and devices. In contrast, payments for most ASC services are less than the comparable payment under the outpatient PPS.

Are Medicare payments adequate in 2011?

To address whether payments for the current year (2011) are adequate to cover the costs of efficient providers and how much payments should change in the coming year (2012), we examine several measures of payment adequacy. We assess beneficiaries' access to care by examining the supply of ASC facilities and changes over time in the volume of services provided, providers' access to capital, and change in revenue from the Medicare program. Unlike our assessments of other provider types, we could not use quality data in our analysis because CMS does not require ASCs to submit data on quality measures. Likewise, we cannot examine Medicare payments relative to providers' costs because CMS does not require ASCs to submit cost data.[1] Finally, we caution that the effect of Medicare payments on the financial health of ASCs is limited because, on average, Medicare spending accounts for only about 17 percent of an ASC's overall revenue (Medical Group Management Association 2009).[2]

Our results show that beneficiaries have at least adequate access to care in ASCs, although there is some variation among subgroups of beneficiaries (see text box). In addition, ASCs have adequate access to capital, and Medicare payments to ASCs have grown strongly. Together, these measures suggest that payment rates have been at least adequate.

Beneficiaries' access to care: Supply of ASCs and volume growth indicate access is adequate

Increases in the number of Medicare-certified facilities and volume of services provided to Medicare beneficiaries suggest growing access to ASCs. This growth may be beneficial to patients and physicians because ASCs can offer them convenience and efficiency relative to HOPDs—the sector with the greatest overlap of surgical services with ASCs. For patients, ASCs can offer more convenient locations, shorter waiting times, and easier scheduling relative to HOPDs; for physicians, ASCs may offer more control over their work environment, customized surgical environments, and specialized staff. In addition, Medicare has lower payment rates and beneficiaries generally face lower coinsurance in ASCs than in HOPDs. Therefore, as long as this growth in ASCs does not lead to inappropriate use of services, the Commission recognizes the benefits that ASCs offer.

Differences in types of patients treated in ambulatory surgical centers and hospital outpatient departments

There is evidence that ambulatory surgical centers (ASCs) treat different types of patients than hospital outpatient departments (HOPDs). ASCs are less likely than HOPDs to serve medically complex patients, Medicaid patients, African Americans, and Medicare beneficiaries who are older or eligible for Medicare because of disability.

Our analysis of Medicare claims from 2009 found that the following groups are less likely to receive care in ASCs than in HOPDs: Medicare beneficiaries who also have Medicaid coverage (dual eligibles), African Americans (who are more likely to be dual eligibles), beneficiaries who are eligible because of disability (under age 65), and beneficiaries who are age 85 or older (Table 5-1).[3,4] The smaller share of disabled and older beneficiaries treated in ASCs may reflect the healthier profile of ASC patients relative to HOPD patients. In addition, the smaller share of African American patients in ASCs relative to HOPDs may be linked to where ASCs and hospitals are located.

Research by the Commission has shown that compared with HOPDs, ASCs treat Medicare patients who are less medically complex, as measured by differences in average risk scores (Medicare Payment Advisory Commission 2003).[5] Under a contract with the Commission, RAND Health compared the characteristics of Medicare beneficiaries who had cataract surgery or a colonoscopy in an ASC with beneficiaries who received these procedures in an

TABLE 5-1

Medicare patients treated in ASCs differ from patients treated in HOPDs, 2009

	Percentage of beneficiaries	
Characteristic	**ASC**	**HOPD**
Medicaid status		
Not Medicaid	86.7%	78.0%
Medicaid	13.3	22.0
Race/ethnicity		
White	88.8	84.9
African American	6.6	10.0
Other	4.6	5.1
Age (in years)		
Under 65	13.3	20.8
65 to 84	79.2	68.4
85 or older	7.5	10.8
Sex		
Male	41.8	43.4
Female	58.2	56.6

Note: ASC (ambulatory surgical center), HOPD (hospital outpatient department). All of the differences between ASC and HOPD beneficiaries are statistically significant ($p < 0.05$). The analysis excludes beneficiaries who received services that are not covered in the ASC payment system.

Source: MedPAC analysis of 5 percent carrier and outpatient standard analytic claims files, 2009.

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From 2004 through 2008, the number of Medicare-certified ASCs increased by 5.8 percent per year. However, the growth rate slowed to 2.1 percent in 2009. This slow growth continued into 2010, as the number of ASCs increased by 0.6 percent to 5,291 during the first three quarters of 2010 (an annual growth rate of 0.8 percent). The relatively slow growth in 2009 and the first three quarters of 2010 may reflect the downturn in the economy that occurred in 2008 and 2009 and the relatively slow recovery from that downturn. The substantial changes to the ASC payment system that occurred in 2008 also may have contributed to the slower growth, as investors may have waited to see how the new system affected the overall ASC market before deciding to open new facilities.

Capacity and supply of providers: Number of ASCs grew rapidly over last several years, but growth has slowed

The number of Medicare-certified ASCs has increased substantially over the last several years. From 2004 through 2009, an average of 307 new facilities entered the program each year, while an average of 66 closed

Differences in types of patients treated in ambulatory surgical centers and hospital outpatient departments (cont.)

HOPD. RAND found that ASC patients were less likely to have certain comorbidities, such as dementia and chronic obstructive pulmonary disease (Sloss et al. 2006). Sicker patients may be treated in HOPDs instead of ASCs because hospitals offer emergency services and access to onsite specialists if complications arise.

According to data from Pennsylvania on all patients, ASCs are less likely than HOPDs to serve Medicaid patients. In 2009, Medicaid patients accounted for 4.1 percent of diagnostic and surgical procedures in ASCs in Pennsylvania, compared with 11.0 percent of procedures in HOPDs (Pennsylvania Health Care Cost Containment Council 2010) (Figure 5-1).[6] Commercially insured and Medicare patients represented a higher share of ASC procedures than HOPD procedures (87.6 percent vs. 79.5 percent). Although the Pennsylvania data may not be nationally representative, national estimates from the National Survey of Ambulatory Surgery (NSAS), conducted by the Centers for Disease Control and Prevention (CDC), also show that ASCs treat a smaller share of Medicaid patients than hospitals. According to NSAS data compiled for the Commission by CDC, ambulatory surgery visits by Medicaid patients accounted for 3.9 percent of total visits to freestanding ASCs in 2006, compared with 8.1 percent of total visits to hospital-based surgery centers.[7]

Several factors could explain why ASCs treat a smaller share of Medicaid patients (including dual eligibles) than HOPDs. A study by Gabel and colleagues suggests that physicians refer their more lucrative patients to ASCs and the less lucrative ones to hospitals (Gabel et al. 2008). This study examined referral patterns for physicians in Pennsylvania who sent most of their

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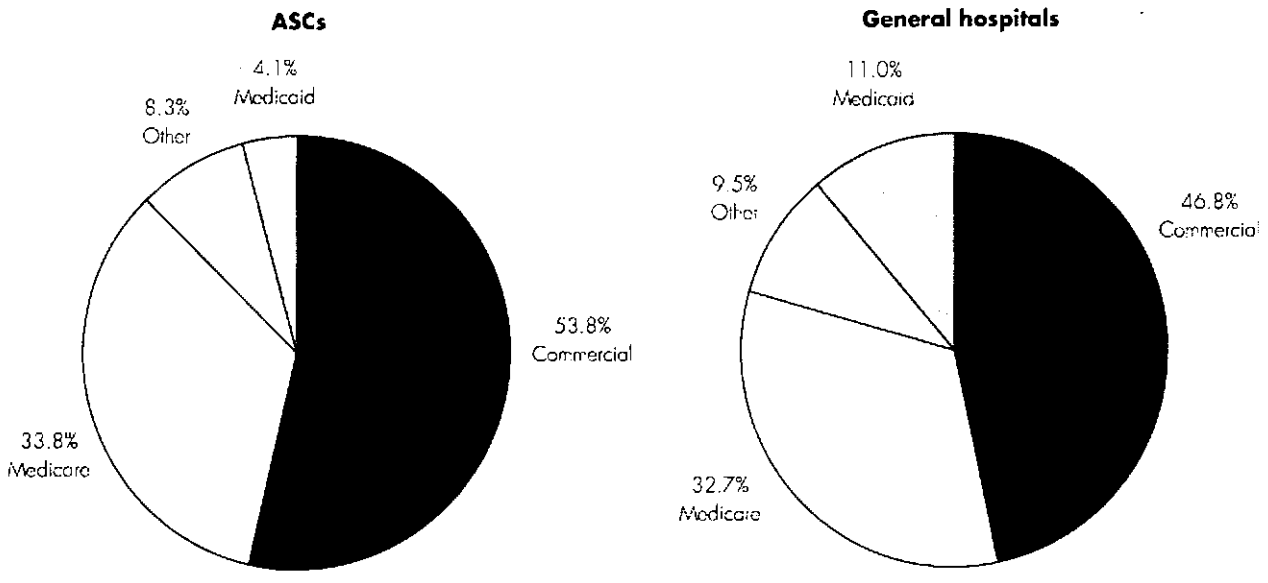
FIGURE 5-1

Distribution of outpatient procedures by payer at ASCs and general acute care hospitals in Pennsylvania, fiscal year 2009



Note: ASC (ambulatory surgical center). Outpatient procedures include diagnostic and surgical services. Other payers include auto insurance, workers' compensation, and other government programs.

Source: Pennsylvania Health Care Cost Containment Council 2010.

Differences in types of patients treated in ambulatory surgical centers and hospital outpatient departments (cont.)

patients to physician-owned ASCs rather than HOPDs. These physicians were much more likely to refer their commercially insured and Medicare patients than their Medicaid patients to a physician-owned ASC. They sent more than 90 percent of their commercial and Medicare patients—but only 55 percent of their Medicaid patients—to an ASC instead of a hospital. ASCs' location decisions may also result in a smaller share of Medicaid patients; for example, they may choose to locate in areas with a high proportion of commercially insured patients. In addition, many state Medicaid programs do not pay Medicare's cost sharing for dual eligibles if the Medicare rate for a service minus the cost sharing is higher than the Medicaid rate for the service (Medicare Payment Advisory Commission 2010a). If states do not pay the cost sharing for ASC services used by dual eligibles, ASCs could be discouraged from treating these patients. ■

or merged with other facilities (Table 5-2). The average annual growth rate during this period was 5.1 percent.

To provide a more complete picture of capacity in ASCs, we also examined the change in the number of operating rooms. From 2003 through 2009, the mean number of operating rooms per ASC increased slightly from 2.5 to 2.6, although the median number of operating rooms remained the same at 2. This finding indicates that the growth in the number of operating rooms has been similar to the growth in the number of ASCs.

Our analysis also indicates that ASCs are concentrated geographically. As of 2009, Arizona had the most ASCs per beneficiary followed by Washington, Idaho, and Maryland, with each state having more than 30 ASCs per 100,000 beneficiaries. Meanwhile New York had the fewest ASCs per beneficiary, followed by Vermont and West Virginia, with each state having fewer than 5 per 100,000. In addition, in 2009, most Medicare-certified ASCs were for profit and located in urban areas, a pattern that has not changed over time (Table 5-3, p. 108). Beneficiaries who do not have access to an ASC may receive ambulatory surgical services in HOPDs and, in some cases, in physicians' offices. In addition, beneficiaries who live in rural areas may travel to urban areas to receive care in ASCs.

Steady growth in the number of Medicare-certified ASCs may indicate that Medicare's payment rates have been at least adequate, despite the fact that there were no positive updates to ASC payment rates from 2004 through 2009. However, Medicare payments are not a substantial source of revenue for ASCs. According to a survey conducted by the Medical Group Management Association, Medicare accounted for only 17 percent of ASC revenue, on average, in 2008 (Medical Group Management Association 2009). In addition, other factors have likely influenced the growth in the number of Medicare-certified ASCs:

- Changes in clinical practice and health care technology have expanded the provision of surgical procedures in ambulatory settings.

TABLE 5-2 **Number of Medicare-certified ASCs has grown by 28 percent, 2004–2009**

	2004	2005	2006	2007	2008	2009
Number of centers	4,106	4,404	4,654	4,932	5,151	5,260
New centers	369	355	332	347	273	164
Exiting centers	77	57	82	69	54	55
Net percent growth in number of centers from previous year	7.7%	7.3%	5.7%	6.0%	4.4%	2.1%

Note: ASC (ambulatory surgical center).

Source: MedPAC analysis of Provider of Services file from CMS, 2009.

TABLE 5-3 **Most Medicare-certified ASCs are urban and for profit**

ASC type	2004	2009
Urban	87%	88%
Rural	13	12
For profit	96	96
Nonprofit	4	3

Note: ASC (ambulatory surgical center). Numbers may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Provider of Services file from CMS, 2009.

- Medicare began covering colonoscopy for colorectal cancer screening in 1998, increasing beneficiary use of the service in ASCs (and other settings).
- ASCs may offer patients greater convenience than HOPDs in terms of better locations, the ability to schedule surgery more quickly, and shorter waiting times.
- For most procedures covered under the ASC payment system, beneficiaries' coinsurance is lower in ASCs than in HOPDs.[8]
- Physicians may find it more efficient to perform procedures in ASCs because they often have customized surgical environments and specialized staffing.
- Physicians who invest in ASCs can increase their revenue by receiving ASC facility payments. The federal anti-self-referral law (also known as the Stark Law) does not apply to surgical services provided in ASCs.
- Because physicians can probably perform more procedures in ASCs than in HOPDs in the same amount of time, they can earn more professional fees.

Number of services grew during 2004–2009; newly covered services contributed to growth in number of services during 2007–2009

Our examination of growth in service volume in ASCs focused on the number of surgical services provided per FFS beneficiary. We used this measure rather than aggregate service volume because enrollment in FFS Medicare has been declining in recent years due to large increases in Medicare Advantage enrollment. We believe that growth in aggregate service volume would understate the extent to which FFS beneficiaries are receiving care in ASCs. Also, our analysis includes only surgical procedures that are covered under the ASC payment system, even though the ASC payment system now provides separate payment for some radiology services. We limited the analysis to surgical services because before 2008 the ASC payment system provided separate payment only for surgical procedures. From 2004 through 2009, the volume of surgical services per FFS beneficiary increased by an average of 8.1 percent per year (47 percent overall), including a 3.4 percent increase in 2009 over 2008 (Table 5-4).

The 2008 revision to the ASC payment system substantially increased the number of covered services, and these newly covered services contributed 41 percent of the overall volume growth from 2007 through 2009. We evaluated the effect of the increased number of covered services by breaking down the growth in service volume from 2007 through 2009 into two parts: the portion due to surgical services newly covered after 2007 (that is, Medicare began paying for these services in ASCs in 2008 or 2009) and the portion due to surgical services covered in both 2007 and 2009. Our analysis indicates that ASC service volume per FFS beneficiary increased by 6.6 percent per year from 2007 through 2009 (Table 5-4).[9] Services newly covered in 2008 or 2009 accounted for 2.7 percentage points of the increase in service volume per

TABLE 5-4 **Volume of ASC services per FFS beneficiary has continued to grow**

Time period	Average annual volume growth per FFS beneficiary
2004 to 2009	8.1%
2007 to 2009	6.6
2008 to 2009	3.4
Services covered in 2007	2.4
Services newly covered in 2008 and 2009	23.7

Note: ASC (ambulatory surgical center), FFS (fee-for-service).

Source: MedPAC analysis of 5 percent carrier standard analytic claims files, 2004, 2007, 2008, and 2009.

TABLE 5-5 **Most frequently provided ASC services in 2009 were similar in 2007**

Surgical service	2007 Percent of volume	2007 Rank	2009 Percent of volume	2009 Rank
Cataract surgery w/ IOL insert, 1 stage	19.9%	1	18.1%	1
Upper GI endoscopy, biopsy	7.9	2	8.0	2
Diagnostic colonoscopy	5.9	3	4.6	4
Colonoscopy and biopsy	5.5	4	5.5	3
After cataract laser surgery	5.4	5	4.4	5
Lesion removal colonoscopy	4.8	6	4.4	6
Injection spine: lumbar, sacral (caudal)	4.3	7	3.6	7
Inject foramen epidural: lumbar, sacral	3.1	8	3.6	8
Inject paravertebral: lumbar, sacral add on	2.9	9	2.8	9
Inject paravertebral: lumbar, sacral	1.9	10	1.9	11
Lesion remove colonoscopy	1.7	11	1.3	15
Colon cancer screen, not high-risk individual	1.7	12	1.3	16
Inject foramen epidural add on	1.6	13	2.0	10
Upper GI endoscopy, diagnosis	1.5	14	1.3	14
Colorectal screen, high-risk individual	1.4	15	1.6	12
Cystoscopy	1.3	16	1.2	17
Destruction paravertebral nerve, add on	1.1	17	1.4	13
Revision of upper eyelid	0.9	18	1.0	19
Cataract surgery, complex	0.9	19	1.2	18
Inject spine, cervical or thoracic	0.8	20	0.9	21
Total	74.6		70.0	

Note: ASC (ambulatory surgical center), IOL (intraocular lens), GI (gastrointestinal).

Source: MedPAC analysis of 5 percent carrier standard analytic claims files, 2007 and 2009.

FFS beneficiary, while services covered in both 2007 and 2009 accounted for the remaining 3.8 percentage points.[10] Moreover, the volume of surgical services newly covered in 2008 or 2009 increased by 23.7 percent in 2009, but these services were still a small share—5.3 percent—of total ASC volume in 2009.

Although newly covered services contributed much of the growth in service volume after 2007, the services that have historically contributed the most to overall volume continued to comprise a large share of the total in 2009. For example, cataract removal with intraocular lens insertion had the largest volume in both 2007 and 2009, accounting for 20 percent of volume in 2007 and 18 percent of volume in 2009. Moreover, 19 of the 20 most frequently provided services in 2007 were among the 20 most frequently provided in 2009 (Table 5-5). For these 20 services, service volume per FFS beneficiary increased by 3.2 percent per year from 2007 through 2009. However, these 20 services accounted for a smaller share of total volume in 2009 than in 2007: 70.0 percent versus 74.6 percent. The fact that the most frequently provided services make up a smaller share of the total than previously may indicate that ASCs are diversifying their operations in response to the payment and coverage revisions made in 2008.

Evidence that surgical services have migrated from HOPDs to ASCs

The growth in service volume provided in ASCs may reflect, in part, migration of services from HOPDs to ASCs. We compared volume growth for services provided in ASCs with the growth of ASC-covered services provided in HOPDs. We limited this analysis to services that were covered in the ASC payment system in 2004, as the inclusion of services covered in the outpatient

TABLE 5-6 **Volume of surgical services grew faster in ASCs than in HOPDs, 2004–2009**

Measure	Average annual percent change, 2004–2009	
	ASCs	HOPDs
Number of services per FFS beneficiary	6.8%	0.1%
Number of beneficiaries served	3.6	-1.7
Services per beneficiary served	3.1	1.8

Note: ASC (ambulatory surgical center), HOPD (hospital outpatient department), FFS (fee-for-service). To ensure comparability across sectors, the services analyzed consist of the same set of ambulatory surgical services. This set consists of services that were payable by Medicare when provided in an ASC in 2004.

Source: MedPAC analysis of 5 percent carrier and outpatient standard analytic claims files, 2004 and 2009.

PPS in 2004 that became covered in the ASC payment system after 2004 would have biased the results. From 2004 through 2009, the number of ASC-covered surgical services per FFS beneficiary grew by 6.8 percent per year in ASCs but by only 0.1 percent per year in HOPDs, which suggests that these surgical services may have migrated from HOPDs to ASCs during that period (Table 5-6). However, the difference in the rate of growth between ASCs and HOPDs narrowed in 2009: Surgical services per FFS beneficiary grew by 2.4 percent in ASCs compared with 1.1 percent in HOPDs. Therefore, the pace of migration of services from HOPDs to ASCs may be slowing.

Other data also suggest a shift in surgical services to ASCs. In Pennsylvania, ASCs' share of outpatient diagnostic and surgical procedures performed on all patients rose from 10 percent to 33 percent between 2000 and 2009. Moreover, most of the growth in outpatient diagnostic and surgical procedures during those years occurred in ASCs (Pennsylvania Health Care Cost Containment Council 2010).

However, factors other than migration to ASCs may have contributed to the relatively slow growth of surgical services in HOPDs. First, some HOPD services may have migrated to physicians' offices. Second, HOPDs may have found that services not covered under the ASC payment system, such as diagnostic imaging, are more profitable than surgical services. From 2004 through 2009, volume per FFS beneficiary of services not covered under the ASC payment system grew by 4.5 percent annually in HOPDs, compared with only 0.1 percent growth in ASC-covered services in HOPDs.[11]

Assuming there is no change in aggregate service volume, a shift in surgical services from HOPDs to ASCs would slow the growth of program spending because (starting in 2008) the payment rates for all surgical services are lower in the ASC payment system than in the outpatient PPS.[12] Our analysis comparing the number of cataract surgeries with intraocular lens insertion provided in ASCs with those in HOPDs illustrates this point. We found that, from 2004 through 2009, the proportion of these procedures provided in ASCs increased from 59 percent to 69 percent. Meanwhile, the payment rate for these procedures in 2009 was $965 in ASCs compared with $1,605 in HOPDs.

Most ASCs have some degree of physician ownership; physicians' investment in ASCs could give them an incentive to perform more surgical services than they would if they provided outpatient surgery only in HOPDs. This additional volume could partially offset the effect of comparatively lower ASC rates on Medicare spending. Recent studies offer limited evidence that physicians with an ownership stake in an ASC perform a higher volume of certain procedures than nonowning physicians (Hollingsworth et al. 2010, Mitchell 2010, Strope et al. 2009). One study, using a proxy measure of physician ownership of ASCs in Florida, found that physicians who invested in ASCs increased their volume of four common surgical procedures in all settings more rapidly than nonowning physicians (Hollingsworth et al. 2010).[13] Although this study had limitations (it was based on a single state, used a proxy measure of physician ownership, and did not examine whether the additional procedures were inappropriate), it does suggest that the growth in ASCs may have resulted in greater overall volume of surgical procedures and not simply a migration of services

TABLE 5-7 **Medicare payments to ASCs have grown, 2004–2009**

	2004	2005	2006	2007	2008	2009
Medicare payments (billions of dollars)	$2.5	$2.7	$2.8	$2.9	$3.1	$3.2
Medicare payments per FFS beneficiary	$73	$78	$85	$90	$97	$102
Percent change per FFS beneficiary	10.9%	6.8%	8.5%	5.6%	8.1%	5.1%

Note: ASC (ambulatory surgical center), FFS (fee-for-service). Medicare payments include program spending and beneficiary cost sharing for ASC facility services.

Source: CMS, Office of the Actuary.

from one setting to another. Consequently, the reductions in Medicare spending due to lower payment rates in ASCs could be partially offset by a higher overall number of procedures.

Moreover, there is evidence that physician-owned specialty hospitals are associated with higher volume in a market. The Commission found that the entrance of a cardiac hospital in a market was associated with a greater increase in coronary artery bypass graft surgeries than would he expected (Medicare Payment Advisory Commission 2006). Specialty hospitals and ASCs are different, but the relationship between physician ownership and volume of services in specialty hospitals may be similar for ASCs. Because it is probably easier to generate demand for some of the low-risk procedures typically provided in ASCs than for the higher risk procedures furnished in specialty hospitals, the influence of physician ownership on volume may he stronger in ASCs than in specialty hospitals.

Providers' access to capital: Growth in number of ASCs and ASCs' financial performance suggest adequate access

Owners of ASCs require capital to establish new facilities and upgrade existing ones. The change in the number of ASCs is the best indicator available of ASCs' ability to obtain capital. The number of ASCs continued to increase in 2009, although at a slower rate than in prior years (Table 5-2, p. 107). The downturn in credit markets that occurred in the latter part of 2008, the economic slowdown that occurred in 2008 and 2009, and the sluggish pace of the economic recovery likely reduced providers' access to capital and may have had a role in slowing the growth in the number of new ASCs. Because these economic changes were unrelated to changes in Medicare payments, changes in access to capital in 2009 may not be a good indicator of Medicare payment adequacy. In addition, Medicare accounts for a relatively small share of ASCs' overall revenue, and thus other factors may have a larger impact on access to capital for this sector.

Data on the financial performance of publicly traded ASCs also provide evidence of the sector's access to capital. From 2009 through 2010, earnings per share (EPS) of stock were expected to be largely unchanged for one of the two publicly traded ASC chains (Deutsche Bank 2010a). EPS for the other publicly traded chain was projected to fall by 8 percent from 2009 through 2010, but it is expected to increase by 11 percent in 2012 (Deutsche Bank 2010b). The earnings produced by these ASCs are one source of capital they can use to establish new facilities or expand existing ones. We caution, however, that the publicly traded ASC chains represent only 4 percent of all Medicare-certified ASCs, so their growth in earnings may not be indicative of the ASC industry.

Medicare payments: Payments have increased rapidly

In 2009, ASCs received about $3.2 billion in payments from Medicare and beneficiaries' cost sharing (Table 5-7). From 2004 through 2008, spending per FFS beneficiary increased by an average of 7.2 percent per year and by 5.1 percent in 2009. From 2007 through 2009, spending per FFS beneficiary increased hy 6.6 percent per year, with services newly covered after 2007 accounting for 2.4 percentage points of that increase; services covered in both 2007 and 2009 accounted for the remaining 4.2 percentage points.

Earlier, we showed that services newly covered after 2007 accounted for 41 percent of the service volume growth from 2007 through 2009. Some may be concerned that payment rates for these newly covered services are inadequate when they are equivalent to the nonfacility practice expense amount from the MPFS. However, the

growth in spending and volume in 2009 suggests that ASC payment rates for these newly covered services were at least adequate. It is plausible that ASCs will furnish more of the newly covered services in succeeding years as more ASCs modify their operations to furnish those services. As evidence, the volume of services that were newly covered after 2007 increased by 23.7 percent in 2009 (these services still represented a small share—5.3 percent—of total ASC volume in 2009).

How should Medicare payments change in 2012?

Our payment adequacy analysis indicates that the supply of Medicare-certified ASCs has increased, beneficiaries' use of ASCs has increased, and access to capital has been adequate. In addition, CMS increased the ASC conversion factor by 1.2 percent in 2010 and by 0.2 percent in 2011. The update for 2011 was based on a 1.5 percent increase in the consumer price index for all urban consumers (CPI–U), which CMS uses to update ASC rates, minus a 1.3 percent deduction for multifactor productivity growth, as mandated by the Patient Protection and Affordable Care Act of 2010 (PPACA). However, our information for assessing payment adequacy is limited because, unlike other facilities, Medicare does not require ASCs to submit cost or quality data.

Update recommendation

As the Commission considers an update to the ASC conversion factor for 2012, several goals should be balanced:

- Maintain beneficiaries' access to ASC services.
- Pay providers adequately.
- Hold down the burden on the beneficiaries, workers, and firms who finance Medicare.
- Maintain the sustainability of the Medicare program by appropriately restraining spending in the ASC sector.
- Keep providers under financial pressure to constrain costs.
- Require ASCs to submit cost and quality data.

Ensuring payment adequacy for ASCs is important to Medicare. The providers with the greatest overlap of surgical services with ASCs are HOPDs, and ASCs can offer advantages over HOPDs that are beneficial to maintain. Medicare's cost per service is lower in ASCs, and beneficiaries generally have lower coinsurance in ASCs than in HOPDs for each procedure covered under the ASC payment system (Government Accountability Office 2006). Also, ASCs likely offer efficiencies to beneficiaries and physicians that are not available in HOPDs. For patients, ASCs can offer more convenient locations, shorter waiting times, and easier scheduling; for physicians, they can offer customized surgical environments and specialized staffing. Thus, it is vital that ASCs be paid adequately to ensure that beneficiaries have this option available.

ASCs may still be in the process of adjusting to the revised payment system that CMS implemented in 2008. However, indications based on data from 2008 and 2009 suggest that the revised payment system is not detrimental and may be beneficial to ASCs' long-term future:

- ASCs' revenue and volume from Medicare-covered services increased from 2007 through 2009, and much of this growth was from services newly covered after 2007.
- The volume of services that were newly covered under the revised payment system increased by 23.7 percent in 2009, but we caution that these services made up only 5.3 percent of total surgical volume in ASCs in 2009.
- The number of ASCs increased in 2008, 2009, and the first three quarters of 2010 despite an economic slowdown and sluggish recovery.

However, to fully assess the effects of the revised payment system and make informed decisions about the ASC update, we need cost and quality data. Cost data are also needed to examine whether an alternative input price index would be an appropriate proxy for ASC costs or an ASC-specific market basket should be developed (Medicare Payment Advisory Commission 2010b). The Commission has previously expressed concern that the market basket index that CMS uses to update ASC payments (the CPI–U) may not reflect ASCs' cost structure (Medicare Payment Advisory Commission 2010b). Quality data would enable CMS to assess ASCs' performance and reward high-performing providers and allow beneficiaries to compare quality among providers.

Medicare does not require ASCs to submit cost or quality data despite the Commission's recommendations in previous reports that ASCs submit such data to CMS (Medicare Payment Advisory Commission 2004, Medicare Payment Advisory Commission 2009, Medicare Payment Advisory Commission 2010b). Although CMS has the authority to require ASCs to submit quality data and to reduce the annual update by 2.0 percentage points for ASCs that fail to do so, the agency has decided to postpone collection of those data to allow ASCs time to adjust to the revised payment system and give CMS time to identify the most appropriate quality measures. CMS has also raised concerns about its resource constraints. We are encouraged, however, that CMS intends to propose an ASC quality measure reporting program in the 2012 proposed rule for HOPDs and ASCs (Centers for Medicare & Medicaid Services 2010).

Those who argue against ASCs submitting cost data contend that ASCs typically are relatively small facilities and have limited resources for supplying the data. The Commission maintains, however, that ASCs are businesses, and businesses typically keep records of their costs for purposes such as filing taxes. Moreover, other small providers, such as home health agencies and hospices, are required to submit cost data to CMS. Because collecting and vetting cost reports from the more than 5,000 Medicare-certified ASCs would be burdensome for CMS and because total Medicare spending on ASCs is small relative to other sectors ($3.2 billion), CMS should streamline the collection of cost data relative to other sectors.

One data collection mechanism could be an annual survey of a random sample of ASCs—for example, a randomly selected set of facilities (with mandatory response). Advantages of a random sample are that all ASCs would not have to furnish data each year and that CMS would have to process data from only a fraction of them. A second mechanism could be cost reports from all ASCs that are more streamlined than hospital cost reports but still have enough information to fully assess the adequacy of ASC payment rates and develop an ASC market basket. An advantage of a streamlined cost report is that ASCs would not face the uncertainty presented by a random sample; each ASC would know that it has to submit a cost report each year. In addition, a complete set of cost data would be available for assessing payment adequacy and developing a market basket. The burden on CMS from auditing cost reports could be reduced by randomly selecting a fraction of all cost reports to audit.

RECOMMENDATION 5

The Congress should implement a 0.5 percent increase in payment rates for ambulatory surgical center services in calendar year 2012 concurrent with requiring ambulatory surgical centers to submit cost and quality data.

On the basis of our payment adequacy indicators, the lack of data on the cost and quality of ASC services, and our concerns about the potential effect of ASC growth on overall program spending, we believe that a moderate update of 0.5 percent is warranted for 2012. The Commission does not support a positive update for ASC services unless the Congress requires ASCs to submit cost and quality data to CMS.

A number of factors indicate that Medicare payments to ASCs have been at least adequate. The Commission has found continued growth in the number of Medicare-certified ASCs as well as fairly strong growth in the volume of services to Medicare beneficiaries, number of beneficiaries receiving care in ASCs, and number of services per beneficiary treated in ASCs. This growth occurred despite no positive updates to ASC payment rates from 2004 through 2009. In addition, the number of services covered under the ASC payment system increased substantially in 2008, providing ASCs with an opportunity to enhance their Medicare revenue. Data suggest that ASCs are adapting to the opportunities presented by the increase in covered services. From 2007 through 2009, the newly covered services contributed 41 percent of the growth in service volume and 37 percent of the growth in spending. Moreover, in 2009, the volume per beneficiary of these newly covered services increased by 23.7 percent. Finally, the growth in the number of ASCs indicates they have at least adequate access to capital. Therefore, although we lack cost and quality data, the indicators we do have suggest that payments have been adequate.

It is vital that CMS begin collecting cost and quality data from ASCs without further delay. The lack of cost and quality data for ASCs is a major reason why our recommended update for ASCs is lower than that of the other two sectors that perform ambulatory surgeries—physicians' offices and HOPDs. Cost data from ASCs would enable analysts to determine the costs of an efficient provider, which would help inform decisions about the ASC update. All else being equal, continued growth in the volume of Medicare services, number of beneficiaries treated in ASCs, and number of Medicare-certified ASCs signal that payments are at least adequate. However, data

on the financial performance of ASCs are important to give the Congress a more complete picture of payment adequacy. Cost data are also needed to examine whether an alternative input price index would be an appropriate proxy for ASC costs or whether an ASC-specific market basket should be developed. Not all ASCs would be required to submit cost information if CMS decided to collect cost data by surveying a random sample of ASCs.

Quality data from ASCs would enable CMS to assess performance and reward providers through payment adjustments based on quality and allow beneficiaries to compare providers and sites of care on the basis of quality. Because CMS will require time to develop a method for collecting cost and quality data and to select quality measures, we recognize that ASCs may not begin submitting data during 2012. However, the Congress should require ASCs to submit these data as soon as possible so that CMS can begin preparing to collect the data. We are encouraged that CMS intends to propose an ASC quality measure reporting program in the 2012 proposed rule for HOPDs and ASCs (Centers for Medicare & Medicaid Services 2010).

We believe that a 0.5 percent increase in ASC payments for 2012 will enable ASCs to continue furnishing services to beneficiaries, thereby maintaining beneficiaries' access to ASC care. Under current law established in PPACA, the update in 2012 for ASCs would be the currently projected increase in the CPI–U of 2.1 percent less the currently forecast multifactor productivity growth of 1.3 percent, for a net update of 0.8 percent (IHS Global Insight 2010).

In developing this recommendation, we considered the advantages that ASCs offer relative to HOPDs. Specifically, ASCs can offer greater efficiency and convenience to patients and providers. In addition, program spending and beneficiary cost sharing are generally lower in ASCs than in HOPDs on a per service basis. Therefore, migration of surgical services from HOPDs to ASCs could reduce aggregate program spending and beneficiary cost sharing.

However, such an impact on aggregate spending and cost sharing is not certain. If ASCs are drawing services away from settings where payment rates typically are lower, such as physicians' offices, the expansion in the number of ASCs would increase Medicare spending. In addition, HOPDs may be increasing their provision of nonsurgical services to offset the migration of surgical procedures to ASCs. Finally, the prevalence of physician ownership of ASCs may give physicians an incentive to perform more surgical services than they would if they provided outpatient surgical services only in HOPDs. Recent studies offer limited evidence that physicians with an ownership stake in an ASC perform a higher volume of certain procedures than nonowning physicians. To the extent that physicians act on this financial incentive, a higher overall number of procedures could offset some of the reductions in program spending and beneficiary cost sharing that result from ASCs' lower payment rates and coinsurance.

Spending

- Because the projected update under current law for 2012 would be 0.8 percent, our recommended update of 0.5 percent would decrease federal spending by less than $50 million in the first year and by less than $1 billion over five years.

Beneficiary and provider

- Because of the growth in the number of Medicare-certified ASCs and the number of beneficiaries treated in ASCs, we do not anticipate that this recommendation will diminish beneficiaries' access to ASC services or providers' willingness or ability to provide those services.
- ASCs will incur some administrative costs to submit cost and quality data. ■

Endnotes

1 The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 eliminated a requirement that the Secretary collect cost data from ASCs every five years.

2 Medicare's share of total ASC revenue varies by type of ASC, ranging from 7 percent for ASCs that specialize in orthopedic procedures to 43 percent for ASCs that specialize in ophthalmology cases (Medical Group Management Association 2009).

3 Because ASCs are disproportionately located in some states (such as California, Florida, Georgia, Maryland, and Texas), we weighted beneficiaries so that in each state the percentage of beneficiaries receiving care in ASCs matched the national percentage. This process prevented idiosyncrasies in states that have high concentrations of ASCs from biasing the results. The analysis excluded beneficiaries who received services that are not payable by Medicare in ASCs.

4 Some of the discrepancies we see between the profile of ASC patients and the profile of HOPD patients are not as large as they appear because of interactions with other variables. For example, Medicare patients who also have Medicaid coverage (dual eligibles) are less likely to receive care in ASCs than in HOPDs. The smaller share of African Americans treated in ASCs is influenced by the fact that they are more likely than other races and ethnicities to be dual eligibles. If we control for differences in the percent of dual eligibles in ASCs and HOPDs, the share of African Americans treated in ASCs rises from 6.6 percent to 7.6 percent, compared with 10.0 percent in HOPDs.

5 Risk scores represent beneficiaries' expected service use given their health status relative to that of the national average beneficiary. For the 10 categories of procedures with the highest share of Medicare payments to ASCs, patients treated in ASCs in 1999 had somewhat lower average risk scores than HOPD patients.

6 These data are based on 262 ASCs and 171 hospitals.

7 The sample of freestanding ASCs in the NSAS includes facilities listed in the 2005 Verispan Freestanding Outpatient Surgery Center Database and Medicare-certified ASCs from CMS's Provider of Services file (Cullen et al. 2009). Thus, at least some of the ASCs in the sample may not be Medicare-certified ASCs.

8 By statute, coinsurance for a service paid under the outpatient PPS cannot exceed the hospital inpatient deductible ($1,132 in 2011). The ASC payment system does not have the same limitation on coinsurance, and for a few services the ASC coinsurance exceeds the inpatient deductible. In these instances, the ASC coinsurance exceeds the outpatient PPS coinsurance.

9 Our analysis of service volume in 2009 included surgical procedures only, as nearly all these procedures had Current Procedural Terminology codes in the range 10000–69999. Our analysis of 2009 service volume did not include nonsurgical services, such as radiology services, brachytherapy sources, drugs, and pass-through devices. In addition, it did not include services that are packaged in 2009.

10 Office-based procedures accounted for most of the growth from newly covered services. These procedures accounted for 2.4 percentage points of the average annual volume increase from 2007 through 2009.

11 In Chapter 3 of this report, we report an average annual growth rate for hospital outpatient services from 2004 through 2009 of 4.3 percent. The growth rate of 0.1 percent for HOPD services that we report in this chapter is much lower because it refers to growth in surgical services covered in the ASC payment system as of 2004. The growth rate reported in Chapter 3 is for all surgical services and all nonsurgical services provided in HOPDs. Surgical services covered in the ASC payment system in 2004 make up only 5.6 percent of total volume in HOPDs.

12 Before 2008, ASC rates could be above, below, or equal to HOPD rates.

13 This study assumed that physicians who performed at least 30 percent of their outpatient surgeries at a given ASC within a year were ASC owners. The four procedures for which there was a significant relationship between ASC ownership and volume in the time series analysis were carpal tunnel release, cataract excision, colonoscopy, and knee arthroscopy. There was no significant relationship for myringotomy with tube placement.

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WORKING
PAPER

Medicare Payment Differentials across Ambulatory Settings

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HEALTH

PREFACE

Separate payment systems are used in each ambulatory setting where care is provided to Medicare beneficiaries: hospital outpatient departments, ambulatory surgical centers and physician offices. For most services, Medicare pays different amounts for the facility-related component of providing comparable services in the different settings. The payment differentials have raised questions about what types of potentially perverse financial incentives exist that could influence a provider's choice of ambulatory setting and whether Medicare is paying a premium for services that could appropriately be provided in a less costly setting (MedPAC, 2004).

The Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services asked RAND to analyze issues related to modifying Medicare payment policy for health care services delivered in various ambulatory settings so that payment rates reflect the costs of delivering the services in each setting. This report describes our findings with respect to the payment and cost differentials for a set of high volume procedures provided in multiple ambulatory settings and discusses potential policy options. The study should be of interest to health policymakers.

This study was funded under HHS contract number 10030019. The research was conducted by RAND Health, a division of the RAND Corporation. A profile of RAND Health, abstracts of its publications, and ordering information can be found at www.rand.org/health. Comments on this report should be directed to Barbara Wynn, the principal investigator (wynn@rand.org).

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SUMMARY

Separate payment systems are used in each ambulatory setting where care is provided to Medicare beneficiaries: hospital outpatient departments (HOPDs), ambulatory surgical centers (ASCs) and physician offices (POs). For most services, Medicare pays different amounts for the facility-related component of providing comparable services in different settings. The payment differentials have raised questions about what types of potentially perverse financial incentives exist that could influence a provider's choice of ambulatory setting and whether Medicare is paying a premium for services that could appropriately be provided in a less costly setting (MedPAC, 2004).

PURPOSE

The Office of the Assistant Secretary for Planning and Evaluation asked RAND to analyze issues related to modifying Medicare payment policy for health care services delivered in various ambulatory settings so that payment rates reflect the costs of delivering the services in each setting. The study had three main objectives: (1) document the payment differentials for equivalent facility services provided to Medicare beneficiaries in different ambulatory settings; (2) inform the policy debate on whether the differentials reflect cost differences that should be accounted for in the payment systems; (3) develop potential policy options to reduce or eliminate inappropriate differentials.

STUDY DESIGN

The study was an exploratory analysis of the issues using a set of high-volume services that are performed in multiple ambulatory settings. We used the selected services to document at the procedure-code level the differences in the 2008 Medicare fee schedule *rates* across HOPDs, ASCs, and POs. These rate comparisons are indicative of the differences in Medicare payments across settings, but do not necessarily provide an accurate measure the *payment* differentials for some procedures because the definition of the items and services that are included in the unit of payment are not necessarily consistent across settings. We supplemented our analysis of Medicare payment differentials with an analysis of private insurance payment differentials for the study procedures. To explore differences in the costs of providing

services across settings, we drew on the available data and methods used in the hospital outpatient prospective payment system (OPPS) and physician fee schedule rate-setting processes to examine procedure-level cost differences in both total estimated cost and the percentage attributable to indirect costs. For ASCs, data limitations required that we take a different approach. We used administrative data and financial reports from ASCs collected by the California Office of Statewide Health Planning and Development to estimate an overall cost level that could be compared to HOPD cost level implicit in the OPPS conversion factor.

After documenting the payment and cost differentials across settings for the study procedures, our next task was to explore the factors beyond the rate-setting methodologies that might account for the differences. Based on a review of earlier studies, we identified four factors in addition to the underlying infrastructure differences that might explain differences in the cost of providing services: patient characteristics, accreditation and regulation, service content, and coding. We used an approach that combined analysis of data where possible and extensively supplemented these data with opinions of professionals providing the services selected for further study. We used a semi-structured interview approach to obtain this information.

Our selection of the study procedures and methodological approach was guided by a technical expert panel. We used the input of panel members and the findings from our interviews and cost analyses to frame the options for potential policy changes and to identify areas where additional research is needed.

SUMMARY OF FINDINGS

With the implementation of payment policy changes in 2008 that set ASC payment rates for most procedures at 67 percent of the amounts paid to ASCs, payment differentials have been largely standardized between HOPDs and ASCs. Some differentials remain because ASC services that are commonly furnished in POs are paid at the lower PO rate. The payment differential between HOPDs and ASCs will change over time due to different conversion factor update methods and separate budget-neutrality adjustments for recalibration of the relative weights. Payment rates for similar services vary widely between HOPD/ASCs and POs, with the size of the differential varying by service. Measuring these

differentials, however, is problematic because of differences in the related services that are packaged into the payment for a given procedure.

Private payer payment differentials are generally less than the Medicare payment differentials between HOPD and PO services. There are also substantial differences in the distribution of some of the study procedures across settings, with a higher percentage of non-Medicare patients receiving services in the PO setting and a lower percentage receiving services in the ASC setting.

Measurement of costs is extremely hampered by available data sources. Using the current fee schedule cost finding methods to compare HOPD and PO costs at the procedure-level, cost differentials between settings are also large, although smaller than the payment differentials. Payment differentials are larger than cost differentials chiefly because of budget neutrality provisions. Using California ASC data, the overall payment differential between HOPD and ASC costs appears roughly comparable to the cost differentials.

Our interviews and literature review found several differences between settings that may justify some of the observed cost and payment differentials. Patient comorbidity is seldom the primary reason for referral to HOPDs; patients receiving the study procedures are typically at low risk for adverse outcomes in all settings. However, patients requiring more resource-intensive procedures (e.g., additional equipment or medications) may be referred more frequently to the HOPD because the payment rate is perceived to be insufficient to cover the costs of providing care in the ASC/PO setting.

The physicians that we interviewed expressed a strong preference of the efficiency of ASCs relative to HOPDs, due to newer physical plants, shorter patient turnover time, dedicated resources in close proximity, as well as differences in "culture" that can promote slowness and inefficiency in the HOPD. The regulatory burden is much lower in POs than ASCs or especially HOPDs. However, HOPDs may benefit from being able to spread costs across more service lines. HOPDs also provide more charity care than ASCs and POs.

DISCUSSION

Our findings suggest that payment differentials between settings are large and variable among procedures to an extent that do not appear justified by factors we examined. What policies could be used to establish payment

differences consistent with "value-based" purchasing concepts? There is no obvious answer to this question. Indeed, the question raises several major policy issues:

- Medicare is paying more for services provided in HOPDs that could be appropriately provided in less resource-intensive settings. As a prudent buyer, when is it appropriate for Medicare pay more than the amount applicable to the "least costly" setting for comparable services?
- Policies that "level the playing field" across ambulatory settings could either decrease payments to HOPDs and/or increase payments to ASCs and POs. Under either approach, services are likely to shift to non-hospital settings and hospitals will face lower revenues for HOPD services that can be appropriately provided in other settings. What is likely to occur if hospitals lose their ability to cross-subsidize services that can only be provided in the hospital setting?
- While the differentials for particular services vary widely, they are an integral part of different payment systems for HOPD/ASC services on one hand and PO services on the other. Is it appropriate to deviate from site-specific fee schedules for particular services?

ADDRESSING ASC/HOPD PAYMENT DIFFERENTIALS

Payment differentials between ASCs and HOPDs have largely been standardized in 2008 but will begin to diverge because of differences in the update policies. There are several "tweaks" to the existing policy that could help to make payments more consistent with cost and maintain the relationship in the future.

- **Determine ASC conversion factor based on cost.** The ASC conversion factor was set at 67% of the OPPS conversion factor in order to be budget neutral with estimated ASC payments under the prior system. If ASC payment levels differ widely from actual ASC costs, it could lead to distortions in where services are provided. State databases containing both utilization and financial data could be used to measure differences in overall cost levels between the two settings.
- **Same update factor for ASC/HOPD.** Since ASCs and HOPDs will use different methods for updating the conversion factor, the payment differential (currently set at 67% on a budget-neutrality basis) will change over time in unpredictable ways. A legislative change to allow the same update factor would eliminate this source of variability in payment differentials between the two settings.
- **Maintain same OPPS/ASC relative weights over time.** The relative weights for OPPS procedures will be updated annually on a budget-neutral basis separately for HOPDs and ASCs. Consolidating the budget neutrality calculations or making the ASC budget neutrality adjustment to the conversion factor rather than the relative weights will preserve a consistent relationship between HOPD and ASC relative weights, but may also require legislative change.

ADDRESSING PO/HOPD PAYMENT DIFFERENTIALS

Payment differentials between POs and HOPDs are products of two different rate-setting approaches and are larger than between ASCs and HOPDs, so that addressing them would require more substantial policy changes. There are

several potential ways that PO/HOPD payments could be made more consistent, including:

- **Same bundling policies for PO as other settings.** A first step toward more consistent payments would be to apply the OPPS bundling rules to the PO setting to the extent practical. This may not be practical for two separate procedures involving two different physicians during the same encounter but should be feasible for items and supplies that are billed by the physician providing the service in a PO, such as contrast media and drugs that are bundled into the OPPS payment.
- **Consistent policies for multiple procedure discounting.** Discounting for imaging services applies only to services provided in the PO. The rationale for discounting is equally applicable to imaging services provided in the HOPD setting.
- **Reduce the differential for commonly performed PO services.** The payment differential between HOPDs and POs could be standardized for appropriate procedures, similar to how HOPD/ASC differentials were standardized. This could be done by blending the rates for HOPDs and POs or by capping the HOPD payment rates at a percentage of PO PE payment rates for services that could appropriately be performed in either setting and are not likely to vary in clinical content across settings. Either method could recognize the higher HOPD cost structure.

AREAS FOR ADDITIONAL RESEARCH

This exploratory study was performed using available data and a small set of study procedures chosen in part to maximize comparability. The interpretation of the results on payment and cost differentials is limited by differences in the comparability of services and methods between settings and by lack of a measure of efficient costs. The generalizability of the results is limited by the sample of study procedures. Further research could address these issues.

- **Comparability of services across settings.** Analysis of administrative data for services provided in physician offices and other non-facility settings is needed to inform the extent to which services that are bundled in the HOPD/ASC settings are separately paid in POs. This information is needed to fully understand the payment differentials between the settings. Analysis of 2008 or later utilization data would provide information on differences in the distribution of procedures within APCs between ASCs and HOPDs and whether there are differences in procedure mix between the two settings after the ASC policy changes are implemented.
- **Comparability of costs across settings.** Comparability of costs across settings could be addressed by conducting resource-based costing studies on selected procedures across all three settings. The findings from the non-Medicare payment analyses could be used to target candidate procedures.
- **Efficiency of care across settings.** While there is general agreement that Medicare should cover the costs of efficiently delivered care, there is no consensus on how to measure efficiency and the extent to which efficiency measures should consider not only cost but quality outcomes (McGlynn, 2008). The issue of whether ambulatory care is more efficiently delivered in one setting than another could be further addressed by expanding the unit of analysis to the episode of care that would include related services and follow-up care.

- **Generalizability**. Because one criterion in selecting the study procedures was that the procedures were unlikely to vary by patient characteristics and clinical content, our findings are not generalizable to the range of services provided in multiple ambulatory settings. Generalizability could be addressed by extending the analyses to more complex and invasive procedures.

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ACRONYMS

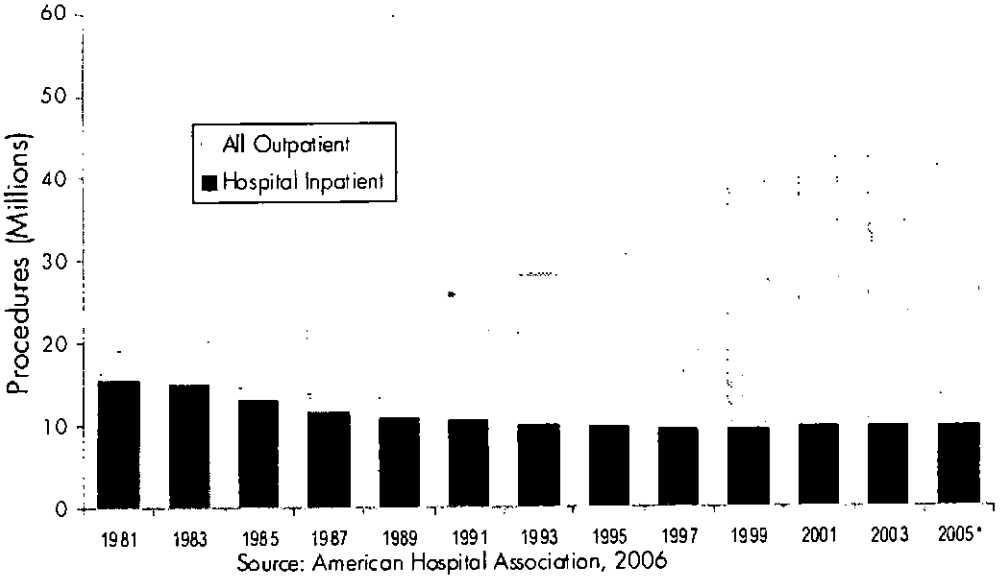
APC	Ambulatory payment classification
AAAHC	Accreditation Association for Ambulatory Health Care
AAAASF	American Association for Accreditation of Ambulatory Surgery Facilities
ASC	Ambulatory surgical center
CCR	Cost-to-charge ratio
CON	Certificate-of-need
CPEP	Clinical Practice Expert Panel
CPT	Common Procedure Terminology
CMS	Centers for Medicare and Medicaid Services
HCC	Hierarchical Condition Category
HOPD	Hospital outpatient department
IDTF	Independent diagnostic testing facility
IOL	Intraocular lens
MRA	Magnetic resonance angiography
MRI	Magnetic resonance imaging
OPPS	Outpatient prospective payment system
PE	Practice expense
PEAC	Practice Expense Advisory Committee
PO	Physician office
RVU	Relative value unit
RW	Relative weight
TJC	The Joint Commission

1. INTRODUCTION

Many health care services are provided in multiple ambulatory settings. For example, a colonoscopy can be performed in a hospital outpatient department (HOPD), ambulatory surgical center (ASC), or physician office (PO). Due in part to improvements in technology and health care delivery, many services that previously required an overnight hospital inpatient stay have migrated to ambulatory care settings. As a result, the volume of ambulatory care procedures has increased while inpatient procedure volume has progressively declined (Figure 1.1). Prospective payment for hospital inpatient care, implemented by Medicare in 1983 and subsequently adopted by other payers, also provided an incentive to provide services outside the traditional inpatient setting.

Separate Medicare payment systems are used in each ambulatory setting. For most services, Medicare pays different amounts for the facility-related component of providing comparable services in different settings (other payers using similar reimbursement schemes would do the same). The payment differentials have raised questions about what types of potentially perverse financial incentives exist that could influence a provider's choice of ambulatory setting and whether Medicare is paying a premium for services that could appropriately be provided in a less costly setting (MedPAC, 2004).

Figure 1.1
Inpatient vs. Outpatient Surgery Volume, 1981-2005



Source: American Hospital Association, 2006

PURPOSE AND OBJECTIVES

The purpose of this study is to analyze issues related to modifying Medicare payment policy for health care services delivered in various ambulatory settings so that payment rates reflect the costs of delivering the services in each setting. The study has three main objectives: (1) document the payment differentials for equivalent services provided to Medicare beneficiaries in different ambulatory settings; (2) inform the policy debate on whether the differentials reflect cost differences that should be accounted for in the payment systems; (3) develop potential policy options to reduce or eliminate inappropriate differentials.

BACKGROUND

Overview of Current Medicare Payment Policy for Ambulatory Services

Medicare payment for physician *professional* services, based on the physician fee schedule, is the same in all ambulatory settings. However, payment differentials exist between settings for the facility-related components of care, such as nursing and other staff salaries, equipment, buildings, and supplies. In this study, when we discuss payment differentials, we are referring to differentials in the *facility* payments between settings. In HOPDs and ASCs, separate payments are made to cover the

facility portion of the service. Payment for the facility costs of services provided in POs (as well as independent diagnostic testing facilities or IDTFs) is made through the practice expense component of the physician fee schedule.

Physician Offices. Each service in the physician fee schedule is assigned relative value units (RVUs) for three components: physician work, practice expense (PE), and malpractice liability costs. PE RVUs are based on the costs of resource inputs used in providing a service including facility rent, non-physician personnel labor, equipment, and supplies. The estimates of resource inputs used for each procedure were originally provided by the Clinical Practice Expert Panel (CPEP). The CPEP estimates for most procedures have been refined based on supplemental data and recommendations of the Practice Expense Advisory Committee (PEAC). A revised methodology for calculating PE RVUs was adopted in 2007 and is being implemented over a four-year transition.

PE RVUs are calculated separately for the same service provided in facility (e.g., HOPD, ASC) and non-facility (e.g., PO, independent diagnostic testing facility such as a freestanding imaging center) settings since separate facility payments to an HOPD or ASC may cover many expenses that a physician incurs in a non-facility setting. PE payments are made for services provided in the facility setting because physicians use some of their own resources in delivering services in a facility, including pre- and post-procedural care and administrative expenses (e.g., scheduling and billing costs).

Hospital Outpatient Departments. The OPPS uses an ambulatory payment classification (APC) system to group clinically coherent sets of procedures that require similar resources. The service or item with highest median cost in an APC may not be more than twice as costly as the service or item with the lowest median cost in that APC, subject to certain exceptions (the "2 times rule"). Each APC has a relative weight based on the median cost for the procedures in the group relative to the median cost for a mid-level clinic visit. Costs are determined using data from hospital Medicare claims and cost reports. APC groupings and relative values are updated annually based on the most recent available data and recommendations of the APC Advisory Committee.

Payment is based on the APC relative weight multiplied by a dollar conversion factor and is adjusted for differences in wage levels across

geographic areas. Within each APC, payments for services and items that are considered an integral part of the primary procedure are packaged into the payment for the primary procedure. Separate payments are made for:

- Corneal tissue acquisition costs
- Brachytherapy sources furnished before July 1, 2008[1]
- Blood and blood products
- Expensive drugs (those with a per day cost of $60 or more in 2008)
- Certain new technology drugs, biologicals, and devices

Ambulatory Surgical Centers. Medicare coverage for services provided by an ASC is limited to items and services that are an integral part of a surgical procedure that does not pose significant safety risk when performed in an ASC and is not expected to require an overnight stay. Beginning in 2008, Medicare expanded the list of approved surgical procedures and revised the payment system to parallel the OPPS. [2] ASCs are paid using the OPPS APCs. The 2008 APC relative weights are the same as those under OPPS. The 2008 conversion factor (calculated to result in aggregate payments under the new system equal to aggregate payments under the old rate methodology) equals 67% of the OPPS standard conversion factor. The hospital wage index is used as the geographic adjustment factor and is applied to 50 percent of the standard payment. Because the labor-related share for HOPDs is 60 percent under the OPPS, the geographic-adjusted conversion factor deviates from 67% of the OPPS rate at the MSA-level. In addition, the APC relative weights used for OPPS and ASC payment will diverge in the future because the annual budget neutrality calculation used in recalibrating the relative weights will be performed separately for HOPDs and ASCs. The ratio between the OPPS and ASC conversion factors will also change in the future because of different conversion factor update methodologies (consumer price index update for ASCs vs. hospital market basket update for OPPS).

Prior to 2008, the approved list of ASC procedures excluded procedures that are commonly performed in a PO. These procedures are now covered when performed in an ASC but the ASC payment rate is capped at the non-facility practice expense payment amount in the physician fee schedule. The purpose of

[1] The Medicare Medicaid, and SCHIP Extension Act requires Medicare to pay hospital outpatient departments for brachytherapy sources at charges adjusted to costs for sources furnished before July1, 2008.

[2] There is a four-year transition from the old payment system to the new payment system for procedures that were on the approved list in 2007.

the cap is to reduce the incentive to convert POs to ASCs or to move office-based surgery into ASCs. Even with the cap, CMS estimates that 15 percent of surgical procedures will move from POs to ASCs (CMS, 2008).

If a non-covered service (such as a procedure on the HOPD "inpatient only" list) is provided in an ASC, the physician is paid for professional services based on the facility-setting PE. No additional payment is made to either the ASC or the physician for the facility-related costs of providing the service. [3]

Importance of Payment Differentials

The payment differentials between HOPDs, ASCs, and POs could simply be artifacts of the unique ways by which each payment system was developed and may not reflect actual differences in the cost of providing services (Wynn, 2004). Adding to the uncertainty is the fact that in some cases, the various care settings are virtually indistinguishable: a freestanding ASC may be similar to an outpatient surgical center that is part of a hospital, or it may closely resemble a PO. Some hospital systems have purchased POs and operate them as provider-based outpatient clinics.

The financial incentives created by payment differentials could potentially lead to two main types of unintended consequences that would be of concern. First, Medicare costs (as well as beneficiary cost sharing) might be increased by a lack of efficiency in payment for ambulatory care services. Second, the quality of care could potentially be decreased by inappropriate delivery of some services in ASCs and POs, where there is less capacity compared to hospitals to address serious complications that might arise. The extent to which either of these unintended consequences is occurring is not clearly understood. The recent rate of increase in the volume and costs of ambulatory care services provided to Medicare beneficiaries (MedPAC, 2006) highlights the importance of efficient payment arrangements for high-quality ambulatory care.

Different factors may account for cost differences across ambulatory settings. Patient selection could result in differences in the costs of delivering the same procedure in different settings. For example, physicians

[3] This policy was effective in 2008. Previously, the physician payment for services that were not ASC covered-services was based on the PE for the non-facility setting.

may decide to perform procedures that are approved in multiple settings in an HOPD if the patient is determined to be at high risk for complications. Procedures may be more costly to deliver if patient risk factors, such as comorbidities and age, require more careful or intensive treatment. There may also be differences in the clinical content of the procedure between settings. Differences in infrastructure costs and regulatory requirements among the three care settings may also lead to differences in the costs of procedures.

Reducing Payment Differentials: A Brief History

The appropriateness of the payment differentials between ambulatory settings has been a long-standing Medicare payment policy issue. Under the prior cost-based reimbursement system for hospital outpatient services, blended payment rates applied to surgical procedures and to radiology and other diagnostic tests based on a the hospital's aggregate Medicare costs for these services and Medicare's payment rates for similar services in other ambulatory settings. Reducing differences in payment across ambulatory settings was an articulated policy goal when the hospital outpatient prospective payment system (OPPS) was being developed (Wynn, 2005). Nevertheless, when the system was actually implemented in 2000, the blended payment rates were dropped and with a few notable exceptions, payment for services provided in multiple ambulatory settings are based on different methods of estimating the costs of providing services in each setting. The major exceptions are:

- A single fee schedule applies to clinical diagnostic laboratory tests furnished by HOPDs, POs, and independent diagnostic clinical laboratories;
- Durable medical equipment, prosthetics, and orthotics furnished under Part B are paid under the same fee schedule;
- A single fee schedule applies to outpatient therapy services (physical therapy, occupational therapy, and speech-language pathology).

Because hospitals are assumed to have a higher cost structure than ASCs or POs, Medicare payments for most procedures are higher when they are furnished in HOPDs than in other ambulatory settings. Provisions in the Deficit Reduction Act of 2005 addressed particular situations where this has not been the pattern:

- Section 5102 capped the "technical" component of the physician fee schedule for imaging services (such as X-rays and magnetic resonance imaging) performed in POs and independent diagnostic testing facilities at the rates paid to HOPDs;

- Section 5103 capped the ASC rate for ambulatory surgery under the prior payment system at the rate paid to HOPDs.

OVERVIEW OF DATA AND METHODS

Our study involves an exploratory analysis of the issues using a set of high-volume services that are performed in multiple ambulatory settings. The services (which we defined by APC) and the method we used to select them are described in the next section. We used the selected services to document at the procedure-code level the differences in the 2008 Medicare fee schedule *rates* across HOPDs, ASCs, and POs. These rate comparisons are indicative of the differences in Medicare payments across settings, but do not necessarily provide an accurate measure the *payment* differentials for some procedures because the definition of the items and services that are included in the unit of payment are not necessarily consistent across settings. We reviewed Medicare policy instructions and coding guidance to identify where there may be comparability issues. However, we did not adjust the rate comparisons because doing so requires analyses of claims data that are beyond the scope of this study. We supplemented our analysis of Medicare payment differentials with an analysis of private insurance payment differentials for the study procedures. Our data source was Thomson Medstat's MarketScan® Database of commercial insurance claims in 2005.

To explore differences in the costs of providing services across settings, we drew on the available data and methods used in the OPPS and physician fee schedule rate-setting processes to examine procedure-level cost differences in both total estimated cost and the percentage attributable to indirect costs. For ASCs, data limitations required that we take a different approach. We used 2005 administrative data and financial reports from ASCs collected by the California Office of Statewide Health Planning and Development to estimate a cost per relative weight analogous to the OPPS conversion factor.

After documenting the payment and cost differentials across settings for the study procedures, our next task was to explore the factors beyond the rate-setting methodologies that might account for the differences. Based on a review of earlier studies, we identified four factors in addition to the underlying infrastructure differences that might explain differences in the cost of providing services: patient characteristics, accreditation and

regulation, service content, and coding. Although data would be optimal to determine the contributions of each of these factors, in most situations such data were unavailable or their use was infeasible for the current study. Therefore, we used an approach that combined analysis of data where possible and extensively supplemented these data with opinions of professionals providing the services selected for further study. We used a semi-structured interview approach to obtain this information.

Our selection of the study procedures and methodological approach was guided by a technical expert panel that convened at an all-day meeting at the beginning of the study and met once again by phone after our interviews and cost analyses were completed. We used the input of panel members and the findings from our interviews and cost analyses to frame the options for potential policy changes and to identify areas where additional research is needed.

OVERVIEW OF STUDY PROCEDURES

Methodology for selecting study procedures

For the purpose of selecting service categories for further analysis, we first identified three sets of Medicare high-volume services: one for those performed in the HOPD and PO, one for those performed in the HOPD and ASC, and the other for those performed in all three settings. To estimate volume and total payments for Medicare services, we used CMS administrative files[4] containing payment rates and aggregate counts of services for the three settings. The payment rates for procedure selection were based on 2007 Medicare policy (before ASCs were paid on the basis of APCs). We used 2007 APCs to group clinically related services for analysis (for all three settings even though only the HOPD was actually paid in this manner in 2006 and 2007). We then identified APCs for further analysis considering the following criteria:

- High Medicare volume
- Performed at least 10 percent of the time in each of at least two ambulatory settings

[4] The files included two files published with the OPPS Final Rule ("Median Costs for Hospital Outpatient Services by APC Group" and "Addendum A"; two files published with the Physician Fee Schedule ("Utilization" and "Addendum B"); and two files published with ASC payment rates ("Supporting Data" and "ASC HCPCS").

- Services for which the site-of-service payment differential has substantial impact on Medicare expenditures, but with varying sizes of payment differentials because they may lead to different policy alternatives
- Different types of services (e.g., diagnostic procedures, surgical procedures)
- Services with payment differentials that indicate higher payment rates in each of the three settings (HOPD, ASC, and PO) than in the other settings. This criterion is limited in applicability because ASC procedures were capped at the HOPD rate (and are now paid based on 67 percent of the OPPS rate) and the technical component of imaging services paid under the physician fee schedule are capped by the HOPD rate.
- The services are likely to be comparable across settings in terms of patient mix and outcomes. This criterion led to the selection of lower-acuity surgical procedures and non-invasive procedures that typically involve little follow-up.

The final set of study procedures was chosen based on these criteria with input from the project officers and a technical expert panel.

Study Procedures

Sixteen APCs were chosen for analysis (Table 1.1). Within each APC, we selected only those procedures (defined by CPT code) that represented more than five percent of the total volume for all services in the APC in 2006 in order to have a manageable group of procedures. Table 2.1 summarizes the study procedure volume in each setting by APC. Within each APC, there was considerable variation in the frequency each procedure was performed in different settings; the procedure-level data are listed in Appendix A. Of the 16 APCs studied, seven were primarily performed in HOPDs and POs, four were primarily performed in HOPDs and ASCs, and three were performed at least ten percent of the time in each of the three settings. The two drug infusion APCs each have one very high volume procedure that is performed only in the PO setting. When these procedures are excluded, the remaining procedures assigned to APC 440 and APC 441 are performed in HOPDs nine percent and 15 percent of the time, respectively.

Table 1.1
Volume of Selected Procedures in 2006 by APC by Setting

APC	APC Description	Volume of Selected Procedures, 2006	% HOPD	% ASC	% PO
20	Level II Excision/ Biopsy	620,976	14	0	86
22	Level IV Excision/ Biopsy	71,046	52	22	26
41	Level I Arthroscopy	193,635	65	35	1
100	Cardiac Stress Tests	3,246,335	24	0	76
143	Lower GI Endoscopy	2,427,206	55	40	6
158	Colorectal Cancer Screening: Colonoscopy	351,642	50	45	5
206	Level II Nerve Injections	1,019,135	20	20	60
207	Level III Nerve Injections	2,392,645	31	27	42
246	Cataract Procedures with IOL Insert	1,807,569	34	62	5
260	Level I Plain Film Except Teeth	12,913,807	61	0	39
280	Level III Angiography and Venography	356,731	85	0	15
304	Level I Therapeutic Radiation Treatment Preparation	2,479,132	51	0	49
305	Level II Therapeutic Radiation Treatment Preparation	462,987	63	0	37
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast	1,205,887	52	0	48
440	Level V Drug Infusion	1,748,100	2	0	98
441	Level VI Drug Infusion	2,397,055	1	0	99

We considered but after consultation with the technical expert panel decided not to include an evaluation and management service as a study procedure. The lack of standardization in definitions for how HOPD visits are coded is problematic. HOPDs are instructed to develop their own rules to determine the level for an HOPD clinic visit so that there is lack of consistency across hospitals and with PO level visits, for which the physician's professional services determine the practice expense.

ORGANIZATION OF THE REPORT

The remainder of this report is organized as follows. Chapter 2 discusses Medicare payment differentials for the selected procedures and compares them to the differentials in the private insurance sector. Chapter 3 presents estimates of the cost of providing the study procedures in each of the three settings. Chapter 4 discusses potential factors accounting for the cost differentials. Chapter 5 presents policy options for Medicare.

2. PAYMENT DIFFERENTIALS

In this chapter, we first describe the differences in the package of services covered by the units of Medicare payment for ambulatory services that affect the comparisons of payment rates across settings. We then present data on payment differentials in Medicare and compare them to private sector payment differentials for the study procedures.

DIFFERENCES IN PACKAGE OF SERVICES COVERED BY MEDICARE PAYMENT FOR AMBULATORY SERVICES

As noted in Chapter 1, the units of payment used by Medicare for ambulatory care services are APCs for HOPDs and ASCs (except for those ASC services that are paid under the practice expense component of the physician fee schedule) and procedures for POs. Each of these units of payment represents a package[5] of various component services and items. Medicare packaging rules differ between physician offices and HOPD/ASCs. These differences in the units of service are the main methodological limitation in comparisons of payment rates across settings.

Packaging in Hospital Outpatient Department Payments. Until 2008, the OPPS used only "minimal" packaging of services into APC payments. Services and items were packaged if they were considered to be an "integral part" of a major service. For example, anesthesia, surgical supplies, inexpensive drugs (those that cost less than $60 per day in 2008), and the use of recovery and observation facilities were packaged services. Implanted devices and prosthetics were packaged as well. In 2008, CMS increased the number of ancillary and supportive services that are packaged as an integral part of a primary service. The newly packaged services include guidance, image processing, imaging supervision and interpretation, intraoperative services, diagnostic radiopharmaceuticals, contrast media, and observation. However, many services furnished on the same day are still paid separately, including most ancillary services (e.g., imaging, diagnostic laboratory tests, expensive

[5] In this paper, we refer to all of the service components included in a single unit of Medicare payment as "packaged." Sometimes a distinction is drawn between services provided before and after the main service, potentially by different providers in different settings, that are "bundled" into the unit of payment and services that are provided in conjunction with the major service that are "packaged."

drugs (those with per diem costs of $60 or more in 2008) and visits to the emergency department and clinics. In addition, certain new drugs and technologies and the acquisition costs of corneal tissue are paid for separately via "pass-through" payments.

Packaging in Ambulatory Surgical Center Payments. As described in Chapter 1, ASCs are paid only for services that are on the approved list of surgical procedures. With the changes in the ASC payment methodology in 2008, the packaging rules for ASCs generally parallel those used in the OPPS. Minor ancillary services, implanted devices, inexpensive drugs and biologicals are packaged when provided in an ASC to the same extent they are packaged under OPPS (although ASCs receive an additional payment for new technology intraocular lens and HOPDs do not). For device-intensive APCs, the portion of the APC payment attributable to the device is paid the same amount as under OPPS; the remaining service-related portion of the APC payment is paid using the ASC conversion factor (67% of the OPPS conversion factor in 2008). ASCs are paid separately for a covered ancillary service if separate payment is also made under the OPPS and the service is provided on the same day as an integral part of the approved surgical procedure. A covered ancillary radiology service is integral to a primary surgical procedure if it is required for successful performance of the surgery and is performed in the ASC immediately preceding, during, or immediately following the surgery. Payment for the technical component of covered radiology services is capped at the physician fee schedule amount. Corneal tissue acquisition costs are reimbursed based on invoice costs. New drugs and devices that are paid under the OPPS new technology pass-through are paid a contractor-priced rate when furnished by an ASC.

Packaging in Physician Office Payments. Physician office "facility" payments are paid via the physician fee schedule. There are two important differences between HOPD/ASC packaging policies. First, less "packaging" occurs for some PO services that are furnished during the same encounter. Generally, supplies and equipment are bundled into the practice expense component of the fee schedule. Exceptions are pharmaceutical or radiopharmaceutical diagnostic imaging agent, pharmacologic stressing agent, and therapeutic radionuclide that are used in conjunction with diagnostic tests, brachytherapy procedures and therapeutic nuclear medicine procedures. Unlike HOPDs and ASCs where only drugs exceeding the cost threshold are

separately payable, all drugs regardless of cost are separately payable when provided in the PO. Second, payment for surgical services are bundled into a "global surgical period." Each surgical procedure is assigned a global surgical period of 0, 10, or 90 days. All pre-, intra-, and post-operative care provided during the global period by the surgeon, including supplies and treatment for complications and pain, is bundled into a single payment. In the 10 and 90 day post-operative period, the PE component assumes that any follow-up visits occur in the PO regardless of whether the surgical procedure was performed in a facility or PO. Some services, including diagnostic tests, the initial consult to determine the need for major surgery, and unplanned returns to the operating room, are paid separately. Services provided by other physicians during the surgical procedure are also paid separately. As a result, some procedures that are bundled for payment as an integral part of the primary procedure when performed in an HOPD/ASC setting are paid as separate procedures under the physician fee schedule.

The packaging rules for the three payment systems are summarized by type of service and site of care in Table 2.1.

Table 2.1
Summary of Packaging Rules in Medicare Payments for Several Types of Ambulatory Health Services in Hospital Outpatient Departments, Ambulatory Surgical Centers, and Physician Offices

Type of service	HOPD	ASC	PO
Medical visits and procedures	• Services provided on the same day that are integral to the primary procedure are packaged • Most drugs, supplies, and equipment packaged • Drugs above a cost threshold are paid separately with separate pass-through for certain new drugs • Many ancillary services paid separately	• Not approved ASC service; if performed, physician professional services are paid via fee schedule as a facility-setting service	• Integral services are routinely packaged • Injections packaged • Supplies packaged; covered drugs paid separately • Diagnostic tests paid separately
Surgical procedures	• Same policies as for medical visits and procedures • Implanted devices packaged • Separate pass-through payments for certain new devices • Any pre- and post follow-up clinic services separately paid	• Services packaged in HOPD are also packaged in ASC • Minor surgical services that are packaged with a medical procedure are not a covered ASC service • Separate contractor-priced payment for certain new drugs and devices • Any pre- or post visits to ASC not an approved ASC service; if performed in the ASC, physician paid via fee schedule as a facility-setting service • Additional payment for new technology intraocular lenses	• Pre-, intra-, and post-operative care within global surgical period bundled (0 or 10 days post for minor procedure, 90 days post plus 1 day pre for major procedure), including treatment of complications, pain management, supplies • Initial consult to determine need for surgery paid separately • Return to OR paid separately • If performed in PO, implanted device or prosthetic would be paid separately
Imaging	• Same policies as for medical visits and procedures • Imaging process procedures that are an integral part of primary procedure are packaged • Contrast media are packaged	• Ancillary radiology services that are separately payable under the OPPS are separately payable to the ASC based on the lower of the OPPS or physician fee schedule rate only if the services are an integral part of the covered surgical procedure and furnished on the day of the procedure • Other imaging services are not approved ASC service; if performed, physician paid via fee schedule for professional component only	• Most supplies bundled • Contrast media paid separately

Source: Medicare Claims Processing Manual; *Federal Register*.

Implications for Payment Differential Comparisons for Study Procedures

Our comparisons of Medicare payment rates across ambulatory settings are based on a one-to-one comparison at the procedure code level of the fee schedule payment rates in each of the settings. Analysis of administrative data that reflect the incidence of related services is needed to understand the full implications of the different packaging policies on the comparisons. However, we note that the impact will vary across procedures and in some cases may significantly affect the comparison. We provide some examples below of packaging and other policies that affect the comparisons.

APC 41 (Level I Arthroscopy). Because very few arthroscopies are performed on Medicare patients in physician offices, there is no non-facility PE for these services. The Medicare ratio payment differential is based on the ratio of the HOPD payment to the physician fee schedule facility PE payment.

APC 100 (Cardiac Stress Tests).[6] During a cardiac stress test, a patient either walks on a treadmill or is given an intravenous medication that simulates exercise while connected to an electrocardiogram machine. The drug that is administered to "exercise" a patient pharmacologically may or may not be bundled into the APC payment. For example, dipyridamole and adenosine are both vasodilators; the former is bundled while the latter is payable separately when the stress test is performed in an HOPD. The radiotracer that is injected during the simulated exercise portion is considered integral to the procedure and is bundled into the APC payment. The vasodilator and radiotracer are separately payable when the stress test is performed in a PO.

APCs 206 and 207 (Nerve Injections, Levels II and III). Nerve injections typically include a local anesthetic such as lidocaine and an anti-inflammatory drug such are cortisone. Both drugs are inexpensive and are included in the HOPD and ASC payment rates but are separately payable when the injections are performed in a PO. In addition, the nerve injection may be performed under fluoroscopic guidance using contrast media for precise needle placement. When the nerve injection is performed in an HOPD or ASC, payments for the fluoroscopic guidance and contrast material are bundled into the APC payment for the injection. Separate payments are made for fluoroscopic

[6] Unlike most diagnostic tests, different codes are used for cardiac stress tests performed in a facility-setting (CPT code 93017) and in a PO (CPT code 93015). We have assigned the latter code to APC 100 in order to compare payments across settings.

guidance and for the contrast material when the nerve injection is performed in a PO.

APC 246 (Cataract Procedures with IOL Insert). The intraocular lens (IOL) inserted during a cataract procedure is bundled into the APC payment. No distinction is made in the HOPD payment between new technology IOLs and other IOLs. However, an additional $50 payment is made to an ASC when a new technology IOL is inserted. Nearly 5 percent of cataract procedures with IOL insertions are performed in a PO or other freestanding facility. There are no non-facility setting PE RVUs for this procedure and payment is based on the facility-setting PE RVUs when it is performed outside an institutional setting. A separate Medicare fee schedule payment is made for IOLs inserted during cataract surgery in a PO.

APC 280 (Level III Angiography and Venography). Angiography and venography are invasive imaging procedures that use a contrast dye to make the blood vessels/veins visible to an xray. The service begins with vascular catheterization and injection of contrast media followed by the radiology procedure. The services included in this APC are covered only in the HOPD and PO; however, under the new OPPS policies, payment for angiography and venography procedures, including the vascular injection procedure, is bundled into the payment for the primary procedure. A separate OPPS payment is made only if no significant procedure is performed on the same day. The vascular injection and cost of the contrast media are bundled and included in the APC payment for the angiogram but are separately payable when the procedure is performed in a PO. Because of the different bundling policies, the procedure-code level comparison of the payment rates for these services is particularly problematic.

APC 337 (Magnetic Resonance Imaging (MRI) and Magnetic Resonance Angiography (MRA) without Contrast followed by Contrast). Two policies might affect the comparison of the payment rates for these procedures. First, contrast media used during a radiological procedure are bundled into the APC payment but are separately payable when the procedure is performed in a PO (or an IDTF). The implications for payment comparisons depend on the costliness of the contrast material that is used for the procedure. Although the payment for the procedures is capped at the OPPS rate, the limit applies to only to the payment for the procedure and does not take into account the differences in bundling policies. With separate billing for the contrast media, the total

payment for the service may be higher in a PO when a single MRI or MRA is performed. Second, under the physician fee schedule, the technical component is reduced 25 percent if multiple MRI/MRA procedures are performed on contiguous body areas (this reduction is applied before the comparison is made to the OPPS rate). No reduction is made under the OPPS when multiple MRI/MRA procedures are performed.

MEDICARE PAYMENT DIFFERENTIALS FOR STUDY PROCEDURES

Data and Methods

In making the comparisons, we compared 2008 payment rates at the procedure code level without adjustment for differences in bundling policies. Analysis of administrative data to determine the utilization patterns for services provided in POs that are bundled into the APC payments would be needed to make this adjustment.

For ASCs, we used the fully implemented 2008 ASC payment rates rather than the actual 2008 payment rates that reflect the transition policies under the new payment system. Similarly, we used the fully-implemented PE RVUs from the physician fee schedule rather than the actual 2008 PE RVUs that reflect the transition to the revised method to setting the PE RVUs. We used these PE RVUs both to determine the physician payment rate and the rate applicable to ASC services that are paid under the physician fee schedule.[7] Where applicable, we limited the physician payment for radiology services to the OPPS payment rate. We used the total PE payment the physician receives for performing services in a PO (i.e., the non-facility setting PE) to compare to the facility payments to hospitals and ASCs. An alternative approach would have been to compare the difference between the physician fee schedule payments for a service in a facility vs. non-facility setting to the HOPD and ASC payments. The difference represents the additional payment that a physician receives for performing the service in the PO and arguably could be more comparable to facility payments in ASCs and HOPDs because it does not include any practice expense associated with the professional services.

The APC-level ratios in the sections that follow are weighted averages, using the total procedure volume across HOPDs, ASCs, and POs as the weight to

[7] The physician fee schedule payments are based on the rates effective January 1, 2008.

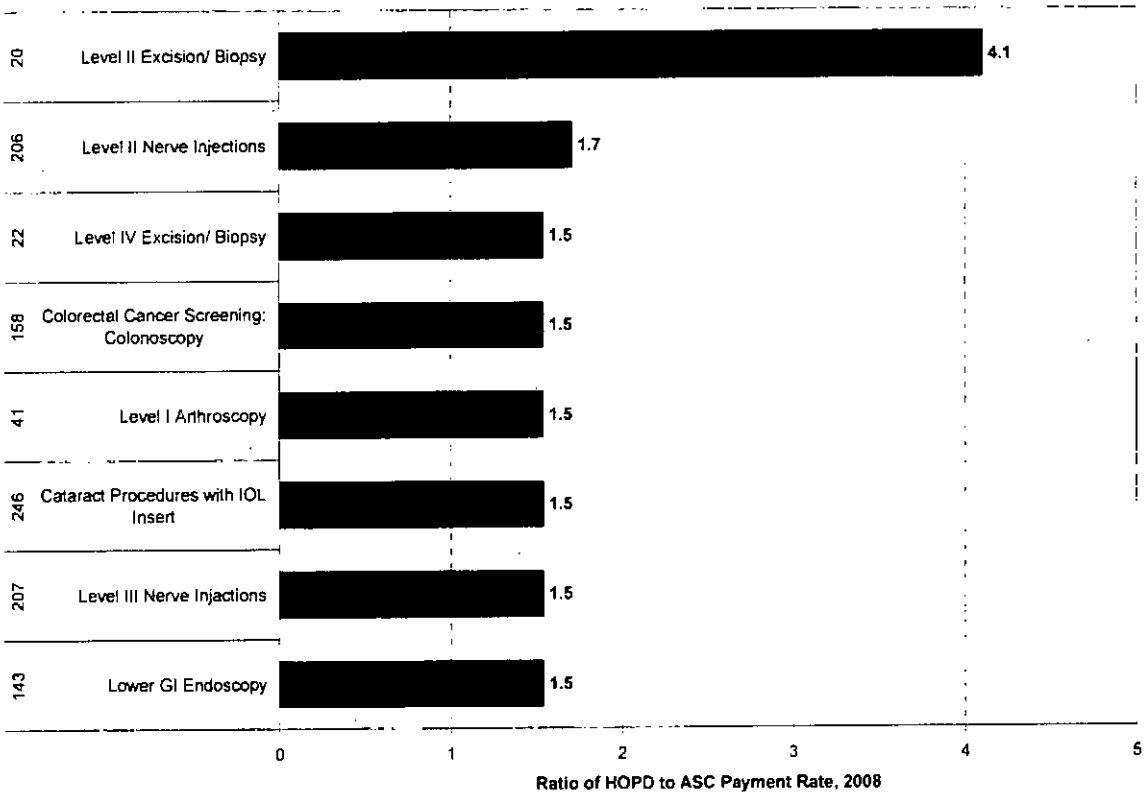
standardize for inter-procedure differences in volume between the settings. The payment differentials vary within APCs by procedure; the procedure-level data are listed in Appendix A. The study procedures were selected based on the 2007 APCs and we summarize the findings based on the 2007 APCs. Some procedures were reassigned under the OPPS to a different APC in 2008. In particular, most study procedures assigned to APC 280 in 2007 were reassigned to APC 279 in 2008. Our findings are based on the 2008 payment rates for the selected procedures, so that the average 2008 HOPD payment rate shown for APC 280 is a mix of OPPS rates for APC 279 ($1839.41) and APC 280 ($2847.85).

The ratios measure the payment differential between the two settings. The closer the ratio is to 1.0, the smaller the payment differential is between the two settings. For example, a ratio of 1.5 for the HOPD/ASC setting means that the average HOPD payment is 50 percent higher than the average ASC payment.

Hospital Outpatient Departments Compared to Ambulatory Surgical Centers

The Medicare payment differential in 2008 between HOPDs and ASCs for the study procedures is summarized in Figure 2.1 by APC. In 2008, ASCs are paid for most study procedures that are primarily performed in ASCs and HOPDs at 67% of the OPPS rate. For this reason, the 2008 payment differential for most APCs is 1.5. Two APCs - 20 (Level II-Excision/Biopsy) and 206 (Level II Nerve Injections) - included procedures for which ASCs are paid at the PO rate. The payment differentials are higher for these two APCs.

Figure 2.1
Medicare Payment Rates for Selected Procedures in Hospital Outpatient Departments and Ambulatory Surgical Centers, 2008



Hospital Outpatient Departments Compared to Physician Offices

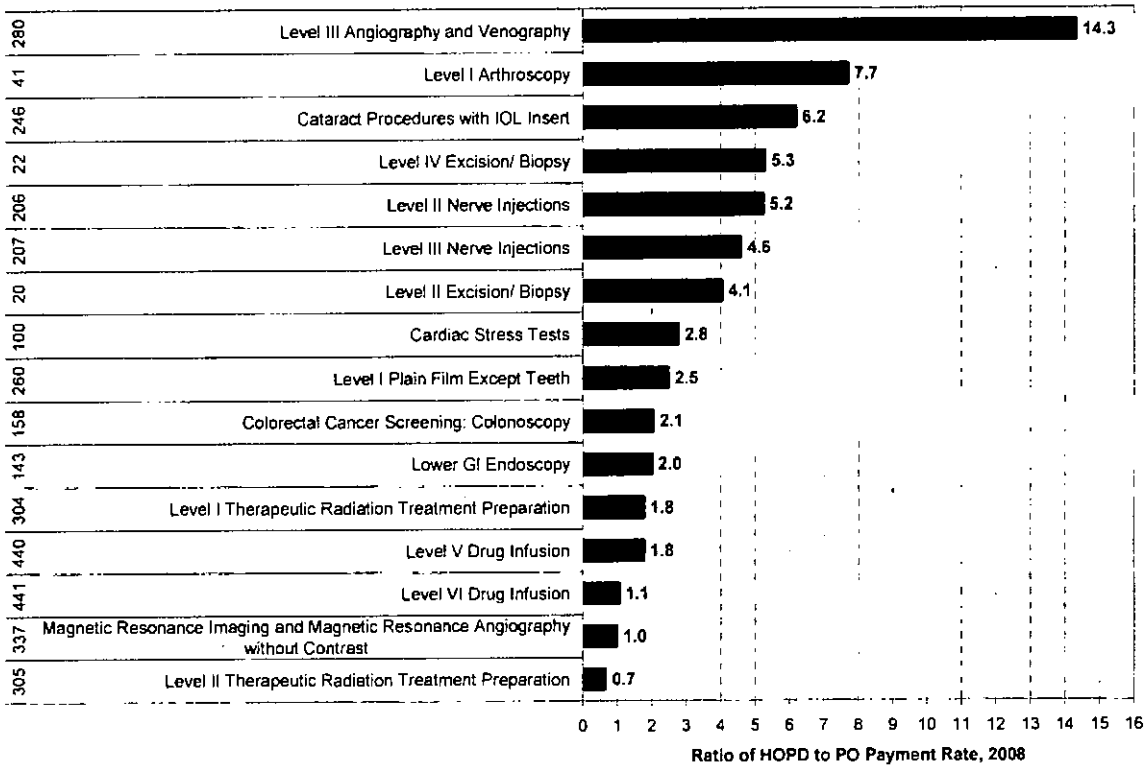
The Medicare payment differential between HOPDs and POs for the study procedures without adjustment for differences in packaging rules is summarized in Figure 2.2 by APC.

The payment differentials between HOPDs and POs are much larger than between HOPDs and ASCs. The size of the differential varies widely between APCs. HOPD payment ranges from a maximum of 14.3 times the PO payment (APC 280, Level III Angiography and Venography) to a minimum of 0.7 times the PO payment (APC 305, Level II Therapeutic Radiation Treatment Preparation). As noted in the preceding section, the payment comparison for APC 280 is particularly problematic because of the differences in packaging rules. Using CPT code 75671 (Angiography, carotid, cerebral, unilateral, radiological supervision and interpretation) as an example, the PE for the technical component when the service is provided in a non-facility setting is $169.87

compared to $2847.85 under the OPPS. However, the separate PE payment for inserting a needle or intracatheter into the carotid artery (CPT code 36100) adds an additional $428.48 to the physician payment, producing an adjusted ratio of 4.8 ($2,847.85/$598.35) for this particular procedure before consideration of the additional PO payment for contrast media.

The HOPD payment rate is higher than the PO rate for 14 of the 16 APCs. The PO rate is higher only for APC 305. Reflecting the cap on radiology procedures, the PO rate for APC 337 (Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast followed by Contrast) is the same as the HOPD rate before consideration of the payment policy differences discussed in the preceding section; without the cap, the average HOPD payment would have been less than the PO rate (0.8).

Figure 2.2
Medicare Payment Rates for Selected Procedures in Hospital Outpatient Departments and Physician Offices, 2008

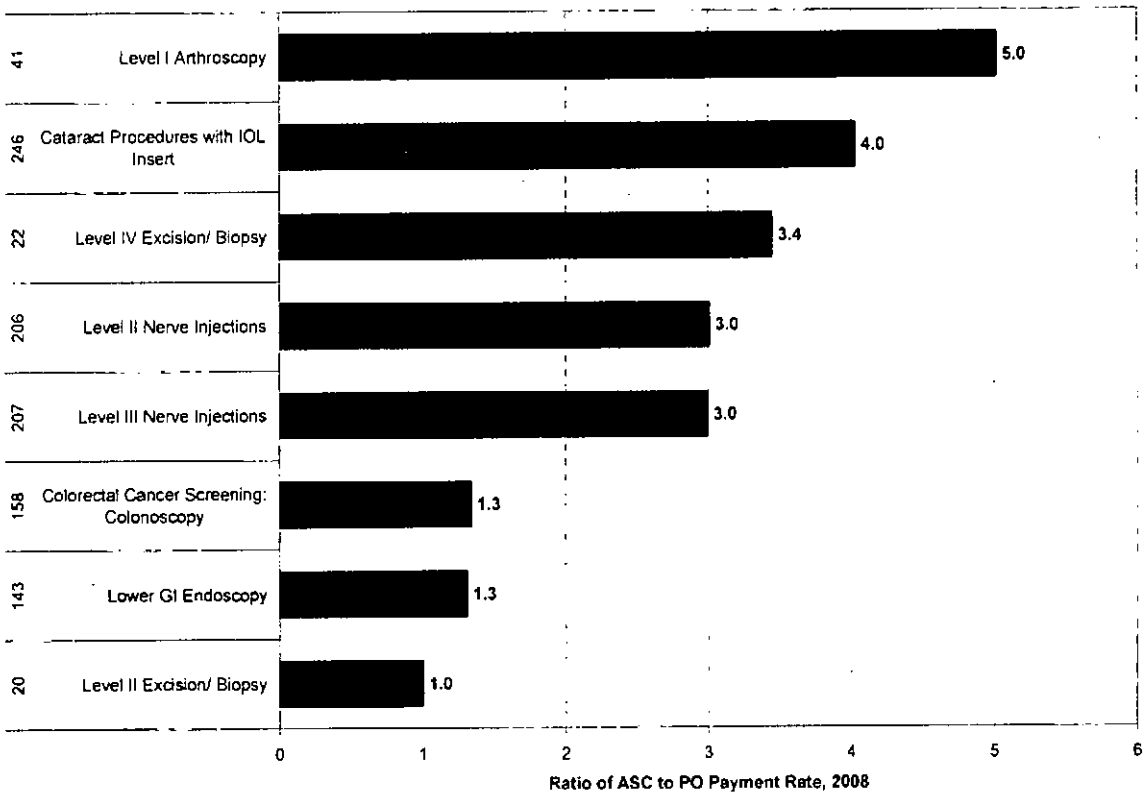


Ambulatory Surgical Centers Compared to Physician Offices

The Medicare payment differentials between ASCs and POs for the study procedures without adjustment for differences in packaging rules are summarized in Figure 2.3 by APC.

The PO payment rates for the two procedures with the largest differentials are based on a facility-setting PE. The contrast between an ASC payment that is 3.4 times the PO payment for APC 22 (Level IV Excision/Biopsy) and is the same as the PO payment for APC 20 (Level II Excision/Biopsy) reflects the difference between ASCs being paid based on the OPPS methodology (APC 22) and the Medicare physician fee schedule (APC 20). The ASC payment rate is 3.0 times the physician payment rate for both APCs for nerve injections. The PE payment for the technical component of fluoroscopic guidance (CPT code 77003) adds $23.61 to the PO PE payment, resulting in adjusted payment differential ratios of 1.9 and 2.4 for APC 206 (Level II Nerve Injections) and APC 207 (Level III Nerve Injections), respectively, before taking into account a separate payment for contrast media. The ASC payment rate is 1.3 times the PO payment rate for both APC 158 (Colorectal Cancer Screening Colonoscopy) and APC 143 (Lower GI Endoscopy).

Figure 2.3
Medicare Payment Rates for Selected Procedures in Ambulatory Surgical Centers and Physician Offices, 2008



COMMERCIAL INSURANCE PAYMENT DIFFERENTIALS

In this section, we describe our analyses comparing Medicare's payment for the facility component of the study procedures to the average payments for facility services made by commercial insurers used by large employers. Medicare's regulated prices are determined through payment formulas that may not reflect the market prices for services. Commercial insurance average payments for the facility component serve as a benchmark for market prices. We were particularly interested in whether market-based prices differentiate between settings for similar services since those findings could inform policy choices regarding Medicare site-of-service differentials. We investigated patterns in the number of services, total payments, and average payments across HOPD, ASC and physician offices at the CPT-code level but summarize the results by APC.

Data and Methods

Thomson Medstat maintains a proprietary dataset that contains commercial health claims for over 30 million employees and their dependents. The MarketScan® Database for outpatient services includes, among other items, the primary procedure (CPT code plus modifier), the number of procedures performed, the place of service, the type of claim (facility or professional) and the paid amount (prior to application of patient cost-sharing amounts). We limited our data set to 2005 claims for the non-Medicare population that reported one of the study procedures as the primary procedure and were paid on a fee-for-service basis. We excluded encounter claims and claims for Medicare beneficiaries (both fee-for-service and encounter). Because a claim may include more than one procedure, we selected only records that reported a single procedure. However, the packaging policies are likely to be more inclusive for commercial insurance plans than for Medicare (e.g., laboratory tests are likely to be included in the claims) so we did not make a direct comparison of Medicare payment rates to the non-Medicare average payment amounts. Instead, we computed payer-specific payment ratios between settings.

We used the type of claim and place of service codes to determine where each service was provided.

- We defined HOPD claims as any facility claims that reported the place of service as outpatient hospital or emergency department.
- We defined ASC claims as any facility claims that reported the place of service as ambulatory surgical center.
- We defined PO claims as any claims that reported the place of service as office or independent clinic. We used the modifier to identify the technical and professional component of diagnostic tests. We eliminated any claims with a professional services only modifier.

We assigned each claim to a Metropolitan Statistical Area based on the state and county in which the provider was located. We standardized for geographic differences in the costs of providing services using the hospital wage index for HOPD and ASC services and the geographic adjustment factor for PO services. For each procedure code, we generated counts of the number of services and total payments by site of service by geographic area. We calculated an average payment only if there were at least ten procedures performed in a given setting. For physician services (other than those for technical component only), we needed to allocate the payment between the facility and the professional/malpractice components. To do so, we applied the

ratio of the PE RVUs to total RVUs under the 2008 Medicare fee schedule to the total payment.

The APC-level payment ratios are weighted averages, using the total Medicare procedure volume across HOPDs, ASCs, and POs as the weight to standardize for inter-procedure differences in volume between the settings and populations. The payment differentials can vary by procedure; the procedure-level data are listed in Appendix B for HOPDs and POs. [8] We are not reporting the payment differentials for ASCs because the ratios of the average HOPD payment to the average ASC payment were unreasonably low for many procedures, suggesting that even though we selected only facility claims, the ASC claims may include the payment for professional services as well as facility services.

We also explored how much competition there was between settings in a given geographic area. Appendix B provides information by procedure code on the number of markets that had at least 10 procedures provided in a particular setting.

Results

Distribution of Services across Ambulatory Settings

In total, there were 1,318,038 commercial fee-for-service claims that reported one of the study procedures as the primary procedure (Table 2.2). Generally, the HOPD is used less frequently as the site of service in the non-Medicare population than in the Medicare population and the PO is used more frequently. Across all study procedures, 29.0 percent and 64.9 percent of the non-Medicare procedures were performed in the HOPD and PO, respectively; in comparison, 42.9 and 47.7 percent of the Medicare procedures were performed in the HOPD and PO, respectively. The non-Medicare population had 6.0 percent of procedures performed in an ASC compared to 9.5 percent for the Medicare population. However, the higher Medicare ASC percentage is largely attributable to the Medicare high-volume APC 100 (Cataract procedure with IOL insertion), which is performed 61.5% of the time in an ASC; if this APC is excluded, the percentage of Medicare procedures performed in an ASC falls to 6.5 percent but remains higher than the non-Medicare percentage. Arthroscopy

[8] The study procedures were selected based on the 2007 APCs. As noted previously, some procedures, particularly in APC 280, were reassigned to a different APC in 2008.

procedures were performed in ASCs more often for the non-Medicare population than the Medicare population. Nerve injection procedures were performed in POs more often for non-Medicare population; the Medicare population had a higher percentage of these services performed in ASCs or HOPDs.

Table 2.2
Number and Distribution of Non-Medicare Services and Distribution of Medicare Services by APC

		Non-Medicare Services				Medicare Services		
APC	Description	Number	% HOPD	% ASC	% PO	% HOPD	% ASC	% PO
20	Level II Excision/ Biopsy	51,883	4.2	1.8	94.0	14.4	0.0	85.6
22	Level IV Excision/ Biopsy	5,821	33.4	22.8	43.7	51.8	21.7	26.4
41	Level I Arthroscopy	14,413	49.9	44.0	6.2	64.6	34.9	0.6
100	Cardiac Stress Tests	33,638	75.6	0.0	24.3	75.6	0.0	24.4
143	Lower GI Endoscopy	128,267	45.5	36.6	17.8	54.7	39.8	5.5
158	Colorectal Cancer Screening: Colonoscopy	2,366	43.8	43.9	12.3	50.2	45.3	4.6
206	Level II Nerve Injections	14,736	5.9	7.3	86.8	24.6	17.9	57.6
207	Level III Nerve Injections	90,960	19.1	17.6	63.3	31.0	27.2	41.8
246	Cataract Procedures with IOL Insert	11,285	33.9	49.9	16.2	33.6	61.5	4.9
260	Level I Plain Film Except Teeth	802,800	27.4	0.1	72.5	60.6	0.0	39.4
280	Level III Angiography and Venography	1,117	82.2	1.5	16.3	86.6	0.0	13.4
304	Level I Therapeutic Radiation Treatment Preparation	55,695	26.1	0.0	73.9	50.9	0.0	49.1
305	Level II Therapeutic Radiation Treatment Preparatio	17,437	29.8	0.0	70.1	62.7	0.0	37.3
337	MRI and MRA	91,958	27.4	0.0	72.6	51.8	0.0	48.2
440	Level V Drug Infusion	125	30.4	0.0	69.6	2.2	0.0	97.8
441	Level VI Drug Infusion	1,209	17.9	0.2	81.8	0.9	0.0	99.1
	ALL APCs	1,323,710	29.1	6.0	64.9	46.2	10.0	43.8

Competitive Markets

The study procedures were covered by the commercial insurance plans in 400 MSAs or market areas. APC 143 (Lower GI Endoscopy) had the largest number of markets where at least 10 procedures were provided in each of the three settings. For example, there were 160 markets with competition between ASCs and HOPDs in performing diagnostic colonoscopies. There was also competition between POs and HOPDs (115 markets) and between ASCs and POs (81 markets) in providing this procedure. APC 207 (Level III Nerve Injections) was also performed in all three settings in a number of markets.

APC 260 (Level I Plain Film Except Teeth) had the most services. In all 400 market areas, there was competition between POs and HOPDs in providing these services to non-Medicare patients. POs and HOPDs also competed to provide services in APC 337 (Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast followed by Contrast).

Nearly all services in APC 41 (Level I Arthroscopy) occurred in markets where HOPDs and ASCs competed to provide these services. Most markets where cataract surgeries were performed also had competition between HOPDs and ASCs.

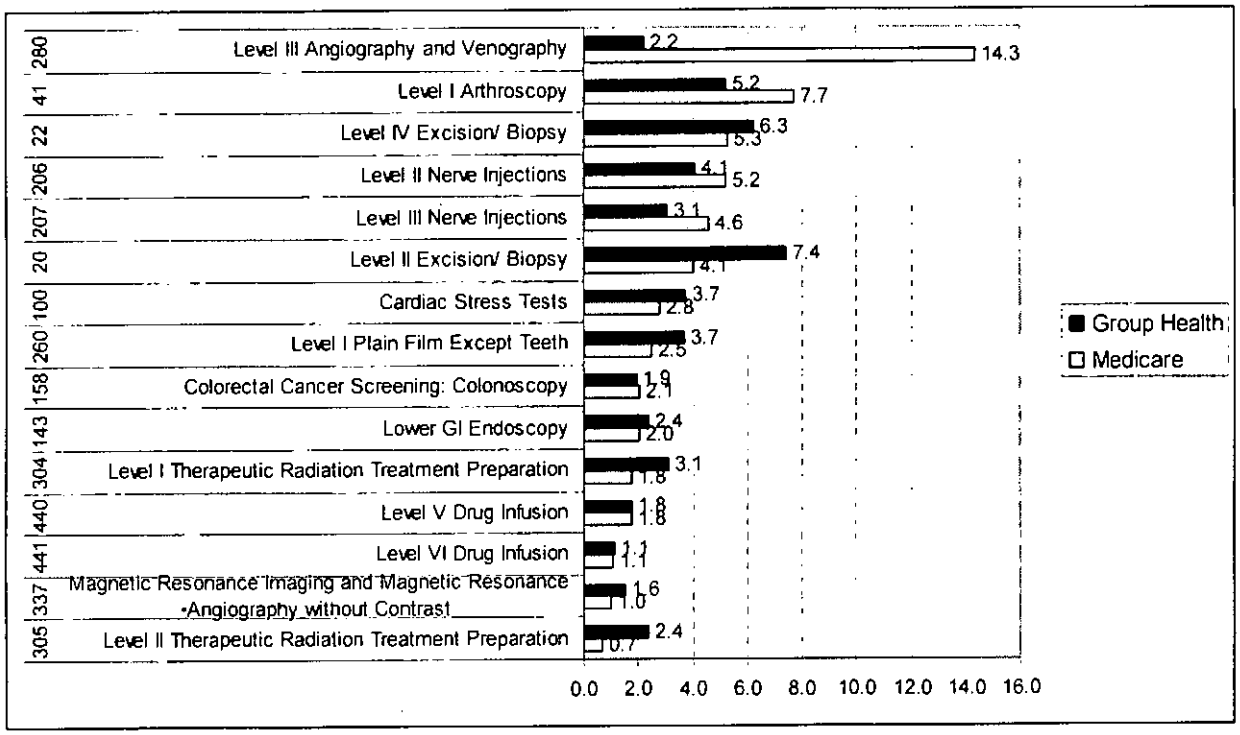
A few markets had knee arthroscopies and cataract surgeries with IOL insertion performed in physician offices as well. Finally, most therapeutic radiation treatment preparation services (APCs 304 and 305) and cardiac stress tests (APC 100) were provided in markets that had competition between HOPDs and POs.

Comparative Payment Differentials

Figure 2.4 compares by APC the average ratio of HOPD payment to PO payment under the commercial insurance plans and Medicare. With a few notable exceptions, the commercial insurance payment differentials follow the same general pattern as Medicare's payment differentials. Across all procedures, the non-Medicare ratio of HOPD to PO payment is somewhat higher than the Medicare ratio (3.5 vs. 2.8), indicating that the commercial insurance plans pay HOPDs relatively more than POs compared to Medicare.

- The non-Medicare ratio for APC 280 (Level III Angiography and Venography) is much less than Medicare's and is more in line with the overall ratio of HOPD to PO payments. It reflects both a lower average payment to HOPDs and a higher payment to POs. Because the MarketScan® Database reports the total payment for the procedure, the PO payment is likely to include payments for related procedures (the vascular injection procedure and contrast material).
- The non-Medicare ratio for APC 41 (Level I Arthroscopy) is considerably lower and reflects both a lower average payment to HOPDs and a higher payment to POs than under Medicare.
- The non-Medicare ratios for APC 206 and 207 (Level II and III nerve injections) are lower than Medicare's. The ratios reflect relatively higher payments to POs than under Medicare and may include payments for fluoroscopic guidance.
- The non-Medicare ratios for APC 20 and 22 (Level II and IV Excision/Biopsy) are higher than Medicare's and may be attributable to inclusion of the pathology services in the non-Medicare payments.

Figure 2.4
Comparison of Non-Medicare and Medicare Payment Differentials: Ratio of HOPD to PO Payment



3. COST DIFFERENCES

In this chapter, we present estimates of the costs of the study procedures in each of the three settings and compare them to the payment differentials. Our analyses should be considered exploratory because cost comparisons across settings are complicated by the lack of consistent data.

OVERVIEW OF FEE SCHEDULE COST FINDING METHODS

For HOPD services, Medicare uses *accounting costs* to reflect differences in resource costs. Accounting costs refers to a method of determining the costs of outpatient services using annual cost reports filed by hospitals. Direct and indirect costs are allocated to each ancillary service department through a cost finding methodology and then apportioned to Medicare based on a ratio of Medicare charges to total charges for the ancillary service department. The methodology relies on accurate cost finding and on charges that are consistently related to costs. However, studies have found that in response to the inpatient prospective payment system, hospitals shifted costs to ancillary services so that accounting costs overstate the economic costs of providing services (Miller et al., 1990; Miller et al., 1995. Moreover, there is evidence that charging practices are influenced by a number of factors, including competition, payer mix, and cost allocation practices and that charges have become less meaningful measures of cost over time (Dobson et al., 2005).

For services paid under the physician fee schedule, the PEAC makes recommendations regarding the specific resources required to perform a particular service. The RVUs are based on the cost of specific items and services consumed when a service is provided. However, the accuracy of the estimations is hampered by the lack of current information on indirect practice expenses for many specialties and, as physician billing for more ancillary services such as imaging has increased, estimation of the per use costs of high cost equipment has become increasingly problematic (Ginsburg and Berenson, 2007). Further, there is evidence that the Relative Value Update Committee's median intraservice time estimates for surgical procedures are significantly longer than intraservice times from operative logs, leading to

an overstatement of the practice expense costs of surgical procedures relative to non-invasive procedures (McCall et al., 2006).

With respect to ASC services, sources of data that can be used to estimate the costs of specific procedures in ASCs are scarce. The General Accountability Office (2006) performed a survey of ASC costs in order to evaluate the applicability of APCs to ASC payments, but the data are not available for public use. The Medical Group Management Association (MGMA) publishes a survey (2206) of approximately 100 single- and multi-specialty ASCs including aggregate financial data. Some states, such as California, also collect and make available as public use data files some aggregate financial data on ASCs that can be linked to ASC administrative data.

Ideally, resource costs would be used to measure the cost difference across settings. Resource costing identifies each component of a health care activity, the type and amount of resources used for each component, and attaches unit costs to each resource so that the cost of each component and the overall cost of the activity can be calculated. It is an expensive cost finding methodology that may not be feasible for broad scale use in a payment system. Studies (Miller et al., 1990; Miller et al., 1995) conducted during the 1990's by the Center for Health Policy Studies used resource-costing techniques to look at differences in the costs of selected procedures in different ambulatory settings. The researchers found that hospital resource costs were actually lower than ASC costs. The researchers identified two reasons for this: higher productivity (staff handle more cases and space is used more productively) and procedure volume. The ASCs were operating at less than full capacity and were not able to achieve the same economies of scale as hospitals. Sample size limitations meant that the findings were suggestive but not definitive. Moreover, the studies were conducted when ASCs were in their infancy; higher volume and specialization are likely to have enhanced ASC productivity in more recent years.

METHODOLOGY FOR MEASURING COST DIFFERENTIALS

Physician Offices

We based our methods on those used by CMS to estimate of the cost of services in setting physician PE relative values in the physician fee schedule. CMS instituted a new "bottom-up" method for determining the direct costs in the 2007 physician fee schedule final rule. The old method used a

"top-down" process to allocate aggregate specialty-specific pools of direct and indirect cost to specific services. Under the "bottoms up method", CMS determines the direct PE by adding the CPEP service-specific direct cost estimates for non-physician labor, equipment, and supplies. CMS then adjusts for budget neutrality so that the aggregate direct cost pool remains the same and divides by the conversion factor to determine the adjusted direct PE RVU. The direct cost budget neutrality factor in 2008 was .592.

Indirect costs are allocated using the "top-down" process to services based on the direct costs and physician work used to produce that service. CMS calculates procedure-specific indirect costs as follows:

1. For each service, determine the percentages of indirect and direct costs using weighted averages of specialty-specific data from the American Medical Association's Socioeconomic Monitoring System data from 1999 and supplementary surveys.
2. Create the "indirect allocator" to determine how much in indirect costs should be allocated to the service. First, use the service-specific percent indirect and direct cost from the previous step to estimate indirect costs based on direct PE RVUs [(percent indirect/percent direct)*PE RVU]. Then add the physician work RVUs for that service. If the clinical labor component of the PE RVU is greater than the physician work RVU, substitute it for the physician work RVU. For global services, add both the clinical component of the PE RVU and the physician work RVU.
3. Adjust the indirect allocator for budget neutrality so that the aggregate indirect cost pool is unchanged. The 2008 budget neutrality factor for indirect costs was .362.
4. Multiply by the Indirect Practice Cost Index to adjust for the relative use of indirect costs by specialties providing that service.

In this study, we used this method to measure the costs of services in POs, with some modifications.

Direct Costs

We estimated direct costs by adding the revised CPEP direct cost estimates for each service for non-physician labor, equipment, and supplies. The difference between this value and the value used to produce the direct PE RVU is that the budget neutrality adjustment was not applied. This assumes that the revised CPEP estimates of the amount of labor, equipment, and supplies and the prices used in the RVU calculations lead to a realistic estimate of actual costs. We performed a sensitivity analysis using a different assumption about the utilization of equipment in setting its price.

Indirect costs

Unlike direct costs, the indirect allocator used by CMS in the calculation of indirect PE RVUs reflects only the relative costs of services and is not a good estimate of actual indirect costs. We based our calculation

of actual indirect costs on the direct cost estimate and the percentage of direct costs for each service implicit in the total PE RVU. To calculate the percentage of direct costs, we first converted the direct costs to RVUs by applying the budget neutrality adjustment and dividing by the conversion factor and then divided the direct cost RVU by the total PE RVU. Next, we calculated indirect costs by multiplying the amount of (non-budget-neutrality-adjusted) direct costs by the percentage of indirect costs (1-percentage of direct costs).

Hospital Outpatient Departments

We used a modified version of the method used by CMS to calculate service costs in the APC rate-setting process. CMS recalibrates the APC relative value weights every year to reflect changes in the relative costs of services based on analysis of the most recent claims and cost reports data. In its annual cost calculations, CMS first calculates cost-to-charge ratios (CCRs) at the cost center and overall hospital level for every hospital submitting an OPPS claim using data from Medicare cost reports. Claims are flagged for hospitals with nonsense or outlier CCRs. Outlier CCRs are also removed at the cost center level. All revenue codes appearing in OPPS claims are then mapped to cost centers using a four-level matching hierarchy, with the overall hospital CCR being the last (default) layer of the hierarchy. The mapped CCRs are then used to convert the charges listed with each revenue code to costs.

All claims are then separated into five groups using status indicators: (1) claims with a single procedure payable under OPPS; (2) claims with multiple procedures payable under OPPS; (3) claims with a single procedure packaged and not separately reimbursed under OPPS; (4) claims with multiple procedures packaged and not separately reimbursed under OPPS; (5) claims with no procedures payable under OPPS. Categories 3, 4, and 5 are set aside. Multiple-procedure claims (category 2) are split into "pseudo" single-procedure claims where possible using the line-item dates and other methods. Multiple-procedure claims that could not be split are excluded. The costs of any packaged services appearing on the claims are then packaged with the major procedure.

All claims are adjusted for geographic wage differences by applying the 60% labor portion of costs by a geographic wage index. The median costs for each procedure are then calculated and procedures were reallocated to different APCs if flagged by the "2 times rule" (the median cost of any

significant service cannot be more than 2 times the median cost of any other significant service in that APC). Finally, the median cost of each APC is calculated.

We used the OPPS data file that was used in the annual calibration of the APC relative weights for 2007. First, we filtered the file for claims containing the procedure codes of interest. We then split multiple-procedure claims into pseudo-single claims, following the CMS methodology. CMS has added the cost estimates of each procedure by revenue code, based on CCRs, to the OPPS claims, but additional analysis was used to differentiate between direct and indirect costs. First, we calculated the provider-specific percentages of direct and indirect costs for each cost center using Medicare cost reports, differentiating between several additional categories of costs such as salaries, movable equipment, benefits, and capital. We filled in missing values using CCRs from related cost centers, or if unavailable, a hospital-wide value. If no data were available for a hospital, the average CCR for the cost center across all hospitals was used.

Specifically, the following values were calculated using the Medicare cost report files:

Direct Costs

- Salaries (before step-down allocation): Worksheet A, Column 1, Lines 37-63
- Other direct costs (before step-down allocation): Worksheet A, Column 1, Lines 37-63
- Movable Equipment (directly assigned): Worksheet B Part I, Columns 2+4, Lines 37-63
- Net Expenses for Allocation: Worksheet A, Column 7, Lines 37-63

Indirect Costs

- Capital Related Costs (minus directly assigned movable equipment, after step-down allocation): Worksheet B Parts II and III, Column 27, Lines 37-63
- Employee Benefits: Worksheet B Part I minus Parts II and III, Column 5, Lines 37-63
- Other Indirect Costs: Total Costs minus costs in all other categories

We then applied the percentages of costs in each category to the OPPS claims. Using a cost-center-to-revenue-code crosswalk, we split the costs on the OPPS claims into direct, indirect, and subcategories. We then calculated the median of each category by APC across claims.

Ambulatory Surgical Centers

We used California data for ASCs to compare the average cost of procedures in ASCs to HOPDs. The financial data includes aggregate information

on the number of surgical procedures, operating expenses by major categories (staff, contract professional, supplies, depreciation and other), and revenues by categories (gross patient revenues, contractual allowances and charity care allowances, net patient revenues, , other revenues). It does not contain information on the volume of specific procedures performed in ASCs or allocation weights that would allow calculation of allocation of total expenses to specific procedures.

Using the California OSHPD administrative data for ambulatory surgery in 2005, we assigned APCs to the procedures on each record and determined the relative weights (RWs) applicable to each record based on the APC assignments. We summed the total RWs performed in each ASC during the year. We linked the facility-level utilization information on total RWs to the wage-adjusted total operating costs for each California ASC from the financial data. We were able to link the financial and utilization 2005 data for 429 licensed ambulatory surgery centers. We found inconsistencies between the number of records in the administrative data and the number of encounters in the financial data that we addressed by scaling the RWs to match the encounter volume in the financial data.[9] We then calculated a standard cost per RW "conversion factor" which we compared to an adjusted OPPS conversion factor to provide a rough overall cost comparison. In 2005, the average Medicare margin for hospital outpatient services was -9.2 percent (MedPAC, 2008). We estimated the hospital outpatient cost per RW by multiplying the 2005 conversion factor ($56.98) by 1.092.

The financial data include professional contracts as a separate item. We were concerned that this item may include physician services such as payments to anesthesiologists that would be separately payable under the Medicare physician fee schedule. Therefore, we calculated the cost per RW including and excluding the contract professional services. We also classified ASCs into single-specialty and multi-specialty facilities based on the types of services provided by the ASC during the year from California utilization data and examined whether multi-specialty ASCs have a different cost structure than single-specialty ASCs.

[9] The mean ratio of claims in the utilization data to encounters in the financial data was .94 with a median of 1.0. To scale the RWs, we divided the RWs in the utilization data by the facility-specific ratio of ratio of claims to reported encounters.

PROCEDURE COSTS IN HOSPITAL OUTPATIENT DEPARTMENTS COMPARED TO PHYSICIAN OFFICES

The results of the comparison of study procedures costs in HOPDs and POs are summarized in Figure 3.1 by APC. Procedure-level cost data are listed in Table A3 in Appendix A. Costs were higher in HOPDs than POs for 10 of the 12 APCs with cost data available in both settings.[10] However, the magnitude of the differential varied widely between the APCs examined. In general, the cost differentials are not as large as the payment differentials (see Figure 3.2). APC 206 (Level II Nerve Injections) is the only APC where the average payment differential between the two settings is less than the average cost differential. For the remaining procedures, the average payment differential ranged from about 150 percent of the cost differential (APC 100 Cardiac Stress Tests) to 280 percent higher (APC 280 Level III Angiography and Venography). The differences between the cost and payment differentials are largely accounted for by the budget neutrality adjustments under both payment systems (particularly the PE component of the physician fee schedule) and the use of conversion factors that are updated for inflation using different price indices rather the average increase in actual costs.

[10] Cost data were unavailable for the remaining 4 study APCs because the procedure is not performed in POs or because of data unavailability resulting from procedure or APC coding changes between years.

Figure 3.1
Ratio of Hospital Outpatient Department to Physician Office Estimated Costs for Selected Study Procedures

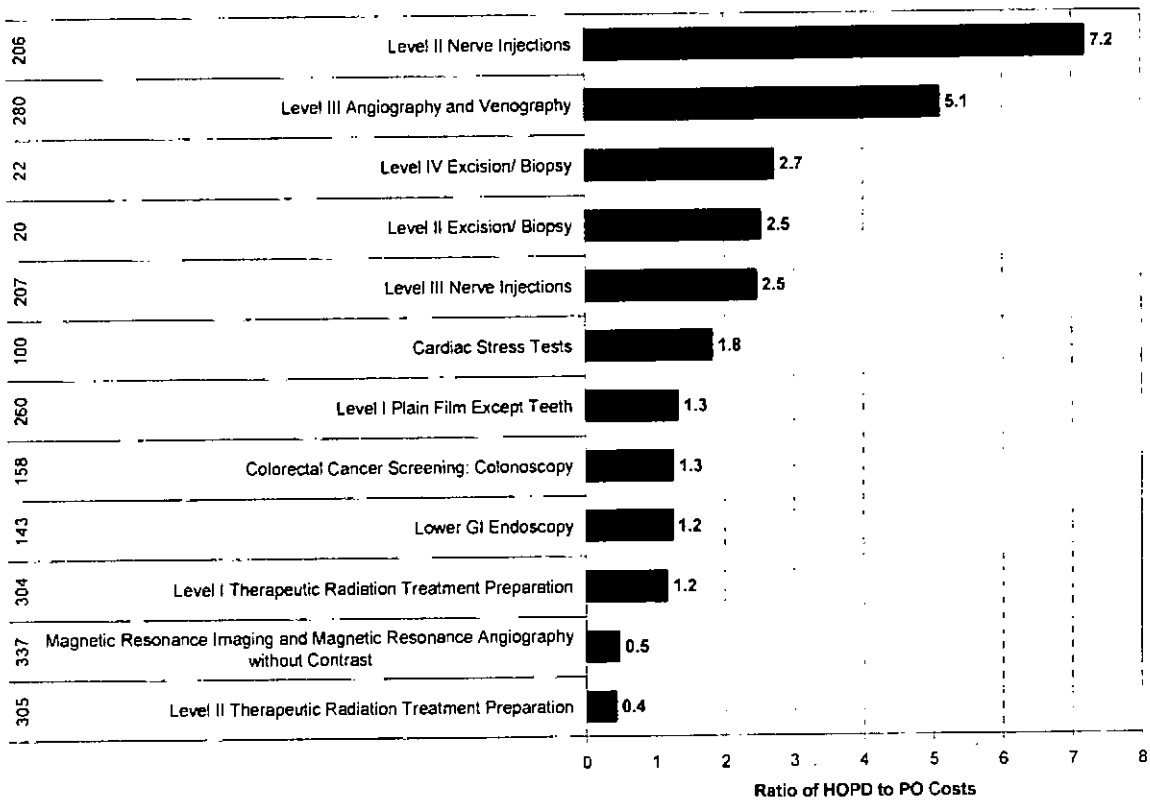
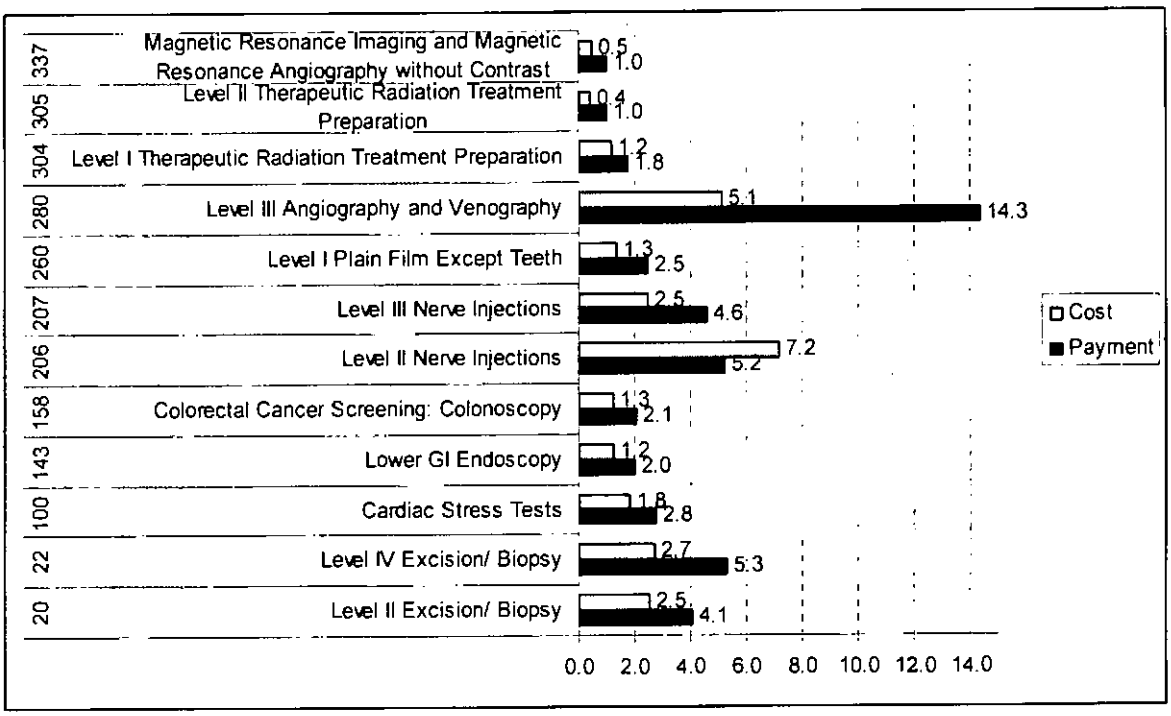


Figure 3.2
Comparison of Ratios of Hospital Outpatient Department to Physician Office Payments and Estimated Costs for Selected Study Procedures



These data should be interpreted as preliminary, exploratory findings only. There is low comparability in the costing methods and data sources used in the two settings. The results are also not adjusted for differences in packaging/bundling between the two settings discussed in Chapter 2.

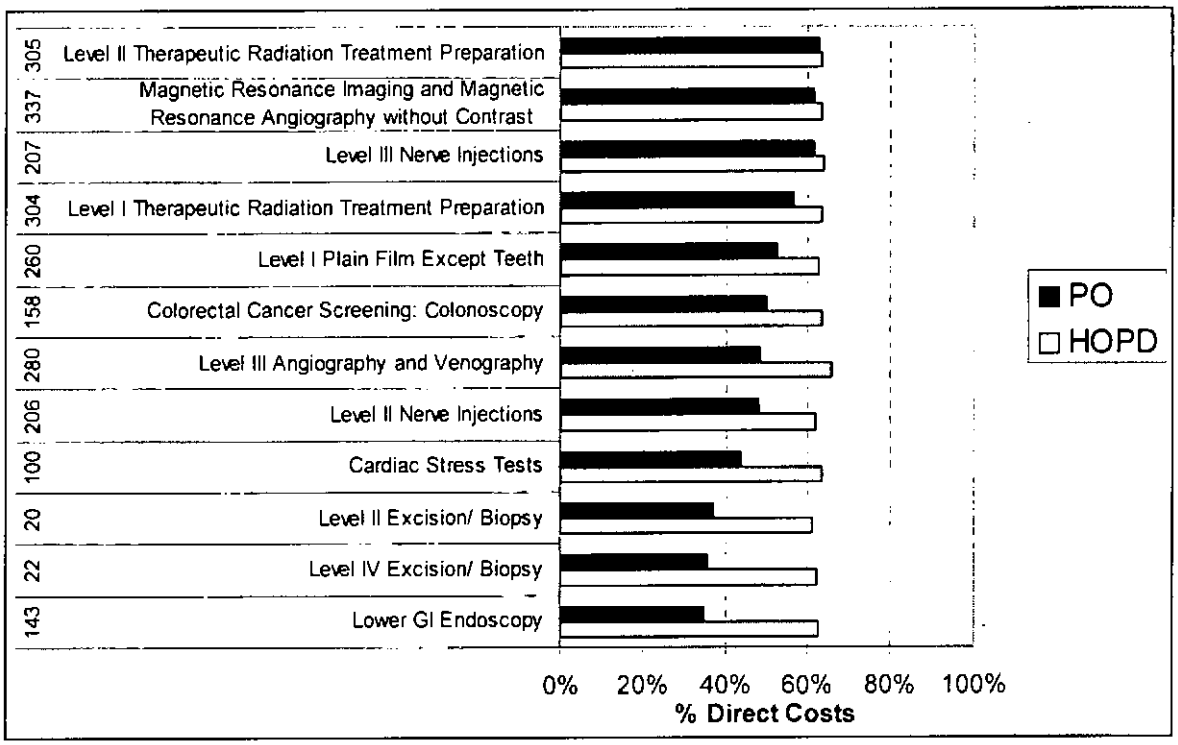
Direct vs. Indirect Costs

We also examined the percentage of direct and indirect costs for the study procedures in the two settings. The Center for Health Policy's resource-costing study had found that direct costs comprised a higher portion of total costs in HOPDs (58%) than ASCs (48%). The researchers concluded that indirect costs are spread over a lower volume of procedures in ASCs and that many hospitals provide ambulatory surgery as a joint product with inpatient surgery and are able to realize more efficiencies with indirect costs. Indirect costs also had less impact on hospital radiology costs relative to physician offices.

We also found that the estimated percentages of direct costs were higher in HOPDs than POs for all 12 APCs (Figure 3.3). The percentage of direct costs in HOPDs was remarkably similar across APCs, despite the use of hospital cost

center-specific data in constructing the estimates. The estimated percentage of direct costs in POs varied much more than in HOPDs, ranging from a high of 63% for APC 305 (Level II Therapeutic Radiation Treatment Preparation) to a low of 35% for APC 143 (Lower GI Endoscopy) and APC 22 (Level IV Excision/Biopsy).

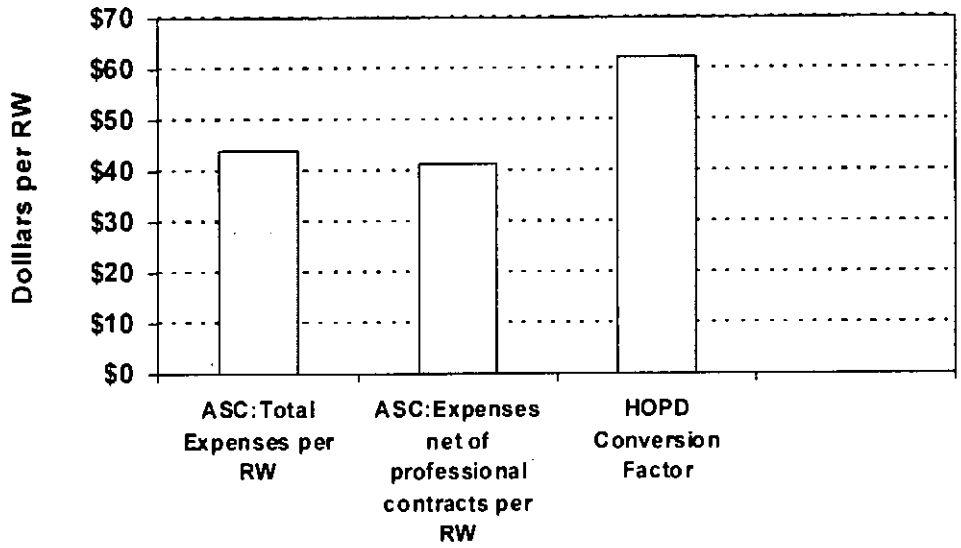
Figure 3.3
Direct Costs as a Percentage of Total Costs for Selected Procedures in Physician Offices and Hospital Outpatient Departments



PROCEDURE COSTS IN AMBULATORY SURGICAL CENTERS COMPARED TO HOSPITAL OUTPATIENT DEPARTMENTS

We found that the average expense per RW in 2005 was $41 net of expenses for professional contracts and $44 based on total expenses. In the same year, the conversion factor used for HOPD payment under OPPS adjusted to estimated cost was $62. Using this estimate, California ASCs costs were 66-71% of estimated HOPD costs. In 2008, ASCs are paid at 67% of the HOPD OPPS rate based on the budget neutrality requirements under the new payment system. Multi-specialty California ASCs had higher costs per relative value unit than single-specialty ASCs, but the differences were slight.

Figure 3.3
Estimated Cost per Relative Value Unit in California Ambulatory Surgical Centers vs. Hospital Outpatient Departments, 2005



These data should be interpreted as preliminary, exploratory findings. The results are for one state and measure compare the overall costliness of services provided to all patients in ASCs with that provided to Medicare patients in HOPDs.

4. POTENTIAL EXPLANATIONS FOR COST DIFFERENTIALS

METHODS

We used a number of strategies to examine four types of factors beyond differences in infrastructure that may lead to the differences in costs (patient clinical characteristics, service content, charity care, and accreditation and regulation). Although definitive, objective data would be optimal to determine the contributions of each of these factors, in most situations such data were unavailable or their use was infeasible for the current study. Therefore, we used an approach that combined analysis of data where possible and supplemented these data with opinions of professionals providing the services selected for further study and a scan of the literature on the topics that were most likely to affect costs.

Clinical Specialty Society Professional Interviews

The four factors described above naturally aggregate into two groups, clinical and administrative. Engaging clinical (medical) specialty societies provided insights primarily, although not exclusively, into potential differences in patient characteristics and service content. We engaged in discussions with specialty societies whose members provide the study procedures[11]:

- American College of Cardiology
- American Academy of Orthopaedic Surgeons
- American Gastroenterological Association
- American Academy of Ophthalmology
- American Society of Cataract and Refractive Surgery
- American Society of Anesthesiologists
- American College of Radiology
- American College of Radiation Oncology

The physicians interviewed had experience in multiple practice settings, offering insight into potential differences in patient mix, complexity and content of the services provided. Questions regarded their analysis of the differences in reimbursement by location, potential reasons for those

[11] We were unsuccessful in obtaining insights particular to the dermatology procedures in APC 20 and 22.

differences, and specific suggestions regarding strategies to better understand the extent to which the differences reflect practice differences or simply represent artifacts resulting from different evolution of the payment schemes. We provided each group with specialty-specific CPT procedure codes and data on service volume and payment rates in multiple settings. We asked whether within any code patients are likely to be relatively homogeneous or, if not, the reasons and clinical situations why there would be differences. For those individuals that participated in the discussion who have managerial oversight responsibilities within their practice settings, we probed in greater depth about the administrative and regulatory burdens associated with their practices.

Our interviews were conducted in the Fall of 2007 after the proposed rules revising Medicare payment policies were issued but before the changes were finalized and implemented effective January 1, 2008.

RESULTS OF THE INTERVIEWS AND LITERATURE REVIEW

Patient Clinical Differences

Themes from Literature

Several previous studies suggest that patients with higher average risk for complications are treated more often in HOPDs than in ASCs and POs (discussed in more detail below). All three settings are expected to treat "routine" patients, but patients with higher level of risk might be more likely to be referred to HOPDs from the non-hospital venues. The HOPD patient mix is a hybrid of patients who usually seek their ongoing routine care from the HOPD and patients referred to an HOPD by POs or ASCs because of their (presumed) increased complexity.

Several studies have compared the health status of patients treated across ambulatory settings using claims data. One rationale for the studies is that lower-risk patients might be less expensive to treat, so that systematic differences in patient characteristics between settings could justify payment differentials. These studies characterized patients treated in each setting following two basic approaches: (1) identifying patient risk factors, and (2) identifying complications or adverse events following treatment.

Winter (2003) measured patient risk using Medicare claims data and Hierarchical Condition Categories (HCCs), a risk adjustment score used in Medicare Advantage capitated payments. The rate of complications/adverse

events associated with a procedure was not measured. The analysis showed that patients treated in HOPDs had higher average HCCs than those treated in ASCs for ten procedures commonly performed in both settings. The author concluded that services provided in ASCs were likely to cost less than those provided in HOPDs in part because of lower patient complexity.

Wynn et al. (2004) used Medicare claims data to measure risk factors and adverse events for three procedures: cataract surgery, colonoscopy, and MRI of the head/neck/brain. The authors first conducted a literature review to identify measures that could be used to compare the nature of the services and outcomes between ambulatory settings. They convened expert panels of physicians to rate which measures identified in the literature review would be most appropriate for investigating differences in patients and outcomes by setting for each study procedure, and then constructed the measures using Medicare claims data. For the three procedures, the expert panels generally did not believe that patient characteristics such as comorbidities should affect the appropriateness of one setting over another. The analysis of Medicare claims data indicated that for colonoscopy and cataract surgery, a larger share of patients treated in hospital outpatient departments tended to have hypertension and/or diabetes, comorbidities that had been identified as risk factors. For all three procedures, patients treated in HOPDs had higher HCC risk scores than patients treated in other settings, indicating that they might be more medically complex.

In a follow-up study, Sloss et al. (2006) conducted further analysis of data on the same three procedures, incorporating risk adjustment. The authors used clinical expert opinion to identify both general medical conditions and procedure-specific conditions that were likely to increase the cost of performing the procedure.[12] Analysis of Medicare claims data found that the incidence of most patient conditions that might increase the cost of performing one of the three procedures were very low in all settings; the vast majority of conditions were present in fewer than ten percent of patients. Looking across all three services and settings, no single setting had

[12] For example, 22 conditions were examined for cataract surgery, including general medical conditions such as age over 85 years, dementia, acute episode of COPD, prescription drug dependence, alcohol abuse, schizophrenia and tremor, and ophthalmologic conditions such as pseudoexfoliation of lens capsule, progressive high myopia, dislocation of lens, and posterior synechiae.

consistently higher incidence of conditions that might increase the cost of the procedure. Two statistical differences were found: HOPD patients had significantly higher incidence of cost-increasing conditions than ASC patients for cataract surgery and colonoscopy, but patients treated for MRI of the head, neck, and brain in POs and independent diagnostic testing facilities had higher rates of certain cost-increasing conditions than those treated in HOPDs. Risk-adjusted rates of adverse outcomes following the three procedures were very low in all settings, and the magnitudes of significant differences among settings were quite small.

Several other studies have focused on the rate of complications and adverse events in different settings. Fleischer et al. (2004) used Medicare claims to examine mortality and inpatient admission after 16 surgical procedures commonly performed in ASCs, HOPDs, and POs. The authors found that risk-adjusted rates of mortality and inpatient admission were highest following procedures performed in HOPDs. Procedures performed in ASCs were least likely to result in these adverse events: the rate of risk-adjusted mortality and admission within seven days of the procedure was higher in POs than in ASCs. The authors concluded that the differences were reflective of selection of HOPDs by physicians for riskier patients, and that risk-adjustment using claims data did not adequately control for these differences. The metrics used also cannot determine the extent of differences in the quality of care delivered.

Themes from Interviews

Interview participants largely agreed that referrals are primarily driven by payers rather than patient acuity. The interviewees believe that, for the conditions examined, the majority of patients can be served safely and adequately in all three settings, especially with the recent technological advancements that have allowed procedures to move out of the hospital. The interviewees suggested that payers influence referral patterns in two ways. First, some private payers contract with hospitals for an entire service package including ambulatory surgery and do not cover surgical services provided in ASCs. Second, physicians/ASCs risk losing money on more intensive patients when they perform the surgery outside the hospital setting because of the lower payment rates in these settings. As a result, they may refer more resource-intensive patients to the HOPD. For instance, the interviewees suggested that some patients may require additional supplies, medication,

implants, or other ancillary services that in their view would not be sufficiently reimbursed by the ASC or PO payment. Examples of patients that are more likely to be referred to the HOPD included cancer patients with chronic pain, patients receiving pharmacologically-induced stress tests, and those likely to require multiple hardware implants during shoulder arthroscopy. As one physician elucidated, "practices would perform the procedures in the safest and most convenient location unless the facility payments received were insufficient to cover the cost of the service or insurance requirements mandated physicians to redirect."

Regardless of what factors influence referrals, the respondents almost unanimously agreed that most patient differences affecting the cost of the study procedures among the settings are insignificant. Sick patients are a very small percentage of the total patient population for ambulatory services. Additionally, our study surgical procedures were elective procedures that very sick patients are unlikely to undergo in the first place, or would at least delay surgery until underlying conditions were addressed.

Surgery settings are also largely determined by availability. Some geographical regions have few or no ASCs, thereby increasing the percentage of procedures performed in HOPDs.

The respondents furthermore believe that patients would prefer to undergo surgery in an ASC or PO over an HOPD, "because of the speed with which they receive service, greater comfort, and less bureaucracy."

Clinical Content Differences

Another potential justification for payment differentials is a difference in how procedures are performed in the three different settings. Once again we turned to previous research as well as interviews with members of professional societies to examine this possibility. We found consensus that clinical service content does not noticeably vary across settings, but ASCs are more efficient than HOPDs, due to their ability to specialize in certain procedures.

Themes from Literature

The resource cost studies conducted by the Center for Health Policy Studies (Miller et al., 1990; Miller et al., 1995) found that HOPDs and ASCs used similar staff and supplies for surgical procedures. The researchers found no substantial differences in nursing salaries or fringe benefits and

concluded that there were no reasons why costs would vary systematically since the actual procedures are performed similarly in both settings. With respect to physician offices, the small sample size did not provide sufficient confidence levels to support conclusions for most procedures. However, lower costs were consistently tied to the use of fewer and often lower salaried staff to perform supportive services. Physicians also have less equipment and overhead costs. Surgical procedures performed in a physician's office (such as excision) were more costly when performed in an ASC or HOPD. The researchers attributed the higher costs in non-physician office settings to differences in care patterns, such as two nurses in the operating room and facility protocols for post-operative care prior to discharge.

Using data from the Center for Studying Health System Change's Community Tracking Study as well as expert interviews, Casalino, Devers and Brewster (2003) concluded that ASCs increase productivity, decrease costs, and improve overall quality. While the procedures are similar in each setting, ASCs have more specialized staff and quicker turnaround time than HOPDs, allowing them to serve as "focused factories".

Themes from Interviews

The members of the specialty societies we interviewed echoed the findings of Casalino's team. They indicated that the staff and resources needed for the study procedures are the same in all three settings and reiterated that the main situation in which they would prefer an HOPD over an ASC is one where the patient required additional resources that would not be captured in the ASC reimbursement rate.

The interviewees noted that with respect to most services, ASCs develop economies of scale by having staff dedicated to a certain set of operations, and materials in closer proximity than HOPDs, which have generalist staff and larger facilities. One potential area where an ASC/PO might be disadvantaged is with respect to procedures such as fluoroscopic guidance where a dedicated technician in those settings may not be as productively utilized as a hospital technician that serves a larger patient population with more diverse clinical conditions.

Charity Care

Another potential justification for payment differentials that we investigated was charity care. Because of safety net laws pertaining to

hospitals, we expected that HOPDs would deliver more uncompensated services. To confirm this assumption we looked at existing literature, spoke to the major specialty societies, and observed national data as well as state statistics from California and Pennsylvania.

Themes from Literature

Hospitals - particularly public hospitals, academic medical centers, and other mission-based hospitals - are likely to have higher numbers of medically underserved patients with either Medicaid or no insurance. The Emergency Medical Treatment and Active Labor Act requires acute care hospitals offering emergency medical services to provide emergency medical treatment to all patients, including the uninsured and underinsured. After being stabilized, an uninsured or underinsured patient requiring additional care may be transferred to another care facility (e.g., a public hospital) provided that needed services are available. With increased demand for public services and limited funding to provide that care, hospitals and their emergency departments are finding transfer for definitive care to be increasingly difficult.

HOPDs, therefore, are expected to provide more safety net services to medically underserved populations than ASCs or POs. In addition to being a financial risk, these patients may also bring more comorbidities and management complications to the HOPD. For these hospitals, higher payment for HOPD vs. ASC or PO services represents in part necessary cost-shifting to support uncompensated or undercompensated care. ASCs and POs, by selectively treating well-insured, more-profitable patients, could cause a decrease in profitable volume in HOPDs and thereby limit the extent to which hospitals are able to cost shift between payers. Hospitals are also compensated for safety net services in several other ways, including non-profit tax status, disproportionate share payments, and state and local indigent care pools in some states. Approximately 1100 teaching hospitals in the U.S. also receive indirect medical education (IME) payments for inpatient care that arguably supports charity care as well as teaching activities. However, the amount of safety net care and support through the IME mechanism varies widely between hospitals.

Hospitals are concerned about the cost implications of patient selection by physicians with a financial relationship to an ASC. The concern is that physicians will selectively refer less complicated, profitable patients to an ASC in which they have an ownership interest (AHA, 2006). ASCs are exempt

from the federal self-referral prohibition (the "Stark law") against physicians making a referral to an entity with which they have a financial relationship for designated health services for which Medicare or Medicaid would otherwise pay and are also a "safe harbor" under the federal Anti-Kickback Statute (FASA website). Several states have considered (but not passed) laws designed to limit physician self-referral to ASCs. Gabel and colleagues (2008) recently found that physicians are more likely to send well insured patients to ASCs and Medicaid patients to HOPDs.

There is little information available from previous studies on the extent to which HOPDs treat charity care or Medicaid patients compared to ASCs or POs. Based on an analysis of MGMA survey data, the AHA reported that 3.5% of ASC patients were on Medicaid and 0.3% were given charity care (AHA, 2006). In comparison, the AHA reports that Medicaid represents 14.6% of hospitals' revenue (inpatient and outpatient). Charity care is often provided in POs. In 1996, 86% of ambulatory visits by uninsured participants in the Medical Expenditure Panel Survey were to POs, compared to 8% to HOPDs and 6% to emergency rooms.

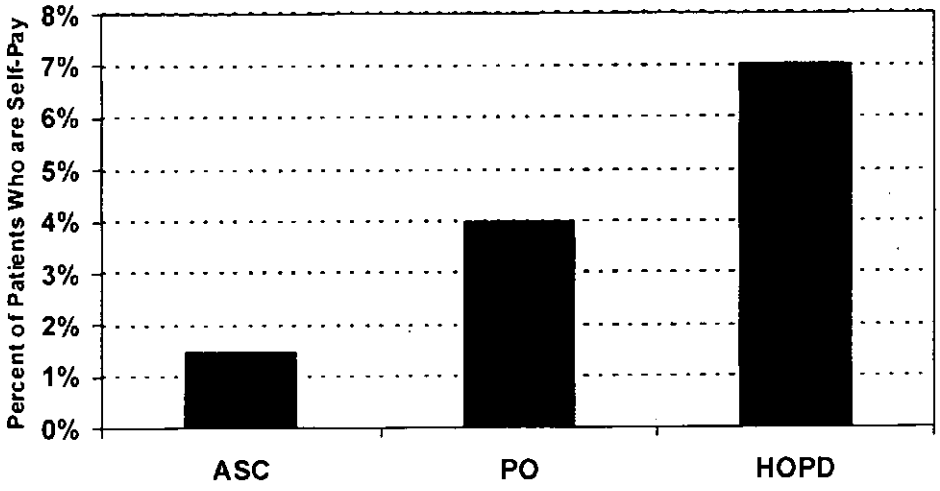
Themes from Interviews

In terms of charity care, our respondents acknowledged that HOPDs are more likely to bear the brunt of uncompensated care. However, they maintained that such cases are a small percentage of total procedures performed. Further, they noted that some states require a certain amount of charity care on the part of ASCs, or prohibit financial discrimination in accepting patients as a condition of licensure or certificate of need.

Findings from Data

The National Ambulatory Medical Care Survey, the National Hospital Ambulatory Medical Care Survey and the California and Pennsylvania data all indicate that HOPDs have more "self pay" patients, and provide more uncompensated care. Figure 5.1 compares the findings from the surveys and our analysis of the CA ASC data.

Figure 4.1
Percent of Patients Who are Self-Pay in Ambulatory Surgical centers, Physician Offices, and Hospital Outpatient Departments



Regulation and Accreditation

Because hospitals have more comprehensive regulations guiding their practice, we looked to Medicare conditions of participation, state licensure requirements, accreditation criteria and certificate of need laws affecting services provided in HOPDs, ASCs, and POs to explore potential reasons for cost differentials.

Themes from Literature

State Licensure Requirements

All states require hospitals to be licensed, whereas only 43 states require the same of ASCs. State licensure requirements for ASCs vary in the extent to which they are comparable to Medicare requirements. Only seven states enforce regulations for physician offices that perform outpatient surgery (AHA, 2006; Hochstadt, 2003). New York recently enacted a law that requires effective July 2009 that office-based surgery and other invasive procedures requiring moderate sedation, deep sedation, or general anesthesia, and certain liposuction procedures be performed in a setting that has obtained and maintained accreditation from an entity approved by the state Health Commissioner (NY website). The state has recognized three organizations-Accreditation Association for Ambulatory Health Care (AAAHC), American

Association for Accreditation of Ambulatory Surgery Facilities (AAAASF), and The Joint Commission (TJC) - as accreditation entities for office-based surgery. The law also mandates reporting of adverse events.

Medicare Participation Requirements

Medicare participating hospitals and ASCs must meet any applicable state licensing requirements and either meet additional Medicare standards or be accredited by an organization that CMS has determined has standards that meet Medicare requirements. [13]

Medicare's requirements regarding governing bodies, qualifications for staff, physical examination of patients, anesthesia administration, fire safety, lighting, medical services, radiology and laboratory services are similar for hospitals and ASCs (to the extent they provide the relevant services). However, in other areas, requirements for hospitals and ASCs differ significantly, largely because of the hospital's broader mission to provide inpatient care. Patient discharge plans are more complicated in the hospital, where a social worker must create a care plan. Hospitals must have an organized medical staff, as well as utilization review, requirements that do not apply to ASCs. Hospitals are obligated to maintain a facility-wide quality assurance program with written plans of implementation, whereas ASCs only have to conduct informal self-assessments. Hospitals have stricter guidelines regarding patient's rights, such as informed consent, as well as a grievance process. In terms of infection control, both ASCs and HOPDs are required to provide a "sanitary environment", but only hospitals must have an infection control officer. Hospitals also have more stringent standards in terms of drug administration and pharmaceutical services than ASCs. Additionally, hospitals must have radiological and food services available, which are not requirements for ASCs.

Regarding emergency equipment, however, an ASC has arguably a greater burden relative to the burden borne by an HOPD (as opposed to the overall hospital burden). The ASC must purchase and possess items such as cardiac defibrillators and tracheostomy sets for itself. Unlike the ASC, hospital operating suites need not have dedicated equipment, but rather can share

[13] Approximately 85 percent of ASCs are Medicare approved. We assume that some of the study procedures performed on Medicare patients in physician offices that are typically done in a facility setting such as cataract surgery and arthroscopy are performed in ASCs that have chosen not to participate in Medicare but which may be licensed or accredited.

equipment already present at the hospital for inpatient care. Additionally, an ASC must have a written transfer agreement with a local, Medicare participating hospital or all the physicians operating at the ASC must have a formal arrangement to transfer patients to such a hospital.

Table 4.1 lists the differences between the hospital conditions of participation and ASC conditions for coverage specific to surgical services. The hospital conditions apply to ambulatory surgery provided in both operating suites that are integrated with inpatient surgery and to dedicated ambulatory surgery units that may be housed on the main campus of the hospital or are owned and operated by the hospital in a different location.

Table 4.1
Surgical Service Requirements in Hospital Conditions of Participation and for Conditions for Coverage of ASCs

Surgical Services	Hospital Conditions of Participation	ASC Conditions for Coverage
Supervision	Operating room must be supervised by a doctor of medicine or osteopathy, or a an experienced registered nurse	N/A
Patient Records	Must have complete history and physical prior to surgery	N/A
Informed Consent	Must have informed consent prior to surgery	No specific requirement but may be required by state law
Equipment	Emergency call system, cardiac monitor, resuscitator, defibrillator, aspirator and tracheostomy set must be available to operating room suites	Emergency call system, oxygen, ventilator, cardiac defibrillator, cardiac monitor, tracheostomy, laryngoscopes and endotracheal tubes, suction equipment
Post-operative care	Must have "adequate provisions for immediate post-operative care"	Patients must be discharged in the company of responsible adult

CMS (2007) has issued a proposed rule to alter ASC Conditions for Coverage that would bring the ASC requirements closer to hospital standards. The proposed changes include implementing a stricter quality assurance performance improvement requirement, establishing patients' rights provisions, and designating an infection control officer in all ASCs. If implemented, these changes would narrow the differences between the participation requirements for hospitals and ASCs

Medicare does not have standards other than state licensure that must be met by POs. However, there are requirements for IDTFs that primarily provide diagnostic testing. An IDTF must have at least one supervising physician who is responsible for the direct and ongoing oversight of the quality of the testing performed, the proper operation and calibration of equipment used to perform tests, and the qualifications of non-physician IDTF personnel who use the equipment. The supervising physician must evidence proficiency in the performance and interpretation of each type of diagnostic procedure performed by the IDTF. Each non-physician (often referred to as a technician or technologist) who performs the diagnostic tests must be state licensed or certified by a recognized national credentialing body. All technicians must meet the standard of a state license or certification or a national credentialing body. With respect to services requiring direct physician supervision, such as the procedures assigned to APC 337 (MRI and MRA without Contrast followed by Contrast), a physician must be physically on the IDTF premises and in the suite of offices where the tests are being performed. In the office setting, the physician must be present in the office suite and immediately available ('within earshot').

Accreditation

Hospitals accredited through The Joint Commission (TJC) or the American Osteopathic Association are deemed to comply with Medicare Conditions of Participation. Three organizations - AAAASF, AAHC, or TJC- have deemed status accreditation processes for ASCs. These organizations also accredit other ambulatory surgical centers that do not elect to become Medicare certified (such as plastic surgery centers that perform few Medicare-covered services). As with the state laws regarding licensure, requirements for ASCs vary among the competing accrediting organizations.

Certificate of Need

Certificate-of-Need (CON) laws require hospitals and in some states, non-hospital entities to demonstrate that new or expanded services or facilities would meet an unmet need. The intent is to control health care costs through coordinated planning, but some argue that the laws restrain price competition. Currently 37 states have CON laws for hospitals and many regulate non-hospital services as well. With respect to the study procedures, the number of states with relevant CON laws (NCSL website) are:

- ASCs, 28 states;
- MRI, 21 states;

- Cardiac catheterization, 26 states;
- Radiation therapy, 25 states.

There has been renewed attention to CON laws with the growth of ASCs and IDTFs. Not surprisingly, the proliferation rates are higher for these facilities in states that do not have CON.

Themes from Interviews

The interview respondents noted the higher overall regulatory burden for hospitals but did not share a common agreement on how this might impact the cost of the study procedures. They also noted the increased attention given to accreditation of both ASCs and physician offices as well as the likely impact of the proposed revisions in the Medicare ASC conditions for coverage, both of which are likely to reduce the differences in regulatory burden with respect to the study procedures.

Some interviewees contended that in some respects non-hospital settings actually have a greater burden in meeting regulatory requirements. For instance, the physician supervision requirements are more burdensome for an IDTF than a hospital or PO. Furthermore, while the hospital participation (accreditation) processes are more burdensome, the costs are allocated to all service lines whereas all the costs are allocated solely to the surgical procedures in an ASC.

5. SUMMARY AND DISCUSSION

SUMMARY OF FINDINGS

Payment differentials have been largely standardized between HOPDs and ASCs with the implementation of the 2008 payment policy changes. However, the size of the differentials still vary for some procedures because ASC services that are commonly performed in POs are paid at the PO rate, which is usually much lower than the OPPS rate. The payment differential between HOPDs and ASCs will also change over time due to different conversion factor update methods and separate budget-neutrality adjustments for recalibration of the relative weights. Payment rates for similar services vary widely between HOPD/ASCs and POs, with the size of the differential varying by service. Measuring these differentials, however, is problematic because of differences in packaging policies.

Private payer payment differentials are generally smaller than the Medicare payment differentials. There are also differences in the distribution of some of the study procedures across settings, with a higher percentage of non-Medicare patients receiving services in the PO setting and a lower percentage receiving services in the ASC setting.

Measurement of costs is extremely hampered by available data sources. As a result, it is difficult to determine how well Medicare payment rates reflect the actual costs of services. Using the current fee schedule cost finding methods to compare HOPD and PO costs at the procedure-level, cost differentials between settings are also large, although typically smaller than the payment differentials. Payment differentials are higher than cost differentials largely because of budget neutrality provisions. Using California ASC data to compare overall differences in HOPD and ASC costs, the overall payment differential between these providers appears roughly comparable to the cost differentials.

Our interviews and literature review found several differences between settings that may justify some of the observed cost and payment differentials. Patient comorbidity is seldom the primary reason for referral to HOPDs; patients receiving the study procedures are typically at low risk for adverse outcomes in all settings. However, patients requiring more resource-intensive

services (e.g., additional equipment or medications) may be referred more frequently to the HOPD because the payment rate is perceived to be insufficient to cover the costs of providing care in the ASC/PO setting. With the expansion of the ASC list of covered procedures and the payment policy changes, no conclusions are possible at this time regarding whether the mix of procedures covered by an APC payment will be comparable between the two settings.

The physicians that we interviewed expressed a strong preference of the efficiency of ASCs relative to HOPDs, due to newer physical plants, shorter patient turnover time, dedicated resources in close proximity, as well as differences in "culture" that can promote slowness and inefficiency in the HOPD. The regulatory burden is much lower in POs than ASCs or especially HOPDs. However, HOPDs may benefit from being able to spread costs across more service lines. HOPDs also provide more charity care than ASCs and POs.

There are several important limitations that should be considered when interpreting these results. The payment and cost differentials do not reflect differences in the units of service between settings that arise due to differences in packaging and bundling rules. The cost estimates were based on available data, using different data sources and methods for each setting. The interviews were conducted with a limited number of clinical experts and may reflect their unique perspectives.

DISCUSSION

In the sections that follow, we first provide an overview of different approaches that could be used by Medicare to pay for ambulatory services in multiple settings, and then discuss specific policy changes which might be considered.

Approaches to Medicare Payment for Ambulatory Services in Multiple Settings

One approach to Medicare payment is to base payment rates on the costs of providing the procedure in each setting. This approach assumes that the cost differences between settings are due to factors that are of value to the Medicare program and should be compensated. This is, in principle, the basis of the current Medicare payment policy for ambulatory services (Winter, 2003). The relative payment rates for services in each payment system are based on estimates of service costs in each setting. Yet, the distinctions between the settings and the nature of the services that they provide are blurred. Many

hospitals have established ambulatory care centers that operate separately from the inpatient product lines and resemble community-based ambulatory care settings. ASCs range from large multi-specialty centers providing a range of surgical procedures similar to those provided to hospital outpatients to single-specialty centers that more closely resemble a physician office. Further, as our study illustrates, different methods are used to estimate costs in each setting, and many of the cost data and methods used in these estimates are limited. Better measurement of resource costs would enable the elimination of profit differentials between care settings, where they exist.

The policy question is the extent to which the cost differences between settings are due to factors that are of value to the Medicare program and should be compensated. The difficulty in answering this question is judging which cost differences (for each type of service) are "justified" differences related to patient mix, service, content, etc. that should be reimbursed, rather than "inefficiencies" or other unjustified costs that should not. An alternative would be to base payment rates on costs in the least expensive setting (Winter, 2003). Under this type of system, after controlling for patient risk factors, service content, etc. - either by selecting services without meaningful differences, or by adjusting payments to reflect these factors - payment levels would be set in relation to the cost of providing the services in the most efficient setting. For example, Medicare caps payments to ASCs for procedures that are commonly provided in POs at the PO payment rate. The underlying assumption is that services that are commonly provided in POs are effectively delivered there, and that there is no justification for additional costs related to providing these services in ASCs. This encourages ASCs that are more costly than POs to either improve their efficiency or not provide the service.

Delivery of outpatient care within a hospital infrastructure that is designed and maintained for inpatient care has both cost and payment implications. What may seem like "inefficiencies" when compared to service delivery in community-based settings may be an unavoidable consequence of the joint production of inpatient and outpatient care to a broader mix of patient. Furnishing HOPD services that can also be provided in a less costly setting helps cover the fixed costs of providing services that are most appropriately provided in a hospital setting. Serving a broader patient population generates inefficiencies on one hand for particular services, but also has the potential

to spread fixed costs over more services and to use the hospital's equipment and facilities more productively on the other. Shifting services to non-hospital settings would raise the cost of these "hospital-only" services. Paying based on a "least costly setting" approach would mean that hospitals would have less ability to cross-subsidize more costly "hospital only" services. Under either scenario, the underlying issue is the extent to which general outpatient care should subsidize the cost of specialized care and standby services appropriately provided only in a hospital setting.

Despite the study limitations, our findings suggest that payment differentials between settings are large and variable among procedures to an extent that do not appear justified by factors we examined. What policies could be used to establish payment differences consistent with "value-based" purchasing concepts? There is no obvious answer to this question. Indeed, the question raises several major policy issues:

- Medicare is paying more for services provided in HOPDs that could be appropriately provided in less resource-intensive settings. As a prudent buyer, when is it appropriate for Medicare pay more than the amount applicable to the "least costly" setting for comparable services?
- Policies that "level the playing field" across ambulatory settings could either decrease payments to HOPDs and/or increase payments to ASCs and POs. Under either approach, services are likely to shift to non-hospital settings and hospitals will face lower revenues for HOPD services that can be appropriately provided in other settings. What is likely to occur if hospitals lose their ability to cross-subsidize services that can only be provided in the hospital setting?
- While the differentials for particular services vary widely, they are an integral part of different payment systems for HOPD/ASC services on one hand and PO services on the other. Is it appropriate to deviate from site-specific fee schedules for particular services?

Addressing ASC/HOPD Payment Differentials

Payment differentials between ASCs and HOPDs have largely been standardized in 2008 but will begin to diverge because of differences in the update policies. There are several "tweaks" to the existing policy that could help to make the payment differentials between the two settings consistent with costs and maintain the relationship in the future.

- **Determine ASC conversion factor based on cost.** The ASC conversion factor was set at 67% of the OPPS conversion factor in order to be budget neutral with estimated ASC payments under the prior system. If the payment levels differ widely from actual ASC costs, it could lead to distortions in where services are provided. The availability of national data on ASC costs has limited comparisons of HOPD and ASC costs in the past. Our exploratory analyses using the California ASC data could be expanded to other state databases that contain both utilization and financial data. While this approach does not account for differences in the costs of specific procedures, it does provide a measure of differences in overall cost levels between the two settings.

- **Same update factor for ASC/HOPD.** Since ASCs and HOPDs will use different methods for updating the conversion factor, the payment differential (currently set at 67% on a budget-neutrality basis) will change over time in unpredictable ways. A legislative changes to allow the same update factor would eliminate this source of variability in payment differentials between the two settings.

- **Maintain same OPPS/ASC relative weights over time.** The relative weights for OPPS procedures will be updated annually on a budget-neutral basis separately for HOPDs and ASCs. The result will be differences in APC relative weights between ASCs and HOPDs. Harmonizing the budget neutrality calculation for recalibration into a single calculation or making the ASC budget neutrality adjustment to the conversion factor rather than the relative weights will preserve a consistent relationship between HOPD and ASC relative weights.

Addressing PO/HOPD Payment Differentials

Payment differentials between POs and HOPDs are products of two different rate-setting approaches and are larger than between ASCs and HOPDs, so that addressing them would require more substantial policy changes. There are several potential ways that PO/HOPD payments could be made more consistent.

- **Same bundling policies for PO as other settings.** There are substantial differences in the bundling of services between settings. These differences increased in 2008 when additional services were bundled into the OPPS payments, making the actual differentials less transparent. A first step toward more consistent payments would be to apply the HOPD bundling rules to the PO setting to the extent practical. This may not be practical for two separate procedures involving two different physicians during the same encounter but could be feasible for items and supplies that are billed by the physician providing the service in a PO, such as contrast media and drugs below the OPPS cost threshold for separate payment.
- **Consistent policies for multiple procedure discounting.** Policies for multiple procedure discounting for surgical procedures apply to both settings, but discounting for imaging services applies only to services provided in the PO/IDTF. The rationale for discounting is equally applicable to imaging services provided in the HOPD setting.
- **Consider ways to level payments for commonly performed PO services.** The payment differential between HOPDs and POs could be standardized for appropriate procedures, similar to how HOPD/ASC differentials were standardized. There are several ways this could be implemented:
  - **Blended rate (pre-OPPS policy for HOPDs).** HOPDs and POs could each be paid a blended rate of the OPPS and physician fee schedule payment amounts for services commonly performed in both settings. The blend could differ by setting (so that it would reduce the differential but retain higher payments for HOPD services) or the same payment could apply to both settings.

- **Payment Cap.** HOPD payment rates could be capped at a percentage of PO PE payment rates for services that could appropriately be performed in either setting and are not likely to vary in clinical content across settings. The cap could recognize that relatively higher cost structure of HOPDs (e.g., 150 percent of the amount payable for services performed in the PO) and would retain the underlying structure of the OPPS for services unaffected by the cap.

AREAS FOR ADDITIONAL RESEARCH

This exploratory study was performed using available data and a small set of study procedures chosen in part to maximize comparability. The interpretation of the results on payment and cost differentials is limited by differences in the comparability of services and methods between settings and by lack of a measure of efficient costs. The generalizability of the results is limited by the sample of study procedures. Further research could address these issues.

- **Comparability of services across settings.** Analysis of administrative data for services provided in physician offices and other non-facility settings would inform the extent to which services that are bundled in the HOPD/ASC settings are separately paid in POs. This information is needed to fully understand the payment differentials between the settings. Analysis of 2008 or later utilization data would provide information on differences in the distribution of procedures within APCs between ASCs and HOPDs and whether there are differences in procedure mix between the two settings after the ASC policy changes are implemented. Because the billing instructions do not require coding of bundled procedures, it is unlikely that administrative data will be usable to examine whether ASCs are steering more expensive patients to HOPDs for a given procedure.

- **Comparability of costs across settings.** APC relative weights are currently set using cost estimates derived from claims data and hospital cost reports. Physician fee schedule relative values are set using direct cost estimates from physician expert groups and indirect cost estimates from specialty surveys. Both methods have shortcomings and were criticized in our interviews. The APC weight-setting process is viewed as inaccurate because of limitations in the cost report and claims data. It is also not very transparent because the calculations leading to the costs are complicated and hard to follow. The variation in cost estimates for procedures between hospitals is very large. On the other hand, the physician expert input method used in PE relative value-setting process was criticized as politically motivated and leading to overestimates of direct costs. However, the estimates are transparent since all of the supplies, equipment, and labor estimated for each procedure are listed in the public domain. The indirect costing methodology was criticized as inaccurate. Comparability of costs across settings could be addressed by conducting resource-based costing studies on selected procedures across all three settings. The findings from the non-Medicare payment analyses could be used to target candidate procedures.

- **Efficiency of care across settings.** While there is general agreement that Medicare should cover the costs of efficiently delivered care, there is no consensus on how to measure efficiency and the extent to which efficiency measures should consider not only cost but quality outcomes (McGlynn, 2008). The issue of whether care is more

efficiently delivered in one ambulatory setting than another could be further addressed by expanding the unit of analysis to the episode of care. Instead of examining only the procedure-level cost differences, an episode analysis would also account for differences in the provision of related services and follow-up care.

- **Generalizability**. Because one criterion in selecting the study procedures was that the procedures were unlikely to vary by patient characteristics and clinical content, our findings are not generalizable to the range of services provided in multiple ambulatory settings. Generalizability could be addressed by extending the analyses to more complex and invasive procedures.

APPENDIX A. PROCEDURE-LEVEL MEDICARE DATA

Table A.1
Volume of Study Procedures in 2006 by Setting

APC	APC Description	HCPCS	HCPCS Description	Total Service Volume, 2006	% HOPD	% ASC	% PO
20	Level II Excision/ Biopsy	11403	Exc tr-ext b9+marg 2.1-3 cm	54,415	21%		79%
20	Level II Excision/ Biopsy	11420	Exc h-f-nk-sp b9+marg 0.5 <	36,753	14%		86%
20	Level II Excision/ Biopsy	11421	Exc h-f-nk-sp b9+marg 0.6-1	45,638	12%		88%
20	Level II Excision/ Biopsy	11422	Exc h-f-nk-sp b9+marg 1.1-2	47,960	18%		82%
20	Level II Excision/ Biopsy	11442	Exc face-mm b9+marg 1.1-2 cm	54,820	17%		83%
20	Level II Excision/ Biopsy	11603	Exc tr-ext mlg+marg 2.1-3 cm	65,535	10%		90%
20	Level II Excision/ Biopsy	11622	Exc h-f-nk-sp mlg+marg 1.1-2	54,600	9%		91%
20	Level II Excision/ Biopsy	11641	Exc face-mm malig+marg 0.6-1	78,643	9%		91%
20	Level II Excision/ Biopsy	11642	Exc face-mm malig+marg 1.1-2	137,174	12%		88%
20	Level II Excision/ Biopsy	11643	Exc face-mm malig+marg 2.1-3	45,438	21%		79%
22	Level IV Excision/ Biopsy	11426	Exc h-f-nk-sp b9+marg > 4 cm	6,054	52%	10%	38%
22	Level IV Excision/ Biopsy	11626	Exc h-f-nk-sp mlg+mar > 4 cm	7,420	49%	11%	41%
22	Level IV Excision/ Biopsy	11646	Exc face-mm mlg+marg > 4 cm	11,242	44%	12%	44%
22	Level IV Excision/ Biopsy	20680	Removal of support implant	33,270	59%	28%	13%
22	Level IV Excision/ Biopsy	21555	Remove lesion, neck/chest	6,130	40%	26%	34%
22	Level IV Excision/ Biopsy	21930	Remove lesion, back or flank	6,930	46%	25%	30%
41	Level I Arthroscopy	29824	Shoulder arthroscopy/surgery	34,262	76%	24%	0%

APC	APC Description	HCPCS	HCPCS Description	Total Service Volume, 2006	% HOPD	% ASC	% PO
41	Level I Arthroscopy	29848	Wrist endoscopy/surgery	15,976	52%	48%	1%
41	Level I Arthroscopy	29880	Knee arthroscopy/surgery	65,929	66%	33%	1%
41	Level I Arthroscopy	29881	Knee arthroscopy/surgery	77,468	61%	39%	1%
100	Cardiac Stress Tests	93015	Cardiovascular stress test-tracing,s+1	2,213,978	0%		100%
100	Cardiac Stress Tests	93017	Cardiovascular stress test-tracing only	1,032,357	76%		24%
143	Lower GI Endoscopy	45378	Diagnostic colonoscopy	894,544	56%	37%	6%
143	Lower GI Endoscopy	45380	Colonoscopy and biopsy	682,706	55%	40%	5%
143	Lower GI Endoscopy	45384	Lesion remove colonoscopy	260,495	58%	38%	4%
143	Lower GI Endoscopy	45385	Lesion removal colonoscopy	589,461	51%	44%	6%
158	Colorectal Cancer Screening: Colonoscopy	G0105	Colorectal scrn; hi risk ind	142,193	47%	49%	4%
158	Colorectal Cancer Screening: Colonoscopy	G0121	Colon ca scrn not hi rsk ind	209,449	52%	43%	5%
206	Level II Nerve Injections	64472	Inj paravertebral c/t add-on	204,058	13%	18%	69%
206	Level II Nerve Injections	64476	Inj paravertebral l/s add-on	626,395	18%	22%	61%
206	Level II Nerve Injections	64640	Injection treatment of nerve	89,292	5%		95%
206	Level II Nerve Injections	G0260	Inj for sacroiliac jt anesth	99,390	67%	33%	0%
207	Level III Nerve Injections	62310	Inject spine c/t	150,096	37%	29%	35%
207	Level III Nerve Injections	62311	Inject spine l/s (cd)	935,245	41%	26%	33%
207	Level III Nerve Injections	64475	Inj paravertebral l/s	386,240	21%	23%	56%
207	Level III Nerve Injections	64483	Inj foramen epidural l/s	456,682	27%	33%	40%
207	Level III Nerve Injections	64484	Inj foramen epidural add-on	238,655	22%	31%	47%
207	Level III Nerve Injections	64623	Destr paravertebral n add-on	225,727	19%	24%	57%
246	Cataract Procedures with IOL Insert	66984	Cataract surg w/iol, 1 stage	1,807,569	34%	62%	5%
260	Level I Plain Film Except Teeth	71010	Chest x-ray	3,286,413	76%		24%
260	Level I Plain Film Except Teeth	71020	Chest x-ray	9,627,394	55%		45%

APC	APC Description	HCPCS	HCPCS Description	Total Service Volume, 2006	% HOPD	% ASC	% PO
280	Level III Angiography and Venography	75625	Contrast x-ray exam of aorta	75,825	92%		8%
280	Level III Angiography and Venography	75630	X-ray aorta, leg arteries	23,329	92%		8%
280	Level III Angiography and Venography	75650	Artery x-rays, head & neck	29,428	86%		14%
280	Level III Angiography and Venography	75671	Artery x-rays, head & neck	26,364	88%		12%
280	Level III Angiography and Venography	75680	Artery x-rays, neck	30,336	86%		14%
280	Level III Angiography and Venography	75685	Artery x-rays, spine	20,012	84%		16%
280	Level III Angiography and Venography	75710	Artery x-rays, arm/leg	55,743	70%		30%
280	Level III Angiography and Venography	75716	Artery x-rays, arms/legs	67,180	92%		8%
280	Level III Angiography and Venography	75724	Artery x-rays, kidneys	28,514	76%		24%
304	Level I Therapeutic Radiation Treatment Preparation	77280	Sbrt management	249,274	61%		39%
304	Level I Therapeutic Radiation Treatment Preparation	77300	Radiation therapy dose plan	803,076	35%		65%
304	Level I Therapeutic Radiation Treatment Preparation	77331	Special radiation dosimetry	188,076	44%		56%
304	Level I Therapeutic Radiation Treatment Preparation	77336	Radiation physics consult (non-FAC only)	1,238,706	60%		40%
305	Level II Therapeutic Radiation Treatment Preparation	77290	Set radiation therapy field	303,370	62%		38%
305	Level II Therapeutic Radiation Treatment Preparation	77315	Teletx isodose plan complex	105,572	65%		35%
305	Level II Therapeutic Radiation Treatment Preparation	77321	Special teletx port plan	25,940	62%		38%
305	Level II Therapeutic Radiation Treatment Preparation	77328	Brachytx isodose plan compl	28,105	62%		38%

APC	APC Description	HCPCS	HCPCS Description	Total Service Volume, 2006	% HOPD	% ASC	% PO
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast	70553	Mri brain w/o & w/dye	792,151	53%		47%
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast	72158	Mri lumbar spine w/o & w/dye	283,680	48%		52%
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast	74183	Mri abdomen w/o & w/dye	130,056	53%		47%
440	Level V Drug Infusion	90760	Intravenous infusion, hydration; initial, up to 1 hour	277,182	0%		100%
440	Level V Drug Infusion	90765	Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance	1,332,125	0%		100%
440	Level V Drug Infusion	96521	Refilling and maintenance of portable pump	97,471	25%		75%
440	Level V Drug Infusion	96522	Refilling and maintenance of implantable pump or reservoir for drug delivery, sy	41,322	30%		70%
441	Level VI Drug Infusion	96413	Chemo adm, IV infusion; up to 1 hour, single or initial substance/drug	2,257,492	0%		100%
441	Level VI Drug Infusion	96416	Chemo adm, IV infusion; initiation of prolonged chemo infusion (more than 8 hour	133,288	14%		86%
441	Level VI Drug Infusion	96422	Chemo adm, intra-arterial; infusion technique, up to one hour	1,409	76%		24%
441	Level VI Drug Infusion	96425	Chemo adm, intra-arterial; infusion technique, initiation of prolonged infusion	1,033	21%		79%
441	Level VI Drug Infusion	96440	Chemotherapy administration into pleural cavity, requiring and including thorace	53	57%		43%
441	Level VI Drug Infusion	96445	Chemotherapy administration into peritoneal cavity, requiring and including peri	1,794	36%		64%
441	Level VI Drug Infusion	96450	Chemotherapy administration, into CNS (eg, intrathecal), requiring and including	1,986	50%		50%

Table A.2
Medicare Payment Rates for Study Procedures by Setting, 2008

APC	APC Description	HCPCS	HCPCS Description	OPPS Payment Rate ($)	PO Payment Rate ($)	ASC Payment Rate ($)
20	Level II Excision/ Biopsy	11403	Exc tr-ext b9+marg 2.1-3 cm	553	98	98
20	Level II Excision/ Biopsy	11420	Exc h-f-nk-sp b9+marg 0.5 <	553	70	70
20	Level II Excision/ Biopsy	11421	Exc h-f-nk-sp b9+marg 0.6-1	553	85	85
20	Level II Excision/ Biopsy	11422	Exc h-f-nk-sp b9+marg 1.1-2	553	93	93
20	Level II Excision/ Biopsy	11442	Exc face-mm b9+marg 1.1-2 cm	553	101	101
20	Level II Excision/ Biopsy	11603	Exc tr-ext mlg+marg 2.1-3 cm	553	154	154
20	Level II Excision/ Biopsy	11622	Exc h-f-nk-sp mlg+marg 1.1-2	553	149	149
20	Level II Excision/ Biopsy	11641	Exc face-mm malig+marg 0.6-1	274	139	139
20	Level II Excision/ Biopsy	11642	Exc face-mm malig+marg 1.1-2	553	154	154
20	Level II Excision/ Biopsy	11643	Exc face-mm malig+marg 2.1-3	553	163	163
22	Level IV Excision/ Biopsy	11426	Exc h-f-nk-sp b9+marg > 4 cm	1345	137	874
22	Level IV Excision/ Biopsy	11626	Exc h-f-nk-sp mlg+mar > 4 cm	1345	189	874
22	Level IV Excision/ Biopsy	11646	Exc face-mm mlg+marg > 4 cm	1345	225	874
22	Level IV Excision/ Biopsy	20680	Removal of support implant	1345	310	874
22	Level IV Excision/ Biopsy	21555	Remove lesion, neck/chest	1345	221	874
22	Level IV Excision/ Biopsy	21930	Remove lesion, back or flank	1345	230	874
41	Level I Arthroscopy	29824	Shoulder arthroscopy/surgery	1833	249	1192
41	Level I Arthroscopy	29848	Wrist endoscopy/surgery	1833	201	1192
41	Level I Arthroscopy	29880	Knee arthroscopy/surgery	1833	245	1192
41	Level I Arthroscopy	29881	Knee arthroscopy/surgery	1833	234	1192
100	Cardiac Stress Tests	93015	Cardiovascular stress test-tracing,s+1	NA	73	Not Covered
100	Cardiac Stress Tests	93017	Cardiovascular stress test-tracing only	163	59	Not Covered
143	Lower GI Endoscopy	45378	Diagnostic colonoscopy	564	243	366
143	Lower GI Endoscopy	45380	Colonoscopy and biopsy	564	296	366
143	Lower GI Endoscopy	45384	Lesion remove colonoscopy	564	274	366
143	Lower GI Endoscopy	45385	Lesion removal colonoscopy	564	319	366

APC	APC Description	HCPCS	HCPCS Description	OPPS Payment Rate ($)	PO Payment Rate ($)	ASC Payment Rate ($)
158	Colorectal Cancer Screening: Colonoscopy	G0105	Colorectal scrn; hi risk ind	500	243	325
158	Colorectal Cancer Screening: Colonoscopy	G0121	Colon ca scrn not hi rsk ind	500	243	325
206	Level II Nerve Injections	64472	Inj paravertebral c/t add-on	261	46	170
206	Level II Nerve Injections	64476	Inj paravertebral l/s add-on	148	42	96
206	Level II Nerve Injections	64640	Injection treatment of nerve	449	92	92
206	Level II Nerve Injections	G0260	Inj for sacroiliac jt anesth	449	E	292
207	Level III Nerve Injections	62310	Inject spine c/t	449	114	292
207	Level III Nerve Injections	62311	Inject spine l/s (cd)	449	101	292
207	Level III Nerve Injections	64475	Inj paravertebral l/s	449	42	292
207	Level III Nerve Injections	64483	Inj foramen epidural l/s	449	145	292
207	Level III Nerve Injections	64484	Inj foramen epidural add-on	261	62	170
207	Level III Nerve Injections	64623	Destr paravertebral n add-on	449	64	292
246	Cataract Procedures with IOL Insert	66984	Cataract surg w/iol, 1 stage	1520	245	988
260	Level I Plain Film Except Teeth	71010	Chest x-ray	44	14	Not Covered
260	Level I Plain Film Except Teeth	71020	Chest x-ray	44	19	Not Covered
280	Level III Angiography and Venography	75625	Contrast x-ray exam of aorta	1839	112	Not Covered
280	Level III Angiography and Venography	75630	X-ray aorta, leg arteries	1839	116	Not Covered
280	Level III Angiography and Venography	75650	Artery x-rays, head & neck	2848	112	Not Covered
280	Level III Angiography and Venography	75671	Artery x-rays, head & neck	2848	170	Not Covered
280	Level III Angiography and Venography	75680	Artery x-rays, neck	1839	150	Not Covered
280	Level III Angiography and Venography	75685	Artery x-rays, spine	1839	129	Not Covered
280	Level III Angiography and Venography	75710	Artery x-rays, arm/leg	1839	134	Not Covered
280	Level III Angiography and	75716	Artery x-rays, arms/legs	1839	168	Not Covered

APC	APC Description	HCPCS	HCPCS Description	OPPS Payment Rate ($)	PO Payment Rate ($)	ASC Payment Rate ($)
	Venography					
280	Level III Angiography and Venography	75724	Artery x-rays, kidneys	1839	167	Not Covered
304	Level I Therapeutic Radiation Treatment Preparation	77280	Sbrt management	99	169	Not Covered
304	Level I Therapeutic Radiation Treatment Preparation	77300	Radiation therapy dose plan	99	45	Not Covered
304	Level I Therapeutic Radiation Treatment Preparation	77331	Special radiation dosimetry	99	31	Not Covered
304	Level I Therapeutic Radiation Treatment Preparation	77336	Radiation physics consult (non-FAC only)	99	43	Not Covered
305	Level II Therapeutic Radiation Treatment Preparation	77290	Set radiation therapy field	250	512	Not Covered
305	Level II Therapeutic Radiation Treatment Preparation	77315	Teletx isodose plan complex	250	79	Not Covered
305	Level II Therapeutic Radiation Treatment Preparation	77321	Special teletx port plan	250	58	Not Covered
305	Level II Therapeutic Radiation Treatment Preparation	77328	Brachytx isodose plan compl	250	200	Not Covered
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast	70553	Mri brain w/o & w/dye	525	525	Not Covered
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast	72158	Mri lumbar spine w/o & w/dye	525	525	Not Covered
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast	74183	Mri abdomen w/o & w/dye	525	525	Not Covered
440	Level V Drug Infusion	90760	Intravenous infusion, hydration; initial, up to 1 hour	115	50	Not Covered
440	Level V Drug Infusion	90765	Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance	115	62	Not Covered
440	Level V Drug Infusion	96521	Refilling and maintenance of portable pump	115	120	Not Covered
440	Level V Drug Infusion	96522	Refilling and maintenance of implantable pump or reservoir for drug delivery, sy	115	106	Not Covered

APC	APC Description	HCPCS	HCPCS Description	OPPS Payment Rate ($)	PO Payment Rate ($)	ASC Payment Rate ($)
441	Level VI Drug Infusion	96413	Chemo adm, IV infusion; up to 1 hour, single or initial substance/drug	149	139	Not Covered
441	Level VI Drug Infusion	96416	Chemo adm, IV infusion; initiation of prolonged chemo infusion (more than 8 hour	149	156	Not Covered
441	Level VI Drug Infusion	96422	Chemo adm, intra-arterial; infusion technique, up to one hour	149	171	Not Covered
441	Level VI Drug Infusion	96425	Chemo adm, intra-arterial; infusion technique, initiation of prolonged infusion	149	178	Not Covered
441	Level VI Drug Infusion	96440	Chemotherapy administration into pleural cavity, requiring and including thorace	149	37	Not Covered
441	Level VI Drug Infusion	96445	Chemotherapy administration into peritoneal cavity, requiring and including peri	149	37	Not Covered
441	Level VI Drug Infusion	96450	Chemotherapy administration, into CNS (eg, intrathecal), requiring and including	149	32	Not Covered

Table A.3
Costs of Study Procedures in HOPDs and POs

APC	APC Description	HCPCS	HCPCS Description	HOPD Total Cost, 2005 ($)	HOPD % Direct Cost, 2005	PO Total Cost, 2008 ($)	PO % Direct Cost, 2008
20	Level II Excision/ Biopsy	11403	Exc tr-ext b9+marg 2.1-3 cm	453	61%	147	40%
20	Level II Excision/ Biopsy	11420	Exc h-f-nk-sp b9+marg 0.5 <	416	63%	105	48%
20	Level II Excision/ Biopsy	11421	Exc h-f-nk-sp b9+marg 0.6-1	474	62%	128	42%
20	Level II Excision/ Biopsy	11422	Exc h-f-nk-sp b9+marg 1.1-2	585	60%	140	40%
20	Level II Excision/ Biopsy	11442	Exc face-mm b9+marg 1.1-2 cm	391	60%	153	38%
20	Level II Excision/ Biopsy	11603	Exc tr-ext mlg+marg 2.1-3 cm	384	60%	233	34%
20	Level II Excision/ Biopsy	11622	Exc h-f-nk-sp mlg+marg 1.1-2	417	61%	224	35%
20	Level II Excision/ Biopsy	11641	Exc face-mm malig+marg 0.6-1	455	61%	209	36%
20	Level II Excision/ Biopsy	11642	Exc face-mm malig+marg 1.1-2	577	61%	232	34%
20	Level II Excision/ Biopsy	11643	Exc face-mm malig+marg 2.1-3	647	60%	246	32%
22	Level IV Excision/ Biopsy	11426	Exc h-f-nk-sp b9+marg > 4 cm	1025	61%	207	35%
22	Level IV Excision/ Biopsy	11626	Exc h-f-nk-sp mlg+mar > 4 cm	814	61%	285	34%
22	Level IV Excision/ Biopsy	11646	Exc face-mm mlg+marg > 4 cm	805	61%	340	29%
22	Level IV Excision/ Biopsy	20680	Removal of support implant	1227	63%	468	36%
22	Level IV Excision/ Biopsy	21555	Remove lesion, neck/chest	904	61%	333	40%
22	Level IV Excision/ Biopsy	21930	Remove lesion, back or flank	915	62%	348	39%
41	Level I Arthroscopy	29824	Shoulder arthroscopy/surgery	2709	64%	.	.
41	Level I Arthroscopy	29848	Wrist endoscopy/surgery	1170	65%	.	.
41	Level I Arthroscopy	29880	Knee arthroscopy/surgery	1746	63%	.	.
41	Level I Arthroscopy	29881	Knee arthroscopy/surgery	1697	64%	.	.
100	Cardiac Stress Tests	93015	Cardiovascular stress test-tracing,s+1	.	.	.	.
100	Cardiac Stress Tests	93017	Cardiovascular stress test-tracing only	162	63%	89	44%
143	Lower GI Endoscopy	45378	Diagnostic colonoscopy	459	63%	368	36%
143	Lower GI Endoscopy	45380	Colonoscopy and biopsy	553	62%	447	35%

APC	APC Description	HCPCS	HCPCS Description	HOPD Total Cost, 2005 ($)	HOPD % Direct Cost, 2005	PO Total Cost, 2008 ($)	PO % Direct Cost, 2008
143	Lower GI Endoscopy	45384	Lesion remove colonoscopy	556	63%	414	35%
143	Lower GI Endoscopy	45385	Lesion removal colonoscopy	570	63%	482	34%
158	Colorectal Cancer Screening: Colonoscopy	G0105	Colorectal scrn; hi risk ind	464	63%	368	41%
158	Colorectal Cancer Screening: Colonoscopy	G0121	Colon ca scrn not hi rsk ind	460	63%	368	55%
206	Level II Nerve Injections	64472	Inj paravertebral c/t add-on	416	64%	70	51%
206	Level II Nerve Injections	64476	Inj paravertebral l/s add-on	512	61%	63	55%
206	Level II Nerve Injections	64640	Injection treatment of nerve	392	64%	139	43%
206	Level II Nerve Injections	G0260	Inj for sacroiliac jt anesth	370	63%	.	.
207	Level III Nerve Injections	62310	Inject spine c/t	392	63%	173	67%
207	Level III Nerve Injections	62311	Inject spine l/s (cd)	351	63%	153	65%
207	Level III Nerve Injections	64475	Inj paravertebral l/s	439	63%	209	60%
207	Level III Nerve Injections	64483	Inj foramen epidural l/s	435	63%	220	56%
207	Level III Nerve Injections	64484	Inj foramen epidural add-on	422	62%	94	54%
207	Level III Nerve Injections	64623	Destr paravertebral n add-on	516	68%	97	60%
246	Cataract Procedures with IOL Insert	66984	Cataract surg w/iol, 1 stage	1359	65%	.	.
260	Level I Plain Film Except Teeth	71010	Chest x-ray	34	63%	25	52%
260	Level I Plain Film Except Teeth	71020	Chest x-ray	43	63%	33	53%
280	Level III Angiography and Venography	75625	Contrast x-ray exam of aorta	1163	66%	193	50%
280	Level III Angiography and Venography	75630	X-ray aorta, leg arteries	1165	65%	216	45%
280	Level III Angiography and Venography	75650	Artery x-rays, head & neck	1219	65%	203	48%
280	Level III Angiography and Venography	75671	Artery x-rays, head & neck	1359	65%	293	47%
280	Level III Angiography and Venography	75680	Artery x-rays, neck	1100	65%	265	47%

APC	APC Description	HCPCS	HCPCS Description	HOPD Total Cost, 2005 ($)	HOPD % Direct Cost, 2005	PO Total Cost, 2008 ($)	PO % Direct Cost, 2008
280	Level III Angiography and Venography	75685	Artery x-rays, spine	1234	67%	224	48%
280	Level III Angiography and Venography	75710	Artery x-rays, arm/leg	1215	66%	227	49%
280	Level III Angiography and Venography	75716	Artery x-rays, arms/legs	1277	65%	283	49%
280	Level III Angiography and Venography	75724	Artery x-rays, kidneys	1421	66%	295	43%
304	Level I Therapeutic Radiation Treatment Preparation	77280	Sbrt management	134	63%	255	67%
304	Level I Therapeutic Radiation Treatment Preparation	77300	Radiation therapy dose plan	81	63%	68	55%
304	Level I Therapeutic Radiation Treatment Preparation	77331	Special radiation dosimetry	72	63%	47	42%
304	Level I Therapeutic Radiation Treatment Preparation	77336	Radiation physics consult (non-FAC only)	105	63%	66	57%
305	Level II Therapeutic Radiation Treatment Preparation	77290	Set radiation therapy field	255	63%	773	69%
305	Level II Therapeutic Radiation Treatment Preparation	77315	Teletx isodose plan complex	198	63%	120	50%
305	Level II Therapeutic Radiation Treatment Preparation	77321	Special teletx port plan	179	63%	87	52%
305	Level II Therapeutic Radiation Treatment Preparation	77328	Brachytx isodose plan compl	235	64%	303	54%
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography	70553	Mri brain w/o & w/dye	494	63%	1041	61%

APC	APC Description	HCPCS	HCPCS Description	HOPD Total Cost, 2005 ($)	HOPD % Direct Cost, 2005	PO Total Cost, 2008 ($)	PO % Direct Cost, 2008
	without Contrast						
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast	72158	Mri lumbar spine w/o & w/dye	493	64%	1019	61%
337	Magnetic Resonance Imaging and Magnetic Resonance Angiography without Contrast	74183	Mri abdomen w/o & w/dye	470	63%	1093	62%
440	Level V Drug Infusion	90760	Intravenous infusion, hydration; initial, up to 1 hour	.	.	76	49%
440	Level V Drug Infusion	90765	Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance	.	.	93	48%
440	Level V Drug Infusion	96521	Refilling and maintenance of portable pump	.	.	182	48%
440	Level V Drug Infusion	96522	Refilling and maintenance of implantable pump or reservoir for drug delivery, sy	.	.	160	47%
441	Level VI Drug Infusion	96413	Chemo adm, IV infusion; up to 1 hour, single or initial substance/drug	.	.	209	48%
441	Level VI Drug Infusion	96416	Chemo adm, IV infusion; initiation of prolonged chemo infusion (more than 8 hour	.	.	235	48%
441	Level VI Drug Infusion	96422	Chemo adm, intra-arterial; infusion technique, up to one hour	149	64%	259	47%
441	Level VI Drug Infusion	96425	Chemo adm, intra-arterial; infusion technique, initiation of prolonged infusion	152	61%	269	47%
441	Level VI Drug Infusion	96440	Chemotherapy administration into pleural cavity, requiring and including thorace	52	63%	320	50%
441	Level VI Drug Infusion	96445	Chemotherapy administration into peritoneal cavity, requiring and including peri	74	68%	312	51%
441	Level VI Drug Infusion	96450	Chemotherapy administration, into CNS (eg, intrathecal), requiring and including	170	67%	287	50%

APPENDIX B NON-MEDICARE PROCEDURES

Table B.1
Comparison of Distribution of Procedures Across Settings

		Non-Medicare Services				Medicare Services		
CPT	Description	Number	%HOPD	%ASC	%PO	%HOPD	%ASC	%PO
11403	Exc tr-ext b9+marg 2.1-3 cm	9,727	5.7%	1.9%	92.4%	20.7%	0.0%	79.3%
11420	Exc h-f-nk-sp b9+marg 0.5 <	7,100	4.0%	1.5%	94.5%	14.2%	0.0%	85.8%
11421	Exc h-f-nk-sp b9+marg 0.6-1	10,061	2.9%	1.2%	96.0%	11.7%	0.0%	88.3%
11422	Exc h-f-nk-sp b9+marg 1.1-2	9,089	4.7%	2.1%	93.2%	18.0%	0.0%	82.0%
11442	Exc face-mm b9+marg 1.1-2 cm	6,331	4.4%	3.0%	92.7%	17.1%	0.0%	82.9%
11603	Exc tr-ext mlg+marg 2.1-3 cm	3,241	2.9%	1.0%	96.1%	10.4%	0.0%	89.6%
11642	Exc face-mm malig+marg 1.1-2	3,600	3.7%	2.2%	94.1%	12.3%	0.0%	87.7%
20680	Removal of support implant	3,279	40.0%	29.7%	30.3%	58.7%	28.2%	13.0%
21555	Remove lesion, neck/chest	662	20.4%	16.2%	63.4%	39.9%	25.9%	34.2%
21930	Remove lesion, back or flank	897	26.4%	18.7%	54.8%	45.6%	24.7%	29.7%
29824	Shoulder arthroscopy/surgery	1,705	45.7%	47.4%	6.8%	75.8%	23.9%	0.2%
29848	Wrist endoscopy/surgery	767	49.5%	40.7%	9.8%	51.6%	47.6%	0.8%
29880	Knee arthroscopy/surgery	2,810	51.4%	43.1%	5.5%	66.4%	33.0%	0.6%
29881	Knee arthroscopy/surgery	9,131	50.2%	43.8%	6.0%	60.6%	38.7%	0.6%
45378	Diagnostic colonoscopy	63,041	45.3%	36.1%	18.6%	56.2%	37.5%	6.3%
45380	Colonoscopy and biopsy	33,239	45.7%	38.0%	16.3%	54.8%	40.4%	4.8%
45384	Lesion remove colonoscopy	11,171	50.3%	35.1%	14.6%	58.3%	37.6%	4.1%
45385	Lesion removal colonoscopy	20,816	43.5%	36.8%	19.7%	50.7%	43.6%	5.8%
62310	Inject spine c/t	11,982	22.3%	18.5%	59.2%	36.9%	28.6%	34.5%

62311	Inject spine l/s (cd)	36,454	23.6%	15.4%	61.0%	41.1%	25.8%	33.1%
64472	Inj paravertebral c/t add-on	5,551	11.0%	16.9%	72.1%	12.7%	18.2%	69.0%
64475	Inj paravertebral l/s	14,783	12.5%	13.4%	74.1%	21.2%	22.6%	56.3%
64483	Inj foramen epidural l/s	18,511	15.4%	21.9%	62.7%	27.3%	33.0%	39.7%
64484	Inj foramen epidural add-on	6,567	10.2%	22.9%	66.8%	22.1%	31.3%	46.6%
64623	Destr paravertebral n add-on	2,663	26.3%	24.1%	49.6%	18.9%	24.1%	57.0%
64640	Injection treatment of nerve	8,934	1.2%	0.5%	98.3%	4.6%	0.0%	95.4%
66984	Cataract surg w/iol, 1 stage	11,285	33.9%	49.9%	16.2%	33.6%	61.5%	4.9%
70553	Mri brain w/o & w/dye	68,179	27.7%	0.0%	72.2%	52.8%	0.0%	47.2%
71010	Chest x-ray	70,408	57.1%	0.2%	42.7%	75.7%	0.0%	24.3%
71020	Chest x-ray	732,392	24.6%	0.0%	75.4%	55.4%	0.0%	44.6%
72158	Mri lumbar spine w/o & w/dye	17,944	23.5%	0.0%	76.4%	48.0%	0.0%	52.0%
74183	Mri abdomen w/o & w/dye	5,835	34.9%	0.0%	65.1%	53.5%	0.0%	46.5%
77280	Sbrt management	8,207	25.8%	0.0%	74.2%	61.0%	0.0%	39.0%
77290	Set radiation therapy field	11,019	30.4%	0.0%	69.6%	62.1%	0.0%	37.9%
77300	Radiation therapy dose plan	7,471	25.2%	0.1%	74.7%	34.5%	0.0%	65.5%
77315	Teletx isodose plan complex	4,304	29.5%	0.0%	70.5%	64.8%	0.0%	35.2%
77321	Special teletx port plan	1,321	29.1%	0.2%	70.7%	62.0%	0.0%	38.0%
77328	Brachytx isodose plan compl	793	25.2%	0.3%	74.5%	62.2%	0.0%	37.8%
77331	Special radiation dosimetry	4,331	23.7%	0.1%	76.2%	44.5%	0.0%	55.5%
77336	Radiation physics consult (non-FAC only)	35,686	26.7%	0.0%	73.3%	60.5%	0.0%	39.5%
93017	Cardiovascular stress test-tracing only	33,638	75.6%	0.0%	24.3%	75.6%	0.0%	24.4%
96450	Chemotherapy administration, into CNS (eg, intrathecal), requiring and including	747	23.6%	0.4%	76.0%	50.1%	0.0%	49.9%
G0105	Colorectal scrn; hi risk ind	724	41.7%	45.0%	13.3%	46.9%	48.9%	4.3%
G0121	Colon ca scrn not hi rsk ind	1,642	44.7%	43.4%	11.9%	52.4%	42.8%	4.8%
		1,318,038	29.0%	6.0%	64.9%	42.9%	9.4%	47.7%

Table B.2
Number of Markets with at least 10 Procedures in Two or More Settings and Percent of Total Procedures Performed in Those Markets

CPT		ASC/HOPD Markets			PO/HOPD Markets			PO/ASC Markets		
		No. of MSAs	% ASC services	% HOPD Services	No. of MSAs	% PO services	% HOPD Services	No. of MSAs	% PO services	% ASC Services
11403	Exc tr-ext b9+marg 2.1-3 cm	1	13.3	9.7	13	93.8	95.2	4	12.9	68.0
11420	Exc h-f-nk-sp b9+marg 0.5 <	.	.	.	1	60.1	82.4	1	39.9	60.0
11421	Exc h-f-nk-sp b9+marg 0.6-1	.	.	.	2	81.3	79.5	1	18.7	61.1
11422	Exc h-f-nk-sp b9+marg 1.1-2	.	.	.	6	81.8	93.0	2	18.2	52.4
11442	Exc face-mm b9+marg 1.1-2 cm	.	.	.	2	39.0	78.7	3	61.0	82.0
11603	Exc tr-ext mlg+marg 2.1-3 cm	.	.	.	2	100.0	100.0	.	.	.
20680	Removal of support implant	11	88.6	80.4	11	90.5	84.3	10	66.7	85.0
29824	Shoulder arthroscopy/surgery	9	100.0	100.0	1	64.9	7.3	1	64.9	8.4
29880	Knee arthroscopy/surgery	14	100.0	100.0	1	57.1	9.2	1	57.1	15.7
29881	Knee arthroscopy/surgery	48	99.6	97.2	5	56.5	12.8	3	41.6	11.3
45378	Diagnostic colonoscopy	160	97.4	91.0	115	95.9	78.7	81	66.9	72.5
45380	Colonoscopy and biopsy	109	98.0	94.4	68	94.2	72.5	54	62.8	69.5
45384	Lesion remove colonoscopy	42	97.5	88.5	26	92.7	67.6	16	52.7	50.6
45385	Lesion removal colonoscopy	86	97.6	92.9	52	86.3	60.4	40	66.8	55.6
62310	Inject spine c/t	26	71.1	70.2	37	90.4	88.6	28	66.7	85.6
62311	Inject spine l/s (cd)	60	77.7	68.6	114	95.5	97.7	82	65.8	96.0
64472	Inj paravertebral c/t add-on	7	47.2	82.6	7	62.9	88.4	18	99.1	96.1
64475	Inj paravertebral l/s	18	65.0	63.5	35	81.6	89.1	33	67.1	91.7
64483	Inj foramen epidural l/s	36	80.4	78.8	51	80.7	86.0	55	78.0	95.4
64484	Inj foramen epidural add-on	7	49.0	69.4	10	60.0	81.7	22	90.7	95.9
64623	Destr paravertebral n add-on	3	58.6	44.4	7	65.3	98.4	8	74.4	97.5
64640	Injection treatment of nerve	.	.	.	1	100.0	100.0	.	.	.
66984	Cataract surg w/iol, 1 stage	50	91.8	94.2	22	70.5	54.5	25	76.2	56.1
70553	Mri brain w/o & w/dye	.	.	.	182	100.0	100.0	.	.	.
71010	Chest x-ray	3	33.6	8.0	182	100.0	100.0	3	8.6	33.6
71020	Chest x-ray	9	66.6	12.3	400	100.0	100.0	9	10.0	66.6
72158	Mri lumbar spine w/o & w/dye	.	.	.	81	100.0	100.0	.	.	.
74183	Mri abdomen w/o & w/dye	.	.	.	26	100.0	100.0	.	.	.
77280	Sbrt management	.	.	.	32	100.0	100.0	.	.	.
77290	Set radiation therapy field	.	.	.	52	100.0	100.0	.	.	.
77300	Radiation therapy dose plan	.	.	.	30	100.0	100.0	.	.	.
77315	Teletx isodose plan complex	.	.	.	17	100.0	100.0	.	.	.

77321	Special teletx port plan	.	.	.	3	100.0	100.0	.	.	.
77328	Brachytx isodose plan compl	.	.	.	1	100.0	100.0	.	.	.
77331	Special radiation dosimetry	.	.	.	17	100.0	100.0	.	.	.
77336	Radiation physics consult (non-FAC only)	.	.	.	98	100.0	100.0	.	.	.
93017	Cardiovascular stress test-tracing only	.	.	.	86	100.0	100.0	.	.	.
96450	Chemotherapy administration, into CNS (eg, intrathecal), requiring and including	.	.	.	1	100.0	100.0	.	.	.
G0121	Colon ca scrn not hi rsk ind	7	100.0	100.0	1	57.6	3.5	1	57.6	4.0

Table B.3
Comparison of HOPD/PO Payment Differentials

APC	CPT Code	Description	Ratio of PO to HOPD Payment	
			Non-Medicare	Medicare
20	11403	Exc tr-ext b9+marg 2.1-3 cm	7.7	5.7
20	11422	Exc h-f-nk-sp b9+marg 1.1-2	7.3	6.0
22	20680	Removal of support implant	3.6	4.3
41	29881	Knee arthroscopy/surgery	2.9	7.8
100	93017	Cardiovascular stress test-tracing only	3.2	2.8
143	45378	Lower GI Endoscopy	2.1	2.3
143	45380	Colonoscopy and biopsy	1.8	1.9
143	45384	Lesion remove colonoscopy	1.4	2.1
143	45385	Lesion removal colonoscopy	1.8	1.8
206	64472	Inj paravertebral c/t add-on	2.4	5.6
207	62310	Inject spine c/t	2.5	3.9
207	62311	Inject spine l/s (cd)	2.3	4.4
207	64475	Inj paravertebral l/s	2.2	10.7
207	64483	Inj foramen epidural l/s	2.3	3.1
207	64484	Inj foramen epidural add-on	3.6	4.2
207	64623	Destr paravertebral n add-on	2.1	7.0
246	66984	Cataract surg w/iol, 1 stage	7.9	6.2
260	71010	Chest x-ray	3.2	3.1
260	71020	Chest x-ray	3.3	2.3
304	77280	Sbrt management	2.0	0.6
304	77300	Radiation therapy dose plan	3.5	2.2
304	77331	Special radiation dosimetry	3.9	3.2
304	77336	Radiation physics consult (non-FAC only)	1.7	2.3
305	77290	Set radiation therapy field	1.9	0.5
305	77315	Teletx isodose plan complex	2.3	3.2
305	77321	Special teletx port plan	3.5	4.3
337	70553	Mri brain w/o & w/dye	1.4	0.8
337	72158	Mri lumbar spine w/o & w/dye	1.3	0.8
337	74183	Mri abdomen w/o & w/dye	1.4	0.8

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