

American Heart Association's Call to Action for Payment and Delivery System Reform

ABSTRACT: The healthcare system is undergoing a transition from paying for volume to paying for value. Clinicians, as well as public and private payers, are beginning to implement alternative delivery and payment models, such as the patient-centered medical home, accountable care organizations, and bundled payment arrangements. Implementation of these new models will necessitate delivery system transformation and will actively involve all fields of medical care, in particular medicine and surgery. This call to action, on behalf of the American Heart Association's Expert Panel on Payment and Delivery System Reform, serves to offer support and direction for further involvement by the American Heart Association. In doing so, it (1) provides baseline review and definition of the present models and some of the early results of these delivery models, including outcomes; (2) initiates a conversation within the American Heart Association on the impact of payment and delivery system reform, as well as how the American Heart Association should engage in the interest of patients; (3) issues a call to action to our organization and to cardiovascular and stroke health professionals across the country to become educated about these models so as to understand their impact on patient care; and (4) asks the government and other funding agencies, including the American Heart Association, to begin supporting and prioritizing meaningful research endeavors to further evaluate these models.

Vincent J. Bufalino, MD,
FAHA, Chair
Scott A. Berkowitz, MD,
MBA
Timothy J. Gardner, MD,
FAHA
Ileana L. Piña, MD, MPH,
FAHA
Madeleine Konig, MPH
On behalf of the AHA
Expert Panel on Payment
and Delivery System
Reform

Key Words: AHA Scientific Statements ■ accountable care organizations ■ American Heart Association ■ government ■ health expenditures ■ healthcare systems ■ patient-centered care ■ reimbursement

© 2017 American Heart Association, Inc.

The transformation of healthcare provider payment that is currently under way from fee-for-service (FFS) to value-based payments can be characterized as a move from a system that pays for the volume of care to one that instead pays for value of care a patient receives. These payment conversations, once only about the amount paid for a particular service, now include consideration of that service as one component of broader care delivery and a focus on both quality and performance. This expanded view involves system interactions rather than just individual care transactions and brings with it greater implications, both in terms of benefit and potential unintended consequences, for patients. Evidence on the impact of these models and their payment mechanisms, however, is limited to date. Many are still very new or have been introduced in limited rollouts as demonstration projects and with preliminary results, without the requisite time to assess meaningful and sustained clinical outcomes.

Indications by payers, both private and public, however, are that these models will be used to drive toward improved patient outcomes at reduced costs. The Centers for Medicare & Medicaid Services (CMS) has announced achievement of its previously stated goal to tie 30% of Medicare FFS payments to quality or value through alternative payment models by 2016 and is moving toward its 50% goal by 2018.¹ It has also announced that it will connect 85% of all Medicare FFS payments to quality or value by 2018 and 90% by 2019. The passage of the Medicare Access and CHIP Reauthorization Act of 2015, which repealed the sustainable growth rate, sunsets earlier CMS value incentive programs such as the Medicare electronic health record incentive program (meaningful use), the value-modifier incentive, and the Physician Quality Reporting System. The Medicare Access and CHIP Reauthorization Act of 2015, also known as the Quality Payment Program, combines these elements into the new Merit-based Incentive Payment System and will further catalyze the movement of providers and systems into value-based models of care. Providers can be exempted from participating in the Merit-based Incentive Payment System if they are part of a qualifying advanced alternative payment model; however, the threshold for participation in such a model typically requires more substantial experience in assuming and managing risk. The performance period for this new program is set to begin January 2017 to impact 2019 payments, with the potential for payment incentives or penalties of up to 9% by 2022 under the Merit-based Incentive Payment System program and with a guaranteed bonus of 5% on part B payments for those that meet appropriate advanced alternative payment model specifications.² Providers might be confused by the multiple new models and find it difficult to see their place in this new era of fee for value. As such, there is an opportunity for

professional societies and care delivery organizations to support educational efforts so that providers will understand how they can function as high-quality practitioners within these new models.

Implementation of these new models will necessitate delivery system transformation and will actively involve all fields of medical care, in particular medicine and surgery. The American Heart Association (AHA) can actively engage in the process both of program design and evaluation, as well as in the development of collaborative partnerships to innovate around care delivery. Furthermore, with our established expertise in quality measurement and outcomes research, cardiovascular and neurological specialists are well positioned to contribute to this transformation by promoting optimal outcomes while seeking to mitigate unintended consequences. To be both thoughtful and proactive in this effort, the AHA convened an Expert Panel on Payment and Delivery System Reform in 2015 with clinical and economic experts from leading institutions and tasked it with assessing the current environment and determining the optimal role for the AHA in moving forward on behalf of patients. A full roster of the expert panel members is found in the Appendix.

This call to action, on behalf of this group, serves to offer support and direction for further involvement by the AHA. In doing so, it (1) provides baseline review and definition of the present models and some of the early results of these delivery models, including outcomes (although not an exhaustive review); (2) initiates a conversation within the AHA on the impact of payment and delivery system reform, as well as how the AHA should engage in the interest of patients; (3) issues a call to action to our organization and cardiovascular and stroke health professionals across the country to become educated about these models so as to understand their impact on patient care; and (4) asks the government and other funding agencies, including the AHA, to begin supporting and prioritizing meaningful research endeavors to further evaluate these models.

REVIEW OF MODELS AND EVIDENCE

Although it has gained substantial recent attention, the adoption of financial incentives to drive improved quality of healthcare delivery is not a new concept. Introduced primarily by commercial health insurers in the 1990s and early 2000s, early pay-for-performance initiatives were included in physician contracts and incentivize the use of quality of care measures.³ In 2003, CMS initiated pay-for-performance demonstration programs for hospitals with the Premier Hospital Quality Incentive Demonstration program. The passage of the Affordable Care Act in 2010 expanded the use of value-based purchasing strategies significantly. Required by the Affordable Care Act to develop and assess new

delivery models that would increase value, defined as improved patient outcomes achieved at lower costs, CMS and its Center for Medicare & Medicaid Innovation developed new payment models and implemented a variety of programs with the clearly stated intention of improving quality of care while reducing Medicare spending. Models examined in this article include the patient-centered medical home (PCMH), including the “medical neighborhood,” accountable care organizations (ACOs),⁴ and the bundled payment program. Although it is worth noting the existence of both the ESRD (end-stage renal disease) Seamless Care Organizations and the Oncology Care Model to promote improved coordination and care in the management of patients with specific chronic conditions, further discussion is beyond the scope of this article. The intention of all of the PCMH and ACO initiatives is to improve value by focusing on the Institute for Healthcare Improvement’s healthcare “triple aim”: better care for individuals, better health for populations, and lowered growth in expenditures.⁵ They do this by incentivizing collaboration, efficiency, patient-centeredness, development of a foundation of primary care, and the building of partnerships,⁶ and have been evaluated against this aim and the process of achieving it. Evidence of the models’ impacts is variable, however, and must be reviewed with an appreciation for the contextual factors of their implementation.

Patient-Centered Medical Homes

In the broadest sense, the PCMH model emphasizes additional support for primary care providers in a team-based model. A “primary care transformation,”⁷ the PCMH redesigns primary care delivery such that the primary care doctor and patient are at the center of the hub of team-based care and ensure that specialist referral and management changes are shared with and known by the primary care provider.⁸ The medical neighborhood expands this model and represents a broader collection of primary care doctors, specialists such as cardiologists, hospitals, and other care delivery stakeholders within a region who seek to reduce fragmented care by sharing accountability and assisting with harmonization of care.^{9,10}

The principal tenets of the PCMH model are to be patient centered, comprehensive, accessible, coordinated, and committed to quality and safety through a systems-based approach. Patients are attributed to primary care providers on the basis of care patterns and history, and there are goals in terms of quality measures and other utilization indices that include performance-based incentives.¹¹ The National Committee for Quality Assurance and other entities certify programs as adhering to certain structural and process components. Not all medical homes pursue these certifications, however,

and a review of published research found that a lack of a standard definition of the medical home is listed as a common limitation for their assessment.⁷ The Patient-Centered Primary Care Collaborative has pointed out that although the goals and attributes of models might be similar, they differ in terms of implementation, measurement, and performance, and it cites another assessment that notes that depending on capability, value, and patient needs of the particular PCMH being examined, each might excel in different ways.¹² Others have highlighted the variability by which the programs are assessed and the resulting impacts that are determined.¹³ As a result, one can find a range of measured impacts of PCMH models. Although many show minimal improvement, they tend to trend positive. The Patient-Centered Primary Care Collaborative, along with the Milbank Memorial Fund, conducted a review of evidence of 28 PCMH studies in peer-reviewed academic, state government, and industry reports, and reported improvements in utilization (24 studies), reduction in cost of care (17 studies), and improvements in quality (11 studies), access (10 studies), and patient satisfaction (8 studies).^{7,12,14} Of those outcomes improvements, cardiovascular care impacts of note included improvements in low-density lipoprotein screenings and reductions in low-density lipoprotein levels, as well as improved control of blood pressure.¹⁵

As the field has matured, successes are being reported as the PCMH model has been applied to chronic care settings. One such example is an analysis of the PCMH model applied to diabetes mellitus, a condition for which patients exhibit a multitude of comorbidities and require multiple specialists, as well as consistent care coordination and engagement. Stevens et al¹⁶ performed a cross-sectional survey of patients with California Medicaid (Medi-Cal) and type 2 diabetes mellitus using the Primary Care Assessment Tools to evaluate patient indicators of PCMH quality. In this group, composed of patients with lower socioeconomic status and with a majority of Hispanics (74%), patients who received more timely diabetes mellitus care reported better coordination of care and PCMH performance as associated with each diabetes mellitus care measure, such as an HbA_{1c} screening in 6 months and a yearly eye examination. Although the ESRD Seamless Care Organizations and Oncology Care Model offer a model for better alignment of primary and specialty care, additional examples are still needed. The National Committee for Quality Assurance’s recently initiated Patient-Centered Specialty Practices Recognition program appears to be a promising approach¹⁷ and might address the finding that specialty practices have remained largely unchanged.¹⁸

Longer time-frame results beyond early improvements such as increased delivery of preventive services are also being reported. In 2006, Group Health Cooperative, an integrated insurance and healthcare delivery system, re-

ported improvements in their PCMH model clinic compared with control clinics using electronic medical records and showed 12-month improvement in quality of care, provider satisfaction, and controlled costs.¹⁹ When the data were analyzed at 24 months, most effects had persisted, and the patients continued to report improvements in care coordination, access to care, and personal health goals, whereas costs remained controlled.²⁰

Accountable Care Organizations

The ACO is a broader care-delivery arrangement whereby groups of providers are accountable for the quality, cost, and overall care of a particular population, typically involving a value-based contract with payers.²¹ The model was created to serve as a structure that would allow providers and health systems to focus on using data to improve care and to allow savings, if achieved and if quality targets were met, to be shared by participating providers, something that might not otherwise have been permitted under federal law. Shortell and others²² have developed a taxonomy of ACOs to categorize the many ACOs that exist, breaking them down into 3 groups: large, integrated systems with a broad set of services, which tend to include postacute facilities; smaller, physician-led, primary care-focused practices with a high degree of physician performance management and accountability; and moderately sized hybrid groups with a moderate scope of services and some postacute involvement.

The Pioneer ACO model, launched in 2012, as well as the newer Next Generation ACO model, launched in 2016, are CMS models geared to providers and systems that were willing to assume financial risk. The 20 Pioneer ACOs participating in 2014 (performance year [PY] 3), the most recent year with data, included 622 265 beneficiaries, a 2% increase from 2013 (607 945), and showed continued strong performance and improvement across financial, quality of care, and patient experience measures. The model generated total savings of \$120 million, a 24% increase from PY 2 and a 36% increase from PY 1. The mean quality score among Pioneer ACOs increased to 87.2% in PY 3 from 85.2% in PY2 and 71.8% in PY 1. These ACOs showed improvements in 28 of 33 quality measures and experienced average improvements of 3.6% across all quality measures compared with PY 2.²³ Retention of participants in the Pioneer ACO program, however, has decreased, and only 9 of the original 32 participating provider groups are still in the program. Although there is no formal analysis of the reasons for departure, analysts point primarily to the financial risk model. There are difficulties meeting benchmarks as improvement and cost savings become increasingly difficult to achieve over time, and there is inequity between low- and high-cost markets, with the potential to generate savings being easier in the latter.^{24,25} Some of these participants have switched

into the Medicare Shared Savings Program (MSSP), typically with less (or no) financial risk. Others are considering the Next Generation ACO model which, despite requiring the acceptance of more risk, also provides more programmatic flexibility and the ability to incorporate options such as telemedicine and home visits.²⁶ Peer review publications investigating more detailed differences in spending patterns with respect to Pioneer ACO performance note that in the first 2 years, Pioneer ACO beneficiaries had smaller increases in total Medicare spending and reductions in utilization of health services, with little difference in patient experience.²⁷

In the MSSP, the largest ACO model sponsored by CMS for Medicare beneficiaries, the ACO can capture shared savings if it meets certain quality performance standards while reducing its healthcare expenditures. Notably, nearly half of the quality measures are related to cardiovascular disease.²⁸ There are currently 3 tracks in the MSSP. Track 1 ACOs have 1-sided risk (upside only), which enables them to receive a maximum of 50% of obtained savings in the first 3 years of the program if quality metrics are met. Track 2 and track 3 ACOs have both upside and downside risk. Track 3 ACOs are also subject to a waiver of the requirement that a patient have a 3-night hospital stay before admission to a skilled nursing facility,²⁹ and both track 2 and 3 models qualify as advanced alternative payment models as part of the Quality Payment Program. A new MSSP track 1+, which is yet to be developed but was mentioned in the recent final rule for the Quality Payment Program, will also achieve advanced alternative payment model status.²

As of April 2016, there were 411 track 1 ACOs, 6 track 2 ACOs, and 18 track 3 ACOs, covering ≈7.7 million lives. With results released in August 2015 for the 2014 PY and earlier, 92 MSSP ACOs held spending to \$806 million below their targets and earned performance payments of more than \$341 million as their share of program savings, generating \$465 million in net savings to the Medicare Trust Fund. These numbers represent a savings increase from 2013. Others point out, however, that although the cost of care was lowered, CMS paid out more in bonus payments than was brought in via savings, which undermined the cost-saving intent of the program.^{30,31} Interestingly, ACOs with greater experience with this program were more likely to generate shared savings,³² as were those who started with higher baseline spending.³³ Among ACOs that entered the program in 2012, 37% generated shared savings compared with 27% of those that entered in 2013 and 19% of those that entered in 2014. MSSP ACOs that reported in both 2013 and 2014 improved on 27 of 33 quality measures.³² A recent analysis noted that within the first year of MSSP contracts, 2012 entrants achieved savings, whereas 2013 entrants did not, and these savings were more significant in primary care practice-based ACOs than in those that included hospitals.³⁴

As these models have evolved to address components other than just spending, they have demonstrated improvements in patient outcomes and experience. Busch et al³⁵ noted that early efforts that only examined spending showed little improvement in patient outcomes, but when the model itself was focused on behavioral health, for example, patient outcomes improved.^{36,37} Other published reports demonstrated the ACO model's ability to improve patient experience via Consumer Assessment of Healthcare Providers and Systems surveys. In an extensive report that included 32 334 FFS beneficiaries in various ACOs, Consumer Assessment of Healthcare Providers and Systems measures, such as access to care and care coordination, improved significantly compared with non-ACO care. The improvements were modest and greater for patients with complex conditions,³⁸ as well as for the highest-risk patients.³⁹

In addition to examining outcomes, early studies have begun to look at how shared savings could be distributed, including to specialty groups. One study noted that in comparing MSSP ACOs launched in 2012 to 2014, ACOs that planned to give >50% of share savings to their primary care providers and specialists and those with >10 participating entities were more likely to have generated savings ($P=0.001$ and $P=0.004$, respectively).⁴⁰ Early studies also examined changes in patient experience after ACO enrollment, noting improvements in timely access to care and knowledge of specialty services, as well as improvement in overall ratings of care for patients with multiple chronic conditions.³⁴ There are also, of course, challenges with the MSSP ACO model. For one, the likelihood of achieving shared savings has typically been $\approx 25\%$, which raises questions about the viability of the financial model for those that might rely on savings to sustain programmatic expenses. In addition, both track 1 and track 2 MSSP models rely on retrospective attribution, which makes it more difficult to implement population management programs, because the population can change from year to year. Furthermore, as designed, patients maintain the choice of providers whether inside or outside the ACO network.⁴¹ The continued refinement and expansion of ACOs has been the principal work of the CMS' MSSP program since its passage in the Affordable Care Act.

There are also several hundred commercial ACOs. In fact, commercial ACOs accounted for 17.2 million of the total 28.3 million covered lives in public and private ACOs in 2016.⁴² Although little information is publicly available, notable examples include the California Public Employees' Retirement System, which experienced a 15% reduction in inpatient days per 1000 members. Total program savings were \$15.5 million, with 10% lower costs than those not in the pilot.⁴³ The Blue Cross Alternative Quality Contract in Massachusetts, with payment/quality contracting similar to the Pioneer ACO as a commercial ACO-like model, resulted in a 3.3%

savings (1.9% in year 1, 3.3% in year 2) compared with spending in groups not participating in the contract and demonstrated improvement in quality measures.⁴⁴ Other analysis of commercial ACOs, however, has noted that in some cases, even with no increase in use, outpatient spending still increased. In this way, increased attention to other dynamics such as provider market concentration must be monitored to ensure the triple aim is being achieved under these models.⁴⁵

Bundled Payment

The CMS Innovation Center began the Bundled Payments for Care Improvement (BPCI) program in 2012. Similar to the Hospital Inpatient Prospective Payment System, which reimburses hospitals for inpatient care based on patients' diagnoses (via a diagnosis-related group), BPCI programs reimburse providers for episodes of care triggered by an acute care hospitalization with durations of varying lengths. Rather than paying for each individual service a patient receives, as under FFS, the model is intended to align incentives across providers to support better communication about and coordination of patient care. The rationale, therefore, for all of the BPCI programs is that they incentivize clinicians, hospitals, and other providers to work together and share information so that care is more efficient, better coordinated, and of higher quality. Although the 48 clinical episode groups proposed by CMS range from common diseases such as atherosclerosis, stroke, and diabetes mellitus to specific procedures, including coronary bypass surgery, percutaneous coronary intervention, and lower-extremity joint replacement surgery, most BPCI programs to date have involved narrowly defined episodes of care, such as joint replacements and coronary bypass surgery. Early success with the joint replacement bundle programs prompted CMS to initiate a mandatory Comprehensive Care for Joint Replacement model in 2016; as of the time of writing of this call to action, CMS had proposed expanding the program to other hip surgeries, as well as cardiac surgeries and the management of acute myocardial infarction, portending the likely continued extension of bundled payment within Medicare.² Whether the program is implemented remains to be seen under a new presidential administration. The Table summarizes the 4 different BPCI models and basic characteristics.⁴⁶

BPCI payment models and alignments of provider participants vary and are complex. Although some have suggested that these programs could in fact incentivize more care rather than better care,⁴⁷ there is also concern that providers might achieve program savings not just by forgoing wasteful or redundant care but by failing to provide needed care or by choosing the least expensive but less effective treatment alternative. A concern about care rationing by patient selection exists; relatively healthier patients might be included in these

Table. Characteristics of BPCI Models

Model (Participants*)	Duration	Payment	Responsible Parties
1 (1)	Acute hospital stay only	Total cost of acute care	Hospital receives discounted DRG amount; physicians receive usual reimbursement under PFS
2 (649)	Acute care hospital, postacute, all related services ending 30, 60, or 90 d after discharge	Retrospective bundled payment arrangement with actual expenditures reconciled against a target price for episode of care	All paid FFS and recoupment or payment made after comparison with target price
3 (862)	Postacute care initiated within 30 d of discharge and up to 30, 60, or 90 d after initiation of episode of care	Retrospective bundled payment arrangement with actual expenditures reconciled against a target price for episode of care	All paid FFS and recoupment or payment made after comparison with target price
4 (10)	Acute hospital stay and 30 d post hospital discharge	Total cost of acute care, including readmissions	Hospital and all providers via single prospective payment

*As of April 1, 2016.

BPCI indicates Bundled Payments for Care Improvement; DRG, diagnosis-related group; FFS, fee for service; and PFS, physician fee schedule.

programs, whereas high-cost sicker patients might be denied such care. These concerns exist for all shared savings programs.⁴⁸ All BPCI programs are certain to reduce Medicare payments for the bundled episodes of care, because agreed upon payments to the participating providers include a 2% or 3% discount from the historical payment. It is not clear, however, how well the proposed measure sets will account for all care contingencies and effectively monitor quality.

As discussed previously, there are few outcomes studies to date that allow for effectiveness reporting on these new payment models beyond impact on the quality and cost of the acute care episode. The AHA, as a science and health advocacy organization, shares the CMS goals of improved patient outcomes by better care coordination and elimination of unnecessary variations of care. As such, there are numerous and substantial opportunities for cardiovascular and neurological specialists to lead clinical care transformation and support research, evaluation, measure development, and quality improvement projects that will refine and inform these models.

CALL TO ACTION

There is sound reason to believe that collaborative care models, inclusive of patients, providers, and other care team members, are directionally promising and will improve the care that is received, but as suggested previously, evaluation efforts are still in their infancy. Much of the analysis to date has focused on quality measurement and achievement of cost savings, and therefore, important opportunity remains to better characterize the models' long-term clinical outcomes. Given the heterogeneity across these models, research that is focused on and identifies which particular aspects of such programs make them successful would be a significant contribution to the evidence base. The first step in this process is to identify the metrics that indicate true improvements in delivery and performance against which the ACOs should be measured, as well as to further de-

velop the science that will allow for isolation and evaluation of the most critical elements. Longitudinal care of chronic illness also requires examination beyond an early decrease in emergency department or urgent care visits to specific, not general, measures of quality.

The inclusion and refinement of tested risk adjustment models to account for patient factors and ensure those managing more complex patient populations are not disproportionately penalized is important. Unintended consequences of the drive to cut costs could include selection of low-risk, low-cost patients and the penalization of providers and facility types that care for complex, sicker individuals. If benchmarks and other methodological approaches are performed inappropriately, they can create unintended consequences for patients.⁴⁹ Use of survey information could help mitigate the selection of less ill patients, and appropriate and accurate coding for those who are caring for the sicker population would likely be helpful as well.⁵⁰

Not often discussed are the ethical challenges posed by ACOs and bundled payments, including loss of professional autonomy, the dual responsibility to the patient versus the system, and where to concentrate efforts with regard to distribution of resources.⁵¹ Although not entirely dissimilar from the challenges originally posed by the introduction of health maintenance organizations, the questions are now a bit more sophisticated, focusing on the most appropriate site of care rather than general withholding of services. In this way, answers may come with continued delivery system adjustments. Potential real or perceived competition can also occur between primary care and specialty providers. Thoughtful planning of structures and processes needs to occur before the implementation of any new payment model to address the administrative, financial, professional, and ethical conduct of all involved.

Consistent with the AHA's important advocacy role, cardiovascular and neurological specialists must be aware of and engaged in the oversight of these new care models, and they must be vigilant about possible

unintended consequences for patients. The Expert Panel, therefore, calls on the AHA to continue to monitor opportunities for cardiovascular and neurological specialists to serve as leaders in these care models, as well as urges its members and supporters to seek collaborative partnership opportunities and to always ensure that the best interests of the patient remain central while remaining open to further exploration and investigation. Furthermore, because providers and systems are measured on population health metrics, we call on the AHA to continue its leadership in the space of conceptualizing and developing measures that incentivize systems to provide high-quality, patient-centered care, including those that incorporate patient experience and patient-reported outcomes.

As an evidence-based organization committed to funding research that creates scientific guidelines to advance the scientific enterprise of cardiovascular care, we have taken the same approach to assessing delivery and payment models, with the belief that it is important to analyze the clinical import of these care models and not just their financial outcomes. As noted previously, this will continue to be vitally important, because indications by payers, both private and public, are that they will continue to use these models to drive toward improved patient outcomes at reduced costs. It is important that providers seek to understand how they can function as responsible, high-quality practitioners within these new models. Providers must also understand the variable impact that greater adoption of these models might have on different group sizes and facility types. In this way, the Expert Panel also sees a role for the AHA to be an educator of health-care professionals who might not be as familiar with the new models of care that are not yet mainstream in the practicing community. There is a clear need to educate practitioners so that they can understand how they can impact the care they deliver to patients. This call to action is intended to be the next step in that education.

These models do not assume that all care can or should be pushed to the primary care space; instead, they require the development of partnerships and collaboration among providers of many disciplines. As Ojefo and Berkowitz⁴ point out, there are opportunities for cardiologists and other specialists to participate and collaborate in existing or new ACO arrangements, particularly because their patients have significant chronic care needs. Attending to these care needs requires that these models have collaboration as their foundation. Participating in these partnerships will allow cardiology and neurology to engage and make sure that the distinct needs of their patients, who might receive care in the hyperacute phase but then require support for long-term management and secondary prevention,⁵² are taken into account and met as these models evolve.

Additionally, as Patel et al²⁸ suggest, cardiology has been a leader in the use of evidence to support reduc-

tions in morbidity and mortality, and they note that the next step could be using the specialty's expertise within these new delivery models to allow for "coordinated improvements in health and more efficient use of cardiology expenditures." They note that the same tools that have enabled these clinical milestones to be reached, such as guidelines, quality measures, and registries, could be used to define and measure value. Furthermore, there is important opportunity as it relates to appropriate use of medical imaging, with significant impact on cardiovascular and neurological specialties, and this also relates to the national Choosing Wisely campaign.^{53,54}

Medical professionals and organizations like the AHA have an opportunity to leverage evidence-based tools in support of the movement to value-based care. Anderson et al,⁵⁵ on behalf of the AHA and the American College of Cardiology, have begun this process by laying out a proposed method for determining value (quality/cost) and its incorporation into clinical decisions. They propose a value classification system with supporting levels of evidence similar to those used for clinical guidelines, but they stress that the value category should be only one of several considerations in decision making. They recommend that these assessments inform the development of performance measures, only using those with high value for performance measurement.⁵⁵ The AHA can further help to lead the movement to implementation science and the science of care delivery both by assisting in methods for real-time assessment and quality improvement, as well as through more traditional evaluative approaches.

Finally, we are issuing a call to action to our organization and cardiovascular and neurological professionals across the country to engage in meaningful research endeavors to further understand the impact of these new delivery system models. Furthermore, we encourage providers to be creative and innovative in crafting original programs, structures, and processes, even if outside the accustomed practice venues and across a range of clinician types. Examples of such could be same-day clinics, which could prevent hospitalizations; virtual encounters using current technology; and the use of smart phones to track symptoms. These novel programs, driven by our own health professionals, could be funded by health systems and practices seeking to innovate, by government grants and by other funding agencies, and they could be rigorously tested by outcomes researchers across the country. The Expert Panel intends to look at these emerging models in its ongoing work.

We hope this call to action will further a dialogue that will allow us to maximally leverage our strengths and the opportunities that lie before us, to advance the goal of achieving the best health and health care for our patients.

APPENDIX

AHA Expert Panel on Payment and Delivery System Reform Members

Vincent J. Bufalino, MD, Chair—Advocate Health Care; Mary Anne Bauman, MD; Michael Barbouche—Forward Health Group; Scott A. Berkowitz, MD, MBA—Johns Hopkins Medicine; Mark Creager, MD—Dartmouth-Hitchcock Medical Center; Gregg Fonarow, MD—UCLA; Timothy J. Gardner, MD—Christiana Care Health System; Ray Gibbons, MD—Mayo Clinic; David Meltzer, MD—University of Chicago; Neil Meltzer—LifeBridge; Ileana L. Piña, MD, MPH—Montfiore Medical Center; Lee Schwamm, MD—Massachusetts General Hospital; John Warner, MD—UT Southwestern Medical Center.

FOOTNOTES

The American Heart Association makes every effort to avoid any actual or potential conflicts of interest that may arise as a result of an outside relationship or a personal, professional, or business interest of a member of the writing panel. Specifically, all members of the writing group are required to complete and submit a Disclosure Questionnaire showing all such relationships that might be perceived as real or potential conflicts of interest.

This statement was approved by the American Heart Association Advocacy Coordinating Committee on March 1, 2017,

and the American Heart Association Executive Committee on March 10, 2017. A copy of the document is available at <http://professional.heart.org/statements> by using either “Search for Guidelines & Statements” or the “Browse by Topic” area. To purchase additional reprints, call 843-216-2533 or e-mail kelle.ramsay@wolterskluwer.com.

The American Heart Association requests that this document be cited as follows: Bufalino VJ, Berkowitz SA, Gardner TJ, Piña IL, Konig M; on behalf of the AHA Expert Panel on Payment and Delivery System Reform. American Heart Association’s call to action for payment and delivery system reform. *Circulation*. 2017;136:e162–e171. DOI: 10.1161/CIR.0000000000000516.

Expert peer review of AHA Scientific Statements is conducted by the AHA Office of Science Operations. For more on AHA statements and guidelines development, visit <http://professional.heart.org/statements>. Select the “Guidelines & Statements” drop-down menu, then click “Publication Development.”

Permissions: Multiple copies, modification, alteration, enhancement, and/or distribution of this document are not permitted without the express permission of the American Heart Association. Instructions for obtaining permission are located at http://www.heart.org/HEARTORG/General/Copyright-Permission-Guidelines_UCM_300404_Article.jsp. A link to the “Copyright Permissions Request Form” appears on the right side of the page.

Circulation is available at <http://circ.ahajournals.org>

DISCLOSURES

Writing Group Disclosures

Writing Group Member	Employment	Research Grant	Other Research Support	Speakers' Bureau/Honoraria	Expert Witness	Ownership Interest	Consultant/Advisory Board	Other
Vincent J. Bufalino	President, Advocate Medical Group	None	None	None	None	None	None	None
Scott A. Berkowitz	Associate Professor of Medicine, Division of Cardiology, Johns Hopkins University School of Medicine; Senior Medical Director, Accountable Care, Johns Hopkins Medicine; Executive Director, Johns Hopkins Medicine Alliance for Patients	Health Care Innovation Award, Centers for Medicare and Medicaid Innovation*	None	None	None	None	None	None
Timothy J. Gardner	Medical Director, Center for Heart and Vascular Health; Director, Value Institute Christiana Care Health System	None	None	None	None	None	None	None
Madeleine Konig	Senior Policy Analyst, American Heart Association	None	None	None	None	None	None	Salary: American Heart Association†
Ileana L. Piña	Associate Chief for Academic Affairs, Montefiore	None	None	None	None	None	None	None

This table represents the relationships of writing group members that may be perceived as actual or reasonably perceived conflicts of interest as reported on the Disclosure Questionnaire, which all members of the writing group are required to complete and submit. A relationship is considered to be “significant” if (a) the person receives \$10000 or more during any 12-month period, or 5% or more of the person’s gross income; or (b) the person owns 5% or more of the voting stock or share of the entity, or owns \$10000 or more of the fair market value of the entity. A relationship is considered to be “modest” if it is less than “significant” under the preceding definition.

*Modest.

†Significant.

Reviewer Disclosures

Reviewer	Employment	Research Grant	Other Research Support	Speakers' Bureau/ Honoraria	Expert Witness	Ownership Interest	Consultant/ Advisory Board	Other
Amresh D. Hanchate	Boston University	None	None	None	None	None	None	None
Vivian Ho	Rice University/Baylor College of Medicine	None	None	None	None	None	None	None
Matthew L. Maciejewski	Durham VA Medical Center/ Duke University	None	None	None	None	Amgen*; Forward Health Group*	None	None

This table represents the relationships of reviewers that may be perceived as actual or reasonably perceived conflicts of interest as reported on the Disclosure Questionnaire, which all reviewers are required to complete and submit. A relationship is considered to be "significant" if (a) the person receives \$10 000 or more during any 12-month period, or 5% or more of the person's gross income; or (b) the person owns 5% or more of the voting stock or share of the entity, or owns \$10 000 or more of the fair market value of the entity. A relationship is considered to be "modest" if it is less than "significant" under the preceding definition.

*Significant.

REFERENCES

- Centers for Medicare & Medicaid Services. HHS reaches goal of tying 30 percent of Medicare payments to quality ahead of schedule. March 3, 2016. <https://www.hhs.gov/about/news/2016/03/03/hhs-reaches-goal-tying-30-percent-medicare-payments-quality-ahead-schedule.html>. Accessed January 30, 2017.
- Centers for Medicare & Medicaid Services (CMS), HHS. Medicare Program: Merit-based Incentive Payment System (MIPS) and Alternative Payment Model (APM) incentive under the physician fee schedule and criteria for physician-focused payment models. *Fed Regist*. 2016;81:77008–77831.
- Rosenthal MB, Landon BE, Normand SL, Frank RG, Epstein AM. Pay for performance in commercial HMOs. *N Engl J Med*. 2006;355:1895–1902. doi: 10.1056/NEJMsa063682.
- Ojeifo O, Berkowitz SA. Cardiology and accountable care. *Circ Cardiovasc Qual Outcomes*. 2015;8:213–217. doi: 10.1161/CIRCOUTCOMES.114.001482.
- IHI Triple Aim Initiative. Institute for Healthcare Improvement website. <http://www.ihl.org/engage/initiatives/tripleaim/pages/default.aspx>. Accessed January 30, 2017.
- Berkowitz SA, Ishii L, Schulz J, Poffenroth M. Academic medical centers forming accountable care organizations and partnering with community providers: the experience of the Johns Hopkins Medicine Alliance for Patients. *Acad Med*. 2016;91:328–332. doi: 10.1097/ACM.0000000000000976.
- Jackson GL, Powers BJ, Chatterjee R, Bettger JP, Kemper AR, Hasselblad V, Dolor RJ, Irvine RJ, Heidenfelder BL, Kendrick AS, Gray R, Williams JW. Improving patient care: the patient centered medical home: a systematic review. *Ann Intern Med*. 2013;158:169–178. doi: 10.7326/0003-4819-158-3-201302050-00579.
- Stange KC, Nutting PA, Miller WL, Jaén CR, Crabtree BF, Flocke SA, Gill JM. Defining and measuring the patient-centered medical home. *J Gen Intern Med*. 2010;25:601–612. doi: 10.1007/s11606-010-1291-3.
- American College of Physicians. The Patient-Centered Medical Home Neighbor: The Interface of the Patient-Centered Medical Home With Specialty/ Subspecialty Practices. Philadelphia, PA: American College of Physicians; 2010. https://www.acponline.org/system/files/documents/advocacy/current_policy_papers/assets/pcmh_neighbors.pdf. Accessed January 30, 2017.
- Greenberg JO, Barnett ML, Spinks MA, Dudley JC, Frolkis JP. The "medical neighborhood": integrating primary and specialty care for ambulatory patients. *JAMA Intern Med*. 2014;174:454–457. doi: 10.1001/jamainternmed.2013.14093.
- Yalowich R, Wirth B, Takach M. Matching patients with their providers: lessons on attribution and enrollment from four multi-payer patient centered medical home initiatives. Portland, ME: National Academy for State Health Policy; May 2014. http://www.nashp.org/sites/default/files/PCMH_Attribution_and_Enrollment.pdf. Accessed January 30, 2017.
- Nielsen M, Gibson L, Bruelt L, Grundy P, Grumbach K. The patient-centered medical home's impact on cost and quality: annual review of evidence, 2013–2014. January 2015. <https://www.pccpc.org/resource/patient-centered-medical-homes-impact-cost-and-quality-annual-review-evidence-2013-2014>. Accessed January 30, 2017.
- Hoff T, Weller W, DePuccio M. The patient-centered medical home: a review of recent research. *Med Care Res Rev*. 2012;69:619–644. doi: 10.1177/1077558712447688.
- Friedberg MW, Schneider EC, Rosenthal MB, Volpp KG, Werner RM. Association between participation in a multipayer medical home intervention and changes in quality, utilization, and costs of care. *JAMA*. 2014;311:815–825. doi: 10.1001/jama.2014.353.
- Phillips RL Jr, Bronnikov S, Petterson S, Cifuentes M, Teevan B, Dodoo M, Pace WD, West DR. Case study of a primary care-based accountable care system approach to medical home transformation. *J Ambul Care Manage*. 2011;34:67–77. doi: 10.1097/JAC.0b013e3181ffc342.
- Stevens GD, Shi L, Vane C, Peters AL. Do experiences consistent with a medical-home model improve diabetes care measures reported by adult Medicaid patients? *Diabetes Care*. 2014;37:2565–2571. doi: 10.2337/dc14-0440.
- National Committee for Quality Assurance. Patient-centered specialty practice recognition. <http://www.ncqa.org/programs/recognition/practices/patient-centered-specialty-practice-pcsp>. Accessed January 30, 2017.
- Huang X, Rosenthal MB. Transforming specialty practice: the patient-centered medical neighborhood. *N Engl J Med*. 2014;370:1376–1379. doi: 10.1056/NEJMp1315416.
- Reid RJ, Fishman PA, Yu O, Ross TR, Tufano JT, Soman MP, Larson EB. Patient-centered medical home demonstration: a prospective, quasi-experimental, before and after evaluation. *Am J Manag Care*. 2009;15:e71–e87.
- Reid RJ, Coleman K, Johnson EA, Fishman PA, Hsu C, Soman MP, Trescott CE, Erikson M, Larson EB. The Group Health medical home at year two: cost savings, higher patient satisfaction, and less burnout for providers. *Health Aff (Millwood)*. 2010;29:835–843. doi: 10.1377/hlthaff.2010.0158.
- Berkowitz SA, Pahira JJ. Accountable care organization readiness and academic medical centers. *Acad Med*. 2014;89:1210–1215. doi: 10.1097/ACM.0000000000000365.
- Shortell SM, Wu FM, Lewis VA, Colla CH, Fisher ES. A taxonomy of accountable care organizations for policy and practice. *Health Serv Res*. 2014;49:1883–1899. doi: 10.1111/1475-6773.12234.
- Centers for Medicare & Medicaid Services. Fact Sheet: Medicare ACOs provide improved care while slowing cost growth in 2014. August 25, 2015. <https://www.cms.gov/newsroom/mediareleasedatabase/fact-sheets/2015-fact-sheets-items/2015-08-25.html>. Accessed January 30, 2017.
- Pennic J. Pioneer ACOs dropout: why are providers leaving in droves? HIT Consultant website. October 7, 2014. <http://hitconsultant.net/2014/10/07/pioneer-acos-dropout-providers-leaving/>. Accessed January 30, 2017.
- Evans M. Medicare's Pioneer program down to 19 ACOs after three more exit. Modern Healthcare website. September 25, 2014. <http://www.modernhealthcare.com/article/20140925/NEWS/309259938>. Accessed January 30, 2017.
- Centers for Medicare & Medicaid Services. New hospitals and health care providers join successful, cutting-edge federal initiative that cuts costs and puts patients at the center of their care. January 11, 2016. <https://www.hhs.gov/about/news/2016/01/11/new-hospitals-and-health-care-providers-join-successful-cutting-edge-federal-initiative.html>. Accessed January 30, 2017.
- Nyweide DJ, Lee W, Cuerdon TT, Pham HH, Cox M, Rajkumar R, Conway PH. Association of Pioneer Accountable Care Organizations vs traditional

- Medicare fee for service with spending, utilization, and patient experience. *JAMA*. 2015;313:2152–2161. doi: 10.1001/jama.2015.4930.
28. Patel KK, Cigarroa JE, Nadel J, Cohen DJ, Stecker EC. Accountable Care Organizations: ensuring focus on cardiovascular health. *Circulation*. 2015;132:603–610. doi: 10.1161/CIRCULATIONAHA.114.010269.
 29. National Association of ACOs. ACO Comparison Chart. <https://www.naacos.com/assets/docs/news/revise-summary-aco-comparison-chart.pdf>. Accessed June 13, 2017.
 30. Schulman KA, Richman BD. Reassessing ACOs and health care reform. *JAMA*. 2016;316:707–708. doi: 10.1001/jama.2016.10874.
 31. McWilliams JM. Changes in Medicare shared savings program savings from 2013 to 2014. *JAMA*. 2016;316:1711–1713. doi: 10.1001/jama.2016.12049.
 32. Centers for Medicare & Medicaid Services. CMS welcomes new Medicare shared savings program participants. January 11, 2016. <https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2016-Fact-sheets-items/2016-01-11-2.html>. Accessed January 30, 2017.
 33. McWilliams JM, Chernew ME, Landon BE, Schwartz AL. Performance differences in year 1 of Pioneer accountable care organizations. *N Engl J Med*. 2015;372:1927–1936. doi: 10.1056/NEJMsa1414929.
 34. McWilliams JM, Hatfield LA, Chernew ME, Landon BE, Schwartz AL. Early performance of accountable care organizations in Medicare. *N Engl J Med*. 2016;374:2357–2366. doi: 10.1056/NEJMsa1600142.
 35. Busch AB, Huskamp HA, McWilliams JM. Early efforts by Medicare accountable care organizations have limited effect on mental illness care and management. *Health Aff (Millwood)*. 2016;35:1247–1256. doi: 10.1377/hlthaff.2015.1669.
 36. Reiss-Brennan B, Brunisholz KD, Dredge C, Briot P, Grazier K, Wilcox A, Savitz L, James B. Association of integrated team-based care with health care quality, utilization, and cost. *JAMA*. 2016;316:826–834. doi: 10.1001/jama.2016.11232.
 37. Clarke RM, Jeffrey J, Grossman M, Strouse T, Gitlin M, Skootsky SA. Delivering on accountable care: lessons from a behavioral health program to improve access and outcomes. *Health Aff (Millwood)*. 2016;35:1487–1493. doi: 10.1377/hlthaff.2015.1263.
 38. McWilliams JM, Landon BE, Chernew ME, Zaslavsky AM. Changes in patients' experiences in Medicare Accountable Care Organizations. *N Engl J Med*. 2014;371:1715–1724. doi: 10.1056/NEJMsa1406552.
 39. Meyers D, Peikes D, Genervo J, Peterson G, Taylor EF, Lake T, Smith K, Grumbach K. The roles of patient centered medical homes and accountable care organization in coordinating patient care. Rockville, MD: Agency for Healthcare Research and Quality; December 2010. AHRQ publication 11-M005-EF.
 40. Schulz J, DeCamp M, Berkowitz SA. Medicare Shared Savings Program: public reporting and shared savings distributions. *Am J Manag Care*. 2015;21:546–553.
 41. Zeitlin J. More to the story: a look at ACOs under the ACA. American Health Line website. October 13, 2014.
 42. Muhlestein D, McClellan M. Accountable Care Organizations in 2016: private and public-sector growth and dispersion. Health Affairs Blog. April 21, 2016. <http://healthaffairs.org/blog/2016/04/21/accountable-care-organizations-in-2016-private-and-public-sector-growth-and-dispersion/>. Accessed January 30, 2017.
 43. Markovich P. A global budget pilot project among provider partners and Blue Shield of California led to savings in first two years. *Health Aff (Millwood)*. 2012;31:1969–1976. doi: 10.1377/hlthaff.2012.0358.
 44. Song Z, Safran DG, Landon BE, Landrum MB, He Y, Mechanic RE, Day MP, Chernew ME. The “Alternative Quality Contract,” based on a global budget, lowered medical spending and improved quality. *Health Aff (Millwood)*. 2012;31:1885–1894. doi: 10.1377/hlthaff.2012.0327.
 45. Neprash HT, Chernew ME, Hicks AL, Gibson T, McWilliams JM. Association of financial integration between physicians and hospitals with commercial health care prices. *JAMA Intern Med*. 2015;175:1932–1939. doi: 10.1001/jamainternmed.2015.4610.
 46. Centers for Medicare & Medicaid Services. Bundled Payments for Care Improvement (BPCI) initiative: general information. <https://innovation.cms.gov/initiatives/bundled-payments/>. Accessed January 30, 2017.
 47. Weeks WB, Rauh SS, Wadsworth EB, Weinstein JN. The unintended consequences of bundled payments. *Ann Intern Med*. 2013;158:62–64. doi: 10.7326/0003-4819-158-1-201301010-00012.
 48. Damore J, Champion W. Key Success factors for the Medicare Shared Savings Program. Health Affairs Blog. August 21, 2014. <http://healthaffairs.org/blog/2014/08/21/key-success-factors-for-the-medicare-shared-savings-program/>. Accessed January 30, 2017.
 49. Rose S, Zaslavsky AM, McWilliams JM. Variation in accountable care organization spending and sensitivity to risk adjustment: implications for benchmarking. *Health Aff (Millwood)*. 2016;35:440–448. doi: 10.1377/hlthaff.2015.1026.
 50. Douven R, McGuire TG, McWilliams JM. Avoiding unintended incentives in ACO payment models. *Health Aff (Millwood)*. 2015;34:143–149. doi: 10.1377/hlthaff.2014.0444.
 51. DeCamp M, Farber NJ, Torke AM, George M, Berger Z, Keirns CC, Kaldjian LC. Ethical challenges for accountable care organizations: a structured review. *J Gen Intern Med*. 2014;29:1392–1399. doi: 10.1007/s11606-014-2833-x.
 52. Rokos IC. Creating “turbo” accountable care organizations for time-critical diagnoses. *Circ Cardiovasc Qual Outcomes*. 2011;4:647–649. doi: 10.1161/CIRCOUTCOMES.111.962506.
 53. Durand DJ, Lewin JS, Berkowitz SA. Medical-imaging stewardship in the accountable care era. *N Engl J Med*. 2015;373:1691–1693. doi: 10.1056/NEJMp1507703.
 54. American Board of Internal Medicine. Choosing wisely. 2016. <http://www.choosingwisely.org/>. Accessed August 15, 2016.
 55. Anderson JL, Heidenreich PA, Barnett PG, Creager MA, Fonarow GC, Gibbons RJ, Halperin JL, Hlatky MA, Jacobs AK, Mark DB, Masoudi FA, Peterson ED, Shaw LJ. ACC/AHA statement on cost/value methodology in clinical practice guidelines and performance measures: a report of the American College of Cardiology/American Heart Association Task Force on Performance Measures and Task Force on Practice Guidelines. *Circulation*. 2014;129:2329–2345. doi: 10.1161/CIR.0000000000000042.

American Heart Association's Call to Action for Payment and Delivery System Reform

Vincent J. Bufalino, Scott A. Berkowitz, Timothy J. Gardner, Ileana L. Piña and Madeleine
Konig

On behalf of the AHA Expert Panel on Payment and Delivery System Reform

Circulation. 2017;136:e162-e171; originally published online July 10, 2017;
doi: 10.1161/CIR.0000000000000516

Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2017 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the
World Wide Web at:

<http://circ.ahajournals.org/content/136/7/e162>

An erratum has been published regarding this article. Please see the attached page for:
</content/136/19/e346.full.pdf>

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in *Circulation* can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the [Permissions and Rights Question and Answer](#) document.

Reprints: Information about reprints can be found online at:
<http://www.lww.com/reprints>

Subscriptions: Information about subscribing to *Circulation* is online at:
<http://circ.ahajournals.org/subscriptions/>

Correction to: American Heart Association's Call to Action for Payment and Delivery System Reform

In the article by Bufalino et al, "American Heart Association's Call to Action for Payment and Delivery System Reform," which published ahead of print July 10, 2017, and appeared in the August 15, 2017, issue of the journal (*Circulation*. 2017;136:e162–e171. DOI: 10.1161/CIR.0000000000000516), a correction was needed.

On page e165, in the right column, second paragraph, last sentence, "track 1.5" was changed to "track 1+." The updated sentence reads, "A new MSSP track 1+, which is yet to be developed but was mentioned in the recent final rule for the Quality Payment Program, will also achieve advanced alternative payment model status.²"

This correction has been made to the current online version of the article, which is available at <http://circ.ahajournals.org/content/136/7/e162>.

Circulation is available at
<http://circ.ahajournals.org>.

© 2017 American Heart
Association, Inc.