Health Policy Review



The Independent Payment Advisory Board

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The Independent Payment Advisory Board (IPAB) is a vastly powerful component of the president's health care reform law, with authority to issue recommendations to reduce the growth in Medicare spending, providing recommendations to be considered by Congress and implemented by the administration on a fast track basis. Ever since its inception, IPAB has been one of the most controversial issues of the Patient Protection and Affordable Care Act (ACA), even though the powers of IPAB are restricted and multiple sectors of health care have been protected in the law.

IPAB works by recommending policies to Congress to help Medicare provide better care at a lower cost, which would include ideas on coordinating care, getting rid of waste in the system, providing incentives for best practices, and prioritizing primary care. Congress then has the power to accept or reject these recommendations. However, Congress faces extreme limitations, either to enact policies that achieve equivalent savings, or let the Secretary of Health and Human Services (HHS) follow IPAB's recommendations. IPAB has strong supporters and opponents, leading to arguments in favor of or against to the extreme of introducing legislation to repeal IPAB.

The origins of IPAB are found in the ideology of the National Institute for Health and Clinical Excellence (NICE) and the impetus of exploring health care costs, even though IPAB's authority seems to be limited to Medicare only. The structure and operation of IPAB differs from the Medicare Payment Advisory Commission (MedPAC) and has been called "MedPAC on steroids". The board membership consists of 15 full-time members appointed by the president and confirmed by the Senate with options for recess appointments.

The IPAB statute sets target growth rates for Medicare spending. The applicable percent for maximum savings appears to be 0.5% for year 2015, 1% for 2016, 1.25% for 2017, and 1.5% for 2018 and later. The IPAB Medicare proposal process involves mandatory recommendations and advisory recommendations with multiple reporting requirements. However, although IPAB has been described as having limited authority, some believe that it has unlimited authority due to the lack of judicial review and the requirement of two-thirds of the Congress to override any recommendations by IPAB.

Key Words: Independent Payment Advisory Board (IPAB), Patient-Centered Outcomes Research Institute (PCORI), Congressional Budget Office (CBO), National Institute for Health and Clinical Excellence (NICE), Patient Protection and Affordable Care Act (ACA), interventional pain management, interventional techniques.

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PAB is an acronym for the Independent Payment Advisory Board, a powerful component of the president's health care reform law. It has the authority to issue recommendations to reduce the growth in Medicare spending, providing recommendations to be considered by Congress and implemented by the administration on a fast track basis (1-5). On April 20, 2011, Nancy-Ann DeParle proclaimed on the White House blog the president's new proposals for strengthening IPAB, along with the achievements of the Patient Protection and Affordable Care Act (ACA) (5-9). The president's framework builds on the improvements made by ACA, tackling Medicare fraud and excessive payments for prescription drugs and proposing a stronger federal-state partnership in Medicaid. It includes a series of health care reforms that would save \$340 billion by 2021, \$480 billion by 2023, and at least an additional \$1 trillion in the following decade. However, the key to these savings is the proposal to strengthen IPAB, which works by recommending policies to Congress to help Medicare provide better care at lower costs. These policies could include ideas on coordinating care, getting rid of waste in the system, providing incentives for best practices, and prioritizing primary care. Congress then has the power to accept or reject these recommendations. If Congress rejects the recommendations and Medicare spending exceeds specific targets, then Congress must either enact policies that achieve equivalent savings or let the Secretary of Health and Human Services (HHS) follow IPAB's recommendations.

Supporters include the previous Bush administration and the Centers for Medicare and Medicaid Services' (CMSs) Director, Mark McClennon, who actually called for strengthening and clarifying the authority and capacity of IPAB (6). Former Congressional Budget Office (CBO) director Robert Reischauer called IPAB a big deal that could generate substantial savings (7). Experts from the Commonwealth Fund wrote that the ACA includes important provisions that will finally begin to control unchecked health care costs, such as the creation of IPAB (8). The Commonwealth Fund also noted that building on and extending these provisions, specifically IPAB, across the health system, has the greatest promise of slowing the growth of government health care budget outlays, private insurance premiums, and underlying health care cost trends. Further, a coalition of economists, including 3 Nobel laureates, said that the ACA contains essentially every cost-containment provision policy analysts have considered effective in

reducing the rate of medical spending including IPAB.

Counterbalancing these arguments are the statements made in the National Commission of Fiscal Responsibility and Reform Report, a committee appointed by the president (10). The committee, while agreeing that federal health care spending represents our single largest fiscal challenge over the long-run. As the baby boomers retire and overall health care costs continue to grow faster than the economy, federal health spending threatens to balloon, they also concluded that the projections likely understate the true amount, because they count on large phantom savings – from a scheduled 23% cut in Medicare physician payments that may never occur and from long-term care premiums in an unsustainable program (the Community Living Assistance Services and Supports Act, or "CLASS Act"), as enacted in ACA (10). The commission recommended further strengthening IPAB by removing the exemptions provided for certain special interest groups, most notably hospitals, from any short-term changes from IPAB's authority. However, the commission also recommended reforming the Medicare sustainable growth rate (SGR) formula for physician payment and require the fix to be off-set, which is expected to cost \$300 billion relative to the current law from 2012 through 2020 (11). In a 2008 report exploring ways to reduce health care costs, the CBO wrote that comparative effectiveness research (CER), would reduce total spending on health care in the United States by an estimated \$8 billion from 2010 to 2019 (or by less than one-tenth of 1%), without consideration of regulatory burden (12). That figure seems impressive until one realizes that it is less than onetenth of 1% of overall health care costs.

The partisan arguments opposing IPAB include those made by multiple medical organizations (13-24). Further, it appears that both the public and the legislature have concerns regarding implementation of the IPAB panel (23-25). Stanley Kurtz a vocal opponent of IPAB calls it a constitutional outrage and de facto death panel (16). He decries IPAB's centrally planned and democratically unaccountable price-setting authority. Further, he describes that, "IPAB upends, short-circuits, and refashions the fundamentals of American government in ways that make a mockery of the Constitution." Peter Orszag, former director of Obama's Office of Management and Budget - and an enthusiastic IPAB supporter - once called IPAB "the largest yielding of sovereignty from the Congress since the creation of the Federal Reserve" (18). However, a lawsuit filed by Arizona's Goldwater Institute (19), argues that IPAB is a

largely unchecked power over the nation's health care system and will actually exceed the Federal Reserve's control of the banking system, as well as the Environmental Protection Agency's reach. The basis for criticism is that the basic principle of IPAB's recommendations will have the force of law unless they are countered by Congress. Representative John Fleming (R-LA), a cosponsor of House legislation to repeal IPAB, calls it a Soviet-style "central planning committee" (20). Representative Paul D. Ryan (R-WI), chairman of the House Budget Committee, called it a "rationing board" and said "Congress should not delegate Medicare decisionmaking to 15 people appointed by the President." Senator John Cornyn (R-TX), introduced the Health Care Bureaucrats Elimination bill to prevent the creation of IPAB, cosponsored by Senators Orrin Hatch (R-UT), Jon Kyl (R-AZ), Pat Roberts (R-KS), and Tom Coburn (R-OK). Cornyn stated that "America's seniors deserve the ability to hold elected officials accountable for the decisions that affect their Medicare, but IPAB would take that away from seniors and put power in the hands of politically appointed Washington bureaucrats (26,27)." Further, Senator Roberts added IPAB will lead to rationing and access to quality care will be "threatened by the decisions made behind closed doors by an unelected board and unaccountable government officials." Legislation has been introduced in both the House and Senate (23,24).

Allyson Y. Schwartz, (D-PA), prominent supporter of health care issues, said that it is the Constitutional duty of the members of Congress to take responsibility for Medicare, and not to turn decisions over to a board. Further, she stated that abdicating this responsibility, whether to insurance companies or to an unelected commission, undermines our ability to represent our constituents, including seniors and the disabled. Representative Shelley Berkley (D-NV) said that she wanted to repeal the Medicare board because she has great faith that this administration can put together a strong, independent, knowledgeable board, but she had less confidence in future administrations (14,17). Above all, health care expert, and chairman of the Subcommittee on Ways and Means at the time of ACA's passage now its ranking member, Peter Stark (D-CA), also opposes the board on the basis that expanding the board's power could be as bad as giving vouchers to Medicare beneficiaries to buy private insurance. He further added that in at least in theory, the vouchers could be set at an adequate level, whereas IPAB's board, in its effort to limit the growth of Medicare spending, is likely to set inadequate payment rates to health care providers, which could endanger patient care (14).

Among other opponents, the American Health Care Association, the Pharmaceutical Research and Manufacturers of America, American Hospital Association, the American Medical Association, and over 300 other organizations (21,22,28-33) have spoken out against the board. Further, Douglas Holtz-Eakin, a former CBO director under George W. Bush and an economist who is currently president of a conservative political organization, thinks that despite requirements that would force Congress to adopt the recommendations or find comparable savings, cuts will be politically infeasible, as Congress is likely to continue regularly to override scheduled reductions (30,31). However, the American College of Physicians, while expressing their support for the idea behind IPAB, said that the board requires significant changes, including a position for a primary care physician on IPAB, along with additional protections that insure cost reductions do not lead to lower quality of care, authority for Congress to reject proposals made by IPAB via a simple majority vote, and equal treatment for all health care providers (34). These changes are fundamental to IPAB as it stands now and are opposed by the administration (33).

The supporters of IPAB proclaim its abilities to control costs not only with Medicare, but also in the private market. However, mistakenly used, old, outdated data illustrate that, in general, Medicare reimburses 20% less than the private sector and thus, private payer payments should be brought in line with Medicare while cutting Medicare constantly which is supported by private insurers. Medicare has been under the de facto standard for insurers even though some have recommended elimination of the relationship between the Relative Value Update Committee (RUC) and Medicare which provides the valuation of medical services. However, in the modern post ObamaCare era, the insurance companies are reimbursing at a 5% lower rate than Medicare, occasionally as low as 40%, and implementing regulations which increase physician and practitioner time with pre-certifications, reducing coverage and frequency of visits, and essentially turning private insurance into payments of less than 60% of Medicare.

In his analysis accompanying the annual report of the Medicare Board of Trustees (35), Richard Foster, Medicare's Chief Actuary, noted that Medicare payment rates for doctors and hospitals serving seniors will be cut by 30% over the next 3 years (36). Thus, under the policies of ACA, by 2019 Medicare payment rates will be lower than under Medicaid. Further, Mr. Foster noted that by the end of the 25-year projection period in the annual Medicare trustee's report, Medicare payment rates will be one-third of what will be paid by private insurance, and only half of what is paid by Medicaid.

This manuscript will describe IPAB, its present role, and its future, along with the impact of IPAB on the practice of medicine extending beyond Medicare and private insurers.

1.0 BACKGROUND

A major impetus for health care reform, has been the rising cost of health care programs (37). Since 1984, annual medical inflation has exceeded annual overall inflation in every year except 1998 (38). As illustrated in Figure 1, over this same time period, medical inflation has on average been roughly 2.2 percentage points higher each year than inflation. Overall, growth and health care spending exceeding gross domestic prod-

uct (GDP) over many years has resulted in a health care sector that makes up a significant share of the overall economy, employing 14.3 million individuals, and comprising more than 595,000 separate establishments: physician offices, hospitals, clinical laboratories, nursing homes, and home health providers (39). Medicareparticipating providers included 6,100 in-patient hospitals with 930,000 beds, 15,000 long-term care hospitals, and more than 10,000 home health agencies (39). Total Medicare-participating physicians numbered over 616,000 in 2010, with the largest share specializing in internal medicine and family practice comprising 30%.

Total national health spending was \$2.5 trillion in 2009, which corresponds to 17.6% of the GDP (Fig. 2). Of this total, 32% of the spending is from private health insurance, 20% from Medicare, and 15% from Medicaid. Annual spending growth has slowed since the economic downturn, resulting in growth of 4% in 2009, the lowest yearly growth rate since the measurement of national health expenditures. Even this lower

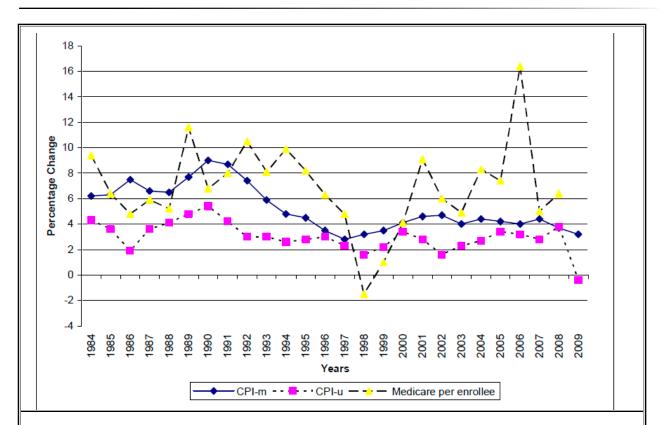


Fig. 1. Annual change in CPIu, CPIm and per enrollee Medicare expenditures.

Source: Newman D, Davis CM. The Independent Payment Advisory Board. CRS Report for Congress. November 30, 2010 (37).

level of growth in health care spending exceeded inflation growth, which was 2.7% in 2009 (39).

Historically, in some periods, growth in Medicare per capita spending has exceeded growth in private per capita spending, while in others, the opposite is true (Fig. 3). Further, health spending is estimated to grow 6.3% between 2009 and 2019, rising from 17.3% of GDP in 2009 to 19.6% of GDP in 2019 (40). Consequently, under the present scenario, Medicare and other federal health spending will consume nearly 60% of federal revenues by 2084 (41). Surprisingly, the growth in health care spending has not led to an equivalent improvement in quality; also, health care use varies across geographic locations.

It has been repeatedly stated that spending in the United States on health care on a per capita basis or as a share of GDP is significantly larger than in other countries, including in Organisation for Economic Co-Operation and Development (OECD) countries, even

when adjusted for purchasing power (42). The OECD report showed that in the United States, which has both a high level of health care spending per capita and a relatively high rate of real growth in spending, the share of GDP devoted to health care spending grew from 9% of GDP in 1980 to 16% of GDP in 2008. This 7 percentage-point increase in health spending as a share of GDP is one of the largest across the OECD countries. As illustrated in Table 1, when measured by per capita health expenditures for 2008 in U.S. dollars purchasing power parity (PPP), is much higher in the U.S. than in other countries - at least \$2,535 or 51% higher than Norway, the next largest per capita spender. Furthermore, the United States spent nearly double the average of \$3,923 for the 15 countries (Fig. 4). Further, in addition to higher health spending, the United States is increasing its spending faster than other countries as illustrated in Figure 5.

However, the total health expenditures per capita

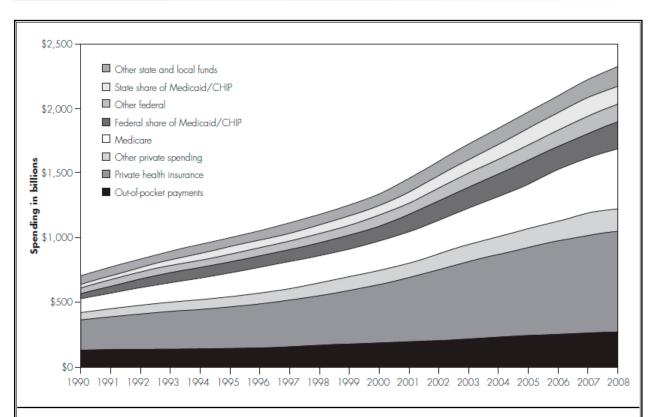


Fig. 2. National health spending by payer.

Source: Medicare Payment Advisory Commission, Report to the Congress: Medicare Payment Policy (Washington, D.C., March 1, 2011) (39)

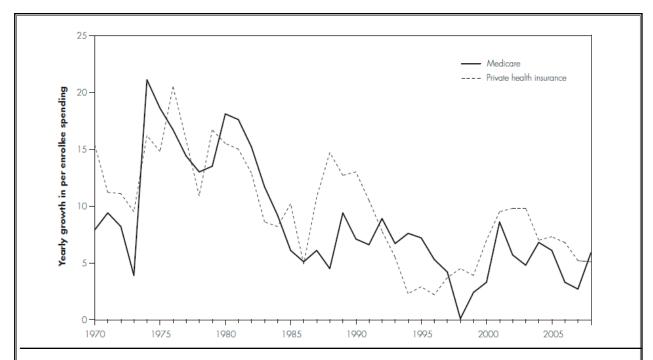


Fig. 3. Yearly growth of common benefits for Medicare and private health insurance.

Source: Medicare Payment Advisory Commission, Report to the Congress: Medicare Payment Policy (Washington, D.C., March 1, 2011) (39).

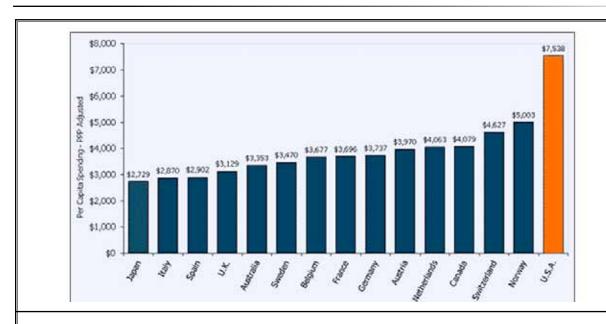


Fig. 4. Total health expenditure per capita, U.S. and selected countries, 2008.

Notes: Data from Australia and Japan are 2007 data. Figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates. Numbers are PPP adjusted.

Source: Health care spending in the United States and selected OECD countries. Kaiser Family Foundation. April 2011 (42).

as illustrated in Table 1 and Figure 6, may in fact lead to a somewhat different conclusion. While the United States is attempting to adapt to the health care model from England, the increases from 1970 to 2008 have been 3,399% in Norway, 2,955% in Spain, 2,581% In Belgium, 1,926% in Austria, 1,815% in France, 1,321% in Australia, 1,287% in Canada, 1,245% in Switzerland, and 1,016% in Sweden, compared to 2,017% in the United States and 1,867% in the United Kingdom. While followers of the ongoing health care debate in the US might find the above comparison surprising, the authors wish to make clear that there remains no doubt health care spending is escalating in the United States

The major drivers of growth in health care spending have been postulated to be technological advances and rising prices, followed by health insurance coverage, reimbursement, and provider market power which also drives spending growth. In addition, a change in demographics is also expected to drive future growth in spending.

Thus, health care growth generally and Medicare growth specifically fits into the criteria of IPAB's legislation, which is to reduce per capita growth in Medicare expenditures, but not to reduce overall Medicare expenditures.

Because of the historic patterns of growth in overall health care spending, and Medicare in particular, such growth is viewed as not being sustainable (43). Several proposals have been advanced over the years to create an independent policy-making entity that would be charged with limiting the further growth in Medicare expenditures (44). Such an entity would be insulated from special interests and lobbyists since it would be appointed rather than elected, and its members would serve for extended terms; and such officials would be able to make the "hard decisions" to control rising costs. Further, it also has been assumed that this entity would possess the specialized expertise needed to make operational decisions regarding payments and focus incentives on beneficiary interests and the longer-

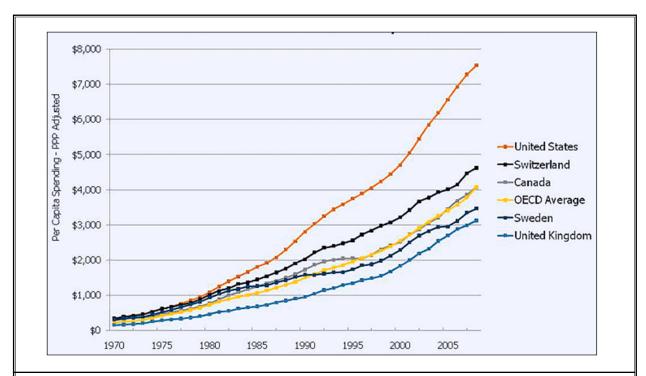


Fig. 5. Growth in total health expenditure per capita, U.S. and selected countries, 1970-2008.

Notes: Data from Australia and Japan are 2007 data. Figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates. Numbers are PPP adjusted. Break in series: CAN(1995); SWE(1993, 2001); SWI(1995); UK (1997). Numbers are PPP adjusted. Estimates for Canada and Switzerland in 2008.

Source: Health care spending in the United States and selected OECD countries. Kaiser Family Foundation. April 2011 (42).

Table 1. Total health expenditures, per capita spending in US dollars and purchasing power parity adjusted.

	1070	1000	1000	2000	2008	Average Annual Growth Rates in Total Health Expenditure Per Capita			
	1970	1980	1990	2000	2008	1980 -2008	1990 -2008	2000 -2008	
Australia	\$236 *	\$642	\$1,201	\$2,266	\$3,353 *	3.1%	3.5%	2.6%	
Austria	\$196	\$785	\$1,623 b	\$2,862	\$3,970	3.2%	3.2%	2.3%	
Belgium	\$149	\$641	\$1,354	\$2,481 de	\$3,995 de	3.9%	4.2%	4.2%	
Canada	\$294	\$777	\$1,735	\$2,519	\$4079 e	3.0%	2.5%	3.4%	
France	\$193	\$666	\$1,445	\$2,553	\$3,696	3.2%	2.9%	2.2%	
Germany	N/A	N/A	\$1,764	\$2,669	\$3,737	N/A	N/A	N/A	
Italy	N/A	N/A	\$1,356	\$2,064	\$2,870	N/A	1.9%	1.9%	
Japan	N/A	\$583	\$1,122	\$1,969	\$2,729 *	2.7%	2.8%	2.0%	
Netherlands	N/A	\$732	\$1,412	\$2,340	\$4,063 e	3.0%	3.3%	4.3%	
Norway	\$143	\$665	\$1,366	\$3,043	\$5,003 e	3.0%	3.0%	1.7%	
Spain	\$95	\$362	\$870	\$1,538	\$2,902	4.3%	4.0%	4.7%	
Sweden	\$311	\$942	\$1,592	\$2,286	\$3,470	2.0%	2.5%	3.6%	
Switzerland	\$344	\$1,013	\$2,028	\$3,221	\$4,627 e	2.5%	2.2%	1.8%	
U.K.	\$159	\$468	\$960	\$1,837	\$3,129	3.9%	4.3%	4.6%	
U.S.A.	\$356	\$1,091	\$2,810	\$4,703	\$7,538	4.0%	3.3%	3.4%	
Average	\$225	\$721	\$1,509	\$2,557	\$3,944	N/A	N/A	N/A	
b: Break in series d: Differences in n	b: Break in series e: Estimate d: Differences in methodology *: Estimate from prior year								

Notes: Data from Australia and Japan are 2007 data. 2008 figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates. 2000 figures for Belgium are OECD estimates. Numbers are PPP adjusted. Break in Series AUS (1998); AUSTRIA(1990); BEL (2003, 2005); CAN (1995); FRA(1995); GER (1992); JAP (1995); NET(1998, 2003); NOR(1999); SPA(1999, 2003); SWE(1993, 2001); SWI(1995); UK (1997. Starting in 1993 Belgium used a different methodology.

Source: Health care spending in the United States and selected OECD countries. Kaiser Family Foundation. April 2011 (42).

term financial viability of the program, which has not yet been proven. Starting in the early 1990s, and in 2000 and 2001, Senator John Breaux (D-LA) and Senator Bill Frist (R-TN) introduced reform proposals to increase the CMS budget, create separate agencies to administer parts of the program, and establish a Medicare board to manage competition among private plans and traditional Medicare (37).

As a precursor to Medicare reform, the Medicare Payment Advisory Commission (MedPAC) was enacted as part of the Balanced Budget Act (BBA) of 1997 by merging the Prospective Payment Assessment Commission (ProPAC) and the Physician Payment Review Commission (PPRC) as a legislative branch (45). The authority of this commission continues to be advisory with 15 appointed members with an annual expenditure of \$13

million in fiscal year 2011 (37).

Later, interest in an independent health care entity reemerged during early discussions of what became the ACA, with former Senator and, at the time, nominee for Secretary of HHS Tom Daschle (D-ND) proposing the Federal Health Board, modeled after the Federal Reserve Board, with broad authority over both private and public health care programs, including benefit and coverage recommendations, regulation of private insurance markets, and improvement in quality of care (46).

Senator Jay Rockefeller (D-WV) in June 2009 introduced the MedPAC Reform Act of 2009 in the 111th Congress, which would have altered MedPAC from its current 15-member advisory commission to an 11-member executive branch agency with authority to make both payment and coverage decisions. In order to

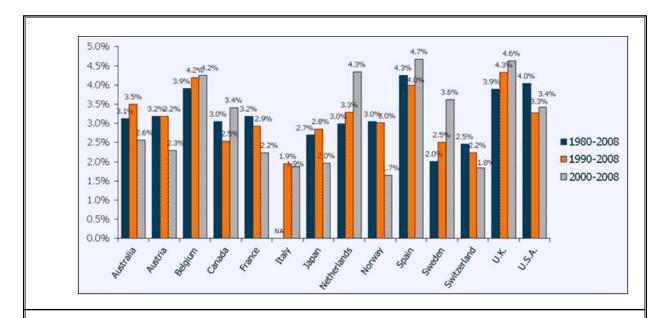


Fig. 6. Average annual growth rates in total health expenditure per capita, U.S. and selected countries, 1980 to 2008, 1990 to 2008, and 2000 to 2008.

Notes: Data from Australia and Japan are 2007 data. Figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates. Numbers are PPP adjusted. Break in Series AUS (1998); AUSTRIA(1990); BEL(2003, 2005); CAN(1995); FRA(1995); GER(1992); JAP(1995); NET(1998, 2003); NOR(1999); SPA(1999, 2003); SWE(1993, 2001); SWI(1995); UK (1997). Starting in 1993 Belgium used a different methodology.

Source: Health care spending in the United States and selected OECD countries. Kaiser Family Foundation. April 2011 (42).

achieve program savings, the commission was directed to implement payment policies, methodologies, and rate and coverage policies – estimated to reduce expenditures under this title by not less than 1.5% annually (37).

In July of 2009, the President submitted a draft proposal to Congress titled the Independent Medicare Advisory Council Act of 2009, or IMAC. This proposal would have established a 5-member council to advise the president on Medicare payment rates for certain providers.

During the health care reform deliberations, the Senate Finance Committee included a provision to establish an independent Medicare advisory board as part of the ACA. The managers amendment, broadened the scope of the board to allow it to make recommendations to slow the growth in nonfederal programs and changed the name of the entity to IPAB, to reflect these additional responsibilities.

The final IPAB was established to reduce the per capita rate of growth in Medicare spending with au-

thority for the Secretary of HHS to implement it unless Congress acts either by formulating its own proposal to achieve the same savings or by discontinuing the automatic implementation process defined in the statute.

IPAB and PCORI are considered 2 of the programs based on England's National Institute for Health and Clinical Excellence (NICE). In fact, David Berwick, the CMS Administrator, has described NICE as not only a British treasure, but as a global treasure (47). NICE has published appraisals of over 100 specific technologies, guidance on the use of over 200 medical procedures, and about 60 treatment guidelines since its establishment in 1999 (48). The opponents of the British health care system and NICE criticize that the National Health Services (NHS) health care is rationed through long waiting lists, and in some cases, omission of various treatments. It has been stated that NICE at its heart is a center for health technology evaluation that issues formal guidance on the use of new and existing medicines based on rigid and proscriptive "economic" and clinical formulas (49,50). However, due to extensive criticism, in

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the past year or so, the NHS and NICE have been undergoing a significant transformation (51-62). Thus, while a new British government prepares for a major renovation of the NHS and NICE, the United States, ACA, and multiple agencies including IPAB and PCORI are modeling these policies. Berwick, the CMS administrator, also made the statement that the decision is not whether or not we will ration care – the decision is whether we will ration with our eyes open (63). In addition, NHS expenditures have been rising 6% to 7% a year in real terms. Finally, the president has commented that IPAB is MedPAC on steroids, thus it may bear substantial similarity to MedPAC.

2.0 THE STRUCTURE AND OPERATION OF IPAB

The structure and operations of IPAB are somewhat similar, yet different, from MedPAC. Table 2 illustrates the differences between MedPAC and IPAB.

The explicit charge given by ACA to the board is to reduce the per capita rate of growth in Medicare expenditures. Beginning in 2013, and each subsequent year, the Chief Actuary needs to calculate the Medicare per capita growth rate – the 5-year average growth in Medicare program spending per enrollee and the Medicare per capita target growth rate – the rate Medicare expenditures would grow without triggering interventions under this section. If the Chief Actuary determines the projected 5-year per capita growth rate in Medicare expenditures 2-years hence exceeds the projected per capita target growth rate, the Chief Actuary needs to establish an applicable savings target – the amount

Table 2. A comparison of IPAB and MedPAC.

	IPAB	MedPAC		
Located in	Executive Branch	Legislative Branch		
Established under	Patient Protection and Affordable Care Act (PPACA, P.L. 111-148, § 3403).	Balanced Budget Act of 1997 (P.L. 105-33, § 4022) – by merging Prospective Payment Assessment Commission (ProPAC) and the Physician Payment Review Commission (PPRC).		
Principal Statutory Mandate	Make recommendations to be implemented by the Secretary of Health and Human Services to reduce the per capita rate of growth in Medicare spending; develop recommendations to slow the growth in national health expenditures while preserving or enhancing quality of care.	Advise Congress on payments to private health plans participating in Medicare and providers in Medicare's traditional fee-for-service program; analyze access to care, quality of care and other issues affecting Medicare.		
Authority	Board delegated significant policy making authority by Congress.	Advisory		
Size	15 appointed and 3 ex officio members	15 appointed members		
Term	6-year term, staggered	3-year term, staggered		
Appointed by	President in consultation with the majority leader of the Senate, the Speaker of the House of Representatives, the minority leader of the Senate and the minority leader of the House of Representatives.	Comptroller General		
Conditions of Employment	Full time, subject to ethical disclosures, compensation is level II (Chairperson) and level III (members) of the Executive Schedule, members may not engage in other business, vocation, or employment.	Part time, subject to ethical disclosures, compensation is level IV of the Executive Schedule (with physician commissioners receiving a comparability allowance).		
Staff	Executive Director and a staff to be determined	Executive Director and a full time staff of 40		
Powers and Work Product	Power to hold hearings and obtain official data	Power to obtain official data		
	Annual proposals, as required, annual and biennial reports	Public meetings and two annual reports		
Budget	\$15 million in FY2012 updated by the rate of inflation annually	\$13 million in FY2011		

Source: Newman D, Davis CM. The Independent Payment Advisory Board. CRS Report for Congress. November 30, 2010 (37).

by which the board must reduce future spending. The funding for the board has been authorized beginning 2012 and the Chief Actuary makes its first determination in 2013; the statute does not provide a date by which the board is to begin its operations.

2.1 Board Membership

IPAB is established as an independent board in the executive branch, composed of 15 full-time members appointed by the president and confirmed by the Senate. The statute sets out an area of qualifications for board members: expertise in health care, economics, research and technology assessment, experience with employers and third party payers, and consumers. Further, it requires a balance between urban and rural representations. A majority of members must be nonproviders. In contrast to MedPAC commissioners. The board members, as full-time federal employees, cannot engage in any other business, vocation, or employment. Thus, the members are officers of the United States under the appointments clause of the U.S. Constitution. The Secretary of Health and Human Services, the Administrator of CMS, and the Administrator of Health Resources and Services Administration are ex-officio nonvoting members. In selecting individuals for nomination, the President is to consult with the majority and minority leaders of the Senate and House of Representatives - each respectively, regarding the appointment of 3 members. The chairperson is appointed by the president, with the advice and consent of the Senate, from among the members of the board. Recently it has been illustrated that the president has contemplated recess appointments of IPAB members (64).

With the exception of initial board members and those appointed to fill a vacancy with an unexpired term, each appointed member may serve 2 consecutive terms. If appointed to fill a vacancy, the member can serve 2 additional consecutive terms. Initially appointments to the board are staggered with terms of one, 3, or 6 years.

Appointed members of the board will be compensated at a rate equal to Level 2 of the executive schedule (\$165,300 for 2010), and the chairperson will be compensated at a rate equal to Level 3 (\$179,700 for 2010).

Appointed members of the board will be subject to financial and conflict of interest disclosures and will be treated as officers of the Executive branch for purposes of the Ethics in Government Act of 1978. Moreover there is a blanket provision against appointed members

engaging in any other business, vocation, or employment. However, former members of the board will be precluded for only one year from lobbying before the board, HHS, or any of the relevant committees of congressional jurisdiction. Finally, appointed members of the board may be removed by the president only for neglect of duty or maleficence in office.

The budget for the board for fiscal year 2012 is \$15 million, with annual adjustment based on increases in the consumer price index (CPI) – only slightly more than the MedPAC budget. However, since IPAB has been named as MedPAC on steroids, modification of MedPAC with an additional budget of \$5 million may have sufficed.

Key implementation dates of IPAB are illustrated in Table 3.

3.0 Medicare Spending and Savings Target

3.1 Targets and Medicare Spending GrowthRate

The statute sets target growth rates for Medicare spending. The target is not a hard cap on Medicare spending growth, but if spending exceeds these targets, IPAB is required to submit recommendations to reduce Medicare spending by a specified percentage (37,65). For 2015 through 2019, the target for Medicare spending per capita is the average of general and medical inflation. For 2020 and later years, the target for Medicare spending per capita is the increase in the GDP, plus one percentage point, which historically has increased at a higher rate than CPI -based measures.

Starting in 2013, no later than April 30, the CMS Actuary determines the Medicare growth per capita in the "implementation year," which is considered as the second succeeding year, or 2015 if the determination made in 2013 exceeds the target growth rate for the year. Further, the actuary must also determine if the projected increase in the medical care expenditure component of the consumer price index for all urban consumers (CPI-U) for the implementation year exceeds the CPI-U.

Consequently, if projected growth for the implementation year exceeds the target, and the medical care component of the CPI-U exceeds the CPI-U, then IPAB is required to develop and submit a proposal to bring Medicare per capita growth within the target in the implementation year, subject to the applicable limits (maximum savings on reductions). If overall inflation,

Table 3. Key implementation dates with other aspects of IPAB.

Providers of Services or Supplies	Inflationary Payment Update	Applicable Perioda	Exemption Periodb	
T A II I	Productivity adjustment	Begins FY2012	Through	
Inpatient Acute Hospitals	Reduction in excess of a reduction due to productivity	FY2010-FY2019	12/31/2019	
Skilled Nursing Facilities	Productivity adjustment	Begins FY2012	None	
	Productivity adjustment	Begins RY2012	Through	
Long-term Care Hospitals	Reduction in excess of a reduction due to productivity	RY2010-RY2019	12/31/2019	
Inpatient Rehabilitation	Productivity adjustment	Begins FY2012	Through	
Facilities	Reduction in excess of a reduction due to productivity	FY2010-FY2019	12/31/2019	
11	Productivity adjustment;	Begins CY2015;		
Home Health Agencies	Annual reduction of 1 percent	CY2011-CY2013	None	
	Productivity adjustment	Begins RY2012	Through 12/31/2019	
Psychiatric Hospitals	Reduction in excess of a reduction due to productivity	RY2010-RY2019		
	Productivity adjustment	Begins FY2013	Through	
Hospice Care	Reduction in excess of a reduction due to productivity	FY2013-FY2019	12/31/2019	
Dialysis	Productivity adjustment		None	
Outputiont Homitals	Productivity adjustment	Begins CY2012	Through	
Outpatient Hospitals	Reduction in excess of a reduction due to productivity	CY2010-CY2019	12/31/2019	
Ambulance Services	Productivity adjustment	Begins CY2011	None	
Ambulatory Surgical Center Services Productivity adjustment		Begins CY2011	None	
	Productivity adjustment	Begins CY2011	Through	
Laboratory Services	Reduction in excess of a reduction due to productivity	CY2011-CY2015	12/31/2015	
Certain Durable Medical Equipment	Productivity adjustment	Begins CY2011	None	
Prosthetic Devices, Orthotics, and Prosthetics	Productivity adjustment	Begins CY2011	None	
Other Items	Productivity adjustment	Begins CY2011	None	

Notes: a. FY = Fiscal Year; RY = Rate Year; CY = Calendar Year.

b. Since the first year the Chief Actuary in the Centers for Medicare & Medicaid Services can potentially make a determination that projected Medicare expenditures exceed the projected target is 2013, the earliest that any board recommendations could be implemented would be August 15, 2014 for the fiscal year beginning in October. Therefore, exemptions are only potentially significant for the period beginning October 1, 2014 through December 31, 2019.

Source: Newman D, Davis CM. The Independent Payment Advisory Board. CRS Report for Congress. November 30, 2010 (37).

as measured by the medical care component of the CPI-U, does not exceed general inflation as measured by the CPI-U, then IPAB does not make binding proposals even if Medicare spending exceeds the growth ranges.

Finally, the calculation of both the Medicare

growth rate and the target growth rate is based on the 5-year average ending with their implementation year. Thus, the calculation of the target and of Medicare growth for 2015 is based on the 2010 to 2015 period. It is also expected that the 5-year period is likely to include 3 years of actual data for Medicare spending, and 2 years of projections. The administration has designed a 5-year period to smooth the impact of annual fluctuations in computing the average growth rate, but necessarily relying on projections for the implementation year that may or may not prove to be accurate.

3.2 Requirements for Medicare Spending Reductions

Even though IPAB is generally required to make recommendations to lower growth in Medicare spending if the growth per capita spending exceeds the target growth rates, the law imposes a limit on how much savings it can achieve, expressed as a percentage of total program payments, known as the "applicable payment." The applicable percents, or maximum savings, for 2015 and subsequent years are illustrated in Table 4 (65).

4.0 THE DETERMINATION PROCESS

IPAB is required to begin its work organized around standard and repeating 3-year cycles of activity, beginning in 2013, which starts in a "determination year," then proceeding through a "proposal year," and ending with the "implementation year." Table 5 illustrates a 3-year sequence of events (37).

Table 4. Illustration of applicable payment reductions based on IPAB.

Implementation Year	Applicable Percent (Maximum Savings)
2015	0.5%
2016	1.0%
2017	1.25%
2018 and later	1.5%

Source: Ebeler J, Neuman T, Cubanski J. The Independent Payment Advisory Board: A new approach to controlling Medicare spending. The Kaiser Family Foundation Program on Medicare Policy. April 2011 (65).

Table 5. Three-year sequence of events.

Determination Year (DY)					
By April 30	Chief Actuary of CMS makes projections and determination				
By September 1	Draft proposal sent by IPAB to MedPAC for consultation				
	Draft proposal sent by IPAB to secretary for review and comment				
Proposal Year (PY)					
By January 15	Proposal submitted by IPAB to Congress and the president				
By January 25	Secretary submits own proposal to Congress and the president, with a copy to MedPAC, if IPAB was required to submit a proposal but failed to do so				
By March 1	Secretary submits report containing review and comments to Congress on IPAB proposal (unless the secretary submitted own proposal because IPAB failed to do so)				
By April 1	Deadline for specified congressional committees to consider the submitted proposal and report legislative language implementing the recommendations. Congress has the authority to develop its own proposal provided it meets the same fiscal requirements as established for the board and meets this deadline.				
Beginning August 15	Secretary implements the proposal subject to exceptions				
On October 1	Recommendations relating to fiscal year payment rate changes take effect				
Implementation Year (IY)					
On January 1	Recommendations relating to Medicare Part C and D payments take effect Recommendations relating to calendar year payment rate changes take effect				

Source: Newman D, Davis CM. The Independent Payment Advisory Board. CRS Report for Congress. November 30, 2010 (37).

4.1 Determination Year

Year one, or the determination year, begins each year, no later than April 30, where the CMS Actuary makes a determination of whether Medicare spending growth per capita in the implementation year (the second succeeding year, or 2015 for the determination made in 2013) exceeds the target growth rate. If the actuary projects that growth exceeds the target, IPAB must develop and submit a proposal to bring Medicare per capita growth within the target in the implementation year, subject to the applicable limits on reductions.

4.2 Proposal Year or Year 2

IPAB is required to submit its final recommendations to the president and Congress no later than January 15 of the proposal year, along with an opinion by the Chief Actuary that it meets the statutory savings requirements. The president must formally submit the recommendations to Congress within 2 days of receipt. In the event that IPAB fails to submit a required proposal by January 15, the secretary is required to submit a proposal meeting the requirements by January 25.

In addition, the secretary is required to submit a report to Congress reviewing IPAB recommendations by March 1, whereas MedPAC is required to comment on the IPAB proposal, with recommendations as appropriate, by March 1. Consequently, the congressional process takes place during the proposal year and the congressional committees are required to act by April 1.

Following congressional action, the secretary is required to implement, by August 15 of the proposal year, changes in payment rates effective with the beginning of the upcoming implementation year. These changes are applicable for the fiscal year starting October 1 of the proposal year or calendar year, starting January 1 of the implementation year, depending on the payment cycle for the relevant providers.

4.3 Implementation Year

Year 3, or the implementation year, is the year when the changes in payments are implemented by the secretary. The schedule and deadlines for the entire 3-year cycle are set forth in Table 6. A new 3-year cycle begins each year. Further, each year, starting with the determination year of 2018, the actuary must also determine the projected growth in total national health expenditures per capita for implementation years starting with 2020, which the secretary is required to take into account.

4.4 A Hypothetical Example

The Congressional Research Service (CRS) (37) has provided a hypothetical example to illustrate the calculations the Chief Actuary needs to develop beginning April 2013 and each year thereafter that form the basis of the Chief Actuary's determination as illustrated in Table 7. In this example, year one is the first year of data included in the calculation, year 3 is the determination year, year 4 is the proposal year, and year 5 is the implementation year. It is also assumed that the applicable percent is 0.50%, and that total projected Medicare expenditures in the performance year are \$600 billion.

As shown in Table 7, in this hypothetical example, the Chief Actuary's calculations determined that the growth rate exceeds the target growth rate. Consequently, the Chief Actuary calculated the applicable savings target, which required the board to prepare a proposal that reduces Medicare expenditures by the applicable savings target. Based on this complicated formula, the projected excess is 1.67%; however, since 0.5% is less than 1.67%, 0.5% would be used. Consequently, the applicable savings target is \$600 billion multiplied by 0.005, or \$3 billion (66).

4.5 Activating the Trigger

The Chief Actuary applied the calculation as shown in the hypothetical example to historic data to better understand the potential impact on Medicare spending (66). The Chief Actuary reported that "actual Medicare cost growth per beneficiary was below the target level in only 4 of the last 25 years, with 3 of those years immediately following the BBA of 1997 (45)." Thus, in most recent years past, depending on the target growth rate and assuming no other changes, the Chief Actuary would have made a determination that targeted a bold proposal. The assumption of no other changes, however, may not be realistic since it assumes that any board recommendations implemented in prior years had no lasting effect on costs in later years and at the same time ignores the impact of other statutory and regulatory changes that potentially affected Medicare programs.

5.0 THE IPAB MEDICARE PROPOSAL PROCESS

The scope of proposals involves mandatory recommendations and advisory recommendations. Further, there are reporting requirements (65).

Table 6. The IPAB schedule and deadlines based on three-year cycle: Determination year, proposal year, implementation year.

	1st "Determination Year" CY 2013 – Quarters:			1st "Proposal Year" CY 2014 - Quarters:			1st "Implementation Year" CY 2015 - Quarters:					
	1	2	3	4	1	2	3	4	1	2	3	4
CMS Actuary projection, determination		4/30										
IPAB draft to MedPAC and HHS Secretary			9/1									
IPAB proposal to president and Congress					1/15							
Default - HHS Secretary proposal if IPAB doesn't act					1/25							
HHS Secretary and MedPAC reports on IPAB proposal					3/1							
Deadline for congressional committees						4/1						
Secretary implements recommendations							8/15					
Recommendations for CY payment rates effective								10/1-		/31		
Recommendations for FY payment rates effective								1/112/31				

Source: Ebeler J, Neuman T, Cubanski J. The Independent Payment Advisory Board: A new approach to controlling Medicare spending. The Kaiser Family Foundation Program on Medicare Policy. April 2011 (65).

Table 7. Example for hypothetical implementation year.

Year	(A) Annual Percentage Growth in Per Capita Medicare Spending	(B) Annual Percentage Change in CPIu	(C) Annual Percentage Change in CPIm	(D) Average of CPIu and CPIm	(E) Projected Excess
Year 1	1.00%	2.20%	3.5%	2.85%	
Year 2	4.10%	3.40%	4.10%	3.75%	
DY (Year 3)	9.10%	2.80%	4.60%	3.70%	
PY (Year 4)	6.00%	1.60%	4.0%	3.15%	
IY (Year 5)	4.90%	2.30%	4.00%	3.15%	
Five-year Average An- nualized Growth Rate	4.99%			3.32%	1.67%

a. The projected excess is the difference in five-year average in column (A) and column (D) $\,$

Source: Newman D, Davis CM. The Independent Payment Advisory Board. CRS Report for Congress. November 30, 2010 (37).

5.1 Mandatory Recommendations

IPAB is mandated to submit recommendations whenever Medicare per capita spending growth exceeds statutory targets, according to the deadlines set in law (65).

- Recommendations related only to Medicare, along with an explanation and rationale for the recommendations.
- Recommendations regarding any administrative funding required to implement its proposals.
- ◆ Certification by the CMS Actuary that, in his opinion, the recommendations will result in savings that are at least equal to the applicable savings target (constrained by the "applicable limit") and are not expected to result in any increase in Medicare spending over the 10-year period starting with the implementation year.
 - IPAB can recommend proposals that would increase spending in individual years but the 10-year total cannot increase.
- Legislative language that implements the recommendations.
- ♦ IPAB recommendations are also required to maintain or enhance beneficiary access to quality care.
 - These mandatory recommendations are subject to special fast-track congressional procedures and default implementation by the secretary if Congress does not act.

5.2 Advisory Recommendations

The IPAB also has the ability to make advisory recommendations on a much broader range of Medicare and health care policy issues, and in some cases is required to provide such advice (65). It may issue advisory recommendations in a year in which savings recommendations are not required because spending was within targets. It may also issue advisory recommendations in conjunction with mandatory recommendations. But those recommendations, like those of other advisory boards such as MedPAC, or typical recommendations of executive branch agencies, are not automatically given the special congressional fast-track consideration. Starting January 15, 2015 and at least every 2 years thereafter, IPAB is required to make advisory recommendations for slowing national health spending growth along with recommendations applicable to nonfederal health programs. However, there are no constraints on the scope of what IPAB can include in its advisory recommendations.

Further, starting in 2014, IPAB is required to issue an annual public report on total national health care

costs, access, use, and quality that provides regional comparisons as well as comparisons between Medicare and private payers.

5.3 Voting Requirements

The statute sets out quorum requirements for the IPAB's deliberations, defined as the majority of the appointed members. Any proposal must be approved by a majority of the appointed members who are present for the vote (65). It appears that IPAB could function with fewer appointees if not all 15 members are appointed and confirmed.

5.4 Limits on IPAB's Authority

The law includes language that limits IPAB's scope of authority, prohibiting certain recommendations that could negatively affect beneficiaries and prohibiting recommendations that could affect certain providers. IPAB is prohibited from including any recommendation that would: 1) ration health care; 2) raise revenues or increase Medicare beneficiary premiums or cost sharing; or 3) otherwise restrict benefits or modify eligibility criteria (65).

Other criteria for implementation for the years through 2019 are that mandatory proposals cannot include recommendations that would reduce payment rates for providers and suppliers of services scheduled to receive reductions under the ACA below the level of the automatic annual productivity adjustment called for under the Act.

Thus, payments for inpatient and outpatient hospital services, inpatient rehabilitation and psychiatric facilities, long-term care hospitals, and hospices are exempt from IPAB-proposed reductions in payment rates until 2020; clinical laboratories are exempt until 2016. Consequently, these exclusions leave Medicare Advantage, the Part D prescription drug program, skilled nursing facility, home health, dialysis, ambulance and ambulatory surgical center services, and durable medical equipment (DME) as the focus of attention.

The nonmandatory recommendations include:

- ◆ As appropriate to reduce Medicare payments under Part C (Medicare Advantage) and Part D (prescription drug program)
 - Those recommendations can include reductions in direct subsidy payments related to administrative expenses and profits, denying high bids or excluding them from the average bid amount used for calculating the Part D payment.

 Drug rebates, such as those required from pharmaceutical manufacturers under the Medicaid program, would presumably fall within the scope of IPAB's authority as well.

5.5 Implementation of Recommendations and Judicial Review

The ACA precludes administrative or judicial review of any implementation by the secretary of recommendations contained in an IPAB proposal (65). The secretary must implement IPAB recommendations, or an alternative that has been enacted, by August 15 of the proposal year. If there is no formal congressional action, the secretary must implement IPAB's proposal.

5.6 Advisory Reports

The board may develop and submit to Congress advisory reports on matters related to the Medicare program, regardless of whether or not the board submits a proposal for such year beginning January 15, 2014 (65). For years prior to 2020 these advisory reports may include recommendations regarding improvements to payment systems for providers of services and suppliers who are not otherwise subject to the scope of the board's recommendations (providers and suppliers scheduled to receive a reduction in their payment updates in excess of a reduction due to productivity).

5.7 Annual Public Reports

Beginning by July 1, 2014, the board will also produce an annual public report that includes standardized system-wide information on health care costs, access to care, utilization, and quality of care that allows for comparison by region, types of services, types of providers, and both private payers and Medicare (65).

5.8 Biennial Reports to Show Growth in National Health Expenditures

Finally, in addition to board proposals to control costs and the board's annual public report, the board will, beginning no later than January 15, 2015, and every 2 years thereafter, submit to Congress and the president recommendations to slow the growth in national health expenditures (excluding expenditures under this title and in other federal health care programs) while preserving or enhancing quality of care (65). These recommendations are different from recommendations contained in any annual board proposal and are not enacted by the secretary unless Congress acts because the board's official proposals can only include recom-

mendations related to Medicare. Rather, these recommendations can include matters that the secretary or other federal agencies can implement administratively, matters that may require legislation to be enacted by Congress, matters that may require legislation to be enacted by state or local governments, or matters that can be voluntarily implemented by the private sector.

5.9 Consumer Advisory Council

The board will be advised by a Consumer Advisory Council composed of 10 consumer representatives, appointed by the Comptroller General of the U.S. and from geographic regions established by the secretary (65). The Consumer Advisory Council will meet no less frequently than twice a year, in Washington, D.C., in public session. In addition, the law is silent on a date by which the Comptroller General needs to appoint the members of the Consumer Advisory Council and with respect to the term of service.

5.10 Government Accountability Office Study

The Government Accountability Office (GAO) is to submit a report to Congress containing the results of a study of changes to payment policies, methodologies, and rates and coverage policies under the Medicare program as a result of the recommendations contained in the proposals made by the board no later than July 1, 2015 (65). The study is to include an analysis of the effects of board recommendations on access, affordability, other sectors of the health care system, and quality of care. It may be the case that the impact of initial recommendations, if triggered in 2013, will not be fully ascertainable by July 1, 2015, thus making it difficult for GAO to analyze changes.

6.0 CONGRESSIONAL CONSIDERATION OF IPAB PROPOSALS

6.1 Fast Track Procedures

Congress considers IPAB's required recommendations under special "fast track" procedures set out in the statute. The board's legislative proposal must be introduced by the majority leaders of the House and Senate on the day it is submitted to Congress, and is referred to the appropriate committees (65).

The committees must report those recommendations, with any changes, in just 2 and one-half months, no later than April 1 of the proposal year, or the proposals are formally discharged from the committees. The committees, and the full House and Senate, cannot con-

sider any amendment that would change or repeal the board's recommendations unless those changes meet the same fiscal criteria under which the board operates. A vote of three-fifths of members in the Senate ("duly chosen and sworn") is required to waive this restriction.

6.2 Amending and Discontinuing IPAB

The ACA sets up special procedures for discontinuing IPAB and its fast track procedures (65). In general, it is not in order to "consider any bill, resolution, amendment, or conference report that would repeal or otherwise change..." the processes for Congressional consideration of IPAB. That provision can be waived in the Senate only with a vote of three-fifths of the members.

Provision is made for a one-time fast-track consideration of a joint resolution to dissolve IPAB. Such a resolution must be introduced in 2017, no later than February 1 of that year.

6.3 Relationships between IPAB and other Entities

IPAB "MedPAC on steroids" is structured to have a strong relationship with HHS and CMS, through exofficio board membership, the dominant technical role of the CMS Actuary, and the secretary's responsibility to present, comment on, and implement IPAB's recommendations. Theoretically, IPAB must submit its draft recommendations to MedPAC, as well as to the secretary, and MedPAC will comment on those recommendations and continue to advise Congress more generally on Medicare policy.

7.0 Issues Related To IPAB

7.1 Issues Related to Targets and Consideration of Medicare Versus Total Health Care Spending

IPAB's targets, and required recommendations that receive fast-track consideration, relate only to Medicare. However, there are 2 provisions in the law that affect requirements for IPAB and the secretary that are related to total health care spending.

- First, IPAB is required to submit mandatory recommendations only if Medicare spending is in excess of its statutory target and the medical care component of the CPI-U exceeds the CPI-U.
 - Thus, if medical inflation is lower than general inflation, IPAB does not submit mandatory recommendations even if Medicare spending is in excess of its target.

- The Congressional Research Service indicates medical inflation has been below general inflation once in 25 years (in 1998) (37).
- ♦ Second, starting with determination year 2018, the CMS Actuary must also project growth in national health spending per capita (for implementation years starting with 2020).
 - If Medicare spending growth is lower than the projected growth in national health spending, IPAB is still required to make its mandatory recommendations, but the secretary must not implement them automatically.
 - Further, this prohibition cannot apply 2 years in a row, meaning that even if Medicare spending growth remains below that of private health spending, any reductions in Medicare that would occur because Medicare spending growth exceeds the Medicare targets would be implemented in that second year.

7.2 Issues Related to Medicare Spending Targets

The specific statutory targets on per capita growth in Medicare that trigger IPAB's savings recommendations have been subject to relatively little discussion, but are a central feature of IPAB's role and authority, and the savings attributed to it. Several questions have been raised about these growth targets (65).

The first and fundamental issue relates to the establishment of enforceable target growth rates for Medicare spending per capita. From a budgetary perspective, setting a target growth rate for Medicare spending, albeit not a hard cap, but rather a target that compels IPAB to make recommendations, requires Congress to consider them, and the secretary to proceed with implementation. It is considered by some to be necessary for reining in total federal spending and reducing the deficit.

It is well known that any statutory target on Medicare growth, whether imposed by IPAB or other means, could have negative consequences on the long-term effects on coverage provided to beneficiaries, the adequacy of provider payments, provider participation, and beneficiaries' access to needed services. This has been reiterated by the experience with the SGR formula under Medicare for physician payment, with the illustration of unintended and negative consequences that were not anticipated when Congress created the formula to limit the volume of physician services (67). There is concern that similar problems could emerge in

the future if Medicare spending is constrained by a formula set forth in the law that IPAB is required to recommend and the secretary to implement.

Importantly for IPAB purposes, the SGR has been considered to yield a budget "baseline" for physician payments in Medicare that is artificially low, because Congress is highly likely to continue to prevent such deep cuts (68-70). The CMS Office of the Actuary, in an August 5, 2010 memo setting out alternative growth assumptions in Medicare, recounts the history of the SGR and states that "Multiple consecutive years of large negative updates are extremely unlikely to occur" (69). To account for that baseline problem with the SGR, the law sets an assumption that in computing the Medicare projection on which IPAB action would be based, the actuary is to assume a zero percent increase in physician payment rates rather than the cuts called for in the statute. This complicates whether and how IPAB is to deal with physician payments. The actual baseline is whatever is in law, including the negative updates, but the IPAB baseline assumes a freeze. As a technical matter, it is unclear what would happen if IPAB makes a statutory recommendation to enact a freeze for several years. From the board's baseline perspective, this has no cost, but it clearly has a CBO scorable cost.

Another concern that has been raised relates to problems that could result from having a trigger based in part on projections rather than actual data. The actuary is required to use a 5-year average calculation of Medicare spending in which the key assumption is the projection for the implementation year, from which the 5-year average is calculated. Theoretically, if estimates for that implementation year are higher than actual Medicare spending, IPAB could be compelled to recommend savings that may not have been required based on what actually happens, and the converse is true if the actuary projects spending lower than that which actually occurs.

7.3 The Issues Related to Specific Targets

Another issue relates to the specific targets themselves, how they compare with underlying growth rates, and the likelihood and depth of potential action required by IPAB. The law establishes targets for Medicare per capita spending—one based on a measure of inflation (2015-2019) and the other based on GDP plus one percentage point (beginning in 2020)—that have historically grown at slower rates than Medicare per capita spending over the last 25 years. From 1985-2009, Medicare spending growth per capita exceeded by 2.7 percent the initial target based on the average of the CPI and the Medical Care Component of the CPI. During this same period, Medicare spending growth per capita exceeded by 1.6 percentage points the longer-term target of growth in GDP per capita plus one percentage point (Table 8) (71).

With enactment of ACA in March 2010, CBO estimated that IPAB would achieve savings of \$15.5 billion in fiscal years 2015-2019. CBO's most recent Medicare baseline states that CBO's projections of the rates of growth in spending per beneficiary in the March 2011 baseline are below the target rates of growth for fiscal years 2015-2021. As a result, CBO projects that under current law, the IPAB mechanism will not affect Medicare spending during the 2011-2021 period (72).

7.4 Issues Related to Achieving Savings in a Single Implementation Year

While the requirement to achieve Medicare savings for the implementation year provides a clear direction and target for the board, it may discourage the type of longer-term policy change that could be most important for Medicare and the underlying growth in health care costs, including delivery reforms that Med-PAC and others have recommended which are included in the ACA—and which generally require several years to achieve savings (65).

Table 8. Average annual growth in Medicare spending and economic benchmarks.

Average Annual Growth in Medicare Spending and Economic Benchmarks, 1985 – 2009						
Medicare spending per enrollee	6.7%					
Average of CPI and CPI-Medical Care	4.0%					
GDP per capita plus 1 percentage point	5.1%					

Source: Medicare Spending and Financing: A primer. Kaiser Family Foundation, February 2011 (71).

The test for whether IPAB's recommendation meets the target is whether it brings spending in that one year down to the target, subject to the constraints of the "applicable limits." The only longer-term consideration is that total spending over the 10-year period cannot increase above the Medicare baseline.

7.5 Issues Related to IPAB's Scope of Authority

There are a number of open questions and debate continues about IPAB's scope of authority that affect providers, plans and others health industry stakeholders. In addition, even with constraints imposed in the law, questions remain as to the reach of IPAB with respect to beneficiaries.

7.6 Plans and Providers

With the limitations that appear to be imposed on recommendations that would more directly affect beneficiaries, these constraints mean that reductions achieved by IPAB by 2020 are likely to affect payments related to Medicare Advantage, the Part D prescription drug program, and skilled nursing facility services (65).

These constraints also narrow IPAB's scope even within the payment policy arena. There is uncertainty and it is unclear whether IPAB may, within its scope, address other aspects of payments beyond "payment rates" before 2021 for otherwise protected entities such as hospitals. For example, could IPAB make recommendations to alter payment for "never events," or propose changes in medical education payment policy, with the rationale being that those are not reductions in payment rates but alternative approaches to payment policy (65)?

The Medicare physician payment policy issue under the SGR formula also complicates the scope of IPAB's review of provider payments. Given the artificially low current law baseline for physician services, and the pattern of annual extensions of the SGR policy for physician payment, it would appear to be very difficult for IPAB to make mandatory recommendations in this critical area of Medicare payment policy.

Limits in payments under Medicare Advantage and Part D are explicitly within the scope of IPAB's authority. For example, it would appear that the board could set Medicare Advantage payments at or below spending in the traditional Medicare fee for service (FFS) program, and build on the ACA provisions that set Medicare Advantage payments below FFS payments in some communities (65).

With respect to prescription drugs, it would appear that IPAB could recommend that Part D plans receive rebates from prescription drug manufacturers in the same manner as state Medicaid programs. It is not clear whether IPAB could go further—for example, whether IPAB could recommend lower payment amounts for prescription drugs covered under Medicare Part B, or whether the board could establish a new Medicare-operated Part D plan to compete with private drug plans.

7.7 Provisions Affecting Beneficiaries

However, it is not clear whether IPAB could adopt a recommendation that would prohibit Medicare supplemental policies from offering first-dollar coverage, as has been suggested by some in the context of current deficit reduction discussions. According to the CBO, MedPAC, and others, these coverage policies increase Medicare costs because it lessens the disincentives to utilization that the underlying Medicare cost sharing imposes. In fact, a CBO estimation has illustrated that limiting the ability of these policies to cover Medicare cost sharing could save more than \$40 billion over 10 years (12). Since this proposal may or may not directly reduce benefits or raise Medicare cost sharing per se, it is not clear whether IPAB has the authority to include such a policy in its mandatory recommendations.

It is also not clear whether IPAB could make recommendations that would affect low-income beneficiaries who are either dually eligible for both Medicare and Medicaid, or those who qualify for special subsidies of premiums and/or cost sharing under the Medicare Savings Programs or the Part D Low Income Subsidy program. Recent evidence has illustrated that programs with dual eligibility are a major drain on the economy and contribute to significant health care expenses, specifically for chronic disorders (73). Even then, the statute prohibits IPAB from making mandatory recommendations relating to any program other than Medicare, but it is unclear whether IPAB could, for example, require dual eligibles to enroll in low-cost managed care plans in a given area.

Another area of concern is benefit redesign which appears to be beyond the scope of IPAB, except for on an advisory basis under the present law. However, for the long-term viability of Medicare, whether to improve the program or to achieve savings, policy proposals for benefit redesign may be needed, thus, increased IPAB powers may make only recommendations. A prime example includes the recommendation of the National Commission on Fiscal Responsibility and Reform of a

single deductible along with a relatively high limit on out-of pocket spending (10,11). This idea was described by the CBO in its December 2008 report Budget Options (12), and MedPAC in its most recent report identified options for both short- and long-term changes in Medicare's benefit design (74).

More broadly, to the extent changes in payments to providers affect beneficiaries' access to care, such policies have an impact on beneficiaries. This issue is raised by the current physician payment limits in Medicaid, where the state provider payment constraints are often severe, and is a potential consequence of any enforced target for Medicare growth, whether through IPAB or other means. If IPAB recommends policies that squeeze Medicare payment rates, unintended consequences will reduce private payment rates, with a resulting major concern that entire health care recipient populations, including Medicare beneficiaries, would be at risk of having access problems as providers become inclined to serve patients on a cash basis or the possibility of a reduction in the number of providers. While the ACA requires that proposals achieve the savings target "... while maintaining or enhancing beneficiary access to quality care..." there is no further clarification of how this is to be determined, but it is perceived that it is unavoidable.

7.8 Issues Related to Prohibition on Judicial Regulations

No one is clear about the broad prohibition on administrative or judicial review of how the secretary's implementation of IPAB proposals and how they will be interpreted. Congress has on occasion waived judicial review under the Medicare statute for the secretary's implementation of various components of, for example, a new or revised payment methodology. The waivers tend to apply to specific technical components of that methodology.

8.0 Implementation Of Board Medicare Proposals

In the absence of limited exceptions, the secretary implements the board's proposals on August 15 of the proposal year, which take effect on October 1, that relate to payment rate changes and January 1 for Parts C and D and recommendations relating to payment rate changes (37).

Two general exceptions have been reported for implementing a Board proposal:

♦ If federal legislation was enacted by August 15 of the

proposal year that superseded the board's recommendations and

- Achieves at least the same net reduction in total Medicare program spending as would have been achieved by the board's proposal, and
- Does not increase the expected Medicare program spending over the 10-year period, starting with the implementation year, relative to what it would have been absent the legislation.
- Beginning with implementation year 2020, and beyond, the secretary would not implement a board proposal if a joint resolution was enacted prior to August 15, 2017, to discontinue the board.

8.1 Potential Impact of IPAB

8.1.1 Qualifications and Recruitment of Board Members

By statute, the board is to be composed of members drawn from a wide range of professions and backgrounds, in addition to geography, and a majority cannot be individuals directly involved in the provision or management of the delivery of Medicare items and services (37). However, it is not clear whether this determination of a member's status is made at the time of nomination or whether a potential nominee's status is a function of their prior experiences and the bias existent in the selection. Further, it is not known if the blanket prohibition on outside businesses, vocations, or employment may characterize a board member as an employer or being involved in the provision or management of services when he or she ceases employing anyone or ceases being involved in the provision of items or services

The stated objective for an independent board was to isolate health care payment decisions from the influence of special interests. While the statute specifies the qualifications of board members, despite nationally recognized expertise, it also specifies that the board should include, among others, employers, third-party payers, and representatives of consumers and the elderly. In moving beyond expertise, skills, and experience, and naming specific groups that should be included on the board, the legislation designates some interests as worthy of being represented and others, by omission, as not being worthy. These efforts, rather than isolating the board from the influence of special interests, appears to welcome some interests directly into the process, and preserve administration goals, which are inde-

pendent of accountability. In addition, board members, Congress, organizations, and the public more generally, question whether certain board members are on the board in a representative capacity even though they are prohibited from outside businesses or employment.

It is also uncertain if an adequate supply of individuals willing to serve on federal boards such as IPAB are available, with the commitment (full time), relatively modest salaries and constraints on board members (restrictions on outside employment and term of service and local residency) making recruiting highly qualified and respected individuals problematic (75).

8.1.2 Board Proposals' Impact Beyond Medicare

It is the opinion of the authors, that the implications of IPABs recommendations will have a broader impact than Medicare alone. For example, the recent empowerment of insurers has had unintended effects on access and quality. Further, another arm of ACA, PCORI (13) can also impact on private insurers with limited restrictions imposed on them. Many payers fashion their payments on Medicare rates, such as "Medicare plus X%," so recommendations to reduce Medicare payments for certain procedures or suppliers are likely to have a ripple effect throughout the health care system and could lead to a reduction of the average price paid for such services or supplies.

9.0 Future Considerations of IPAB

In light of issues that have been raised, a variety of policy options could be considered for revising or refining various features of IPAB (65). Multiple options could either strengthen or weaken the role of IPAB, depending on policy desires, eliminate it entirely, or empower MedPAC.

9.1 Options to Modify Medicare Spending Targets

- Drop the targets: IPAB could continue to make recommendations, and could opt to hit whatever target it thought appropriate, but without the constraint of the statutory target and trigger for IPAB action (65).
 - This approach would retain IPAB as an expert advisory body, whose proposals would merit fasttrack consideration in Congress, but without the target.
- Retain and revise the targets: Targets could be tightened so that IPAB is even more effective as a budget and deficit control device (65). Alternatively,

the targets could be weakened.

- Greater weight could be given to medical care prices than general price increases.
- Further, the target could be based on a comparison of Medicare and private per capita spending for similar services, requiring IPAB to make formal recommendations with fast-track follow-up only when program spending is substantially above projected growth patterns.
- Over the 1970-2009 period, Medicare has actually grown more slowly than private health insurance (8.3% per year compared with 9.3%), although the pattern varies in different time periods.
- The CBO originally estimated savings from IPAB and now projects that Medicare spending will be within the targets through 2021, and such annual changes in projections, and impact on whether IPAB is required to issue mandatory savings recommendations, can be expected to continue.
- Modify the 5-year timeframe used to calculate the target: Careful analysis would be needed to assess the impact, but the implications of alternative timeframes for the target calculations could be considered (65).
- ♦ Allow savings to accrue over a longer period of time, rather than in a single "implementation" year: The requirement to achieve Medicare savings for the implementation year may discourage the type of longer-term policy change that could be most important for Medicare and the underlying growth in health care costs, including delivery reforms which generally require several years to achieve savings (65).

9.2 Options to Modify the "Applicable Limits" for Medicare Savings Targets

- ♦ Raise or eliminate the applicable limits: This would allow IPAB to keep Medicare spending below targets, without the current law's constraints (65).
 - This could turn the current-law IPAB targets into a true cap on spending growth. If a 2% cut in spending is called for, then IPAB would be called on to reduce spending by the full amount required to reach that target.
- ◆ Reduce the applicable limits, or allow the limits to phase in more slowly: This would reduce the magnitude of savings that IPAB would be charged to recommend (65).

 The applicable limits could be phased in more slowly, for example staying at 0.5% of Medicare spending or phasing up to 1% of Medicare spending rather than 1.5% by 2018.

9.3 Options to Revise the Process for IPAB and Congressional Consideration of Proposals

- ♦ Give IPAB its own actuary: IPAB could be given more independence from HHS by assigning it its own actuary for purposes of making determinations under the statute, rather than assigning this authority to the CMS Actuary, and/or by limiting HHS ex officio representation to the CMS Administrator rather than the 3 officials now named (65).
- Modify the secretary's authority to implement IPAB proposals: The requirement that the secretary advance a proposal in the event that IPAB fails to act, with that proposal then benefiting from the same fast-track treatment available to IPAB, could be revised (65).
 - For example, in the event that IPAB fails to act, the statute could recognize that there were no recommendations that year, allowing Congress to deliberate and set policy under standard procedures.
 - Alternatively, to maintain adherence to the statutory targets, if retained, the statute could call for a simple sequestration proposal to be presented to Congress in that situation, to be implemented by the secretary if Congress fails to develop an alternative.
- ♦ Revise the congressional super-majority requirements: The super-majority requirements for congressional amendments to the recommendations that may differ from the underlying targets could be revised, allowing the standard working majorities to make decisions, as is the case for other statutory decisions (65).
- ◆ Remove the prohibitions on administrative and judicial review: Administrative and judicial review provisions could be clarified to deal with situations in which it is questionable whether IPAB is acting within the bounds of its authority (65).
- ♦ Eliminate the fast-track provisions for adoption of IPAB proposals: The ultimate change would be to drop the congressional fast-track provisions altogether, which would turn IPAB into a more traditional advisory body (65).

9.4 Options to Revise the Scope of Recommendations Affecting Benefits

- Clarify IPAB's authority with regard to benefits: Clarity could be provided about the definitions and constraints envisioned in the current language of the ACA (65).
 - Such clarity would yield a greater understanding of what the board can and cannot recommend, and could be designed to tighten or loosen IPAB's authority depending on policy objectives.
- ♦ Remove the prohibition on IPAB consideration of benefit changes: The statutory prohibition on IPAB making recommendations related to benefits or cost sharing could be changed (65).
 - It could be modified to allow IPAB to recommend selected cost sharing and benefit adjustments.
 - This would give the Board the ability to deal with a broader range of Medicare issues, though it could also raise concerns about such a wide scope of authority over core Medicare issues such as benefits.
- ♦ Strengthen the requirements related to beneficiary access and quality: IPAB could be directed to balance its requirements to hit specified spending targets with stronger requirements related to beneficiary access and quality (65). The statutory requirement about maintaining or enhancing beneficiary access to quality care could be strengthened.

9.5 Options to Revise the Scope of Recommendations Affecting Providers

- ♦ Clarify the extent of IPAB's authority as it relates to providers: One option would be to clarify the extent of IPAB's authority, and the constraints on that authority, in particular as it relates to the providers protected from payment rate reductions prior to 2020, as well as physicians (65).
- ♦ Eliminate some or all of the statutory prohibitions on the scope of IPAB's required recommendations: The statutory protections for selected providers until 2020 could be repealed, or the time period for the protections shortened (65).
- Place additional constraints on the scope of IPAB's authority related to providers: IPAB could be further constrained, for example, by including physicians within the providers that cannot be addressed until the SGR problem is permanently fixed in some manner by Congress (65).

9.6 Options to Revise the Scope of Recommendations Affecting Non-Medicare Spending

- Require IPAB to submit recommendations related to private health spending: The secretary could then apply these recommendations to the qualified health plans providing health benefits in the new health insurance exchanges, beginning in 2014, where federal premium and cost-sharing subsidies are provided (65).
- Require IPAB to more directly address private sector spending as well as Medicare spending: IPAB would only be called on to make recommendations when spending exceeds those targets (65).

10.0 IMPACT ON INTERVENTIONAL PAIN MANAGEMENT

Based on the described evidence synthesis of PCORI (13) which has been extensively described in previous articles, and the powers of IPAB, the major impact on interventional pain management would be the lack of interventional pain management clinicians on panels evaluating interventional techniques, resulting in the elimination of the specialty and the recommendations for coverage, or lack thereof, which may be slow for Medicare, but empowers insurers. The results could be drastic with elimination of interventional pain clinicians and interventional pain management. The resulting lack of understanding of the technical clinical aspects of interventional techniques, placebo analgesia, nocebo hyperalgesia, together with methodological research flaws based on conflicts of interest are major drawbacks in evidence synthesis related to interventional pain management and its survival into the future. Evaluation may thus be considered invalid, if it is focused on benefit for the guideline preparer (76-110).

Further, these fears are exemplified by multiple evaluations and publications related to interventional pain management published by NICE (111-117). NICE (111) in conjunction with the National Collaborating Center for Primary Care and Royal College of General Practitioners (112) including guidelines developed for the for early management of persistent nonspecific low back pain, which have been inappropriately applied for chronic persistent low back pain. Further, the evidence assessment was performed poorly utilizing flawed methodology.

CER in the United States is confused with evidencebased medicine (EBM) and misapplied. Though both are similar, there are some differences. CER in the Unit-

ed States are intermingled with the Cochrane Review group and others in the United Kingdom and other countries. They have often failed to utilize appropriate methodological principles and lack accountability and transparency. Some organizations limit their discussion to process, never their deficiencies and conflicts of interest. Multiple examples of faulty development of guidelines exist and are illustrative. Further, an integrity assessment expressed deep concerns regarding the APS guidelines and pointed out significant methodologic failures and raising concerns about transparency, accountability, consistency, and independence due not only to methodology flaws, but also conflicts of interest. It has been concluded that the ACOEM guidelines on chronic pain and low back pain lack applicability in modern patient care due to a lack of expertise by the developing organization (ACOEM), lack of utilization of appropriate and current EBM principles, and a lack of significant involvement of experts in these techniques, resulting in a lack of clinical relevance (95).

However, in contrast, there are rigorously performed evidence-based guidelines for interventional techniques published by the American Society of Interventional Pain Physicians (ASIPP) (77), with extensive supporting documentation of these guidelines and systematic reviews with extensive quality assessment have been provided (118-144). It is a common practice for systematic reviews to misinterpret the evidence based on flawed assumptions of placebo-control and study design. Further, it has been shown that there are multiple (mostly active-control) trials which provide significant evidence for the efficacy of interventional pain management techniques which have been excluded or synthesized based on false assumptions, leading to impressions of ineffectiveness and resulting in noncoverage (145-169).

11.0 CONCLUSION

One of the rationales for establishing IPAB was to separate Medicare policy making from congressional politics (65). It is an independent body that can make expert recommendations about Medicare, within spending constraints established by Congress in the enabling legislation. It is presumed to make these recommendations without the political pressures that often confront elected officials, along with a fast-track congressional review process and default implementation in the absence of congressional action. Congress, in enacting IPAB, subjected itself to future constraints in the form of the fast-track process, and shifted policy

authority to IPAB and other executive branch officials, through both the new authority provided to IPAB and the explicit constraints and timetable the ACA placed on Congress.

IPAB evolved from a long history of concern about Medicare spending and Medicare governance, and like any major change in a public program, it raises issues to deal with in the future. IPAB continues to be the source of extensive controversy. Some groups are pushing to repeal IPAB even though they support other provisions of the ACA, and are pressing for implementation. Others see great promise in IPAB, particularly given concerns about the future growth in health care spending. In this manuscript, we have reviewed the many

potential unintended consequences of IPAB with emphasis on the potential impact on interventional pain management.

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REFERENCES

- Public Law No: 111-148: H.R. 3590. Patient Protection and Affordable Care Act. March 23, 2010.
- Bredesen P. Fresh Medicine: How to Fix Reform and Build a Sustainable Health Care System 1st ed. Atlantic Monthly Press, New York, 2010.
- Manchikanti L, Caraway DL, Parr AT, Fellows B, Hirsch JA. Patient Protection and Affordable Care Act of 2010: Reforming health care reform for the new decade. Pain Physician 2011; 14:E35-E67.
- Remarks by the President on Fiscal Policy. The White House, Office of the Press Secretary, April 13, 2011.
 www.whitehouse.gov/the-press-office/2011/04/13/remarks-president-fiscal-policy
- DeParle NA. The White House Blog. The Facts about the Independent Payment Advisory Board. April 20, 2011.
 www.whitehouse.gov/blog/2011/04/20/ facts-about-independent-payment-advi-

sory-board

- 6. McClellan M. Statement In: DeParle
 NA. The White House Blog. The Facts
 about the Independent Payment Advisory Board. April 20, 2011.
 - www.whitehouse.gov/blog/2011/04/20/facts-about-independent-payment-advisory-board
- Former Congressional Budget Office Director. Statement In: DeParle NA. The
 White House Blog. The Facts about the
 Independent Payment Advisory Board.
 April 20, 2011.
 www.whitehouse.gov/blog/2011/04/20/

- facts-about-independent-payment-advisory-board
- Experts from Commonwealth Fund. Statement In: DeParle NA. The White House Blog. The Facts about the Independent Payment Advisory Board. April 20, 2011.
 - www.whitehouse.gov/blog/2011/04/20/ facts-about-independent-payment-advisory-board
- Coalition of Economists. Statement In: DeParle NA. The White House Blog. The Facts about the Independent Payment Advisory Board. April 20, 2011.
 - www.whitehouse.gov/blog/2011/04/20/ facts-about-independent-payment-advisory-board
- The Moment of Truth. Report of the National Commission on Fiscal Responsibility and Reform. The White House. December 2010.
- Section III. Health Care Savings. In: The Moment of Truth. Report of the National Commission on Fiscal Responsibility and Reform. The White House. December 2010, pp 36-43.
- Congressional Budget Office. Budget options Volume 1 Health Care. December 2008. www.cbo.gov/ftpdocs/99xx/ doc9925/12-18-HealthOptions.pdf
- 13. Manchikanti L, Falco FJ, Benyamin RM, Helm S, Parr AT, Hirsch JA. The impact of comparative effectiveness research on interventional pain management: Evolution from Medicare Modernization Act to Patient Protection and Affordable Care Act and the Patient-Centered Outcomes

- Research Institute. *Pain Physician* 2011; 14:E249-E282.
- Pear R. Obama panel to curb Medicare finds foes in both parties. The New York Times, April 19, 2011.
- 15. Morrissey E. IPAB suddenly under the spotlight. Hot Air. April 20, 2011. http:// hotair.com/archives/2011/04/20/ipabsuddenly-under-the-spotlight/
- 16. Kurtz S. The acronym that ate health care. *National Review*, May 16, 2011.
- 17. Morrissey E. Two House Dems defect on IPAB after embarrassment on Senate budget vote. *Hot Air.* March 10, 2011.
- Orszag P. Statement In: Kurtz S. The acronym that ate health care. National Review, May 16, 2011.
- 19. Viebeck E. Ariz. congressmen join health reform lawsuit. *The Hill*, August 13, 2010.
- Representative John Fleming (R-LA) Statement In: Kurtz S. The acronym that ate health care. National Review, May 16, 2011.
- 21. Letter to Congress from 250 organizations opposing IPAB. July 27, 2011. www.asahq.org/For-Members/Advocacy/Washington-Alerts/ASA-Joins-250-Groups-Opposing-IPAB.aspx
- 22. American Society of Interventional Pain Physicians. Press Release. Doctors' Group Expresses Concern That Patient-Centered Outcomes Research Institute Will Not Protect Patients' Rights or the Practice of Medicine. May 26, 2011.
- 23. H.R. 452. Medicare Decisions Accountability Act of 2011. January 25, 2011.
- 24. S.668. Health Care Bureaucrats Elimina-

www.painphysicianjournal.com E337

- tion Act. March 29, 2011.
- POLITICO. Dems split on health payment panel. July 10, 2011. www.politico. com/news/stories/0711/58655.html
- 26. Meacham J. In search of a fiscal cure. Newsweek, April 30, 2010.
- 27. Calmes J. After health care passage, Obama pushes to get it rolling. *The New York Times*. April 17, 2010. www.nytimes. com/2010/04/18/health/policy/18cost. html
- Independent Payment Advisory Board. American Medical Association. www.ama-assn.org/amai/pub/upload/
 - mm/399/hsr-payment-advisory-board.
- 29. Khimm S. It's alive! GOPers resurrect "death panels". The Palm Beach Post. January 27, 2011. http://motherjones. com/politics/2011/01/gop-resurrects-death-panels
- Wilson D. Industry aims at Medicare board. November 4, 2010. http://prescriptions.blogs.nytimes.com/2010/11/04/industry-targets-medicare-board/
- Live Health Chat: Health care law changes. Los Angeles Times. February 17, 2011. www.cltv.com/health/healthkey/ ct-health-chat-health-care-law-changes,0,4631572.htmlstory
- 32. HealthPolicyNewsStand. Specialty doctors to visit Congress June 23 to discuss doc fix IPAB Codes. *Inside* CMS, June 10, 2010. http://healthpolicynewsstand.com/Inside-CMS/Inside-CMS-06/10/2010/menu-id-316.html
- Maves MD. American Medical Association. Letter to Honorable Harry Reid, United States Senate RE Opposition to the Independent Payment Advisory Board provision in H.R. 3590. January 13, 2010.
- Implementing Health Reform. On the Independent Payment Advisory Board. Cardiology News 2010; 8:34.
- Ferrara P, Hunter L. How ObamaCare guts Medicare. The Wall Street Journal. September 9, 2010. http://online.wsj. com/article/SB100014240527487036490 04575437311393854940.html
- Foster R. Statement In: Ferrara P, Hunter L. How ObamaCare guts Medicare.
 The Wall Street Journal. September 9, 2010. http://online.wsj.com/article/SB1 00014240527487036490045754373113938 54940.html
- 37. Newman D, Davis CM. The Independent Payment Advisory Board. CRS Re-

- port for Congress. November 30, 2010. a s s e t s . o p e n c r s . c o m / r p t s / R41511_20101130.pdf
- Measuring price change for medical care in the CPI. Bureau of Labor Statistics.
 - www.bls.gov/cpi/cpifact4.htm
- Medicare Payment Advisory Commission, Report to the Congress: Medicare Payment Policy (Washington, D.C., March 1, 2011).
- 40. Sisko AM, Truffer CJ, Keehan SP, Poisal JA, Clemens MK, Madison AJ. 2010. National health spending projections: The estimated impact of reform through 2019. Health Aff 2010; 29:1933-1941.
- Congressional Budget Office. 2010b. The Long-Term Budget Outlook. Washington, DC: CBO.
- Health care spending in the United States and selected OECD countries. Kaiser Family Foundation, April 2011. www.kff.org/insurance/snapshot/OECD042111.cfm
- U.S. General Accounting Office. Health Care: Unsustainable Trends. GAO-04-793SP. May 2004, p 3.
 - www.gao.gov/new.items/do4793sp.pdf
- 44. Terry K. Should MedPAC be given authority over Medicare payments. BNET, June 4, 2009. www.bnet.com/blog/healthcare-business/should-medpac-be-given-authority-over-medicare-payments/414
- 45. H.R. 2015. Balanced Budget Act of 1997. P.L. 105-33, August 5, 1997.
- Daschle T, Greenberger SS, Lambrew JM. Critical: What Can We Do About the Health-Care Crisis. St. Martin's Press, New York, 2008.
- 47. Why Donald Berwick is Dangerous to Your Health. *Real Clear Politics*, May 26, 2010. www.realclearpolitics.com/articles/2010/05/26/why_donald_berwick_is_dangerous_to_your_health_105730. html
- 48. National Institute for Health and Clinical Excellence (NICE). www.nice.org.uk
- Fodeman J. The new health law: Bad for doctors, awful for patients. Galen Institute, April 2011. www.galen.org/component,8/action,show_content/id,13/blog_ id,1564/category_id,2/type,33/
 - Evans H. Comparative effectiveness in health care reform: Lessons from abroad. *Backgrounder* No. 2239; February 4, 2009.
- 51. Timmins N. Letter from Britain: Across the pond, giant new waves of health re-

- form. Health Aff (Milwood) 2010; 29:2138-2141.
- 52. Department of Health (UK). Equity and Excellence: Liberating the NHS. London, July 2010. www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@ dh/@en/@ps/documents/digitalasset/ dh_117794.pdf
- 53. HM Government. The Coalition: Our Programme for Government. London, May 2010. www.cabinetoffice.gov.uk/media/409088/pfg_coalition.pdf
- 54. Department of Health (UK). Speech by the Rt Hon Andrew Lansley CBE MP, Secretary of State for Health, 8 June 2010, "My Ambition for Patient-Centred Care." London, June 2010. www.dh.gov.uk/en/ MediaCentre/Speeches/DH_116643
- Department of Health (UK). Andrew Lansley: GP Commissioning and the Future of the NHS. London, October 2010. www.dh.gov.uk/en/MediaCentre/ Speeches/DH_120666
- 56. Nuffield Trust. 2010 John Fry Fellowship Lecture: What GP Commissioning Consortia Might Learn From the Development of Physician Groups in the US: A Synthesis of 20 Years Experience to Avoid Failure. London, October 2010. www.nuffieldtrust.org.uk/events/detail. aspx?id=46&prID=734&year=2010
- 57. Royal College of General Practitioners.

 Department of Health Consultation on
 Equity and Excellence: Liberating the NHS.

 London, October, 2010. www.rcgp.org.

 uk/pdf/RCGP_response_to_Equity_
 and_Excellence_Liberating_the_NHS.
 pdf
- 58. King's Fund. Impact of the Health White Paper: What Do Doctors Think? London, October 2010. www.kingsfund.org.uk/ current_projects/the_nhs_white_paper/ impact_of_the_health.html
- 59. King's Fund. The King's Fund Response to the NHS White Paper. London, October 2010. www.kingsfund.org.uk/current_ projects/the_nhs_white_paper/the_ kings_fund.html
- Timmins N. The NICE way of influencing health spending: A conversation with Sir Michael Rawlins. Health Aff (Millwood) 2009; 28:1360-1365.
- Editor's blog Wednesday 3 November 2010: A NICE surprise. Health Policy Insight. November 2010. www.healthpolicyinsight.com/?q=node/836
- Beckford M. NHS shamed over callous treatment of elderly. The Telegraph, February 14, 2011. www.telegraph.co.uk/ health/healthnews/8324569/NHS-

- shamed-over-callous-treatment-of-elderly.html
- 63. Rethinking Comparative Effectiveness Research. *Biotechnology Health-care* 2009; 6:35-36,38. www.ncbi.nlm. nih.gov/pmc/articles/PMC2799075/pdf/btho6_2p035.pdf
- 64. POLITICO. A Recess-Appointed IPAB? June 27, 2011. www.politico.com/politicopulse/0611/politicopulse530.html
- 65. Ebeler J, Neuman T, Cubanski J. The Independent Payment Advisory Board: A new approach to controlling Medicare spending. The Kaiser Family Foundation Program on Medicare Policy. April 2011. www.kff.org/medicare/upload/8150.pdf
- 66. Richard S. Foster, Chief Actuary, Centers for Medicare & Medicaid Services, "Estimated Financial Effects of the 'Patient Protection and Affordable Care Act', as amended" press release, April 22, 2010. burgess.house.gov/Uploaded-Files/4-22-2010_-_OACT_Memorandum_on_Financial_Impact_of_PPACA_as_Enacted.pdf
- Manchikanti L, Hirsch JA. Medicare physician payment rules for 2011: A primer for the neurointerventionalist. AJNR Am J Neuroradiol 2011; 32:E101-E104.
- Medicare Payment Advisory Commission. Report to the Congress, Medicare Payment Policy (March 2010). www.medpac.gov/documents/mar10_entirereport.pdf
- 69. Shatto JD, Clemens MK. (CMS Actuaries). Projected Medicare Expenditures under an Illustrative Scenario with Alternative Payment updates to Medicare Providers. August 5, 2010. www.cms.gov/ReportsTrustFunds/downloads/2010TRAlt ernativeScenario.pdf
- Medicare Payment Advisory Commission. Report to the Congress. Medicare and the Health Care Delivery System. June 2011. www.medpac.gov/documents/Jun11_EntireReport.pdf
- Medicare Spending and Financing: A primer. Kaiser Family Foundation, February 2011. www.kff.org/medicare/upload/7731-03.pdf
- Congressional Budget Office. March 2011 Medicare Baseline, March 18, 2011. www.cbo.gov/budget/factsheets/2011b/ medicare.pdf
- Adamy J. Overlapping Health Plans Are Double Trouble for Taxpayers. The Wall Street Journal. June 27, 2011. http://online.wsj.com/article/SB10001424052702 304453304576392194143220356.html

- 74. Medicare Payment Advisory Commission. Report to the Congress: Aligning Incentives in Medicare. June 2010. www. medpac.gov/documents/Jun10_EntireReport.pdf
- Jost TS. The Independent Payment Advisory Board. N Engl J Med 2010; 363:103-105.
- 76. Practice guidelines for chronic pain management: An updated report by the American Society of Anesthesiologists Task Force on Chronic Pain Management and the American Society of Regional Anesthesia and Pain Medicine. Anesthesiology 2010; 112:810-833.
- Manchikanti L, Boswell MV, Singh V, Benyamin RM, Fellows B, Abdi S, Buenaventura RM, Conn A, Datta S, Derby R, Falco FJE, Erhart S, Diwan S, Hayek SM, Helm S, Parr AT, Schultz DM, Smith HS, Wolfer LR, Hirsch JA. Comprehensive evidence-based guidelines for interventional techniques in the management of chronic spinal pain. Pain Physician 2009; 12:699-802.
- Manchikanti L. Evidence-based medicine, systematic reviews, and guidelines in interventional pain management:
 Part 1: Introduction and general considerations. Pain Physician 2008; 11:161-186.
- Manchikanti L, Hirsch JA, Smith HS. Evidence-based medicine, systematic reviews, and guidelines in interventional pain management: Part 2: Randomized controlled trials. Pain Physician 2008; 11:717-773.
- Manchikanti L, Benyamin RM, Helm S, Hirsch JA. Evidence-based medicine, systematic reviews, and guidelines in interventional pain management: Part 3: Systematic reviews and meta-analysis of randomized trials. *Pain Physician* 2009; 12:35-72.
- 81. Manchikanti L, Singh V, Smith HS, Hirsch JA. Evidence-based medicine, systematic reviews, and guidelines in interventional pain management: Part 4: Observational studies. *Pain Physician* 2009; 12:73-108.
- Manchikanti L, Derby R, Wolfer LR, Singh V, Datta S, Hirsch JA. Evidencebased medicine, systematic reviews, and guidelines in interventional pain management: Part 5. Diagnostic accuracy studies. *Pain Physician* 2009; 12:517-540.
- 83. Manchikanti L, Datta S, Smith HS, Hirsch JA. Evidence-based medicine, systematic reviews, and guidelines in interventional pain management: Part 6. Systematic reviews and meta-analyses

- of observational studies. *Pain Physician* 2009; 12:819-850.
- 84. Manchikanti L, Derby R, Wolfer LR, Singh V, Datta S, Hirsch JA. Evidencebased medicine, systematic reviews, and guidelines in interventional pain management: Part 7: Systematic reviews and meta-analyses of diagnostic accuracy studies. Pain Physician 2009; 12:929-963.
- Manchikanti L, Falco FJE, Boswell MV, Hirsch JA. Facts, fallacies, and politics of comparative effectiveness research: Part
 Basic considerations. Pain Physician 2010; 13:E23-E54.
- 86. Manchikanti L, Falco FJE, Boswell MV, Hirsch JA. Facts, fallacies, and politics of comparative effectiveness research: Part 2. Implications for interventional pain management. *Pain Physician* 2010; 13:E55-E79.
- 87. Manchikanti L, Datta S, Derby R, Wolfer LR, Benyamin RM, Hirsch JA. A critical review of the American Pain Society clinical practice guidelines for interventional techniques: Part 1. Diagnostic interventions. *Pain Physician* 2010; 13:E141-E174.
- 88. Manchikanti L, Datta S, Gupta S, Munglani R, Bryce DA, Ward SP, Benyamin RM, Sharma ML, Helm II S, Fellows B, Hirsch JA. A critical review of the American Pain Society clinical practice guidelines for interventional techniques: Part 2. Therapeutic interventions. *Pain Physician* 2010; 13:E215-E264.
- 89. Bigos SJ, Boyer OR, Braen GR, Brown K, Deyo R. Acute Low Back Problems in Adults. Clinical Practice Guideline Number 4. AHCPR Publication No. 95-0642. Agency for Health Care Policy and Research, Public Health Service, US Department of Health and Human Services, Rockville, December 1994.
- Gray BH, Gusmano MK, Collins SR. AH-CPR and the changing politics of health services research. Health Aff (Milwood) 2003; W3:283-307.
- Gonzalez EG. Preface. In: Gonzalez ER, Materson RS (eds). The Nonsurgical Management of Acute Low Back Pain. Demos Vermande, New York, 1997, pp vii-viii.
- 92. Gonzalez EG, Materson RS. The guidelines, the controversy, the book. In: Gonzalez ER, Materson RS (eds). The Nonsurgical Management of Acute Low Back Pain. Demos Vermande, New York, 1997, pp 1-4.
- 93. Harrington SE. Incentivizing Comparative Effectiveness Research. Ewing Marion Kauffman Foundation Research Paper.

www.painphysicianjournal.com

- January 1, 2011. http://hcmg.wharton. upenn.edu/documents/research/Harrington%20incentivizing%20CER%20 1%2011.pdf
- Keyhani S, Kim A, Mann M, Korenstein D. A new independent authority is needed ed to issue national health care guidelines. Health Aff (Milwood) 2011; 30:256-265.
- Manchikanti L, Singh V, Derby R, Schultz DM, Benyamin RM, Prager JP, Hirsch JA. Reassessment of evidence synthesis of occupational medicine practice guidelines for interventional pain management. Pain Physician 2008; 11:393-482.
- Health Technology Assessment, Washington State Health Care Authority. Spinal Injections, Updated Final Evidence Report. Spectrum Research, Inc., March 10, 2011.
 - www.hta.hca.wa.gov/documents/updated_final_report_spinal_injections_0310-1.pdf
- Letter to Robin Hashimoto, Washington State Health Care Authority, from American Society of Interventional Pain Physicians RE Health Technology Assessment for Spinal Injections, November 24, 2010.
- Chou R, Huffman L. Guideline for the Evaluation and Management of Low Back Pain: Evidence Review. American Pain Society, Glenview, IL, 2009. www.ampainsoc.org/pub/pdf/LBPEvidRev.pdf
- 99. Chou R, Loeser JD, Owens DK, Rosenquist RW, Atlas SJ, Baisden J, Carragee EJ, Grabois M, Murphy DR, Resnick DK, Stanos SP, Shaffer WO, Wall EM; American Pain Society Low Back Pain Guideline Panel. Interventional therapies, surgery, and interdisciplinary rehabilitation for low back pain: An evidence-based clinical practice guideline from the American Pain Society. Spine (Phila Pa 1976) 2009; 34:1066-1077.
- 100. Datta S, Manchikanti L. In response to Chou R, Loeser JD, Owens DK, et al. Interventional therapies, surgery, and interdisciplinary rehabilitation for low back pain: An evidence-based clinical practice guideline from the American Pain Society. Spine (Phila Pa 1976) 2009; 34:1066-1077; Spine (Phila Pa 1976) 2010 35:1826; author reply 1826-1827.
- 101. Chou R. Critiquing the critiques: The American Pain Society guideline and the American Society of Interventional Pain Physicians' response to it. Pain Physician 2011; 14:E69-E73; Response: Manchikanti L, Gupta S, Benyamin R,

- Munglani R, Datta S, Hirsch JA, Ward SP. In response from Manchikanti et al. *Pain Physician* 2011; 14:E73-E80.
- 102. Chou R. Letter to the editor: Re: Chou R, Loeser JD, Owens DK, et al. Interventional therapies, surgery and interdisciplinary rehabilitation for low back pain: an evidence-based clinical practice guideline from the American Pain Society. Spine (Phila Pa 1976) 2009; 34:1066-1077. Spine (Phila Pa 1976) 2011; 36:590.
- 103. American College of Occupational and Environmental Medicine (ACOEM) Low back Disorders. In: Occupational Medicine Practice Guidelines: Evaluation and Management of Common Health Problems and Functional Recovery of Workers, Second Edition. American College of Occupational and Environmental Medicine Press, Elk Grove Village, 2007.
- 204. American College of Occupational and Environmental Medicine (ACOEM) Chronic Pain. In: Occupational Medicine Practice Guidelines: Evaluation and Management of Common Health Problems and Functional Recovery of Workers, Second Edition. American College of Occupational and Environmental Medicine Press, Elk Grove Village, 2008.
- 105. Kloth D. Health care reform involving our physician leaders. Pain Physician 2011; 14:169-173.
- 106. Letter to Laxmaiah Manchikanti MD, from Leah Hole-Curry, MD, Washington State Health Care Authority. Re: Washington State Health Technology Assessment. December 9, 2010.
- 107. Gamble M. Washington State may cut spinal injections from state coverage. Becker's Orthopedic, Spine & Pain Management, March 18, 2011. www.beckersorthopedicandspine.com/spine/3441-washington-state-may-cut-spinal-injections-from-state-coverage
- 108. Pollack A. A panel decides Washington State's health care costs. The New York Times, March 21, 2011. www.nytimes. com/2011/03/22/business/22care.html
- 109. Fields R. Washington State program to continue payment for some spinal injections. Becker's ASC Review, May 3, 2011. www.beckersasc.com/orthopedic-spinedriven-ascs/washington-state-programto-continue-payment-for-some-spinalinjections.html
- Campbell EG, Zinner DE. Disclosing industry relationships – toward an improved federal research policy. N Engl J Med 2010; 363:604-606.
- 111. National Institute for Health and Clinical Excellence (NICE). Low back pain:

- Early management of persistent nonspecific low back pain. NICE Clinical Guideline 88. May 2009.
- 112. The National Collaborating Center for Primary Care (NCCPC) Royal College of General Practitioners (RCGP). Low back pain: Early management of persistent non-specific low back pain. Full guideline, May 2009.
- 113. National Institute for Health and Clinical Excellence (NICE). Percutaneous intradiscal electrothermal therapy for low back pain. NICE Interventional Procedure Guidance 319. November 2009.
- 114. National Institute for Health and Clinical Excellence (NICE). Percutaneous endoscopic laser lumbar discectomy. NICE Interventional Procedure Guidance 300. May 2009.
- 115. National Institute for Health and Clinical Excellence (NICE). Keyhole treatment of a prolapsed (slipped) lumbar disc by endoscope-guided laser. Understanding NICE Guidance 300. May 2009.
- 116. National Institute for Health and Clinical Excellence (NICE). Percutaneous disc decompression using coblation for lower back pain. NICE Interventional Procedure Guidance 173. May 2006.
- National Institute for Health and Clinical Excellence (NICE). Percutaneous vertebroplasty. NICE Interventional Procedure Guidance 12. September 2003.
- 118. Manchikanti L, Singh V, Helm S, Schultz DM, Datta S, Hirsch J. An introduction to an evidence-based approach to interventional techniques in the management of chronic spinal pain. *Pain Physician* 2009; 12:E1-E33.
- 119. Wolfer L, Derby R, Lee JE, Lee SH. Systematic review of lumbar provocation discography in asymptomatic subjects with a meta-analysis of false-positive rates. *Pain Physician* 2008; 11:513-538.
- 120. Manchikanti L, Singh V, Datta S, Cohen SP, Hirsch JA. Comprehensive review of epidemiology, scope, and impact of spinal pain. Pain Physician 2009; 12:E35-E70.
- 121. Manchikanti L, Boswell MV, Singh V, Derby R, Fellows B, Falco FJE, Datta S, Smith HS, Hirsch JA. Comprehensive review of neurophysiologic basis and diagnostic interventions in managing chronic spinal pain. Pain Physician 2009; 12:E71-E120.
- 122. Manchikanti L, Boswell MV, Datta S, Fellows B, Abdi S, Singh V, Benyamin RM, Falco FJE, Helm S, Hayek S, Smith HS.

- Comprehensive review of therapeutic interventions in managing chronic spinal pain. *Pain Physician* 2009: 12:E123-E198.
- 123. Manchikanti L, Singh V, Pampati V, Boswell MV, Benyamin RM, Hirsch JA. Description of documentation in the management of chronic spinal pain. *Pain Physician* 2009: 12:E199-E224.
- 124. Manchikanti L, Helm S, Singh V, Benyamin RM, Datta S, Hayek S, Fellows B, Boswell MV. An algorithmic approach for clinical management of chronic spinal pain. *Pain Physician* 2009; 12:E225-E264.
- 125. Falco FJE, Erhart S, Wargo BW, Bryce DA, Atluri S, Datta S, Hayek SM. Systematic review of diagnostic utility and therapeutic effectiveness of cervical facet joint interventions. *Pain Physician* 2009; 12:323-344.
- 126. Datta S, Lee M, Falco FJE, Bryce DA, Hayek SM. Systematic assessment of diagnostic accuracy and therapeutic utility of lumbar facet joint interventions. *Pain Physician* 2009; 12:437-460.
- 127. Manchikanti L, Dunbar EE, Wargo BW, Shah RV, Derby R, Cohen SP. Systematic review of cervical discography as a diagnostic test for chronic spinal pain. Pain Physician 2009; 12:305-321.
- 128. Manchikanti L, Glaser S, Wolfer L, Derby R, Cohen SP. Systematic review of lumbar discography as a diagnostic test for chronic low back pain. *Pain Physician* 2009; 12:541-559.
- 129. Conn A, Buenaventura R, Datta S, Abdi S, Diwan S. Systematic review of caudal epidural injections in the management of chronic low back pain. *Pain Physician* 2009; 12:109-135.
- 130. Parr AT, Diwan S, Abdi S. Lumbar interlaminar epidural injections in managing chronic low back and lower extremity pain: A systematic review. *Pain Physician* 2009; 12:163-188.
- 131. Benyamin RM, Singh V, Parr AT, Conn A, Diwan S, Abdi S. Systematic review of the effectiveness of cervical epidurals in the management of chronic neck pain. Pain Physician 2009; 12:137-157.
- Buenaventura RM, Datta S, Abdi S, Smith HS. Systematic review of therapeutic lumbar transforaminal epidural steroid injections. *Pain Physician* 2009; 12:233-251.
- 133. Helm S, Hayek S, Benyamin RM, Manchikanti L. Systematic review of the effectiveness of thermal annular procedures in treating discogenic low back

- pain. Pain Physician 2009; 12:207-232.
- 134. Smith HS, Chopra P, Patel VB, Frey ME, Rastogi R. Systematic review on the role of sedation in diagnostic spinal interventional techniques. *Pain Physician* 2009; 12:195-206.
- 135. Frey ME, Manchikanti L, Benyamin RM, Schultz DM, Smith HS, Cohen SP. Spinal cord stimulation for patients with failed back surgery syndrome: A systematic review. Pain Physician 2009; 12:379-397.
- 136. Epter RS, Helm S, Hayek SM, Benyamin RM, Smith HS, Abdi S. Systematic review of percutaneous adhesiolysis and management of chronic low back pain in post lumbar surgery syndrome. *Pain Physician* 2009; 12:361-378.
- 137. Patel VB, Manchikanti L, Singh V, Schultz DM, Hayek SM, Smith HS. Systematic review of intrathecal infusion systems for long-term management of chronic non-cancer pain. Pain Physician 2009; 12:345-360.
- 138. Rupert MP, Lee M, Manchikanti L, Datta S, Cohen SP. Evaluation of sacroiliac joint interventions: A systematic appraisal of the literature. *Pain Physician* 2009; 12:399-418.
- 139. Hayek SM, Helm S, Benyamin RM, Singh V, Bryce DA, Smith HS. Effectiveness of spinal endoscopic adhesiolysis in post lumbar surgery syndrome: A systematic review. *Pain Physician* 2009; 12:419-435.
- 140. Hirsch JA, Singh V, Falco FJE, Benyamin RM, Manchikanti L. Automated percutaneous lumbar discectomy for the contained herniated lumbar disc: A systematic assessment of evidence. *Pain Physi*cian 2009; 12:601-620.
- 141. Singh V, Manchikanti L, Benyamin RM, Helm S, Hirsch JA. Percutaneous lumbar laser disc decompression: A systematic review of current evidence. *Pain Physician* 2009; 12:573-588.
- 142. Singh V, Benyamin RM, Datta S, Falco FJE, Helm S, Manchikanti L. Systematic review of percutaneous lumbar mechanical disc decompression utilizing Dekompressor®. *Pain Physician* 2009; 12:589-599.
- 143. Manchikanti L, Derby R, Benyamin RM, Helm S, Hirsch JA. A systematic review of mechanical lumbar disc decompression with nucleoplasty. *Pain Physician* 2009; 12:561-572.
- 144. Singh V, Manchikanti L, Shah RV, Dunbar EE, Glaser SE. Systematic review of thoracic discography as a diagnostic test

- for chronic spinal pain. *Pain Physician* 2008; 11:631-642.
- 145. Lord SM, Barnsley L, Wallis BJ, McDonald GJ, Bogduk N. Percutaneous radiofrequency neurotomy for chronic cervical zygapophyseal-joint pain. N Engl J Med 1996; 335:1721-1726.
- 146. Riew KD, Yin Y, Gilula L, Bridwell KH, Lenke LG, Lauryssen C, Goette K. The effect of nerve-root injections on the need for operative treatment of lumbar radicular pain. A prospective, randomized, controlled, double-blind study. J Bone Joint Surg Am 2000; 82-A:1589-1593.
- 147. Riew KD, Park JB, Cho YS, Gilula L, Patel A, Lente LG, Bridwell KH. Nerve root blocks in the treatment of lumbar radicular pain. A minimum five-year follow-up. J Bone Joint Surg Am 2006; 88:1722-1725.
- 148. Leclaire R, Fortin L, Lambert R, Bergeron YM, Rossignol M. Radiofrequency facet joint denervation in the treatment of low back pain: A placebocontrolled clinical trial to assess efficacy. Spine (Phila Pa 1976) 2001; 26:1411-1416.
- 149. Leclaire R, Bergeron Y, Lambert R, Rossignol M. In response to: Radiofrequency neurotomy for chronic lumbar facet pain interpreting the evidence. *Pain Pract* 2010; 10:261-262.
- 150. Niemistö L, Kalso E, Malmivaara A, Seitsalo S, Hurri H. Radiofrequency denervation for neck and back pain: A systematic review within the framework of the Cochrane Collaboration Back Review Group. Spine (Phila Pa 1976) 2003; 28:1877-1888.
- 151. Nelemans P, de Bie R, de Vet H, Sturmans F. WITHDRAWN: Injection therapy for subacute and chronic benign lowback pain. Cochrane Database Syst Rev. 2007; 3:CD001824.
- Staal JB, de Bie RA, de Vet HC, Hildebrandt J, Nelemans P. Injection therapy for subacute and chronic low back pain: An updated Cochrane review. Spine (Phila Pa 1976) 2009; 34:49-59.
- 153. 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; 14:25-36.
- 154. Manchikanti L, Cash KA, McManus CD, Pampati V, Smith HS. Preliminary results of randomized, equivalence trial of fluoroscopic caudal epidural injections in managing chronic low back pain: Part

www.painphysicianjournal.com E341

- 1. Discogenic pain without disc herniation or radiculitis. *Pain Physician* 2008; 11:785-800.
- 155. Manchikanti L, Singh V, Cash KA, Pampati V, Damron KS, Boswell MV. Preliminary results of randomized, equivalence trial of fluoroscopic caudal epidural injections in managing chronic low back pain: Part 2. Disc herniation and radiculitis. Pain Physician 2008; 11:801-815.
- 156. Manchikanti L, Singh V, Cash KA, Pampati V, Datta S. Preliminary results of randomized, equivalence trial of fluoroscopic caudal epidural injections in managing chronic low back pain: Part 3. Post surgery syndrome. *Pain Physician* 2008; 11:817-831.
- 157. Manchikanti L, Cash KA, McManus CD, Pampati V, Abdi S. Preliminary results of randomized, equivalence trial of fluoroscopic caudal epidural injections in managing chronic low back pain: Part 4. Spinal stenosis. Pain Physician 2008; 11:833-848.
- 158. Manchikanti L, Singh V, Cash KA, Pampati V, Datta S. Management of pain of post lumbar surgery syndrome: One-year results of a randomized, double double-blind, active controlled trial of fluoroscopic caudal epidural injections. *Pain Physician* 2010; 13:509-521.
- 159. Manchikanti L, Singh V, Falco FJE, Cash KA, Pampati V, Fellows B. Comparative effectiveness of a one-year follow-up of thoracic medial branch blocks in management of chronic thoracic pain: A randomized, double-blind active controlled

- trial. Pain Physician 2010; 13:535-548.
- 160. Manchikanti L, Singh V, Falco FJ, Cash KA, Fellows B. Cervical medial branch blocks for chronic cervical facet joint pain: A randomized double-blind, controlled trial with one-year follow-up. Spine (Phila Pa 1976) 2008; 33:1813-1820.
- 161. 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, double-blind controlled trial. *Pain Physician* 2010; 13:437-450.
- 162. Manchikanti L, Singh V, Falco FJ, Cash KA, Pampati V. Lumbar facet joint nerve blocks in managing chronic facet joint pain: One-year follow-up of a randomized, double-blind controlled trial: Clinical Trial NCT00355914. *Pain Physician* 2008; 11:121-132.
- 163. Manchikanti L, Singh V, Falco FJE, Cash KA, Pampati V. Evaluation of lumbar facet joint nerve blocks in managing chronic low back pain: A randomized, doubleblind, controlled trial with a 2-year follow-up. Int J Med Sci 2010; 7:124-135.
- 164. Manchikanti L, Singh V, Cash KA, Pampati V, Datta S. A comparative effectiveness evaluation of percutaneous adhesiolysis and epidural steroid injections in managing lumbar post surgery syndrome: A randomized, equivalence controlled trial. Pain Physician 2009; 12:E355-E368.
- 165. Manchikanti L, Cash KA, McManus CD, Pampati V, Singh V, Benyamin RM. The

- preliminary results of a comparative effectiveness evaluation of adhesiolysis and caudal epidural injections in managing chronic low back pain secondary to spinal stenosis: A randomized, equivalence controlled trial. *Pain Physician* 2009; 12:E341-E354.
- 166. Manchikanti L, Cash KA, Pampati V, Wargo BW, Malla Y. Cervical epidural injections in chronic discogenic neck pain without disc herniation or radiculitis: Preliminary results of a randomized, double-blind, controlled trial. Pain Physician 2010; 13:E265-E278.
- 167. Manchikanti L, Cash KA, Pampati V, Wargo BW, Malla Y. The effectiveness of fluoroscopic cervical interlaminar epidural injections in managing chronic cervical disc herniation and radiculitis: Preliminary results of a randomized, double-blind, controlled trial. Pain Physician 2010; 13:223-236.
- 168. Manchikanti L, Singh V, Falco FJE, Cash KA, Pampati V. Evaluation of the effectiveness of lumbar interlaminar epidural injections in managing chronic pain of lumbar disc herniation or radiculitis: A randomized, double-blind, controlled trial. Pain Physician 2010; 13:343-355.
- 169. Manchikanti L, Cash KA, McManus CD, Pampati V, Benyamin RM. Preliminary results of a randomized, double-blind, controlled trial of fluoroscopic lumbar interlaminar epidural injections in managing chronic lumbar discogenic pain without disc herniation or radiculitis. Pain Physician 2010; 13:E279-E292.