

August 26, 2014

Marilyn B. Tavenner
Administrator
Centers for Medicare and Medicaid Services
U.S. Department of Health and Human Services
7500 Security Boulevard
Baltimore, MD 21244-1850

RE: CMS-1612-P
Proposed Rule for Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule, Clinical Laboratory Fee Schedule, Access to Identifiable Data for Center for Medicare and Medicaid Innovation Models & Other Revisions to Part B for CY 2015.
78 Federal Register 40318 *et seq.*

Dear Administrator Tavenner:

There are serious problems with the methodology CMS has proposed to use for evaluating cost in the Value-Based Payment Modifier that could harm the most vulnerable Medicare beneficiaries while failing to achieve Congressional goals of promoting higher quality, more affordable healthcare. **The Center for Healthcare Quality and Payment Reform urges that CMS drop its plans to implement the cost measures in the Value-Based Payment Modifier for large physician groups in 2015. We recommend that CMS use the transition period authorized by Congress to develop a more effective methodology that can be implemented in 2017.**

As described in more detail in Attachment 1, the methodology CMS has proposed to use for attribution, episode definition, and risk adjustment in the Value-Based Payment Modifier (VM) would:

1. Discourage physicians from accepting new patients who have not been receiving adequate primary and preventive care.
2. Discourage physicians from providing care coordination services for patients who have complex problems and who receive services from multiple physicians and other providers.
3. Discourage physicians from caring for patients who are poor, have functional limitations, or live in rural areas.
4. Penalize physicians for keeping their patients healthy.
5. Penalize physicians for services they did not deliver or order, including services they were not even aware their patients received.
6. Fail to hold physicians accountable for delivery of unnecessary and inappropriate services.
7. Penalize physicians for delivering recommended services to their patients.
8. Penalize physicians for treating patients with injuries, cancer, acute illnesses, and complications resulting from care by other providers.
9. Reduce payments to primary care physicians relative to specialists.
10. Penalize physicians for working in particular types of multi-specialty groups.

The methodology that CMS has created for the VM does not meet the requirements of Section 1848(p) of the Social Security Act. Section 1848(p)(3) requires the Secretary to evaluate costs based on “appropriate measures of costs” that “take into account risk factors (such as socioeconomic and demographic characteristics, ethnicity, and health status of individuals).” In addition, Section 1848(p)(6) requires the Secretary to “take into account the special circumstances of physicians and groups of physicians in rural areas and other underserved communities.” The methodology that CMS proposes to use does not meet the statutory requirements.

These problems can be solved or mitigated by developing and using better methods for attribution of patients and services and better methods of risk adjustment, as described in Attachment 2. **We urge that CMS drop its plans to implement the cost measures in the Value-Based Payment Modifier for large physician groups in 2015 and work to develop a more effective methodology, such as the approach described in Attachment 2, that can be implemented in 2017.** Section 1848(p)(4)(B)(iii) only requires CMS to implement the VM in 2015 with respect to “specific physicians and groups of physicians the Secretary determines appropriate.” Since the proposed cost measurement methodology would be inappropriate for all groups of physicians, the Secretary should use the discretion provided under the statute to delay implementation of at least the cost measurement components of the Value-Based Payment Modifier, if not the entire VM, until 2017.

A more detailed analysis of the problems with the methodology in the Value-Based Payment Modifier and a more detailed description of better methodologies are available in a report from the Center for Healthcare Quality and Payment Reform entitled *Measuring and Assigning Accountability for Healthcare Spending: Fair and Effective Ways to Analyze the Drivers of Healthcare Costs and Transition to Value-Based Payment*. This report can be downloaded from the CHQPR website at <http://www.chqpr.org/reports.html>.

Although an improved methodology for the Value-Based Payment Modifier would avoid the kinds of serious problems for Medicare beneficiaries and physicians that are described above, **no matter what improvements are made to the methodology, the Value-Based Payment Modifier will do relatively little to enable Congress and CMS to achieve one of the nation’s most important goals: delivering higher-quality care and achieving better outcomes for Medicare beneficiaries at a lower cost.** This is because the Value-Based Payment Modifier is merely a *modifier* that does not address the fundamental problems in Medicare’s current methods of paying physicians and other providers. Medicare’s current fee-for-service payment systems create significant barriers to implementing the kinds of changes in care delivery that would actually reduce spending without harming patients. For example:

- **Some services that could lower overall spending aren’t paid for adequately or at all.** For example, Medicare does not pay physicians to respond to a patient phone call about a symptom or problem, even though those phone calls can avoid far more expensive visits to the emergency room.
- **Physicians, hospitals, and other health care providers are often financially penalized for reducing unnecessary services and improving quality.** Under Medicare’s payment system, physicians and hospitals lose revenue if they perform fewer procedures or lower-cost procedures, but their costs of delivering the remaining services generally do not decrease proportionately, which can cause operating losses for the providers.

These barriers cannot be solved by merely adding bonuses or penalties based on health care spending measures on top of the *current* payment system, as the Value-Based Payment Modifier does. Instead, *different* payment systems are needed to truly overcome the barriers. Five types of Accountable Payment Models can be used to overcome these barriers:

- **Bundled payment**, i.e., a single payment for all components of a service delivered by all providers, regardless of the setting. A bundled payment gives physicians the flexibility to deliver service components that are not reimbursed now and to redesign the overall set of services without worrying about exactly what service components will be reimbursed.

- **Warrantied payment**, i.e., a higher payment for high-quality delivery of a procedure or service, with no payment for any additional services needed to correct errors and avoidable complications resulting from the original procedure. A warrantied payment gives a physician the upfront resources needed to redesign care and enables the physician practice to generate higher operating margins by delivering higher-quality care.
- **Episode payment for a procedure**, i.e., a combination of a bundled payment for all services associated with a procedure and a warranty for services to correct preventable complications that develop. An episode payment for a procedure gives physicians additional flexibility to redesign care and reduce complications, not just with respect to the procedure itself, but also with respect to follow-on services.
- **Condition-based payment**, i.e., a single amount for all services and procedures needed to treat a particular patient condition or combination of conditions. A condition-based payment gives physicians the flexibility to use different procedures or services to treat a patient's condition without worrying about incurring losses if fewer services or procedures are performed or if procedures are performed in lower-cost settings.
- **Global payment**, i.e., a risk-adjusted payment for all services and procedures needed to treat all of the health problems for a group of patients. Global payment is the most *flexible* payment of all, enabling a group of physicians to target additional resources on conditions where spending could be reduced and to coordinate care among the multiple physicians and other providers dealing with patients with multiple health conditions. Global payment is also the most *accountable* form of payment, since it requires physicians to manage spending on all of the services the patients need.

Congress has already given CMS the statutory authority to implement these types of Accountable Payment Models. Section 1899(i)(3) authorizes the Secretary to implement “any payment model that the Secretary determines will improve the quality and efficiency of items and services furnished under this title” for groups of providers who are “willing to become accountable for the quality, cost, and overall care” of Medicare beneficiaries assigned to them, as long as the payment model does not result in spending more on the beneficiaries than would otherwise be spent.

Unfortunately, CMS has failed to implement this provision of the law. The shared savings payment system that CMS has used to implement Section 1899 has the same problems that the Value-Based Payment Modifier has. It fails to remove the serious barriers to higher-value care delivery created by the current Medicare payment system and it uses the same flawed attribution and risk adjustment methodologies that CMS is proposing to use in the Value-Based Payment Modifier. **It is not enough for CMS to improve the attribution and risk adjustment methodologies in the VM and the Medicare Shared Savings Program; CMS needs to allow physicians to design and implement Accountable Payment Models that give them the flexibility to redesign care for their patients as well as accountability for the quality and cost of the services they deliver or order.**

One of the biggest barriers to designing and implementing Accountable Payment Models is the difficulty physicians face in getting the kind of information that is needed to develop the specifics of the payment systems and to set appropriate prices. **The methodology defined in Attachment 2 would not only correct the problems with the Value-Based Payment Modifier, it would enable the Physician Feedback Program to provide data to physicians in exactly the format they need to define and price Accountable Payment Models.**

Success in reducing Medicare spending without harming beneficiaries will depend on active engagement and strong leadership from physicians, since only physicians have the ability to change care in ways that can reduce spending without harming patients. Consequently, CMS should be doing whatever it can to remove barriers in the current payment system rather than making the payment system even more burdensome for physicians. Unfortunately, the Value-Based Payment Modifier as it is currently defined impedes rather than facilitates progress. It does not represent meaningful payment reform nor does it even provide the actionable information physicians need to redesign care and move

toward better payment, and it can penalize physicians inappropriately for delivering the care their patients need.

As described in Attachment 2 and in more detail in CHQPR's report *Measuring and Assigning Accountability for Healthcare Spending*, there is a better approach to measuring costs and assigning accountability for spending, and there are better payment systems that can support redesigning care in ways that reduce spending without harming quality for beneficiaries and that maintain the financial viability of physician practices. We urge that CMS make implementing these better measurement and payment systems one of its highest priorities.

I would be happy to provide any additional information or assistance that would be helpful to you in implementing these recommendations.

Sincerely,

A handwritten signature in black ink, appearing to read "H. Miller", written in a cursive style.

Harold D. Miller
President and CEO

cc: HHS Secretary Sylvia Mathews Burwell
CMS Deputy Administrator Sean Cavanaugh
CMS Deputy Administrator Patrick Conway
Kimberly Spalding Bush
Kate Goodrich
John Pilotte

ATTACHMENT 1

PROBLEMS WITH THE METHODOLOGY FOR MEASURING COSTS IN THE VALUE-BASED PAYMENT MODIFIER

A. Problems with Attribution of Patients to Physicians

Under the attribution methodology used in the Value-Based Payment Modifier (VM), a significant number of patients are not assigned to any physician practice, and consequently, the spending associated with those patients is also not assigned to any physician practice.¹ This can penalize physicians inappropriately and it could discourage physicians from taking on care of patients with complex needs.

- **Primary care physicians will be penalized if they take on the care of patients who have not been receiving adequate preventive care.** For example, patients who visit the emergency room frequently and never see a primary care physician will not be attributed to a physician under the VM attribution methodology. This creates a perverse penalty for a primary care physician who does become involved in these patients' care: if the primary care physician begins seeing a patient who had been using the emergency room frequently, the spending on the patient's emergency room visits will be attributed to that primary care physician, even though the spending occurred before the physician became involved with the patient's care. This would make that physician look worse on a measure of average spending per patient.

***EXAMPLE:** In Figure 1, a hypothetical primary care (PCP) practice has 1,000 patients. 10% of the patients use the emergency room frequently for problems that could have been addressed by the primary care practice. Although the high ER utilizers have visited the practice in the past, they do not make any visits to the practice during the current year and they make an average of 6 visits to the emergency room during the year. The following year, the PCP practice makes an effort to see the high ER utilizers in the office and the practice succeeds in cutting the rate of ER visits by those patients in half. In the first year, none of the high utilizers would have been attributed to the practice (since the patients made no visits to the practice), but in the second year, all of the high utilizers would be attributed to the practice. Even though the total spending on the patients decreases by 41% as a result of the primary care practice's efforts, the per patient spending that is attributed to the PCP practice quadruples.*

¹ The *Experience Report for the Performance Year 2012 Quality and Resource Use Reports* prepared by Mathematica Policy Research indicates that fewer than half (47%) of Medicare beneficiaries could be attributed to a physician group using the methodology in the Value-Based Payment Modifier.

FIGURE 1

Differences in Attributed Spending If High ER Utilizers Are Seen by Primary Care Practice						
	Year 1		Year 2		Change	
	Low ER Utilizers	High ER Utilizers	Low ER Utilizers	High ER Utilizers		
Number of Patients	900	100	900	100		
PCP Office Visits						
Visits Per Year Per Patient	1	0	1	2		
Payment Per Visit	\$70	\$70	\$70	\$70		
Total Spending	\$63,000	\$0	\$63,000	\$14,000		
Emergency Room Visits						
Visits Per Year Per Patient	0	6		3		
Payment Per Visit	\$750	\$750	\$750	\$750		
Total Spending	\$0	\$450,000	\$0	\$225,000		
Total Spending Per Patient	\$513		\$302			-41%
Attributed Patients	900	0	900	100		
Attributed Spending	\$63,000	\$0	\$63,000	\$239,000		
Attributed Spending Per Patient	\$70		\$302			331%

- **Hospital-based physicians may be penalized if they take on a care coordination role for patients receiving services from multiple physicians.** The larger the number of physicians and other providers who are involved in a patient's care, the less likely those patients are to be assigned to any physician under the attribution rules that will be used in the VM for hospital-based episodes. Yet these patients are also likely to represent some of the most significant opportunities to improve care and reduce spending.² The attribution methodology in the VM creates a perverse incentive – if one physician increases their involvement in a complex patient's case in order to provide coordination, the total spending for the patient might then be attributed to that physician, making the physician look worse on a measure of average spending per patient.
- **Primary care physicians will be penalized for keeping patients healthy.** If a patient who is healthy does not need any billable visits with their physician during the measurement period, the attribution methodology in the VM will not assign the patient to the physician. This means that the more successful a physician is at keeping patients healthy, the more likely it is that only the sickest patients will be attributed to the physician, and so the physician's average spending per attributed patient will look artificially high.

EXAMPLE: Figure 2 shows two hypothetical primary care practices (PCPs) with 1,000 patients. The healthiest patients ("More Healthy") visit the primary care practice every other year for a visit with the physician, and otherwise deal with their healthcare needs over the phone or through email; spending on the services these patients receive outside of the PCP practice totals approximately \$600 per year. A less healthy group of patients ("Less Healthy") visits the PCP annually, and spending on

² A study done for the Medicare Payment Advisory Commission found that in six different metropolitan areas studied, 12-22% of total spending for Medicare beneficiaries was associated with episodes in which ten or more physicians were involved, and the spending per episode in these cases averaged between \$8,500 and \$11,000, compared to an average of a few hundred dollars for the cases when only one physician was involved. Houchens RL, McCracken S, Marder W, Kelley R, Anderson S. Multiple attribution of episodes for physician profiling in Medicare: A preliminary investigation. Medicare Payment Advisory Commission. June 2009.

the services these patients receive outside of the PCP practice totals about \$1,200 per year. The least healthy group of patients (“Least Healthy”) visits the PCP three times per year, and spending for them totals about \$4,800 per year.

PCP Practice #2 keeps its patients healthier, so that 50% are in the “More Healthy” category, whereas only 10% of the patients in PCP Practice #1 are in the “More Healthy” category. Moreover, PCP Practice #2 orders fewer unnecessary tests so that spending per year per patient for each group of patients is 5% lower for the patients in PCP Practice #2 than PCP Practice #1. As a result, the actual total spending per patient is 14% lower in PCP Practice #2 than in PCP Practice #1. However, the spending per attributed patient is 4% higher in PCP Practice #2, because half of the healthiest patients are not attributed to the practice since they did not have an office visit with the practice during the year. Because PCP Practice #2 has more such patients, a higher proportion of the patients attributed to Practice #2 are the least healthy patients, making the practice appear more expensive.

FIGURE 2

Differences in Attributed Spending If Patients Are Healthier and Make PCP Visits Less Often

	PCP Practice 1				PCP Practice 2				Difference
	More Healthy	More Healthy	Less Healthy	Least Healthy	More Healthy	More Healthy	Less Healthy	Least Healthy	
Number of Patients	50	50	500	400	250	250	100	400	
	5%	5%	50%	40%	25%	25%	10%	40%	
PCP Office Visits									
Visits In Current Year	0	1	1	3	0	1	1	3	
Payment Per Visit	\$70	\$70	\$70	\$70	\$70	\$70	\$70	\$70	
Total Spending	\$0	\$3,500	\$35,000	\$84,000	\$0	\$17,500	\$7,000	\$84,000	
Other Spending									
Spending Per Patient in Current Year	\$630	\$630	\$1,260	\$5,040	\$600	\$600	\$1,200	\$4,800	-5%
Total Spending	\$31,500	\$31,500	\$630,000	\$2,016,000	\$150,000	\$150,000	\$120,000	\$1,920,000	
Total Spending Per Patient	\$2,832				\$2,449				-14%
Attributed Patients	0	50	500	400	0	250	100	400	
Attributed Spending	\$0	\$35,000	\$665,000	\$2,100,000	\$0	\$167,500	\$127,000	\$2,004,000	
Attributed Spending Per Patient	\$2,947				\$3,065				4%

B. Problems With Attribution of Services to Physicians

Physicians Cannot Control All of the Services and Spending Assigned to Them

A large portion of the spending that is attributed to a physician under the methodology used in the Value-Based Payment Modifier results from services delivered by *other* physicians.³ In the traditional Medicare program, beneficiaries have the freedom to see multiple physicians and other providers, even for the same health problems, and no physician or other provider has control over the number or cost of the services provided by the others. The fact that one physician saw a patient more frequently than other physicians does not mean that physician had greater control over the most expensive services the patient received. This is true within episodes as well as during the course of a year.

EXAMPLE: Figure 3 shows three hypothetical physician groups, each with 2000 patients attributed to them based on receiving primary care visits from the family physicians in the groups. All of the patients have moderately severe COPD and osteoarthritis of the hip. Physician Group 1 sees their patients only twice per year, and 10% of the patients are hospitalized with COPD exacerbations during the course of the year. 5% of the patients in Group 1 receive a hip replacement. Physician Group 2 sees their patients more frequently, reduces the frequency of COPD exacerbations, and thereby reduces the frequency of hospitalizations for the patients. As a result of the better care, the patients are more active and a higher percentage contact orthopedic surgeons to get hip replacements. Physician Group 3 does the best job of managing their patients' COPD – they see the patients every other month and none of the patients are hospitalized for COPD exacerbations. However, because the patients are out walking more, three times as many of the patients contact orthopedic surgeons and get hip replacements as do the patients of Physician Group 1. Physician Group 3, which provides the best chronic disease management for the patients, would be rated as “high cost” under the Value-Based Payment Modifier because of the frequency with which their patients receive hip replacements, even though the primary care physicians did not order the hip surgeries and may not have even been aware of the surgeries until after they were completed. Conversely, Physician Group 1, which provides the worst chronic disease management, is rated as “low cost.”

³ The *Experience Report for the Performance Year 2012 Quality and Resource Use Reports* prepared by Mathematica Policy Research indicates that fewer than two-thirds (63.6%) of the primary care services received by attributed beneficiaries were provided by the physician group to which the beneficiaries were attributed. In a study of patients that would be attributed to Accountable Care Organizations (ACOs) using a similar methodology, 67% of the patients' office visits with specialists were provided by specialists outside of the ACO. McWilliams JM, Chernew ME, Dalton JB, Landon BE. Outpatient care patterns and organizational accountability in Medicare. *JAMA Intern Med.* April 21, 2014.

FIGURE 3

		Family Physician #1 Level 3 Office Visit	Orthopedic Surgeon Hip Replacement	Hospitalist COPD Admission		
E&M		99213	99204	99222		
Procedure or Other E&M			27130	99231		
DRG			470	192		
# Services Per Episode		1	1	5		
Physician		\$70	\$1,606	\$286		
Facility		\$0	\$12,099	\$4,937		
Total		\$70	\$13,705	\$5,223		
	Attributed Patients	Utilization and Cost Per Patient			Per Capita Cost	Cost Rating
Physician Group 1	2000	2	0.05	0.1		
		\$140.92	\$685.26	\$522.26	\$1,348	Low
Physician Group 2	2000	4	0.1	0.05		
		\$281.84	\$1,370.52	\$261.13	\$1,913	Average
Physician Group 3	2000	6	0.15	0		
		\$422.76	\$2,055.79	\$0.00	\$2,479	High
				Average:	\$1,913	
				Std. Dev:	\$565	
				+1 Std Dev:	\$2,479	
				-1 Std Dev:	\$1,348	

It is particularly inappropriate to expect a physician or other provider to influence services a patient received *before* the physician first became involved in a patient's care. However, since the Value-Based Payment Modifier attributes spending based on an entire calendar year or episode of care and does not distinguish the sequence of services, once an individual patient is assigned to a physician, *all* of the services the patient received, including services received *prior* to their initial contact with that physician, are also attributed to the physician. This creates a perverse incentive for a physician not to become involved with a patient who already incurred significant health care costs earlier in the year or earlier in an episode of care, even though these are the patients who may most need additional help.

EXAMPLE: Figure 4 shows two hypothetical patients receiving bowel surgery in a hospital. The surgery for Patient 1 is successful. All of the physician fees during the hospital stay are those billed by the surgeon, and so the surgeon is attributed the spending for Patient 1. The surgery for Patient 2 is less successful – the patient develops a severe infection following surgery, which requires the patient to stay in the hospital an extra week. A hospitalist successfully treats the infection and the patient is able to be discharged. During the extra week the patient is in the hospital, the hospitalist’s fees cumulate to more than what the surgeon’s fee for the surgery was. Since the hospitalist is responsible for the majority of the physician fees during the stay, the hospitalist is attributed all of the spending for Patient 2.

FIGURE 4

	Patient 1: Successful surgery		Patient 2: Surgery with post-op infection		
	Surgeon		Surgeon	Hospitalist	
	Surgery for Bowel Obstruction	Total	Surgery for Bowel Obstruction	Treatment of Infection from Surgery	Total
Physician Fees	\$750		\$750	\$834	
Hospital Payment	\$6,500		\$6,500		
Total Spending	\$7,250	\$7,250	\$7,250	\$834	\$8,084
Share of Physician Services	100%		47%	53%	
Attribution:	X			X	

Physicians Are Not Attributed the Spending For Many Services They Provide

The opposite of this problem is that many services are *not* attributed to the physicians who *could* control them. The attribution system used in the Value-Based Payment Modifier may not assign physicians the majority of patients they did care for or the majority of services they did deliver.⁴ The subset of patients and services that are attributed to a physician will depend on the number and types of the other providers and services involved in their patients’ care, which in turn will depend on the community where the physician practices, the types of patients they see, the types of insurance those patients have, etc. It is impossible to determine the direction or magnitude of the bias in the results that this causes.

In addition, there have been widely-publicized cases in which physicians and other providers were delivering large numbers of services inappropriately or fraudulently. In order to hold these providers

⁴ In a study that used an attribution methodology similar to the Value-Based Payment Modifier, the Medicare patients who were attributed to primary care physicians only represented 39% of the Medicare patients that those physicians actually saw during the course of the year, i.e., the majority of a primary care physician’s patients were not attributed to them. Pham H, Schrag D, O’Malley AS, Wu B, Bach, PB. Care patterns in Medicare and their implications for pay for performance. *N Engl J Med* 356;11 p. 1130. March 15, 2007. In the study by McWilliams and colleagues cited earlier, only 38% of Medicare spending on outpatient services billed by an ACO was associated with the patients assigned to it under Medicare attribution rules. McWilliams JM *et al, op cit.*

accountable, they first need to be identified, and analyses of the services that physicians have delivered provide one way to do this. In most cases, the physicians who are abusing the system are not the patient's primary care physician and it is unlikely that they will be providing the majority or plurality of the services or spending for any individual patient. The attribution methodology in the Value-Based Payment Modifier would assign the spending generated by these problematic physicians to the patient's primary care physician. Since the high spending by these physicians would be hidden in the spending totals assigned to a large number of primary care physicians, it would be difficult or impossible to identify the unnecessary spending they are causing, and some primary care physicians may be inappropriately penalized if they happen to have a large number of patients who choose to obtain services from another provider who delivers services inappropriately.

A separate problem is the "total per capita cost" measure used in the Value Based Payment Modifier is not really "total cost," since it excludes spending on prescription medications. Since prescription medications play a key role in keeping patients healthy and in enabling them to recover from various health problems, higher spending on drugs may reduce spending on services such as inpatient care, and vice versa. As a result, spending totals for physicians who prescribe more drugs but use fewer other services will appear artificially low compared to other physicians. In addition, some types of drugs are paid for through Part B and other types of drugs are paid through Part D, so spending tabulations for physicians whose patients differ in the types of drugs they need will not be comparable if the spending under Part D is not included.⁵

Spending Measures Do Not Distinguish Appropriateness of Services

The Value-Based Payment Modifier does not distinguish between spending on recommended services, inappropriate services, overused services, and avoidable services. As a result, a physician who does a better job of delivering recommended services could be measured as having higher spending than a physician who fails to deliver recommended services or a physician who delivers services that are less expensive but inappropriate for the patient. This could have the unintentional side effect of encouraging physicians to stint on desirable care to patients in order to reduce the total amount of spending.

EXAMPLE: *Figure 5 shows the total cost per patient for patients between 50 and 75 years of age in three hypothetical physician groups that include both primary care physicians and gastroenterologists. In each group, the primary care physicians see each patient in the office an average of twice per year at a cost of \$70 per visit. Preventive care guidelines recommend that patients in this age range receive a screening colonoscopy every 10 years.*

- *In Physician Group #1, none of the patients receive the colonoscopy that is recommended by guidelines.*
- *In Physician Group #2, only one-fifth of the patients who should have a colonoscopy each year get one. The gastroenterologists in Physician Group #2 perform all of their colonoscopies at a hospital at a cost of \$820 (a \$220 payment to the gastroenterologist and a \$600 payment to the hospital).*
- *In Physician Group #3, all patients receive colonoscopies in accordance with the guidelines. The gastroenterologists in Physician Group #3 perform their colonoscopies in the office rather than at a hospital, at a total cost of only \$400 per colonoscopy, less than half as much as the cost of a colonoscopy performed by Physician Group #2.*

⁵ For example, when patients with cancer are treated using infused chemotherapy, the drugs will typically be paid for through medical insurance and the costs of those drugs will be included in claims-based spending tabulations, but if the patients are treated with oral chemotherapy, those drugs will typically be paid for through pharmaceutical insurance and the costs of those drugs will be excluded from spending tabulations based only on medical claims. As a result, an oncologist who has more patients who can be treated with oral chemotherapy will appear to be "lower cost" than an oncologist whose patients can only be treated with infused medications.

The average spending per patient for primary care and gastroenterology services by Group #1 is \$140, the average spending for Group #2 is \$156.40, and the average spending per patient by Group #3 is \$180, meaning that Group #3, which is the most successful in using evidence-based care and in providing colonoscopies at the lowest cost per colonoscopy, actually has the highest spending per patient. In fact, Group #3 is more than one standard deviation above the average spending for the three practices. As a result, it would be labeled as a “high cost” practice and it would have its payments reduced under the Value Based Payment Modifier.

FIGURE 5

Comparison of Spending Per Patient for Three Physician Groups

	Physician Group 1	Physician Group 2	Physician Group 3
Number of Patients Ages 50-75	2,000	2,000	2,000
Primary Care Visits Per Patient Per Year	2	2	2
Total Number of Primary Care Visits	4,000	4,000	4,000
Payment Per Primary Care Visit	\$70	\$70	\$70
Total Payments to Primary Care Physicians	\$280,000	\$280,000	\$280,000
Proportion of Patients Receiving Recommended Colonoscopies	0%	20%	100%
Total Number of Colonoscopies Performed (1 Every 10 Years)	0	40	200
Proportion of Colonoscopies Performed in Office	0%	0%	100%
Payment to Gastroenterologist for Office Colonoscopy			\$400
Total Payments to Gastroenterologists for Office Colonoscopies	\$0	\$0	\$80,000
Proportion of Colonoscopies Performed at Hospital Outpatient Center	0%	100%	0%
Payment to Gastroenterologist for Outpatient Hospital Colonoscopies		\$220	
Payment to Hospital for Outpatient Colonoscopy		\$600	
Total Payments to Gastroenterologists for Hospital Colonoscopies	\$0	\$8,800	\$0
Total Payments to Hospital for Hospital Colonoscopies	\$0	\$24,000	\$0
Total Spending	\$280,000	\$312,800	\$360,000
Average Spending Per Patient	\$140.00	\$156.40	\$180.00
Overall Average		\$158.80	
Standard Deviation		\$20.11	
Average +/- 1 Standard Deviation	\$138.69		\$178.91
Physician Group Rating on Spending Per Patient	Average	Average	High
"High" = Per Patient Spending > Average + 1 Standard Deviation			
"Low" = Per Patient Spending < Average - 1 Standard Deviation			

C. Problems with Risk Adjustment

All else being equal, if a physician treats sicker patients, spending per patient for those patients will likely be higher because the patients will need more services. It would be inappropriate to say that a physician is “high cost” if that physician’s patients have more health problems, more severe health problems, or other relevant differences from the patients cared for by other providers.

Unfortunately, the risk adjustment methods used in the Value-Based Payment Modifier do not effectively separate differences in patient needs from differences in the way providers deliver care. The *Experience Report for the Performance Year 2012 Quality and Resource Use Reports* prepared for CMS by Mathematica Policy Research found that the Average HCC Risk Score for “High Cost” physician groups was twice as high as the Risk Score for “Low Cost” physician groups and 64% higher than the Risk Score for the “Average Cost” physician groups. Moreover, the Average Risk Score for the “Low Cost” physician groups was only 0.88, meaning that those physician groups had patients who were (based on the HCC methodology) healthier than the Medicare population as a whole.

It seems highly unlikely that the physician groups which had the sickest patients just happened to be the least efficient in delivering services, and it also seems highly unlikely that those with the healthiest patients just happened to also be the most efficient. A far more likely explanation is that the HCC risk adjustment system used in the Value-Based Payment Modifier for the Total Per Capita Cost measure fails to adequately control for the true differences in patient needs. If this problem is not corrected, the financial penalties that the Value-Based Payment Modifier places on the physicians who care for complex patients could make it more difficult for those patients to find physicians who are willing and able to care for them.

There are a number of weaknesses in the VM risk adjustment system that cause these problems:

- **The risk adjustment system in the Value-Based Payment Modifier uses *historical* information on patient characteristics, not the most current information on health problems that affect the services patients need.** The Hierarchical Condition Category (HCC) risk adjustment system used by CMS in the VM is designed to predict *future* spending, not to make adjustments to *current* levels of spending for accountability purposes, so the risk scores are calculated based only on health problems the patient had in *previous* years. However, since the risk scores ignore health problems the patient developed in the current year, they can underestimate the amount of spending that the patient would need in the current year. For example, if a patient is diagnosed with metastatic cancer *this* year, the risk score in the Value-Based Payment Modifier will likely underestimate the significant health care services and associated spending the patient will need to receive this year in treating the cancer.
- **The risk adjustment system in the Value-Based Payment Modifier is based on information available in *claims data* that does not completely or accurately measure differences in patient health needs.** The diagnosis codes recorded on claims forms may not accurately measure a patient’s true health status for many reasons.⁶ As a result, what appears to be higher-than average risk-adjusted spending for a provider may actually be caused by having sicker patients who are not accurately classified in the risk-adjustment system. Moreover, because similar patients may be coded differently in different communities, by different providers in the same community, or even by the same provider in different years, differences in spending or changes in risk-adjusted spending may be due to differences or changes in coding, not to actual differences or changes in patient health status.

⁶ For example, in addition to the *type* of cancer a patient has (e.g., breast, colon, lung, etc.), the *stage* of cancer (e.g., whether it has metastasized to other parts of the body) has a significant impact on how it is treated by oncologists. However, neither the ICD-9 nor ICD-10 diagnostic coding systems have a method for recording the stage of cancer, only the type of cancer.

- The HCC risk adjustment system is designed to predict *spending* on patient care, not adjust for differences in patient *needs*.** The Hierarchical Condition Category system CMS is using to adjust spending for the Value-Based Payment Modifier assigns a higher risk score to a patient if the amount that is *typically spent* on similar patients is higher, even if those patients did not actually *need* all of the services they received. Conversely, patients who do not receive all of the services they need will receive a lower risk score than is appropriate given their needs. Consequently, using HCC risk scores calculated as they are today can actually reinforce inappropriate spending, penalize efforts to reduce underuse, and cause physicians to focus spending reduction efforts on the wrong patients. Moreover, the linear regression analyses used to create the HCC risk scores are based on patient characteristics that do the best job of predicting *spending*, and are not based on clinical judgments about what services patients with those characteristics should appropriately receive. As a result, patients can have different risk scores from year to year even if the patient’s health conditions did not change and even if there had been no change in medical evidence to suggest that more or less care was appropriate for patients with those health conditions.
- The risk adjustment system in the Value-Based Payment Modifier gives no consideration to factors *other than health status* that can affect patient needs.** For example, patients who are unable to walk or drive or are unable to carry out activities of daily living will have greater difficulty caring for themselves and greater difficulty obtaining traditional office-based ambulatory care services, which can lead to increased use of more expensive health care services.⁷ Studies have shown that “activated patients,” i.e., those with the willingness and ability to take independent actions to manage their health and care, are less likely to experience complications and to use higher-cost services such as emergency rooms and hospitals.⁸ Longer driving times, lack of public transportation, etc. will make it more difficult for patients in rural areas to make office visits to physicians, yet alternative means of contact – phone calls, emails, video calls – are generally not reimbursable by Medicare, and so the patients may be forced to use expensive services such as emergency rooms. Studies have shown that avoidable complications and other poor outcomes occur more frequently in patients of lower socioeconomic status, from minority groups, with lower education levels, etc., even after controlling for differences in health problems. However, functional limitations, availability of caregivers, activation status, the population density of the patient’s community, and other factors are not considered in the risk adjustment system used in the Value-Based Payment Modifier, despite the statutory requirement to do so.⁹ Failing to adjust for these factors could penalize physicians who care for disproportionate numbers of patients with these characteristics, which in turn could make it more difficult for those patients to find physicians able or willing to care for them.

⁷ One study found that 34% of Medicare beneficiaries with functional limitations as well as chronic diseases had hospital admissions compared to only 20% of Medicare beneficiaries with 3 or more chronic conditions but no functional limitations. It also found that the majority of the beneficiaries on whom Medicare spent the most had both chronic conditions and functional limitations. Komisar HL, Feder J. Transforming care for Medicare beneficiaries with chronic conditions and long-term care needs: coordinating care across all services. Scan Foundation and Georgetown University. October 2011. Available at:

http://www.thescanfoundation.org/sites/default/files/Georgetown_Trnsfrming_Care.pdf. Another study found that the Medicare HCC risk adjustment model significantly under-predicted actual spending on the subset of patients with functional disabilities. Noyes K, Liu H, Temkin-Greener H. Medicare capitation model, functional status, and multiple comorbidities: model accuracy. *Am J Manag Care*. 2008 October; 14(10): 679-690.

⁸ A study by Judith Hibbard and colleagues found that in one health system, spending on patients with the lowest “activation levels” was 8% higher than for patients with the highest activation levels, and for patients with some types of chronic disease, the difference was as much as 21%. Hibbard JH, Greene J, Overton V. Patients with lower activation associated with higher costs; delivery systems should know their patients’ ‘scores.’ *Health Aff*. February 2013; 32(2): 216-222.

⁹ Section 1848(p)(3) of the Social Security Act requires that the Value-Based Payment Modifier “take into account risk factors (such as socioeconomic and demographic characteristics, ethnicity, and health status of individuals ... and other factors determined appropriate by the Secretary.”

D. Penalties for Primary Care Practices and Disparities in Penalties Based on Physician Group Composition

The five cost measures that will be used in the Value-Based Payment Modifier beginning in 2015 attribute total costs for patients only to primary care physicians. This means that only primary care practices and multi-specialty physician groups with primary care physicians will be penalized by the VM based on costs. Penalizing primary care practices runs completely counter to Congressional policies that are designed to strengthen primary care and to increase payment to primary care physicians.

Beginning in 2016, CMS is planning to add the Medicare Spending Per Beneficiary measure to the cost composite, which will attribute costs associated with hospital episodes to a broader array of physicians. However, since not all physicians perform procedures in hospitals, this has the potential not only to penalize physician groups with specialists who provide hospital-based services, but to create disproportionate penalties for groups with physicians who provide the most expensive types of hospital care. Although CMS has acknowledged the need to address this problem, the complex formula that CMS has developed fails to adequately solve the problem.

E. Poor Reliability of the Value-Based Payment Modifier

CMS has justified the use of the Value-Based Payment Modifier methodology based on the “reliability” of the cost measures. However, the reliability measures CMS is using were calculated using a cross-sectional analysis that compares the variance in the average spending per patient between physicians (the “between-physician variance”) to the variance in spending among each physician’s patients (the “within-physician variance”). Even if a cross-sectional analysis indicates that a spending measure is a *reliable discriminator* of physicians’ *past* performance, that does not mean the spending measure is a *reliable predictor* of their *future* performance or a true measure of the physicians’ actual approach to delivering care. The fact that two physicians had statistically different levels of spending *last* year does not mean that they will have different levels of spending *next* year or that their relative rankings on spending will be the same in the future, even if their underlying approach to patient care remains the same.

Assessing this requires a different measure of reliability – *temporal reliability* or *test-retest reliability*. A study done for CMS of the stability of physician scores based on composite episode-based spending measures of services to Medicare beneficiaries found that the one-year correlation of physician scores was at most .60, that physicians classified as being the highest-cost physicians in a given year had less than a 50% likelihood of being classified the same way in the following year, and only 40% of physicians remained in the same score category over a two-year period.¹⁰ A study that examined spending patterns for patients assigned to Accountable Care Organizations using the type of attribution methodology in the VM found that only two-thirds of patients who could be assigned to an ACO in either of two years were assigned to the same ACO in both years. Patients in the highest decile of spending were the least likely to be assigned to the same ACO in both years, and they also were the most likely to use PCPs outside of the ACO during the year, meaning that an ACO’s spending could change from year to year simply because of changes in the number of high-need/high-utilization patients who are assigned to it in each year, even if there were no changes in the underlying approach to care by individual physicians.¹¹

¹⁰ MaCurdy T, Shafrin J, Hartmann E, Ho M, Talbot L, Ueda K, Zhang Z. Evaluating the stability of physician efficiency scores. Acumen LLC. February 2010. Available at: http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Reports/downloads/StabilityinPhysicianScores_2010.pdf.

¹¹ McWilliams JM *et al*, *op cit*.

Indeed, since research has shown that there is significant regression to the mean in patient spending (i.e., most of the patients who receive high levels of expensive services in one year will not have similarly high spending the following year), it would not be surprising to find that a physician who had above average per-patient spending in one year would have lower per-patient spending in the following year; the high per-patient spending in the first year may simply have been because a subset of their patients had unusually high needs for expensive services that were not adequately captured by risk adjustment systems due to the many limitations described earlier. This means that the Value-Based Payment Modifier could easily be penalizing physicians in one year and rewarding them in another year, even if there were no change in their underlying approach to care.

It is important to recognize that the “reliability” of a spending measure is not just a function of the methodology used, but it will vary depending on the specific physician practices being measured, the types of patients they care for, and the characteristics of the communities where they practice, even if the same methodology is used. In fact, the limitations of attribution and risk adjustment methodologies described earlier can make a spending measure unreliable in ways that can only be identified after the fact. If the difference in per patient spending between two physicians is due to unmeasured or unadjusted differences in the needs of their patients rather than to actual differences in the way the physicians deliver care to similar patients, then the spending measures might be very unreliable indicators of true differences in the physicians’ performance and very poor predictors of the actual spending that would occur if those physicians were to begin seeing different types of patients. Similarly, if different subsets of patients are attributed to a physician each year (even though the physician’s total patient panel is unchanged), then spending measures may change over time even though the physician’s underlying approach to care has not changed.

EXAMPLE: Assume that there are two groups of patients in the community, each with the same chronic disease. The individuals in Patient Group 1 visit their primary care practice regularly, reliably use medications to manage their chronic disease effectively, and only rarely visit the emergency room or have to be hospitalized for exacerbations of their chronic disease. The individuals in Patient Group 2 also visit their primary care practice regularly, but they do not reliably manage their chronic disease effectively and end up going to the emergency room and being admitted to the hospital every year for an exacerbation of their chronic disease. Both groups of patients have the same risk score based on their chronic disease, but as shown in Figure 6, the average total spending on patients in Group 2 is much higher than on the patients in Group 1 because of the frequent hospitalizations in Group 2. Assume further that there are two physician practices in the community; each practice manages the care of each group of patients identically, so the spending per patient *within* each group of patients is identical in each practice. However, the mix of patients from the two groups differs significantly between the two physician practices. 80% of the patients in Physician Practice 1 are from Patient Group 1, whereas 80% of the patients in Physician Practice 2 are from Patient Group 2. As shown in Figure 6, the average spending per patient in Physician Practice 2 is nearly three times as high as in Physician Practice 1, even though there is no difference in the way the physicians treat the patients, simply because of the different mix of patients in each practice. Based on this measure, Medicare would determine that Physician Practice 2 is “high cost” and penalize it under the Value-Based Payment Modifier.

Now assume that half of Physician Practice 2’s chronic disease patients move to Physician Practice 1 because of the “high cost” rating it receives from Medicare, and these patients are predominantly from Patient Group 2. Because Practice 1 is now much busier with the influx of the patients previously using Practice 2, some of the Group 1 patients from Practice 1 move to Practice 2. A majority of the patients in Physician Practice 1 are now from Patient Group 2, and a majority of patients in Physician Practice 2 are from Patient Group 1. As a result, the average spending per patient in Physician Practice 1 is now 37% higher than in Physician Practice 2, even though both practices have continued to deliver care in exactly the same fashion as in the previous year and each practice delivers care in exactly the same way that the other does.

FIGURE 6
Change in Spending Rankings for Physician Practices
Resulting from Changes in Patient Case Mix

Utilization in Both Practices			
	Services Per Patient Per Year	Spending Per Service	Spending Per Patient Per Year
Patient Group 1			
PCP Visits	3	\$100	\$300
ER Visits	0.1	\$750	\$75
Admissions	0.1	\$10,000	\$1,000
Total Spending			\$1,375
Patient Group 2			
PCP Visits	3	\$100	\$300
ER Visits	1	\$750	\$750
Admissions	1	\$10,000	\$10,000
Total Spending			\$11,050

	YEAR 1				YEAR 2			
	Physician Practice 1		Physician Practice 2		Physician Practice 1		Physician Practice 2	
	# Patients	Spending						
Patients in Group 1	800	\$1,100,000	200	\$275,000	400	\$550,000	600	\$825,000
Patients in Group 2	200	\$2,210,000	800	\$8,840,000	600	\$6,630,000	400	\$4,420,000
Total Patients	1000	\$3,310,000	1000	\$9,115,000	1000	\$7,180,000	1000	\$5,245,000
Spending Classification	Low		High		High		Low	
Spending Per Patient	\$3,310		\$9,115		\$7,180		\$5,245	

ATTACHMENT 2

A BETTER METHODOLOGY FOR MEASURING COST IN THE VALUE-BASED PAYMENT MODIFIER

Clearly, a better method of measuring spending and assigning accountability is needed in the Value-Based Payment Modifier. An appropriate methodology (A) should only hold physicians accountable for the services and spending they can control or influence, (B) should not penalize physicians for spending on services needed to meet quality measures, and (C) should not penalize physicians for delivering more services to patients with greater needs.

A. Identifying the Services and Spending Physicians Can Influence

The first step in more effectively identifying ways of reducing health care spending without rationing and identifying the physicians best able to make the reductions is to divide spending into categories that reflect differing levels of physician control or influence over services. Five such categories are:

1. Services both *ordered and delivered* directly by the physician who is being measured.
2. Services delivered by *other* physicians that are *integrally related* to services delivered by the physician being measured.
3. Services delivered by *other* providers that resulted from *orders* or *referrals* from the physician being measured, and services delivered by the physician being measured in response to orders from other physicians.
4. Services delivered by other providers that were *related* to services delivered or ordered by the physician being measured.
5. All other services the patient received that are *unrelated* to services delivered or ordered by the physician being measured.

The services and spending included in each category will differ for different types of physicians, since different physicians deliver and order different kinds of services. However, each physician will inherently have greater influence over the lower-numbered categories than the higher-numbered categories, so this categorization will better identify which physicians could actually reduce spending than the attribution methodology in the Value-Based Payment Modifier which simply attributes the spending in all five categories to a single physician who happened to provide a certain proportion of the overall services. Moreover, under this approach, *every physician* will have the spending *they directly control* attributed to *them*, rather than attributing it to a different physician who happened to deliver more services to the same patients.

Spending Category 1: Services Ordered and Delivered by a Physician

Spending Category 1 consists of services that are both ordered and delivered by the physician for whom spending is being measured. (Category 1 would exclude services the physician delivered in response to an order by another physician; these services will be included in Spending Category 3.) The services in Category 1 are those for which the physician has the most direct control over costs and also quality. If the physician delivers unnecessary services (e.g., conducting multiple tests when one would be sufficient), that physician has the ability to directly lower spending on services for the patient through changes in the physician's services.

One of the problems with the claims-based attribution methodology used in the VM is that patients who received no services at all within the measurement period are not attributed to any physician, even if a physician was actively managing their care. These patients should be included in the

denominator of per-patient spending measures for that physician, even though there is no spending for them in the *numerator* in Spending Category 1. The ideal approach would be to have patients explicitly designate a particular physician as their primary care physician or designate a particular specialist as the physician managing their care for a specific condition.¹ In the absence of such designations, the information in Spending Category 3 (described below) can help reduce the number of patients that are inappropriately unassigned. If a physician *orders* a service for a patient from another physician, even if the physician did not *deliver* a billable service to the patient, then it can be assumed that the physician is playing a role in managing the patient's care for the condition(s) for which the services were ordered.² However, this approach could still leave out the healthiest patients. An alternative approach will become increasingly feasible as Medicare calculates quality measures based on data collected from electronic health records. If a physician practice includes a patient in the denominator for a quality measure reported from an EHR, then it would make sense to include that same patient in the denominator for spending measures for the same practice. This could significantly increase the number of patients assigned to physicians; one study found that only half of the patients on whom primary care physicians reported quality measures to Medicare would have had those patients attributed to them based on receiving a plurality of claims-based evaluation and management visits.³

Spending Category 2: Services Integrally Related to the Physician's Services

In many cases, a service in Category 1 is routinely delivered in conjunction with a service delivered by a different physician, a hospital, or another provider. Under fee-for-service payment, these are treated as separate services and the two providers are paid separately. However, from the patient's perspective, the two providers jointly delivered a single "bundle" of services in order to address the patient's need. For example, if a physician performs a procedure at a hospital, the physician and hospital will be paid separately, but the hospital could not have performed the procedure without the physician, and the physician may not have been able to perform the procedure without the hospital, so the two services are integrally related.

These integrally related services should be included in Spending Category 2 for each physician. For example, if a gastroenterologist performs a colonoscopy at a hospital, in addition to including the fee to the gastroenterologist in Spending Category 1 for a spending analysis focused on the gastroenterologist, the payment to the hospital should be included under Spending Category 2 in that same spending analysis. If the gastroenterologist used a form of anesthesia that required the presence of an anesthesiologist, the payment to the anesthesiologist should be included in Spending Category 2.

Spending Category 3: Services Delivered Based on Orders or Referrals

A significant amount of health care spending is associated with services that one physician *orders* for the patient but a different physician or provider actually *delivers* and is paid separately for. Consequently, it is also important to include the spending on services a physician orders in an analysis of the spending they can control or influence.

¹ This type of designation does not mean that the patient must be "locked in" to the primary care physician and specialists they designate, or that the primary care provider the patient designates has to serve as a gatekeeper and grant approval before the patient can see a specialist, merely that the patient would be counted as part of the physician's patient panel whether they received services or not.

² It will be particularly important to have access to pharmacy claims data here, since many relatively healthy patients whose care is being managed by a physician will be taking medications prescribed by that physician but receive no other billable services from them.

³ Dowd B, Li C, Swenson T, Coulam R, Levy J. Medicare's physician quality reporting system (PQRS): Quality measurement and beneficiary attribution. Medicare and Medicaid Research Review. 2014; 4(2).

These services should be included in Spending Category 3, along with services the physician delivered in response to orders from other physicians. Even though the physician who ordered the service should clearly be accountable for *making* the order, it is usually not appropriate to assign them full accountability for the *total spending* that *results* from that order. Because there are distinct but inter-related roles played by the ordering and delivering physicians, instead of simply assigning the total spending for these ordered services to one physician or the other or both, it is more appropriate to assign shares of the spending to each physician based on their relative influence:

- Since the ordering physician controls the number of services ordered, accountability for the *utilization* of a service should be assigned to the *ordering* physician.
- In addition, the ordering physician also should be accountable for whether the services that were ordered would, in general, be expensive even if delivered by the most efficient physicians, but the ordering physician should not be held accountable for whether the delivering physician was paid more or less than would be expected for the service.
- The delivering physician should then be accountable for the amount by which the actual spending per service differs from what would be expected from an efficient physician for the services that were ordered.⁴

In many cases, a physician does not directly *order* a *specific* service from another provider, but *refers* the patient to the other provider asking either for advice about how the referring physician should treat the patient or asking the other provider to directly treat a particular health condition the patient is experiencing. Spending Category 3 should also include a portion of the spending on these referrals as well as services that a physician directly orders.⁵

Medicare claims forms are already designed to capture information about the physicians who ordered or made referrals for services. Line 17 of the Form 1500 that is used for physician billings includes a data field for the “Name of Referring Provider or Other Source.”⁶ CMS has begun using this

⁴ In mathematical terms, the ordering provider would be responsible for the following subset of the spending: [Number of Services Ordered Per Patient] x [Reasonable Spending Per Service] = [Expected Spending Per Patient]. The provider who actually delivers the service would be responsible for the following subset of the spending: [Actual Payment Per Patient] Minus [Expected Spending Per Patient] = [Delivery Payment Differential Per Patient]. The sum of these two amounts is equal to the total spending per patient on this type of service.

⁵ The physician or patient may or may not have had a choice about which provider to refer to, but even if they did have a choice, neither the physician nor the patient likely had any knowledge of how frequently the other provider ordered tests or performed procedures or how much that other provider is paid for their services. Consequently, for services resulting from referrals, the spending per patient can be disaggregated into two components: (1) Since the physician making the referrals controls the number of referrals, the *expected spending per referral* would be assigned to the *ordering physician*. (2) The *provider who received the referral* would then be accountable for the *deviation between the actual spending and the expected spending level* for all services that provider delivered directly in response to the referral.

⁶ The instructions in the Medicare Claims Manual state that a provider filing a claim for a service should “enter the name of the referring or ordering physician if the service or item was ordered or referred by a physician” in this data field, and the Claims Manual goes on to mandate that “All claims for Medicare covered services and items that are the result of a physician’s order or referral shall include the ordering/referring physician’s name.” Centers for Medicare and Medicaid Services. Medicare claims processing manual. Chapter 26 – Completing and processing form CMS-1500 data set. Available at: <http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/clm104c26.pdf>. Although the same data field appears on the National Uniform Claims Committee Form 1500 used by commercial health plans, many health insurance companies do not require that the field be completed other than by certain providers such as testing laboratories. National Uniform Claim Committee. 1500 health insurance claim form reference instruction manual. Available at http://www.nucc.org/images/stories/PDF/claim_form_manual_v9-0_7-13.pdf.

information in the Supplemental Quality and Resource Use Reports it is providing to physicians in a manner similar to Spending Category 3.⁷

Physicians would have an incentive to ensure this information is accurate if the information is used for action and accountability. Using the methodology described above, a physician who delivered a service in response to an order from another physician would only be held accountable for any difference between their payment for the service and the payment amount determined to be reasonable based on national or local averages. However, if the physician delivered the service without documentation of who ordered it, they would be assigned the full cost of that service, i.e., if they did not order the service, they would have an incentive to document who *did* order it. Ordering physicians would similarly have an incentive to ensure that the information on orders was accurate so they would not be held accountable for services they did not order.

Spending Category 4: Related Services

The fourth category involves spending on services that are clinically related to services that were delivered or ordered by the physician being measured, but are not included in any of the previous three categories. These are services that are received by the *same patient*, occur *simultaneously with or after* the services that were delivered or ordered by the physician being measured, involve either a *similar diagnosis* to the diagnoses associated with the services the physician delivered or ordered or a *complication that could have resulted from* the services the physician delivered or ordered, and occur within a *timeframe* reasonably related to the services delivered by the physician being measured.

A service would only be included in Spending Category 4 for a physician who did *not actually deliver the service*. The same service will also be included in Spending Categories 1-3 in a spending analysis for the physician who *did deliver* the service. This reflects the fact that the two physicians have shared accountability for the service – one may have been able to prevent the need for the service, and the other determined what service to deliver when the need occurred.⁸

This definition differs significantly from the way the Value-Based Payment Modifier methodology attributes total spending to physicians. Once the VM attribution methodology identifies a primary care physician or other physician to whom a patient's spending should be attributed, *all* of that patient's spending is attributed to the physician, whether the spending has any relation to the care the physician was providing or should have been providing or whether the physician had any ability to influence that spending. Even under the episode attribution in the VM, all of the spending in an episode is attributed to a single physician, even if that spending preceded the involvement of the physician to whom the episode was attributed. Under the approach defined in this section, only the spending that chronologically follows and is clinically related to services a physician delivered or ordered would be assigned to that physician.⁹

⁷ The reports include one table entitled “Breakdown of Episode Costs from Claims Billed, Ordered, or Referred by Eligible Professionals Within Your Medical Group Practice” and a separate table entitled “Breakdown of Episode Costs from Claims Billed or Ordered by Eligible Professionals or Facilities Outside Your Medical Group Practice.” Centers for Medicare and Medicaid Services. Detailed methods of the 2012 medical group practice supplemental quality and resource use reports (QRURs). June 2014. Available at <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/Downloads/2012-Supplemental-QRURs-Methods.pdf> .

⁸ This is consistent with the way that CMS is using episode measures in the Hospital Value-Based Purchasing program, since a readmission is not only included in an episode for the initial hospitalization but is also considered to begin a new episode of care that is assigned to the second hospital. MaCurdy T, Perlroth D, et al. Methodology for developing the six hospital-based episode measures: Supplemental documentation for the fiscal year (FY) 2015 Inpatient Prospective Payment System and Long-Term Care Hospital Prospective Payment System Proposed Rule.

⁹ This is consistent with the way that CMS is using episode measures in the Hospital Value-Based Purchasing program. If a patient is admitted to a different hospital for a complication associated with a previous hospitalization,

It is important to include truly related services in a measure of the total spending associated with a physician, because otherwise one physician may artificially appear to be “lower cost” than another physician when the second physician is actually spending more on a patient’s initial care in order to prevent errors and complications, reduce hospital readmissions, etc. However, it is equally important to *exclude unrelated* services, otherwise a physician may appear to have high spending simply because their patients are more likely to see other physicians for other conditions or to see other physicians who deliver or order many services.

Spending Category 5: Unrelated Services

For accountability purposes, a physician should only be evaluated based on the spending in Spending Categories 1-4, since these are the services that the physician has the ability to control or influence. However, if QRUR reports are intended to help individual physicians or groups of physicians better manage the care of their patients, an optional final category would include the spending on everything else their patients received – services that had no logical, clinical connection to what the physician being measured did or could have done with respect to the patients. In general, unless the physician has explicitly agreed to manage total spending for a pre-defined set of patients, the physician should not be held accountable for spending on these unrelated services. *Reporting on Spending Category 5* allows a physician to see what other providers are involved with their patients and what they are spending without holding the physician directly *accountable* for it. Everything that would be included in Spending Category 5 for a particular physician would be included in Spending Categories 1-4 for other physicians who would have the ability to influence it, so failing to hold the measured physician accountable for services in Spending Category 5 does not mean that no provider will be accountable for them.

The Hidden Category: Services Without Associated Spending

It is important to recognize that the above five categories only measure services that Medicare *pays* for and for which *data are available*. If data are not available on services such as medications that can affect the need for or use of other services, erroneous conclusions could be drawn from analyses based on the more limited data that are available.

In addition, many patients receive services from a physician that have value and that the physician incurs costs to deliver but for which there is no payment and therefore no measured spending. For example, most patients likely place high value on the ability to speak to their physician on the telephone when they have a health problem, have a question or concern about their treatment plan, etc., but Medicare does not pay for such phone calls. If delivery of these unpaid services results in less need for other services for the patients (e.g., fewer potentially avoidable emergency room visits), then the physician practice might score better on a measure of per patient *spending* than other physicians, but that would not reflect the true difference in the total *cost* of the services delivered. Since delivery of these uncompensated services may not be feasible for other physicians and it may not even be sustainable for the physician who is currently delivering them without a change in the payment system, the low spending measure would not be a realistic benchmark to use in evaluating other physicians.

the original hospitalization and the readmission are included in an episode assigned to the initial hospital, but an additional episode is created for the readmission that does not include the original hospitalization, and this second episode is assigned to the hospital where the readmission occurred.

B. Excluding Services Physicians Are Encouraged to Provide

The quality measures in the Value-Based Payment Modifier explicitly reward physicians for the delivery of a wide range of services, such follow-up visits after hospitalizations for mental illness, spirometry testing to diagnose COPD, eye exams and HbA1c testing for patients with diabetes, and breast cancer screening. The delivery of these services will increase spending, particularly in the short run. It would be inappropriate to penalize a physician for being “high cost” because of higher spending on the same services the physician is being encouraged to provide or order based on quality metrics. Conversely, Medicare should not label physicians as “low cost” because they failed to deliver or order recommended services for their patients. Consequently, the spending on the services associated with the quality measures should be excluded from the cost measures used in the Value-Based Payment Modifier. For all of the process-based measures computed using claims data, the claims that are used to calculate the number of patients in the numerators of these measures (i.e., the number of patients who received a recommended service) can also be used to identify and exclude the *spending* on the recommended services.

C. Adjusting for Differences in Patient Needs

Measuring only the spending that physicians can control or influence and excluding spending on recommended services will address some of the serious problems with the Value-Based Payment Modifier. However, comparisons among physicians will still not be meaningful unless they correctly distinguish differences in spending that were associated with differences in the needs of the patients for whom the physicians were providing care.

Disaggregating Spending into Subgroups of Patients with Similar Health Conditions

One approach to improving risk adjustment is to establish separate risk scoring systems for different types of health conditions or different types of episodes. CMS is planning to do this by carrying out separate regression analyses for different episodes of care.¹⁰ However, this does not solve the fundamental problems with using regression-based risk scores, and it means that individual patients could have dozens of different risk scores applicable to different specialists, different episodes, etc.

An alternative and preferable approach is to compare spending separately for different subgroups of patients, with each subgroup defined such that patients in that subgroup would be expected to need similar levels of services. The spending on the services that the patients in each subgroup received from a physician would then be compared to the spending on the services that patients in a similarly defined subgroup received from other physicians. There are several important advantages to this approach:

- it does not require that there be any common relationship between the needs and spending for patients who are in different subgroups, as is required for regression-based risk scores.
- it is far easier for physicians to understand the differences in the needs of patients in clinically defined subgroups (e.g., “women who are over 65 with diabetes and COPD” vs. “women who are over 65 with no chronic diseases”) than if they are in subgroups defined by a formula-driven risk score (e.g., “patients who score between 2.3 and 2.5 using a weighted sum of factors measuring

¹⁰ In the Hospital Value Based Purchasing Program and Physician Value Based Payment Modifier program, for each episode of care that is measured in these programs, a separate regression analysis is performed to select the patient factors and weightings that will be used to estimate which of the patients experiencing a particular type of episode would have higher spending within that episode. Then the spending amounts for the episodes assigned to a particular provider are adjusted by applying the individual regression formulas to the characteristics of the patients involved with each episode. MaCurdy T, Perloth D, *et al. op cit.*

their age, gender, and number of chronic diseases” vs. “patients who score between 1.0 and 1.2 using that same formula”).

- it enables identification of specific subgroups of patients where spending is high (or low), so that further analysis can be done to determine the factors causing that and so that interventions can be more effectively targeted on those patients where spending is high. By defining the subgroups in clinical terms, the physicians in the specialties relevant to the patients’ conditions can work together to redesign care for those subgroups, whereas a patient group defined by the same risk score could span almost every specialty. Moreover, the definitions of the subgroups will only change when there is a reason to believe that the relationships between patient characteristics and appropriate health care services have changed, rather than changing because a different set of variables and weights achieved a better predictive score in the most recent version of a regression analysis.

If spending for patients with different types of health conditions is analyzed separately, it could reveal that a physician with higher risk-adjusted *total* spending had lower spending for the subgroups of patients that the physician is actually responsible for managing. For example, total risk-adjusted spending per patient might be higher in one primary care practice than another because of higher spending for treatment of patients with cancer, even though those differences were caused by the way oncologists practice in that community not by the primary care practice, and even though the primary care practice actually had lower spending for the types of patients where primary care could make an impact.

CMS has been using this approach for over twenty years in the way it pays hospitals for inpatient care through the Medicare Inpatient Prospective Payment System. Separate Diagnosis Related Groups (DRGs) are defined for groups of patients that are viewed to be similar in terms of the clinical characteristics that would require different types and intensities of hospital services. In the current MS-DRG system, there are two or three different DRGs defined for most major conditions and procedures, based on the number and severity of health problems the patient has that would affect the services and spending for treatment of that specific condition or for delivery of that specific procedure. CMS has indicated that having clinically meaningful groupings has been essential for helping physicians and hospitals manage costs effectively without harming patients.¹¹

Because the HCC risk adjustment system used in the Value-Based Payment Modifier is derived from regression analyses, it cannot be used to disaggregate patients into clinically coherent categories. In contrast, other risk adjustment systems have methods for grouping patients into clinically similar subgroups that can be used in this way. For example,

- The Adjusted Clinical Groups (ACG) system developed by Johns Hopkins University uses information on the duration, severity, diagnostic certainty, and origin of a patient’s diagnoses to categorize each of the patient’s health problems into one of 32 diagnosis clusters. Then, based on

¹¹ In its regulations for the Inpatient Prospective Payment System, CMS has stated, “Because the DRGs were developed to group clinically similar patients, an extremely important means of communication between the clinical and financial aspects of care was created. DRGs provided administrators and physicians with a meaningful basis for evaluating both the process of providing care and the associated financial impacts. Development of care pathways by DRG and profit-and-loss reports by DRG product lines became commonplace. With the adoption of these new management methods, length of stay and the use of ancillary services dropped dramatically... The vast majority of modifications to the DRGs since the inception of the Medicare inpatient hospital prospective payment system ... have almost always been the result of clinicians identifying specific types of patients with unique needs... Central to the success of the Medicare inpatient hospital prospective payment system is that DRGs have remained a clinical description of why the patient required hospitalization.” 66 Federal Register 22668, May 4, 2001.

the patient's age, sex, and the diagnosis clusters applicable to them, the patient is assigned to one of 93 different ACG categories.¹²

- The Clinical Risk Group (CRG) system developed by 3M Health Information Systems uses a patient's diagnoses and past medical interventions to determine whether the patient has chronic conditions or acute conditions or both and the severity of those conditions.¹³ This information is then used to assign the patient to one of 269 different "Base CRGs" and to one of up to 6 different severity levels, for a total of 1,080 potential different groupings.¹⁴

A useful feature of these systems is that they define multiple levels of aggregation and disaggregation, so that comparisons of different types of physicians groups can be based on the specific types of patients they care for. For physicians with small numbers of patients, different levels of disaggregation also enable spending comparisons to be done only where there are statistically valid numbers of clinically similar patients. For example, if an individual physician has a diverse mix of patients across a large number of different categories, comparing the spending on a large subset of the physician's patients that are all *in one risk category* to spending by other physicians on patients in the same risk category will be more valid than comparisons of spending on *all* of the physician's patients combined.

It is certainly more complex to make multiple comparisons of spending for different categories of patients than to make one comparison by dividing total spending for all patients by a single risk score, but it is worth the effort because there is no way to know whether any single risk score is "right" or not.¹⁵

¹² The Johns Hopkins ACG System: Technical Reference Guide. Johns Hopkins Bloomberg School of Public Health. Available at: <http://acg.jhsph.org/public-docs/ACGv10.0TechRefGuide.pdf>.

¹³ Hughes JS, Averill RF, Eisenhandler J, Goldfield NI et al. Clinical risk groups (CRGs): a classification system for risk-adjusted capitation-based payment and health care management. *Medical Care* 42(1): pp. 81-90. January 2004.

¹⁴ The fact that a large number of categories can be defined does not mean they all need to be used in every application. However, the larger the number of categories, the greater the ability to define patient groups that are similar on the characteristics most relevant for particular types of specialists or procedures. For example, the detailed categories in the CRG model allow spending to be examined separately for patients who are undergoing dialysis, who have quadriplegia or paraplegia, or who have metastatic malignancies if those characteristics are relevant to the services being provided.

¹⁵ None of the major risk adjustment systems is very effective at doing what they are designed to do, namely, predicting spending. A study conducted by the Society of Actuaries found that among 9 different prospective risk adjustment systems, none were able to predict more than 30% of the variation in spending across patients, and even when 6 of the risk adjustment systems were tested using concurrent information on patient conditions, the best system only predicted 55% of the variation and most predicted less than 40% of the variation in spending across patients. Winkelman R, Mehmud S. A comparative analysis of claims-based tools for health risk assessment. Society of Actuaries, April 20, 2007. Ironically, the inability of risk adjustment systems to accurately predict spending is actually good news for efforts to reduce health care spending, because if the risk adjustment systems were 100% accurate in predicting spending based on patient health characteristics, it would mean that all differences in spending were directly related to differences in patient health conditions, which in turn would suggest that most services are appropriate and there is little opportunity to lower spending. Since many studies have shown that there is huge unjustified variation in the services different providers deliver and there is considerable overuse and underuse of many types of services, one should expect that services and spending would only be partially correlated with differences in patient needs. However, there is no way to know whether a risk score that is better at predicting variation in spending across patients is doing a better job of predicting the *necessary* components or the *avoidable* components of the total variation. Consequently, it is essential to do comparisons of spending for clinically similar groups of patients rather than relying on a single risk score.

Using Concurrent Risk Adjustment

The patient categories should be based on complete information about the patients' health problems that occurred during the time period in which spending is being measured, rather than only the kinds of historical information used in purely prospective risk adjustment systems.¹⁶ Not surprisingly, these "concurrent risk adjustment" approaches have been shown to be much more accurate in predicting expenditures than prospective systems.¹⁷

Using Clinical Information from EHRs, HIEs, and Registries in Addition to Claims Data

Basing risk scores or patient categories solely on the information contained in claims data is problematic. Consequently, wherever possible, clinical data from electronic health records (EHRs), health information exchanges (HIEs), and clinical registries should be used in determining how a patient should be classified, in addition to diagnosis codes recorded in claims data.¹⁸ However, since no individual physician or provider's electronic health record and no specialty- or condition-specific registry will have complete information on all of a patient's health conditions or the procedures they have received, there will be likely always be some information in claims data that is not available through those clinical data sources, and vice versa, so ideally the information on patient characteristics would come from both sources.

Disaggregating by Non-Health Factors to Identify Impacts on Spending

There are important factors other than health conditions that can affect the services a patient needs. Instead of ignoring these factors or trying to incorporate them into an even more complex formula to produce a new version of a single risk-adjustment score, the disaggregation approach can be used to determine which of these factors may be influencing differences in spending in specific cases. For example, within any subgroup of patients defined by health conditions (e.g., "patients with multiple chronic conditions"), the patients could be further disaggregated by functional status, patient activation, health insurance status, socioeconomic status, etc.

Disaggregating spending into different categories of patients is also preferable to *adjusting* overall spending based on patient characteristics because it enables disparities between different groups to be measured and acted upon, rather than hidden inside a risk adjustment formula. For example, providers

¹⁶ CMS and other payers have been concerned about problems that can arise in using concurrent risk adjustment as part of shared savings and similar payment systems that calculate how spending has changed over time as well as how it compares to other providers. Some form of risk adjustment is clearly needed in such payment models, because a provider's per patient spending can increase over time if the health status of the provider's patients worsens as well as because the provider is delivering care less efficiently. However, during the first year of these types of payment programs, the risk scores for *all* patients will typically increase compared to the previous year, even if the patients have had no change in their health status, simply because the physicians in the new payment system now have an incentive to more completely and accurately record all of the patients' existing health problems. The fact that higher risk scores do not reflect a true increase in the patients' risk level, merely a change in the completeness and accuracy of the information about the patients, is not corrected by using a prospective risk measurement system based on out-of-date and incomplete information derived from the prior year. A better approach would be to not only determine the appropriate clinical categories for a patient based on all of the patient's health conditions in the *current* year, but to retroactively adjust the baseline risk scores/categories for the patients after the provider documents the existence of health conditions that existed prior to the current year. This would avoid crediting a provider with "savings" even when spending increased simply because the risk score also increased as a result more complete documentation.

¹⁷ Winkelman R and Mehmud S. *op cit*.

¹⁸ In addition to clarifying diagnostic information, clinical information from EHRs can also help to identify patients who are being cared for by a provider but not receiving billable services.

who care for large numbers of low-income patients express concern about having their spending and outcomes compared to providers who do not care for many low-income patients without adjusting for the difference in patient populations. However, patient advocates express concern about simply adjusting away the differences in spending and outcomes rather than trying to eliminate the differences. Disaggregating based on patient characteristics that should not, in an ideal world, affect spending or outcomes, and then comparing physicians' performance on patients who are similar on these characteristics, allows the disparities in performance both within categories and between categories to be identified and acted upon.

Creating Overall Physician Cost Scores

To meet the Congressional requirement for measuring and evaluating physicians on cost, an overall "cost score" for a physician or physician group can still be generated from the comparisons made within the disaggregated subcategories. The first step would be to divide the physician's spending on each clinically similar subgroup of patients by the average or median spending on other physicians' patients who have the same characteristics. This series of ratios – some greater than 1.0 for patient subgroups where the physician's spending is higher than the average or median, and some less than 1.0 where spending is lower – could then be weighted based on either the relative number of patients in each subgroup for that physician, the relative amounts of average spending for each subgroup, or some combination of the two factors, and then the weighted ratios could be added to compute an overall score for that physician. Subgroups where the physician did not have a sufficient number of patients to make meaningful comparisons could either be dropped or assumed to have a score of 1.0. If the physician's overall score was greater than 1.0, it would mean that the physician had higher-than-average spending for the subsets of patients for which reliable comparisons can be made. Although this overall measure would be similar in appearance to what would be computed by dividing total spending by a single risk score, generating the measure based on category-by-category comparisons would be more statistically and clinically valid, and the measure could be directly broken down into measures for specific categories of similar patients to more clearly show individual physicians where and how spending could be reduced for the types of patients and conditions they care for.

Strengths and Weaknesses Compared to Current Cost Measurement and Attribution Methods

Disaggregating spending into the categories described above provides fairer and more actionable information than the methodology CMS is currently planning to use in the Value-Based Payment Modifier:

- **Validity.** The current Value-Based Payment Modifier methodology for assigning spending to physicians does not produce valid measures of the decisions or actions by physicians (since the measures include spending that physicians have little or no influence over) nor does it even produce valid measures of the total spending associated with a physician's own services, since many of the patients a physician sees will not be attributed to that physician.¹⁹ The methodology defined above will produce more valid measures for accountability purposes by addressing these problems.
- **Reliability.** Studies have generally shown that the reliability of current spending and resource use measures is relatively low for many types of physicians and many types of services and spending, particularly when measures are calculated for individual physicians.²⁰ Measures based on the categories defined above will be more reliable since they are designed to distinguish services that physicians control from services they do not control. If physicians deliver services in consistent ways to their own patients, but they deliver services differently from other physicians, then measures of spending that do a better job of distinguishing between what physicians do and order *themselves* from what *other* physicians do and order will inherently be more reliable.
- **Comprehensiveness.** Although the total spending for most patients will not be assigned to *any single* physician under the methodology defined above, *all portions* of the spending on *every* patient will be assigned to *some* physician or other provider. By attempting to assign all aspects of spending to a single physician, the VM attribution methodology leaves *all* of the spending associated with *some* patients *unattributed* to *any* provider. The methodology described in this section is superior because it ensures that every aspect of spending is assigned to the physicians best able to control it.
- **Actionability.** Finally, and perhaps most importantly, the methodology defined here is explicitly designed to facilitate action in reducing and controlling the growth in health care spending without harming patients. Rather than merely ranking physicians on spending measures of questionable validity and reliability, physicians would be given information on the services and aspects of spending they can control or influence, with a particular focus on types of services that are potentially avoidable or associated with health problems that could have been prevented, and that information would be presented in the context of relevant characteristics of their patients. If even a small reduction in health care spending can be achieved through more actionable information, it could easily repay the investment needed to produce that information. Moreover, using the information to support the development and implementation of Accountable Payment Models could result in an even greater return on investment.

¹⁹ The measure is valid as a measure of how much is spent on the *patient*, but not as a measure of how much spending an individual *provider* could have controlled.

²⁰ See, for example, Adams JL, Mehrotra A, Thomas JW, McGlynn EA. Physician cost profiling – reliability and risk of misclassification. *N Engl J Med* 362(11):1014-1021; Houchens, RL. The reliability of physician cost profiling in Medicare. Thomson Reuters. August 2010.