The health care system in the United States has been criticized for skyrocketing expenditures and quality deficits. Simultaneously, health care providers and systems are under pressure to provide better and more proficient care. The landscape of the US health care system is shaped by federal and private payers which continue to develop initiatives designed to curtail costs. These include value-based reimbursement programs, cost-shifting expenses to the consumer and reducing reimbursement of providers and facilities. Moreover, there is an underlying thought to steer provision of health care to theoretically more efficient settings. Many of these initiatives are based on affordable health care reform.

The major aspects of curtailing health care costs include hospital and other facility payments as well as physician payments and reductions in the approved services. Consequently, ambulatory surgery centers (ASCs) are not immune to these changes. Until 1970, all surgery was performed in hospitals. The development of ASCs and site of service differential payments for in-office procedures have changed the dynamics of surgical trends with outpatient surgeries outpacing inpatient surgeries by as early as 1989. By 2008, approximately 65% of procedures were performed in all outpatient settings including hospital outpatient departments. ASCs claim that improved efficiency in health care delivery allows patients to spend less time in the health care setting with quicker turnover, improving the productivity of the health care team. However, since the majority of the ASCs are owned, in part, by the physicians who staff them, the financial incentives related to ownership have been alleged to potentially alter provider behavior.

The number of Medicare certified ASCs and total Medicare payments from 1999 to 2010 increased significantly, but more recent year-to-year changes are far less substantial when compared to previous years. Net percent revenue growth from 2008 to 2009 was 3.2% and from 2009 to 2010 was 6.2% with an overall increase from 1999 of 183% over a period of 11 years. Similarly, the number of Medicare certified ASCs increased from 2,786 in 1999 to 5,316 in 2010, 1.1% increased from 2009 to 2010, however, a 91% increase from 1999 over a period of 11 years.

Interventional pain management is one of the fastest growing specialties with a footprint in multiple disciplines. Interventional pain management in ASC settings has come a long way since June 1998 proposed Health Care Financing Administration’s ASC rule which seriously compromised interventional pain management in the ASC setting. There are many payment challenges facing interventional pain management (IPM) in 2012. Significant changes continue to occur in the payment systems with policies of paying a certain percent of hospital outpatient department payments to ASCs which declined from 63% in 2008 to 56% in 2011, with substantial reductions for add-on codes. The Centers for Medicare and Medicaid Services (CMS) evaluation of IPM codes also consists of multiple misvalued codes.

In conclusion, overall the future of ASCs may appear optimistic, but in the near perspective, specifically in 2012 to 2014, there will be challenging times specifically for interventional pain management centers with the regulatory environment and rapid changes taking place with or without implementation of Affordable Care Act.

Key words: Outpatient prospective payment system, ambulatory surgery center payment system, Government Accountability Office, Medicare Modernization and Improvement Act, interventional techniques
On March 23, 2010, President Obama signed into law the most sweeping health care system reform legislation since Medicare was enacted in 1965 — the Affordable Care Act (ACA) (1-3). This legislation was designated as the Patient Protection and Affordable Care Act, also known as ACA for short. It is argued that it will fundamentally change nearly every aspect of health care, from insurance to the final delivery of care. It is rapidly taking not only its effect, but also toll, with irreversible changes in many aspects of medical care. While early elements of the law have been enacted, health care spending continues to increase, with $2.6 trillion spent on personal health care in the United States in 2010 (4,5).

Ambulatory surgery centers (ASCs) are not immune to changes in the health care environment. ASCs, which had a modest beginning in 1982, continue to play a major role in health care despite the new reform. The evolution of ASCs is itself instructive. There were only 30 surgical procedures that met government guidelines for coverage at the beginning. Since the 1980s, the share of surgeries performed in outpatient settings has grown significantly. In fact, the number of surgery centers in 2003 were 3,779 increasing to 5,316 in 2010 (6). Medicare payments increased from $2.2 billion in 2003 to $3.4 billion in 2010. While multiple specialties are growing and there have been changes in the type of cases performed in ASCs, now approximately over 300 surgery centers are designated as single specialty, interventional pain management centers. In fact, 4 of the 10 top procedures performed in ASCs would fall under the rubric of interventional pain management.

The landscape of ASCs and interventional techniques performed in these surgery centers has changed substantially since June 1998 when the Healthcare Financing Administration, now the Centers for Medicare and Medicaid Services (CMS), proposed an ASC rule that would eliminate 60% of interventional procedures and substantially cut reimbursement for the remaining 40% of the procedures (7). In addition, the Medicare Modernization Act (MMA) of 2003 made sweeping changes in ASC payment systems (8,9), followed by changes by ACA (1-3). Based on the requirement of MMA, a new payment system for ASCs was introduced in 2008 and it entered the final phase in 2011, with 2012 providing a landscape of fully implemented changes. A final rule of the hospital outpatient department (HOPD) prospective payment system and ASC payment system released in November went into effect January 1, 2012 (5). Further, multiple regulations related to ACA (1-3), payment schedules, and other regulations (10-24), and the exponential growth of ASCs, along with the case volume, and referral patterns illustrating these aspects may cause significant changes in the payment systems due to Accountable Care Organizations (ACOs) and new regulations being proposed, multiple changes are on their way (10-17,21-28).

1.0 HEALTH CARE SPENDING IN THE UNITED STATES

Health expenditures in the United States neared $2.6 trillion in 2010, over 10 times the $256 billion spent in 1980 (4). Despite slowing growth in recent years relative to the late 1990s and early 2000s, health care expenditures continue to grow faster than national income (29). The ACA was expected to control health care costs (1-3); however, these efforts have not had any short-term effect and many question its long-term effect. Thus, intense debate continues over a stronger role for government regulation or market-based models that encourage greater competition to provide cost containment. Costs emerged as a central element of the national health reform debate before the passage of the ACA of 2010 (1-3). Major ACA measures aimed at cost containment included (30):

- Greater government oversight and regulation of health insurer premiums and practices;
- Increasing competition and price transparency in the sale of insurance policies through Health Insurance Exchanges;
- Reforms that aim to reduce payments for treatments and hospitalizations resulting from errors or poor quality of care;
- Funding for comparative effectiveness research (CER) that compares different interventions and strategies to prevent, diagnose, treat, and monitor health conditions (31);
- Refocusing medical delivery systems to be patient-centered and improve the coordination and quality of care (e.g. ACOs, medical homes) (15).

There are several other proposals directed at controlling costs and salvaging health care into the future. Those plans include the one promoted by Paul Ryan in the House of Representatives and supported by Ron Wyden in the Senate (25,26). Other proposals include a single payer system, wider use of health IT in the delivery system, increase in consumer out-of-pocket costs, improving health efficiency and quality of care, and reforming the tax treatment of health insurance.
Figure 1 shows health care revenues for 2010 and Figure 2 illustrates the patterns of health care spending (32, 33). Of the $2.6 trillion spent on personal health care in the United States in 2010, Medicare accounted for 20.2% or $524.6 billion which includes direct patient care spending and excludes certain administrative and business costs. Consequently, Medicare is the largest single purchaser of health care in the United States. As illustrated in Fig. 1, the majority of the revenues for health expenditures which constituted 72% of the entire health care dollar was from government programs – a whopping 67% of health insurance.

Medicare spending among fee-for-service (FFS) beneficiaries grew strongly in most sectors from 2000 through 2004 (Fig. 3). Spending growth slowed slightly from 2005 to 2007 but rebounded in some sectors from 2008 to 2009. The slowing and aggregate spending from 2005 to 2007 is partially attributable to a decline in the number of FFS beneficiaries. Further declines may be contributed to reduced patient visits resulting in reduced care and expenses. By the same token, Medicare spending per beneficiaries in
FFS Medicare increased steadily in most sectors from 2000 through 2009, with some sectors growing faster from 2006 through 2009.

The level and distribution of spending differ between Medicare and other payers, largely because Medicare covers an older, sicker population and does not cover services such as long-term care. Consequently, in 2009, Medicare accounted for 29% of spending on hospital care, 21% of physician and clinical services, 44% of home health services, 20% of nursing home care, 21% of durable medical equipment, and 22% of prescription drugs.

Total health spending has been increasing as a proportion of national resources, encompassing a higher share of gross domestic product (GDP) annually since 1982. As a share of GDP, total health spending has increased from about 6% in 1965 to about 18% in 2009. It is projected to reach 20% of GDP in 2019. Health spending share of GDP was stable throughout much of the 1990s due to slower spending growth associated with greater use of managed care techniques and higher enrollment in managed care plans, as well as strong economy (Fig. 4).

Consequently, Medicare spending also has grown as a share of the economy from less than 1% when it was started in 1965 to about 3.6% in 2009. It has been projected that Medicare spending will make up 4% of GDP by 2019. However, with the new provisions in the ACA, combined Medicare and Medicaid spending is expected to exceed 50% of total health care spending, reaching 10% to 12% of GDP by 2019. Further, in 2009 itself, all public spending made up about 49% of total health care spending and private spending made up 51%. By 2019, those percentages are projected to be 51% and 49% respectively without taking into consideration the changes imposed by ACA. Thus, this may exceed two-thirds of the health care spending by public spending. Medicare spending has grown nearly 13-fold from $37 billion in 1980 to $509 billion in 2009 and $524.6 billion in 2010 (32). The Congressional Budget Office (CBO) projects that mandatory spending for Medicare will grow at an average annual rate of 5.5% between 2011 and 2020. In contrast, Medicare trustees projections for 2011 to 2020 assumed 5.9% average annual growth. As illustrated in Fig. 5, the distribution of Medicare spending among various services has changed.
substantially over time with inpatient hospital declining from 39% to 27% and physician fee schedule declining from 18% to 2% of the spending. Further, Medicare FFS spending is concentrated among a small number of beneficiaries. In 2007, the costliest 5% of beneficiaries accounted for 38% of annual Medicare FFS spending and the costliest 25% accounted for 81%. By contrast, the least costly half of the beneficiaries accounted for

Fig. 4. *Illustration of health care spending.*

Fig. 5. *Comparative illustration of Medicare spending.*
only 5% of the spending. Costly beneficiaries tend to include those who have multiple chronic conditions, those using inpatient hospital services, those who are dually eligible for Medicare and Medicaid, and those who are in the last year of life.

The present estimations illustrate that Medicare faces serious challenges with long-term financing. Under an intermediate set of assumptions, trustees project that Medicare spending will grow rapidly, from about 3.5% of GDP today to 5.8% by 2040, and to about 6.3% by 2080. The proponents of ACA state that these estimations would have been 11.2% under the prior law; however, the actual results might be vice versa, increasing to 11.2% or even more as federal health care share increases (32).

2.0 Changing Landscape of Ambulatory Surgical Centers

Until 1970, virtually all surgery was performed in hospitals. With the development of ASCs and site-of-service differential payments for in-office procedures, the dynamics have changed (27,34-67). Figure 6 illustrates surgical trends in the United States with outpatient surgeries outpacing inpatient surgeries by 1989 (34-36,57). By 2008, approximately 65% of procedures were performed in all outpatient settings (including HOPDs), whereas inpatient volume decreased to 35%, falling from over 80% of inpatient surgeries in 1980 (35).

Approximately 57 million outpatient procedures are performed annually in the United States; 14 million of which occur in elderly patients (39,42). It is thought that ASCs offer improved efficiency in health care delivery, allowing patients to spend less time in the health care setting. Their quicker patient turnover rates may also increase provider productivity (39). Of note, the majority of ASCs are owned, in part, by the physicians who staff them, and the financial incentives related to ownership have been alleged potentially to alter provider behavior (39).

With multiple unfavorable changes in ASC payments including stagnant payment updates there has been a lack of significant growth in the number of new patients served by ASCs. Further, diversity of the type of service is provided in the settings as anticipated by the CMS when establishing the revised payment system has not occurred. In fact, it has been shown that the mix of services has changed very little since 2008. Ninety per-

---

Fig. 6. Illustration of surgical trends in the United States.

cent of Medicare’s payments are still spent on services that have been on the ASC list since 2007 and 99% of Medicare’s payments are spent on major procedures (68).

Likewise, the diversity of procedures has changed only modestly. It is stated that when factoring in growth in the Medicare FFS population, the 2010 increase in patient encounters represented an increase in 4 services per 1,000 FFS beneficiaries (0.5%). Across the specialties, it has been shown that growth has been flat or negative for the most common ASC services (Table 1). 

3.0 Growth of Hospital Outpatient and Ambulatory Surgery Centers

Table 2 and Fig. 7 illustrate the number of Medicare certified ASCs and total ASC payments from 1999 to 2010. Medicare certified ASCs increased from 2,786 in 1999 to 5,316 in 2010, an overall increase of 91% and an annual growth of 8.2%. ASC payments have increased from $1.2 billion in 1999 to $3.4 billion in 2010, overall a 183% increase, with an annual increase of 16.6%. Thus, there has been dampened growth of 1.9% from 2009 to 2010 in the number of Medicare

<table>
<thead>
<tr>
<th>Specialty</th>
<th>ASC Surgeries and Procedures*</th>
<th>Change in volume of services</th>
<th>Change in volume per FFS beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatology</td>
<td>273,000–279,000</td>
<td>2.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>1,939,000–1,971,000</td>
<td>1.7%</td>
<td>0.4%</td>
</tr>
<tr>
<td>General Surgery</td>
<td>73,000–73,000</td>
<td>0.0%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>13,000–14,000</td>
<td>7.7%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>1,810,000–1,796,000</td>
<td>-0.8%</td>
<td>-2.0%</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>493,000–508,000</td>
<td>3.0%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Otolaryngology</td>
<td>71,000–74,000</td>
<td>4.2%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Pain Management</td>
<td>1,339,000–1,379,000</td>
<td>3.0%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>3,000–3,000</td>
<td>0.0%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Urology</td>
<td>214,000–209,000</td>
<td>-2.3</td>
<td>-3.5</td>
</tr>
<tr>
<td>Vascular</td>
<td>21,000–24,000</td>
<td>14.3%</td>
<td>12.9%</td>
</tr>
</tbody>
</table>

* Uses constant code set of services provided in both 2009 and 2010

Table 2. Number of Medicare-certified ASCs and total Medicare payments from 1999 to 2010.

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Medicare payments (billions)</td>
<td>$1.2</td>
<td>$1.4</td>
<td>$1.6</td>
<td>$1.9</td>
<td>$2.2</td>
<td>$2.5</td>
<td>$2.7</td>
<td>$2.8</td>
<td>$2.9</td>
<td>$3.1</td>
<td>$3.2</td>
<td>$3.4</td>
</tr>
<tr>
<td>Net percent growth from previous year</td>
<td>16.6%</td>
<td>14.3%</td>
<td>18.8%</td>
<td>15.8%</td>
<td>13.6%</td>
<td>8%</td>
<td>3.7%</td>
<td>3.6%</td>
<td>6.9%</td>
<td>3.2%</td>
<td>6.2%</td>
<td>6.2%</td>
</tr>
<tr>
<td>% of increase from 1999</td>
<td>-</td>
<td>17%</td>
<td>33%</td>
<td>58%</td>
<td>83%</td>
<td>108%</td>
<td>125%</td>
<td>133%</td>
<td>142%</td>
<td>158%</td>
<td>167%</td>
<td>183%</td>
</tr>
<tr>
<td>Per Enrollee (% change)</td>
<td>$66 (12.9%)</td>
<td>$73 (10.9%)</td>
<td>$78 (6.8%)</td>
<td>$85 (8.5%)</td>
<td>$90 (5.6%)</td>
<td>$97 (8.1%)</td>
<td>$102 (5.1%)</td>
<td>$106 (3.9%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Medicare Certified ASCs*</td>
<td>2,786</td>
<td>3,028</td>
<td>3,371</td>
<td>3,597</td>
<td>3,887</td>
<td>4,106</td>
<td>4,404</td>
<td>4,654</td>
<td>4,932</td>
<td>5,151</td>
<td>5,260</td>
<td>5,316</td>
</tr>
<tr>
<td>Net percent growth from previous year</td>
<td>8.7%</td>
<td>11.3%</td>
<td>6.7%</td>
<td>8.1%</td>
<td>7.7%</td>
<td>7.3%</td>
<td>5.7%</td>
<td>6.0%</td>
<td>4.4%</td>
<td>2.1%</td>
<td>1.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>% of increase from 1999</td>
<td>-</td>
<td>9%</td>
<td>21%</td>
<td>29%</td>
<td>40%</td>
<td>47%</td>
<td>58%</td>
<td>67%</td>
<td>77%</td>
<td>85%</td>
<td>89%</td>
<td>91%</td>
</tr>
</tbody>
</table>

* 2004-2009 numbers are based on 2011 MedPAC report

Table 1. Volume of services for common ASC specialties.
certified ASCs; however, the growth of Medicare dollars spent was 6.2%, which does illustrate some continued movement for Medicare patients even though overall growth as illustrated in Table 1 has not been significant.

The growth in HOPD procedures also has skyrocketed as illustrated in Table 3 and Fig. 8 (62-67). The phenomenal growth in expenditures under the outpatient prospective payment system (OPPS) was approximately $18 billion in 2001, increasing to $41.1 billion in 2012 (projected), constituting an overall increase of 128% and an annual increase of 12.8%. Thus, even growth and expenditures of HOPD services has been significantly higher in the dollar amounts, the proportion of increases has been less compared to ASCs.

In-office procedures have increased substantially in pace with ASCs and HOPD growth (22-24,58-69).
4.0 ASC Payment Systems

The year 1998 was the game changer for ASCs, specifically for interventional pain management. The Health Care Financing Administration (HCFA) in June 1998 proposed the ASC rule that was so drastic to interventional pain management that the only remaining procedures that could be performed in ASCs were epidural injections and neurolytic lumbar facet joint nerve blocks (70). Further, this rule not only eliminated 60% of interventional procedures, but substantially reduced the reimbursement for the remaining 40% of the procedures (7,70). However, with a public outcry and numerous comments, resulting in Congressional intervention, the proposed rule was delayed for several years. Further, during this period, multiple new codes were developed to describe interventional pain management and the procedures appropriately. In 2000, HCFA, at the request and evidence presentation by American Society of Interventional Pain Physicians (ASIPP), added 9 replacement codes to the approved procedure list. Thus, the final rule of the 1998 proposed rule, published in 2002, not only preserved all the interventional procedures but also added a few others (71).

A subsequent rule in 2005 was also based on an old payment system (72). Medicare’s initial ASC payment rates were based on ASC costs and charge data from 1979 and 1980 (70,71). HCFA was required by law to review the ASC payment rates periodically and adjust them as appropriate. The last revised ASC payment rates of 1990 were using ASC data on costs and charges that CMS collected in 1986 (70,71).

Medicare has paid ASCs and HOPDs through different payment systems. Until 2003, HOPD payment systems were based on charge data which was developed into OPPS. ASCs were paid under the old system, whereas HOPD surgical procedures were paid under OPPS. Procedures performed in ASCs were placed into payment groups based on similar costs, whereas HOPD procedures are placed into payment groups known as Ambulatory Payment Classification (APC) groups, based on both cost and clinical similarity. In addition, the payment rates for HOPDs were revised annually based on cost and charge data included in reports. Consequently, the Government Accountability Office (GAO) conducted a study that compared the relative costs of procedures performed in ASCs to the relative costs of procedures performed in HOPDs, based on the mandate of the MMA (8,9,36). Further, MMA also granted broad statutory authority to the Secretary of Health and Human Services to design a new ASC payment system based on OPPS (8,9).
Based on the mandate of MMA, CMS published the OPPS and ASC proposed rule in August 2006 with sweeping changes, which included expansion of approved list of procedures and resulting in payments at a rate of 62% of HOPD payments for ASCs in 2007 and a blended formula of 50/50 ASC and HOPD payment for 2008. This was devastating for the specialty of interventional pain management because it substantially reduced the payment rates. Initially, HOPD payment rates for interventional procedures were low until the classification proposed by ASIPP. In addition, the GAO report concluded that payment groups in the OPPS accurately reflected the relative cost of procedures performed in ASCs. However, the GAO’s analysis also identified differences in the cost of procedures in the 2 settings with a median cost ratio among all ASC procedures of 0.39, and when weighted by Medicare claims, it was 0.84. Overall, it was concluded that the cost of procedures in ASCs were substantially lower than corresponding costs in HOPDs. Due to efforts of ASC industry specifically of groups representing interventional pain management, CMS has changed the proposed system to be phased in over 4 years from 2008 to 2011 rather than one time implementation (73-79).

The ASC payment systems are set by CMS based on the relative weights in the OPPS, which are based on the median cost of the service in the payment group. The ASC system uses a conversion factor or average payment amount (80) to translate the relative weight in dollar amounts. The ASC conversion factor is based on a percentage of the OPPS conversion factor. The purpose of the conversion factor is to ensure budget neutrality with total payments under the new ASC payment system equalling total payments under the old ASC payment system. Thus, it continues to result in lower ASC payment rates. This system is creating an increasingly wide difference between ASC and HOPD payment rates. This difference is in turn creating inappropriate and unintended distortions in the market for outpatient surgery (68). At the inception of the revised 2008 ASC payment system, CMS established a conversion factor that set ASC rates 35% less than the comparable rate for the same service in the HOPD. The budget neutrality calculation accounted for the Agency’s estimation of payments that would be made under the revised payment system.

It was widely believed that due to the establishment of the new conversion factor for ASCs, the differences in the conversion factor (should not) be exacerbated by policies for updating the conversion factor or relative weights outside of those mandated by those statutory fee schedules on ASC updates in 2008 and 2009. However, CMS has taken the position in the previous rule-making, that the agency had the discretion to use an alternative update factor to the default adjustment based on an estimate of consumer price index for urban consumers (CPI-U). The ASC industry has repeatedly argued that the agency could reduce distortions that create inappropriate financial incentives to deliver services in a higher cost setting by updating the ASC and HOPD rates by the same measure of inflation: the hospital market basket (68). However, again in 2011, CMS relied upon an estimate of inflation using the CPI-U to update the ASC payment system and applied a statutorily mandated measure of the 10-year rolling average of economy-wide multifactor productivity (MFP) gains. These estimations have been repeatedly changed, creating a widening of the delta between ASC and HOPD payments that have fueled a trend of hospital acquisition of ASCs and conversion of these facilities to departments of the hospital that now bill under the OPPS system at a price more than 75% higher than the ASC rate. In fact, MedPAC noted this trend in their March 2011 report to the Congress (81). However, even though this discrepancy has been acknowledged, no action has been taken to better align the payment systems and avoid providing the same services at a higher rate.

Thus, CPI-U is considered as a poor proxy of the cost inflation facing the ASC industry. An output price index, the CPI-U measures the cost of goods purchased by typical consumers, representing an American household purchasing various types of goods rather than an American receiving outpatient surgical services. Due to the recent volatility in the economy and recession, there has been a major volatility in the update factor. In addition, the construction of the CPI-U is a poor predictor of ASC cost growth (68). Both the CPI-U and market basket assign weights to categories of goods and the categories’ proportion of the total budget. However, the CPI-U considers the prices paid by all urban consumers, whereas the market basket analyzes the cost of goods purchased by hospitals. In the market basket, spending on wages and benefits represent nearly 60% of the weight of the index, in contrast the CPI-U is dominated by inflation in the housing sector which contributes to 42% of the its weight.

Due to significant volatility in the markets, Figure 9 illustrates that all of the major government and private sector forecasters show significant variation in their estimates of CPI-U, providing an insight into how
divergent the OPPS and ASC payment systems are when one is updated using the market basket and the other is updated using the CPI-U. Thus, CMS has established the hospital market basket at 3% while the proposed CPI-U inflation adjustment of 2.3%. In addition, as required by ACA, CMS will further reduce the ASC update by a measure of economy-wide MFP in 2012, estimated to be 1.4%. Even worsening the situation was the recent congressional proposals to reduce the US national debt as a measure of inflation for all government programs. Without inflation, this will adversely affect ASC payment adjustments which will be even more constrained relative to HOPDs than they were using the CPI-U.

In contrast to the position CMS has taken with CPI-U, the ASC industry has argued that CMS has the authority to apply an alternative update to ASC rates since the statute gives the secretary broad authority in designing the specific features of the revised system. Figure 10 shows exacerbation of the underlying problems of calculating the ASC rate as a percent of the HOPD rate which was to reduce to 56% by 2011, which could eventually be reduced further (82). As illustrated in Figure 11 ASC reimbursement compared to HOPD based on ACA continues to decline.

5.0 CHANGES OF CONDITIONS OF COVERAGE

Significant changes of conditions of coverage were proposed (83,84) in 2007 and were published in the November 18, 2008, hospital OPPS and ASC payment final rule. The majority of these regulations took effect on May 18, 2009 (21,85). There were substantial changes in
the conditions of coverage as follows:

- Revision of the definition of an ASC, adding language indicating that the expected duration of ASC services would not exceed 24 hours;
- Revisions to and reorganization of the Governing Body and Management Conditions for Coverage (CfC), including the addition of explicit responsibilities for the quality assurance/performance improvement program and for a disaster preparedness plan;
- Revisions to the Surgical Services CfC concerning anesthetic risk and evaluation;
- Renaming of the Evaluation of Quality CfC as “Quality Assessment and Performance Improvement,” and the addition of detailed regulatory standards;
- Reorganization of the Laboratory and Radiologic Services, and addition of a requirement for Radiologic services provided in the ASC to meet the Hospital Condition of Participation;
- Addition of Patient Rights;
- Addition of Infection Control;
- Addition of Patient Admission, Assessment, and Discharge.

Further, a more detailed guidance has been provided for existing regulations along with development of a detailed survey protocol which is more stringent than either the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) or the Accreditation Association for Ambulatory Health Care (AAAHC). The protocol incorporates 2 improvements to the ASC survey process developed in a 2008 ASC pilot survey project: use of a detailed infection control survey instrument, and addition of a case observation or tracer component to the survey. In addition, it also calls for use in more cases of a 2-person team to conduct the health portion of an ASC survey.
6.0 CURRENT COVERAGE AND PAYMENT ISSUES

The ASC schedule for 2012 has not added many procedures to the ASC list. The ASC industry has recommended an exact list of procedures that can be performed safely on Medicare beneficiaries which are already covered by commercial insurance or Medicare Advantage. Additional codes requested to be added represent laminectomies and other spine procedures.

CMS also designates certain services as office-based ASC payments, such as the non-facility practice expense (PE) relative value unit (RVU) payment available to physicians.

7.0 QUALITY REPORTING PROGRAM FOR AMBULATORY SURGERY CENTERS

CMS has taken steps toward putting an ASC quality reporting program in place by publishing proposals for selected aspects of the program. CMS has proposed that ASCs begin to submit quality data on selected measures to the agency on January 1, 2012, for the CY2014 payment determination.

CMS has outlined a set of principles the agency applies for the development and use of measures in its quality reporting programs. These principles are generally sound, but the ASC industry recommended that they must be applied with an appreciation for factors that distinguish each provider/supplier from others (86).

CMS in its final rule after consideration of the public comments, finalized the proposal to adapt quality measures for the CY2014, CY2015, and CY2016 payment determinations. They considered multiple factors in the selection of measures for the ASC quality reporting program including pay-for-reporting, public reporting, and value based purchasing programs and their reliance on a mix of standards, processes, outcomes, and patient experience of care measures; to the extent possible and recognizable differences in payment system maturity and statutory authorities, and measures aligned across public reporting and payment systems under Medicare and Medicaid; the collection of information minimizing the burden on providers/suppliers to the extent possible; and to the extent practicable and feasible, and within the scope of CMS’s statutory authorities for various quality reporting and value-based purchasing programs, measures used by CMS and endorsed by a national, multi stakeholder organization.

CY2014 measure proposals for ASC align closely with those discussed in the report to Congress entitled Medicare Ambulatory Surgical Center Value-Based Purchasing Plan; and with those proposed for future consideration in the CY2011 OPPS/ASC proposed rule (87). The initial measure set CMS proposed for the CY2014 payment determination addresses outcome measures and infection control process measures. Six of the 8 initial measures CMS proposed for CY2014 payment determination were recommended by the ASC quality collaboration and/or National Quality Forum (NQF)-endorsed. The seventh measure that CMS proposed was appropriate for measuring ambulatory surgical care, was NQF-endorsed, and is currently in use in Physician Quality Reporting System (PQRS), and is similar to a measure that is being used in the hospitals Outpatient Quality Report (OQR) program, and therefore aligns across settings in which outpatient surgery is performed.

CMS has proposed to include the following 7 outcome measures for the CY2014 payment determination developed by the ASC Quality Collaboration and endorsed by the NQF as facility-level measures of quality appropriate to the ASC setting. These are as follows:

- Patient Burn (NQF #0263)
- Patient Fall in the ASC (NQF #0266)
- Wrong Site, Wrong Side, Wrong Patient, Wrong Procedure, Wrong Implant (NQF #0267)
- Hospital Transfer/Admission (NQF #0265)
- Prophylactic Intravenous (IV) Antibiotic Timing (NQF #0264)
- Selection of prophylactic antibiotic: first of second generation cephalosporin (NQF #0268)
- Appropriate surgical site hair removal (NQF #0515)

Thus, CMS will collect all 7 measures. For the first 6 measures, the ASC Quality Collaboration (ASCCQ) measures specification can be found at http://ascquality.org/documents/ASCQualityCollaborationImplementationGuide.1.6.pdf (88).

8.0 INTERVENTIONAL PAIN MANAGEMENT PROCEDURES

The rapid growth of pain management services as shown in Fig. 12 (22-24,60-67,69,89-93) may reflect the recent development of techniques and a growing recognition by providers and Medicare beneficiaries that pain is a treatable condition (94-105). In addition, explosive growth in use of opioids and related fatalities has also assisted in the growth of interventional pain management (104-122). The emerging literature of interventional techniques also has improved appropriate use of interventional techniques (123-161). Contributions to the growth in Medicare allowed charges by
type of service from 2002 to 2007 were 29% for eye procedures, 32% for gastrointestinal procedures, 17% for pain management, 8% for orthopedics, and 18% for all other procedures. Based on the data from 2010, there has been some change in the patterns of practices with GI/endoscopy, topping with 24% case volume, followed by ophthalmology of 19%, orthopedic 17%, and pain management 14%. All other specialties contributed a total of 24% (162). There were substantial regional variations in the United States. Pain management was topping at 18% with orthopedics, ophthalmology, GI/endoscopy all accounting for 17%. In the southwest United States, pain management was not on the radar screen, whereas in the midwestern United States, pain management constituted 15%, with orthopedics constituting 21%. In the southeast United States, GI/endoscopy topped with 35%, with pain management constituting only 8%. In the northeast United States, GI/endoscopy constituted 41% with pain management not on the list (162).

There has been rapid growth, or at times explosive growth, of interventional techniques over the last 10 years or so (Fig. 12) (60-62,65). The rate changes for interventional pain management for most commonly performed codes are illustrated in Table 4 with rate changes for ASCs for top interventional pain management procedures which show a decrease of almost 70% for add-on codes and approximately 12% for primary codes. In addition, CMS continues to misvalue multiple interventional pain management codes with some higher payments and some lower payments despite multiple requests from ASIPP and the Society of Interventional Pain Management Surgery Centers (SIPMS) (163,164).

9.0 Conclusion

Concern over the financial solvency of ASCs specializing in interventional pain management is dependent in general on Medicare reform, and in particular on how all other payers will react. With most third party payers paying at the same level as Medicare, a very few above, and some paying below Medicare, in the face of an increasing Medicare population, interventional pain management is at a critical juncture. Although a multitude of issues apply to ASCs, interventional pain management is one of the 2 most negatively affected spe-

**Fig. 12.** Increasing utilization of interventional techniques excluding continuous epidurals, intraarticular injections, and trigger point and ligament injections from 2000 to 2010.
Table 4. Illustration of rate changes for ASCs for top interventional pain management procedures.

<table>
<thead>
<tr>
<th>CPT</th>
<th>Description</th>
<th>Payment Rates</th>
<th>Change from</th>
</tr>
</thead>
<tbody>
<tr>
<td>62263</td>
<td>Percutaneous epidural adhesiolysis - 2 or 3 days</td>
<td>333.00</td>
<td>295.98</td>
</tr>
<tr>
<td>62264</td>
<td>Percutaneous epidural adhesiolysis – 1 day</td>
<td>333.00</td>
<td>477.56</td>
</tr>
<tr>
<td>62287</td>
<td>Disc decompression</td>
<td>1,339.00</td>
<td>1,440.35</td>
</tr>
<tr>
<td>62310</td>
<td>Cervical epidural</td>
<td>333.00</td>
<td>295.98</td>
</tr>
<tr>
<td>62311</td>
<td>Lumbar epidural</td>
<td>333.00</td>
<td>295.98</td>
</tr>
<tr>
<td>62318</td>
<td>Epidural or subarachnoid, catheterization, C/T</td>
<td>333.00</td>
<td>295.98</td>
</tr>
<tr>
<td>62319</td>
<td>Catheterization, epidural, L/S</td>
<td>333.00</td>
<td>295.98</td>
</tr>
<tr>
<td>62350</td>
<td>Tunneled intrathecal or epidural catheter for long-term medication administration via an external pump or implantable reservoir; w/o laminectomy</td>
<td>446.00</td>
<td>1,339.38</td>
</tr>
<tr>
<td>62355</td>
<td>Removal or previously implanted intrathecal or epidural catheter</td>
<td>446.00</td>
<td>504.58</td>
</tr>
<tr>
<td>62360</td>
<td>Implant or replacement of device for intrathecal or epidural drug infusion; subcutaneous reservoir</td>
<td>446.00</td>
<td>1,339.38</td>
</tr>
<tr>
<td>62361</td>
<td>Implantation or replacement of device for epidural drug infusion; non-programmable pump</td>
<td>446.00</td>
<td>12,211.86</td>
</tr>
<tr>
<td>62362</td>
<td>Implant spine infusion pump</td>
<td>446.00</td>
<td>12,211.86</td>
</tr>
<tr>
<td>62365</td>
<td>Remove spine infusion device</td>
<td>446.00</td>
<td>1,223.77</td>
</tr>
<tr>
<td>63650</td>
<td>Implant neuroelectrodes</td>
<td>446.00</td>
<td>3,495.96</td>
</tr>
<tr>
<td>63685</td>
<td>Implant neuroreceiver</td>
<td>446.00</td>
<td>12,877.21</td>
</tr>
<tr>
<td>63688</td>
<td>Revise/remove neuroreceiver</td>
<td>333.00</td>
<td>1,354.69</td>
</tr>
<tr>
<td>64479</td>
<td>Cervical transforaminal epidural injections</td>
<td>333.00</td>
<td>295.98</td>
</tr>
<tr>
<td>64480</td>
<td>Cervical transforaminal epidural injections add-on</td>
<td>333.00</td>
<td>191.48</td>
</tr>
<tr>
<td>64483</td>
<td>Lumbar/sacral transforaminal epidural injections</td>
<td>333.00</td>
<td>295.98</td>
</tr>
<tr>
<td>64490</td>
<td>Lumbar/sacral transforaminal epidural injections add-on</td>
<td>333.00</td>
<td>191.84</td>
</tr>
<tr>
<td>64491</td>
<td>Cervical and thoracic facet joint injections, 1st level (old 64470)</td>
<td>333.00</td>
<td>288.84</td>
</tr>
<tr>
<td>64492</td>
<td>Cervical and thoracic facet joint injections, 2nd levels (old 64472)</td>
<td>333.00</td>
<td>102.38</td>
</tr>
<tr>
<td>64493</td>
<td>Cervical and thoracic facet joint injections, 3rd Level</td>
<td>333.00</td>
<td>102.38</td>
</tr>
<tr>
<td>64494</td>
<td>Paravertebral facet joint or facet joint nerve; lumbar/sacral, 1st level (old 64475)</td>
<td>333.00</td>
<td>288.44</td>
</tr>
<tr>
<td>64495</td>
<td>Paravertebral facet joint or facet joint nerve; lumbar/sacral, 2nd level (old 64476)</td>
<td>333.00</td>
<td>102.38</td>
</tr>
<tr>
<td>64496</td>
<td>Paravertebral facet joint or facet joint nerve; lumbar/sacral, 3rd level</td>
<td>333.00</td>
<td>102.38</td>
</tr>
<tr>
<td>64633</td>
<td>Destruction by neurolytic agent, paravertebral facet joint nerve; C/T, single level (old 64626)</td>
<td>333.00</td>
<td>295.98</td>
</tr>
<tr>
<td>64634</td>
<td>Destruction by neurolytic agent, paravertebral facet joint nerve; C/T, each additional level (old 64627)</td>
<td>333.00</td>
<td>156.44</td>
</tr>
<tr>
<td>64635</td>
<td>Destruction by neurolytic agent, paravertebral facet joint nerve; L/S, single level (old 64622)</td>
<td>333.00</td>
<td>477.56</td>
</tr>
<tr>
<td>64636</td>
<td>Destruction by neurolytic agent, paravertebral facet joint nerve; L/S, each additional level (old 64623)</td>
<td>333.00</td>
<td>295.98</td>
</tr>
</tbody>
</table>
cialities, whereas others are beneficiaries. Consequently, increasing payments to hospitals, nursing homes, and Medicare Advantage plans while decreasing payments to ASCs, and attempting to balance the budget on physician payments and ASC payments, will be disastrous to access and quality of care. Such an approach may increase Medicare expenses and will not contribute to savings as these segments constitute less than 25% of total payments.

Consequently, while overall ASCs’ future may appear optimistic, in the near perspective, from 2012 to 2014, there will be challenging times for interventional pain management centers, specifically with the regulatory environment and rapid changes taking place with or without implementation of affordable care.

Acknowledgments

The authors wish to thank Sekar Edem for assistance in the search of the literature, Tom Prigge, MA, for manuscript review, and Tonie M. Hatton and Diane E. Neihoff, transcriptionists, for their assistance in preparation of this manuscript. We would like to thank the editorial board of Pain Physician for review and criticism in improving the manuscript.

References

5. Department of Health and Human Services, Centers for Medicare & Medicaid Services, 42 CFR Parts 410, 411, 416, 419, 489, and 495; Medicare and Medicaid Programs: Hospital Outpatient Prospective Payment; Ambulatory Surgical Center Payment; Hospital Value-Based Purchasing Program; Physician Self-Referral; and Provider Agreement Regulations on Patient Notification Requirements. Final Changes to the Hospital Outpatient Prospective Payment System and CY 2012 Payment Rates. November 30, 2011.
Chapter 2: Saga of Payment Systems of ASCs for Interventional Techniques


23. Department of Health and Human Services, Centers for Medicare & Medicaid Services. 42 CFR Parts 410, 416, and 419. Medicare Program: Changes to the Hospital Outpatient Prospective Payment System and CY 2009 Payment Rates; Changes to the Ambulatory Surgical Center Payment System and CY 2009 Payment Rates; Hospital Conditions of Participation: Requirements for Approval and Re-Approval of Transplant Centers to Perform Organ Transplants—Clarification of Provider and Supplier Termination Policy Medicare and Medicaid Programs: Changes to the Ambulatory Surgical Center Conditions for Coverage; Final Rule. November 18, 2008.


57. SMG Marketing Group, Inc, 2002.


64. Specialty Utilization data files from CMS: www.cms.gov
September 29, 2010.


86. ASC Quality Collaboration Letter to Donald Berwick, MD, Administrator of CMS. RE: CMS-1525-P; Proposed ASC Quality Reporting Program. August 29, 2011.


105. Institute of Medicine (IOM). Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. The National Academies


111. Koyyalagunta D, Burton AW, Toro MP, Driver L, Novy DM. Opioid abuse in low back pain without disc herniation or radiculitis. JAMA 2010; 303:305-309.


126. Manchikanti L, Cash KA, McManus CD, Pampati V, Smith HS. One-year results of a randomized, double-blind, active controlled trial of fluoroscopic caudal epidural injections with or without steroids in managing chronic discogenic low back pain without disc herniation or radiculitis. Pain Physician 2011; 14:253-36.


134. Manchikanti L, Singh V, Falco FJE, Cash KA, Fellows B. Comparative outcomes of a 2-year follow-up of cervical medial branch blocks in management of chronic neck pain: A randomized, dou-
Payment System and CY 2011 Payment Rates; Payments to Hospitals for Graduate Medical Education Costs; Physician Self-Referral Rules and Related Changes to Provider Agreement Regulations; Payment for Certified Registered Nurse Anesthetist Services Furnished in Rural Hospitals and Critical Access Hospitals, January 3, 2011.