2. Environmental Scan of Existing Value-Based Purchasing Programs

The purpose of the environmental scan of public and private VBP programs was to describe the current VBP landscape and provide information to address selected research questions. The review focused solely on publicly available documentation; within the scope of this contract, we were unable to conduct interviews with VBP program sponsors to gather additional information.

Methods

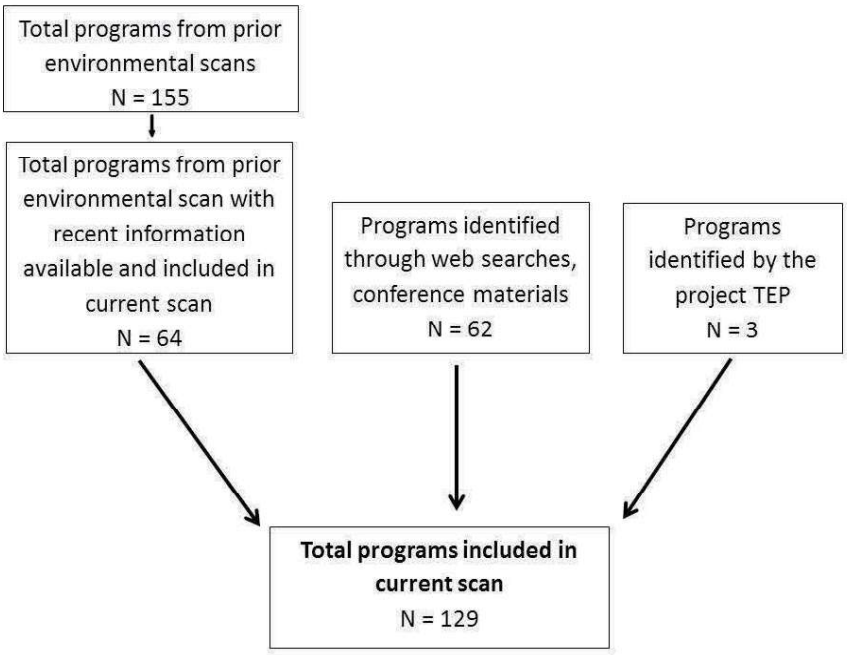
We compiled a list of VBP programs for review and stratified the list by the type of VBP model (i.e., P4P, ACO, bundled/episode-based payments). To develop the list, we began by drawing on lists of P4P program sponsors that were generated for prior physician and hospital P4P environmental scan projects conducted by RAND on behalf of ASPE.[19, 20] The list included programs sponsored by CMS, commercial health plans, regional multi-stakeholder coalitions, and Medicaid.* Additionally, we drew from a more recent RAND review of performance-based incentive programs.[121] Some of the programs identified in the earlier environmental scans were no longer in existence, had evolved into distinctly different programs, or had no recent information available. As a result, we winnowed the initial list of 155 programs down to those programs for which current information (2009 or later) could be found (n=64). We supplemented the list of 64 with an additional 62 programs that were newly added (e.g., ACOs, bundled payments) or where program sponsors had replaced prior programs. We identified the 62 programs from the following sources:

- materials from the 2012 and 2013 National P4P Summit sponsored by the Integrated Healthcare Association (IHA)
- the CMS website and press releases from CMS
- a Google search that focused on identifying bundled payment programs
- recent reports on P4P activities, including a 2010 report based on a survey of health plan P4P sponsors[122] and a report on VBP in skilled nursing.[123]

* Sources used to generate the list of programs included (1) a review of P4P programs by Rosenthal and colleagues (2004), (2) a 2004 Med-Vantage study of P4P programs by Baker and Carter, (3) a 2005 Med-Vantage survey of P4P programs, (4) the Leapfrog Compendium of incentive and reward programs, (5) review of the CMS website, (6) a Lexis/Nexis search of major U.S. newspapers, (7) a broad Google-based Internet search, (8) a search of relevant trade journals, and (9) input from RAND staff and TEP members.

During the introductory call with the TEP, members of the TEP identified three additional programs for inclusion. With these additions, we reviewed 129 VBP programs (Figure 2.1).

Figure 2.1. Process Used to Identify Value-Based Purchasing Programs Included in Environmental Scan, Public Document Review



For the 129 VBP programs, we gathered information by searching the program sponsor websites and conducting Google searches using the program sponsor or VBP program name. For each VBP program, we documented contextual information and key attributes of the program to the extent possible based on the contents of public documents. We extracted information on

- program goals
- types of metrics used
- type of incentives employed
- target of the incentives
- program effects
- type of support provided by sponsors
- changes anticipated for the program.

Only programs for which at least a portion of this information was publicly available were included in our scan. We compiled the data in Microsoft Excel for analysis. Appendix A contains a list of the programs included in our review.

Findings from the Scan of Public Documents

The 129 VBP programs reviewed included 91 P4P programs, 27 ACOs, and 11 bundled payment programs. Nearly all of the program sponsors identified in RAND's earlier environmental scans continue to offer VBP programs, although many of the programs have since evolved to include new measures, new types of providers, and different forms of incentives. While we did not track the different health plan product lines covered by the programs, Med-Vantage reports an expansion in the percentage of health plans that include all covered lives in their VBP programs, from 11 percent of plans in 2008 to 55 percent of plans in 2010.[122] Many sponsors had expanded their portfolios to include multiple VBP program types, some of which involve new payment models, such as shared savings, and new delivery models, such as medical homes, ACOs, and bundled payment.

The availability of public information varied considerably across the design features and types of VBP programs. For example, few details are publicly available about the specific measures involved or the payment arrangements for many of the ACOs that have newly formed or that are in development. The programs we reviewed do not represent the universe of all VBP programs in current operation in the United States, and the documentation for some programs we reviewed was not complete; the results should be considered in light of these limitations. Our review was limited by the propriety nature of much of the information about these programs, which are frequently sponsored by private entities (e.g., commercial health plans).

Program Sponsors

Fifty-six discrete entities sponsored the 129 VBP programs, and they fell into four categories of sponsors: (1) CMS, (2) private-sector commercial health plans, (3) regional collaboratives of stakeholders, and (4) states through their Medicaid programs (Table 2.1).

- **CMS programs:** The 16 identified CMS programs include completed demonstrations (e.g., Nursing Home VBP), current programs (e.g., Hospital Acquired Condition [HAC] Payment Policy, Hospital VBP programs), programs in the early stages of testing (e.g., ACO Shared Savings Program, Bundled Payment for Care Improvement) and a program still in the planning stages (Physician Value Based Payment Modifier).
- **Private health plan sector:** Private health plans are the most common sponsors of VBP programs overall, and many plans offer multiple VBP program types. For example, we report on six programs for Aetna (a physician P4P program, a program targeting physician groups in California conducted under the IHA's value-based P4P collaborative, a hospital P4P program, a Medicare Advantage ACO program, three separate commercial ACO agreements, and an agreement with Hoag Hospital in California as part of the IHA bundled payment initiative).
- **Regional collaboratives:** These groups sponsor seven P4P programs in our scan, but not other types of VBP models. Two are participants in the Bridges to Excellence program, and two have P4P programs that involve medical home pilots (i.e., the Oregon Health Leadership Council and the Puget Sound Health Alliance). The IHA sponsors two

programs, while the New York Department of Health is involved in two separate collaboratives, each with its own P4P program.

- **State Medicaid programs:** The 20 programs included consist of 10 skilled nursing facility initiatives, several ACO and coordinated care programs, a bundled payment program in Arkansas, five traditional physician or hospital P4P programs, and a P4P program in Vermont that included a medical home initiative.

Table 2.1. Sponsors of Value-Based Purchasing Programs

	Number of Examined Programs		
Sponsor Types	**Pay-for-Performance N=91**	**Shared Savings/ ACO N=27**	**Bundled Payment N=11**
CMS	10	4	2
Private health plans	56	21	8
Regional collaboratives	8	0	0
States/Medicaid programs	17	2	1

NOTE: The "N" in each column refers to the number of programs for which we found publicly available information.

Program Goals

We reviewed program documentation to inform research question #1 regarding what goals *should* be set for VBP programs. We were able to identify in public documents goals or objectives for approximately half (n=63) of the 129 VBP programs. With only a few exceptions, VBP sponsors stated goals at a high level (e.g., "improved health," "bend the cost curve") which are rarely quantifiable or easily measured to determine success or achievement. The exceptions were five programs that established quantifiable goals related to desired cost savings, two of which are new Medicaid programs:

- **Blue Cross Blue Shield of Massachusetts Alternative Quality Contract (AQC):** Reduce the medical expense trend of participating physician organizations by half over a five-year contract term.
- **Blue Shield of California California Public Employees' Retirement System (CalPERS) ACO:** Keep 2010 health care premium costs flat (zero growth in premium).
- **Cox Health Plan Episodes of Care Pilot:** Reduce potentially avoidable complications by 25 percent.
- **Colorado Medicaid Accountable Care Demonstration:** Reduce the annual increase in the cost of care by two percentage points.
- **Oregon Medicaid Coordinated Care:** A five percentage point reduction in emergency department utilization, hospital readmissions, and high-cost imaging to achieve overall savings to offset the $20 per member per month (PMPM) the program is investing.

Many VBP sponsors' goals encompass multiple dimensions or domains, such as "Improve the quality of health care delivery for Medicare beneficiaries while reducing program

expenditures." In Table 2.2, we summarize the frequency with which sponsor goals addressed specific goal domains.

Table 2.2. Stated Goals of Value-Based Purchasing Programs

	Number of Examined Programs		
Goal Domains	**P4P N=33 of 91**	**Shared Savings/ ACO N=21 of 27**	**Bundled Payment N=10 of 11**
Clinical quality	25 (76%)	15 (71%)	8 (80%)
Cost/affordability	15 (46%)	13 (57%)	6 (60%)
Patient outcomes	8 (24%)	8 (38%)	6 (60%)
Coordination of care	1 (3%)	5 (24%)	4 (40%)
Patient experience	1 (3%)	8 (38%)	2 (20%)
Appropriate utilization	3 (9%)	1 (5%)	2 (20%)
Collaboration	3 (9%)	1 (5%)	0
Safety	5 (15%)	0	0
Infrastructure/health information technology	3 (9%)	1 (5%)	0
Access	0	2 (10%)	0
Patient-centered care	1 (3%)	0 (0%)	0
Recognize/reward providers	5 (15%)	1 (5%)	0

NOTE: The "N" in each column refers to the number of programs for which we found publicly available information.

Pay-for-performance program goals: Improving clinical quality (e.g., "evidence-based care," "meaningful quality improvement," "break through improvement") was included among the goals of three-quarters of the 33 programs for which we could obtain documentation. Half of the programs cited cost reduction/affordability goals. Cost goals were more common among newer P4P programs. Less commonly mentioned goals were patient outcomes, safety, patient experience, and recognizing and rewarding physicians.

Shared savings/accountable care organization goals: Similar to P4P programs, ACO sponsors emphasized clinical quality and cost as primary goals. Patient experience, patient outcomes, and coordination of care were less frequently cited.

Bundled payment: Program sponsors most frequently cited clinical quality as a goal, followed by cost and patient outcomes.

Types of Providers Who Are the Target of Incentives

We identified the type(s) of providers that are the target of the financial incentives (Table 2.3) as well as the form of the financial incentive (Table 2.4).

Pay-for-Performance

In our sample of programs, physician groups were most frequently the target of P4P incentives, though some programs include more than one type of provider, such as individual physicians and physician groups. One program, the Tufts Health Plan Coordinated Care Model, contracts with multiple provider types, including ACOs and integrated delivery systems.* Individual physicians, most commonly primary care physicians (PCPs), are the second-largest target of incentives. Med-Vantage reported that 98 percent of the commercial health plans responding to its survey had a PCP program either in operation or in development and 61 percent had specialist programs in operation (32 percent) or in development (29 percent). The report also indicated that the most common specialties included in the P4P programs were obstetrics and gynecology (OB/GYN), cardiology, orthopedics, and endocrinology. As in our sample, Med-Vantage reports a lower percentage of health plans with hospital P4P programs than physician P4P programs, and that portion (40 percent) was unchanged since Med-Vantage's 2008 survey. There are 19 hospital programs, 10 skilled nursing facility programs, and one nursing home program (i.e., the CMS nursing home P4P demonstration) in our sample of P4P programs.

Shared Savings/Accountable Care Organizations

The ACO programs involve agreements between payer sponsors and health care providers, typically physician group practices with hospitals, wherein the providers assume financial and quality accountability for defined patient populations. CMS currently has three distinct ACO programs: (1) the Pioneer ACO Model; (2) the Medicare Shared Savings Program (MSSP); and (3) the Advanced Payment Initiative. Each of the three CMS ACO programs has different criteria for provider eligibility. For example, the Pioneer program is open to group practices, networks of individual practices, partnerships or joint ventures between hospitals and physicians, hospitals, or federally qualified health centers.[124] The MSSP is open to each of these entities plus critical access hospitals and rural clinics. Additionally, ACOs must agree to accept responsibility for at least 5,000 Medicare FFS beneficiaries to be eligible for the MSSP. The Advanced Payment Initiative is open only to ACOs that do not include any inpatient facilities and have less than $50 million in annual revenue or ACOs in which the only inpatient facilities are critical access

* An integrated delivery system (IDS) refers to an organization composed of a network of physicians and hospitals or physicians only which provide a continuum of health care services to patients who are enrolled in the system.

hospitals and/or Medicare low-volume rural hospitals with less than $80 million in annual revenue.[124] The commercial health plan ACOs typically involve integrated delivery systems, physician/hospital organizations, and medical groups. The Medicaid program in Oregon contracts with entities known as coordinated care organizations that are responsible for members' mental, physical, and dental care.

Bundled Payments

The bundled payment initiatives in our sample address both chronic and acute episodes and therefore target multiple provider types. The CMS bundled payment initiative allows for participation and gain sharing by physician groups, hospitals, ACO-type providers, and post-acute providers.* Some bundled payment initiatives are targeting specialists who perform procedures, such as orthopedic surgeons for hip and knee replacement or cardiac surgeons for coronary artery bypass graft (CABG) surgery. In the CMS Acute Care Episode (ACE) Demonstration, the savings were shared by the participating providers and the Medicare beneficiaries who received care from the participating providers.

Table 2.3. Health Care Provider Type(s) That Are the Target of Value-Based Purchasing Programs

	Number of Examined Programs		
Provider Type	**P4P N=91**	**Shared Savings/ ACO N=27**	**Bundled Payment N=11**
Physician groups	36 (40%)	0	4 (36%)
Individual physicians	33 (36%)	0	4 (36%)
Hospitals	19 (21%)	0	3 (27%)
Skilled nursing facilities/nursing homes	11 (12%)	0	1 (9%)
ACO/integrated delivery system	1* (2%)	27 (100%)	3 (27%)
Dialysis facilities	1 (1%)	0	0
Health plans	3 (3%)	0	0

NOTE: The "N" in each column refers to the number of programs for which we found publicly available information. In addition, percentages do not sum to 100 because some programs include multiple provider types.

* Gain sharing refers to financial arrangements between the payer and the providers to share a portion of savings that are generated through reduced health care utilization or provision of less expensive care (e.g., use of generic drugs), typically only if the provider maintains a level of quality.

Types of Incentives

The types of financial incentives offered to providers have expanded well beyond bonuses, the most common form of payment among P4P programs, to include new types and combinations of incentives. We were able to characterize the incentive structure for about 68 percent of the programs in our scan (see Table 2.4).

Table 2.4. Types of Financial Incentives Used in Value-Based Purchasing Programs

	Number of Examined Programs		
Incentive Structure	**P4P N=58 of 91**	**Shared Savings/ ACO N=23 of 27**	**Episodes of Care N=8 of 11**
Bonus	35 (60%)	0	1 (13%)
Change in fee schedule or diagnosis-related group (DRG)	12* (21%)	3 (13%)	0
Shared savings	5 (9%)	13 (56%)	5 (62%)
Shared savings and shared risk	1 (2%)	6 (26%)	0
Bonus and shared savings	5 (9%)	0	0
Bonus and shared savings/shared risk	0	1 (4%)	
Episode fee adjusted for quality	0	0	2 (25%)

NOTE: The "N" in each column refers to the number of programs for which we found publicly available information.
*Includes the CMS HAC Payment Policy, which prevents payment for selected hospital-acquired conditions at the higher DRG rate, and the CMS Hospital Readmission Reduction Program, which adjusts the DRG payment rate downward.

Pay-for-Performance

P4P programs have historically used bonuses as the type of incentive; however, shared savings incentives have become increasingly common, particularly related to performance on spending and utilization measures. Some health plans, such as Tufts, offer different types of shared savings incentive structures based on the provider's level of experience with managing risk. Most of the health plans participating in the IHA P4P program paid bonuses for performance on clinical quality, health information technology, and patient experience measures and offered shared savings based on performance on a set of resource use measures (e.g., generic prescribing, readmissions). The newly emerging IHA Value-Based P4P program will reward physicians organization performance on a total cost of care measure as a basis for shared savings, with the amount modified up or down by the physicians organization's performance on a composite measure of quality.

Shared Savings/Accountable Care Organizations

Most of the ACOs in our environmental scan sample have shared savings arrangements, and a few have shared risk. For example, the CMS MSSP and Pioneer Models offer either a one-sided or a two-sided approach. Additionally, in the Pioneer Model, ACOs that have shown savings over the first two years are eligible to move to capitation in year 3. The Blue Cross Blue Shield of Massachusetts AQC allows for shared savings and shared risk, and offers a bonus up to 10 percent above the global budget based on performance on quality measures.

Bundled Payment Programs

Among the bundled payment programs for which we have information, offering shared savings to providers was most common, including the CMS ACE demonstration and the Bundled Payments for Care Improvement initiative. Two programs adjust the episode fee for quality. In the United Healthcare Oncology Episodes of Care pilot, any future increases in the episode fee require the practices to achieve improved outcomes, a reduction in the total cost of care, or both. The Geisinger ProvenCare for CABG initiative tied adherence to the ProvenCare process measures to surgeons' individual compensation.

Measures

We were able to catalog information on the performance measure domains for approximately 92 percent of the VBP programs in our scan, but detailed information on the exact measures program sponsors used was available for a minority of programs. Therefore, we summarized the measures being utilized for the different types of programs, by setting, at the domain level.

Pay-for-Performance

Among the ambulatory-setting P4P programs for which we found measure information (n=57), clinical quality (i.e., process-of-care and intermediate outcome measures) was the most commonly measured domain. VBP programs typically use the National Committee for Quality Assurance (NCQA) Healthcare Effectiveness Data and Information Set (HEDIS) preventive and chronic care measures. However, for VBP programs that use HEDIS chronic care measures, we found it difficult to determine from their public documentation whether they were measuring intermediate outcome measures (e.g., glycolated hemoglobin [HbA1c]/blood sugar control or blood pressure control), process measures (e.g., testing HbA1c levels or blood pressure), or both. Structural measures were the next most common measurement domain, typically addressing the adoption or use of health information technology or rewarding physicians and/or groups for obtaining NCQA certification for the chronic care or patient-centered medical home (PCMH) programs. Roughly, half of the ambulatory P4P programs used patient experience measures, and nearly half are measuring cost and hospital/ emergency department utilization. Where access is measured, P4P programs typically used the ambulatory Consumer Assessment of Healthcare

Providers and Systems survey, although some of programs involving PCMHs were also measuring same-day appointment scheduling and the availability of other forms of access such as email and phone visits.

The hospital P4P programs where we found some measure information (n=17) typically used the CMS/Joint Commission clinical process measures. Several used measures of readmission, mortality, and patient safety (e.g., Leapfrog or the AHRQ patient safety indicators) in their programs. Patient experience, typically measured by the Hospital Consumer Assessment of Healthcare Providers and Systems survey, is included in slightly more than half of the hospital P4P programs. A small number rewarded hospitals for participation in quality improvement (QI) initiatives.

Information about the measures utilized by 10 Medicaid skilled nursing facility P4P programs was documented in a 2011 report from the National Research Corporation.[123] The most common types of measures reported were staff levels, training, and retention. Eight of the 10 programs measured customer satisfaction and regulatory compliance. The next most common measures were clinical care, employee satisfaction, and culture change/ person-centered care, each measured by five of the 10 programs. In the cost/resource use domain, one program is measuring operating costs and one is measuring Medicare utilization. The report also notes a trend toward incenting a culture of person-centered care. The CMS Nursing Home VBP program included measures of staffing and turnover, hospital readmissions, and outcome measures from the Minimum Data Set.

Shared Savings/Accountable Care Organizations

We were able to identify some of the measures used by 23 of the 27 ACO programs included in our scan. Each of the CMS programs is using the same set of 33 measures, which includes HEDIS clinical process (preventive and chronic care) and intermediate outcome measures, Consumer Assessment of Healthcare Providers and Systems survey results about patient experience, all-cause hospital readmissions, ambulatory sensitive care hospital admissions, patient safety measures (e.g., screening for fall risk, medication reconciliation), and a measure of electronic health record (EHR) functionality. CMS is phasing in the measures over three years, with the first year as pay-for-reporting only. Additionally, each of the three CMS ACO programs is measuring cost as a basis to determine shared savings.

The two ACOs in our scan participating in the Brookings-Dartmouth Accountable Care Initiative reported using a common set of measures that are being phased in over time. The first set of measures the ACOs implemented were claims-based measures. These included four measures of overuse (appropriate imaging studies for low back pain, avoidance of antibiotic treatment for adults with acute bronchitis, etc.), seven population health measures (breast cancer screening, HbA1c blood sugar testing, use of appropriate medications for asthma, persistence of beta blocker treatment after a heart attack, etc.), one safety measure (annual monitoring for patients on persistent medications), all-cause 30-day readmissions, and eight utilization measures

(hospital days per 1,000, emergency room visits per 1,000, use of generic drugs, doctor visit within seven days of discharge, imaging rates, etc.). The next set of measures, implemented in early 2012, included 11 clinically enriched measures for coronary artery disease, diabetes, hypertension, pediatric immunizations, and colorectal cancer screening. The third phase adds patient-reported measures, including patient experience (2012) and patient-reported outcomes (2015).

The Blue Cross Blue Shield of Massachusetts AQC includes 32 ambulatory measures and 32 hospital measures. The ambulatory measures include HEDIS clinical process and intermediate outcome measures and eight adult and pediatric patient experience (Consumer Assessment of Healthcare Providers and Systems survey) measures. The hospital measures include process measures for acute myocardial infarction (AMI), congestive heart failure (CHF), pneumonia, and surgical care plus eight AHRQ Patient Safety Indicators and four Hospital Consumer Assessment of Healthcare Providers and Systems survey measures.

Bundled Payment Programs

We were able to determine a minimal level of measure information for nine of the 11 bundled payment programs in our scan. The programs are targeting a diverse set of conditions, and the most common measure domain is cost. In the hospital setting, the CMS ACE Demonstration utilized a broad set of clinical process, outcome, and patient safety measures for each of the six procedures. Process measures were largely drawn from the Surgical Care Improvement Project (SCIP), and outcomes included readmissions, inpatient and 30-day mortality, and average and median length of stay (LOS). Conversely, the Geisinger ProvenCare program for CABG used a large set of clinical process measures and avoided tying physician compensation to outcome measures so that physicians would not hesitate to treat patients that are more complicated. The Blue Cross Blue Shield of Tennessee Orthopedic Bundled Payment Program ties reimbursement to performance on quality and efficiency measures, and the Horizon Blue Cross Blue Shield of New Jersey program for hip and knee replacement measures patient functional status, readmissions, and patient safety. In the IHA bundled payment pilots for hip and knee replacement, plans and providers determine the measures in contrast to the IHA P4P programs in which common quality measures are used and reported across the plans. IHA expects that gain-sharing agreements will include both quality and efficiency measures but does not provide a menu of options.

Little information was publicly available regarding measures used in ambulatory care bundled payment programs. The Arkansas Medicaid program targets six conditions, and provider gain-sharing is dependent on achievement of "must pass" quality indicators, which differ for each episode type. The United Healthcare Oncology Episodes of Care pilot ties future increases in the episode fee to improved outcomes, reduction in the total cost of care, or both.

Benchmarks

Benchmarks refer to the performance threshold the provider must meet (either absolute or relative) to achieve the incentive payment. Information about the types of benchmarks used was available for only 34 percent (n= 44) of the programs in our scan. We found no information about the benchmarks used for the bundled payment programs.

Pay-for-Performance

The most common type of benchmark among the P4P programs is an absolute threshold only (n=15). Ten P4P programs in our scan used relative thresholds only, which may be based on the performance of peers in the market, the state, or nationally. Other programs, such as the CMS Hospital VBP program, have two paths to earning incentives: achieving an absolute threshold or showing improvement over time (11 of the 39 P4P programs had this combination).

Shared Savings/Accountable Care Organizations

Very little information was publicly available about the types of benchmarks used for ACO models, with the exception of the three CMS ACO models. In the shared savings programs, CMS is establishing the cost benchmark for each agreement period, for each ACO, using three-years-prior expenditure data. Quality benchmarks are based on national percentile rankings from the year prior, and points are assigned on a sliding scale based on the ACO's performance. The Pioneer ACO program originally had absolute benchmarks to encourage very high performance. Participating ACOs have expressed concern that the standards are higher than those that "best-in-class" providers have achieved to date and will be costly to meet. In response, CMS will measure and reward improvement on the quality metrics for 2013. The CMS PGP demonstration utilized absolute thresholds for quality measures.

Table 2.5. Type of Benchmarks Used in Value-Based Purchasing Programs

	Number of Examined Programs		
Benchmark	**P4P N=39 of 91**	**Shared Savings/ ACO N=6of 27**	**Episodes of Care N=0 of 11**
Absolute threshold	15 (38%)	5* (83%)	Not available in public documents
Relative threshold	10 (26%)	0	Not available in public documents
Absolute threshold and improvement	11 (28%)	1 (17%)	Not available in public documents
Relative threshold and improvement	3 (8%)	0	Not available in public documents

NOTE: The "N" in each column refers to the number of programs for which we found information.
*For the three CMS ACO models, CMS assigns points for each quality measure on a sliding scale.