



ACCELERATING AND ALIGNING
POPULATION-BASED PAYMENT MODELS:

PATIENT ATTRIBUTION

CONTENTS

About the CMS Alliance to Modernize Healthcare	1
Health Care Payment Learning & Action Network (LAN).....	2
Executive Summary.....	2
Overview	4
Purpose of the White Paper.....	6
Definitions	6
Population-Based Payment Model Adoption	7
Recommendations	8
Conclusion.....	20
Appendix A: Roster	21
PBP Work Group Co-Chairs	21
PBP Work Group Lead on Patient Attribution	21
PBP Work Group Members.....	21
CMS Alliance to Modernize Healthcare (CAMH) Staff	22
Appendix B: Sample Beneficiary Letters	23
Sample Next Generation ACO PY1 Beneficiary Notification:.....	23
Sample ACO PY1 Voluntary Alignment Form:.....	25
Appendix C: LAN Related Content	27
Accelerating and Aligning Selected Clinical Episode Payment (CEP) Models	27
Accelerating and Aligning Population-Based Payment (PBP): Financial Benchmarking.....	28
Accelerating and Aligning Population-Based Payment (PBP): Patient Attribution.....	28
Accelerating and Aligning Population-Based Payment (PBP): Performance Measurement	28
Accelerating and Aligning Population-Based Payment (PBP): Data Sharing.....	28
Appendix D: References	29

About the CMS Alliance to Modernize Healthcare

The Centers for Medicare & Medicaid Services (CMS) sponsors the CMS Alliance to Modernize Healthcare (CAMH), the first federally funded research and development center (FFRDC) dedicated to strengthening our nation's healthcare system. The CAMH FFRDC enables CMS, the Department of Health and Human Services (HHS), and other government entities to access unbiased research, advice, guidance, and analysis to solve complex business, policy, technology, and operational challenges in health mission areas. The FFRDC objectively analyzes long-term health system problems, addresses complex technical questions, and generates creative and cost-effective solutions in strategic areas such as quality of care, new payment models, and business transformation.

Formally established under Federal Acquisition Regulation (FAR) Part 35.017, FFRDCs meet special, long-term research and development needs integral to the mission of the sponsoring agency—work that existing in-house or commercial contractor resources cannot fulfill as effectively. FFRDCs operate in the public interest, free from conflicts of interest, and are managed and/or administered by not-for-profit organizations, universities, or industrial firms as separate operating units. The CAMH FFRDC applies a combination of large-scale enterprise systems engineering and specialized health subject matter expertise to achieve the strategic objectives of CMS, HHS, and other government organizations charged with health-related missions. As a trusted, not-for-profit adviser, the CAMH FFRDC has access, beyond what is allowed in normal contractual relationships, to government and supplier data, including sensitive and proprietary data, and to employees and government facilities and equipment that support health missions.

CMS conducted a competitive acquisition in 2012 and awarded the CAMH FFRDC contract to The MITRE Corporation (MITRE). MITRE operates the CAMH FFRDC in partnership with CMS and HHS, and maintains a collaborative alliance of partners from nonprofits, academia, and industry. This alliance provides specialized expertise, health capabilities, and innovative solutions to transform delivery of the nation's healthcare services. Government organizations and other entities have ready access to this network of partners, including RAND Health, the Brookings Institution, and other leading healthcare organizations. This includes select qualified small and disadvantaged business. The FFRDC is open to all CMS and HHS Operating Divisions and Staff Divisions. In addition, government entities outside of CMS and HHS can use the FFRDC with permission of CMS, CAMH's primary sponsor.

Executive Summary

The Health Care Payment Learning & Action Network (LAN) was created to drive alignment in payment approaches across the public and private sectors of the U.S. health care system. To advance this goal, the Population-Based Payment Work Group (the Work Group) was convened by the LAN Guiding Committee and charged with addressing issues critical to the success and accelerated adoption of population-based payment (PBP) models, specifically patient attribution, financial benchmarking, data sharing, and performance measurement. Comprised of diverse health care stakeholders, the Work Group deliberated, incorporated input from the LAN participants, and reached consensus on many critical issues related to patient attribution, the subject of this White Paper.

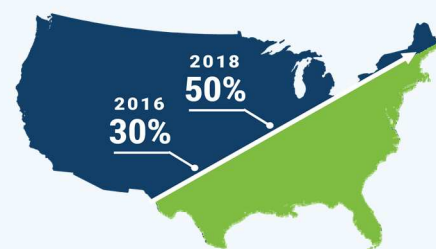
The Work Group acknowledges that moving payment incentives away from fee-for-service (FFS) toward shared-risk and population-based payment is necessary, although not sufficient in its own right, to create a health care system that pays for quality of care over quantity of services. The existing FFS system create incentives for additional volume of services, while also undervaluing certain services. The current FFS system is not conducive to the delivery of person-centered care because it does not systematically reward high-quality, cost-effective care. By contrast, population-based payment models offer providers the incentives and flexibility to strategically invest in delivery system resources, treat patients holistically, and coordinate care. The Work Group and the LAN as a whole believe that the health care system should transition toward shared-risk and population-based payments. The Work Group hopes the recommendations on patient attribution will provide an opportune starting point for payers and providers committed to PBP models.

The Work Group believes that patient attribution, which identifies a patient-provider health care relationship, is a foundational component of PBP models because it both designates the population for whom a provider will accept accountability in a PBP model and forms the basis for performance measurement, reporting, and

Health Care Payment Learning & Action Network (LAN)

To achieve the goal of better care, smarter spending, and healthier people, the U.S. health care system must substantially reform its payment structure to incentivize quality, health outcomes, and value over volume. Such alignment requires a fundamental change in how health care is organized and delivered, and requires the participation of the entire health care ecosystem. The Health Care Payment Learning & Action Network (LAN) was established as a collaborative network of public and private stakeholders, including health plans, providers, patients, employers, consumers, states, federal agencies, and other partners within the health care ecosystem. By making a commitment to changing payment models, establishing a common framework, aligning approaches to payment innovation, sharing information about successful models, and encouraging use of best practices, the LAN can help reduce barriers and accelerate the adoption of APMs.

U.S. Health Care Payments in APMs



payment. The White Paper documents principles that can guide payer and provider approaches to these topics in their PBP models. The aim is to support increased alignment in how public and private payers address attribution in their PBP models, and in doing so, lower barriers to PBP model acceptance and adoption.

The White Paper includes 10 recommendations guiding the patient attribution process. The recommendations are guided by the following important principles.

- The Work Group recommendations refer to PBP models in which providers accept accountability for managing the full continuum of care from prevention to end-of-life care. These type of payment models have significant potential because they reward providers who successfully manage all or much of a patient's care and enable providers to develop more innovative approaches to person-centered health care delivery.
- The Work Group recommendations start with a method to identify a patient-clinician dyad and using this information to attribute the patient to a provider group or delivery system. This underlying principle recognizes that a provider group or delivery system, not the individual clinician, is accountable for the total cost of care, quality, and outcomes for a patient population. Attribution does not preclude team-based care or patient use of other providers.
- The Work Group recommendations are intended for use in payment models that assume primary care providers are the principle starting point for managing a population across the entire continuum of care. As described in the White Paper, the provider group or delivery system that accepts accountability for a patient population must first identify the primary care and specialty care providers who will accept the role of primary care provider for patients.

The White Paper provides guidance on the patient attribution process, with the goal of creating a consensus set of recommendations for use nationally. The recommendations include:

1. Encourage patient choice of a primary care provider.
2. Use a claims/encounter-based approach when patient attestation is not available.
3. Define eligible providers at the beginning of the performance period.
4. Provide transparent information to patients about their attribution.
5. Prioritize primary care providers in claims/encounter-based attribution.
6. Consider subspecialty providers if no primary care encounters are evident.
7. Use a single approach for attribution for performance measurement and financial accountability.
8. Use patient attribution nationally for commercial products.
9. Alignment among commercial, Medicare, and Medicaid populations may be possible with adjustments.
10. Regardless of whether prospective or concurrent attribution is used, providers should receive clear, actionable information about patients attributed to them.

Overview

The LAN established its Guiding Committee in May 2015 as the collaborative body charged with advancing alignment of payment approaches across and within the private and public sectors. This alignment aims to accelerate the adoption and dissemination of meaningful financial incentives to reward providers and systems of care that implement person-centered care and patient-responsive delivery systems. [CAMH](#), the federally funded research and development center operated by the MITRE Corporation, was asked to convene this large national initiative.

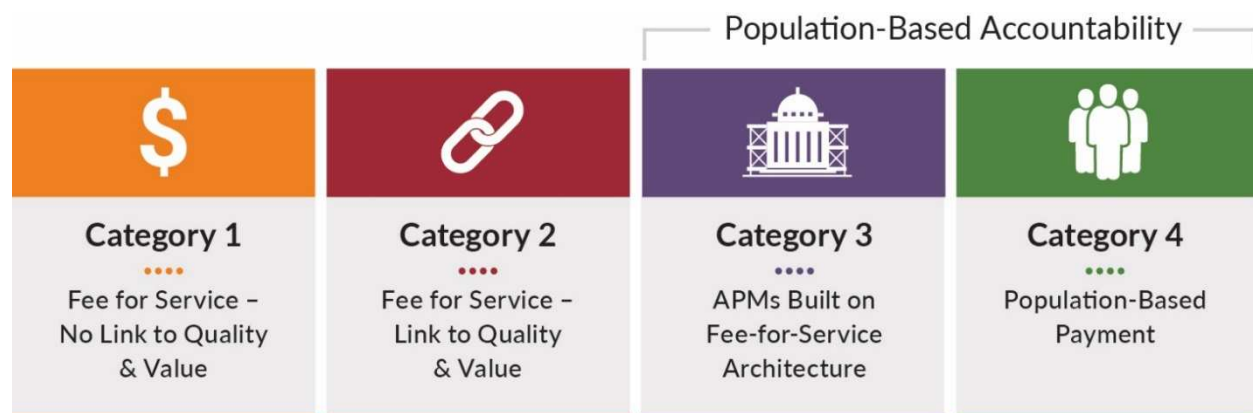
In keeping with the goals of HHS, the LAN aims to shift 30% of U.S. health care payments to alternative payment models (APMs) by 2016 and 50% by 2018. One possibility for reform is a move away from FFS payments to APMs, such as PBP models in which providers accept accountability for total cost of care, care quality, and health outcomes for a patient population across the full care continuum. This is a particularly promising approach to creating and sustaining a delivery system that values quality, cost effectiveness, and patient engagement.

Work Group Charge and Scope

In October 2015, the LAN Guiding Committee convened the PBP Work Group (the Work Group) and charged it with prioritizing methodologies and exploring alignment issues in support of the development, adoption, and success of population-based payment models under which providers accept accountability for a patient population across the full continuum of care.

Recommendations throughout this paper refer to APMs in which providers accept accountability for the full continuum of care that can be classified in Categories 3 and 4 of the APM Framework, depending on how they handle financial risk for provider organizations. The principles and recommendations presented in this paper are directed toward that subset of APMs which, for the sake of convenience, are referred to as “PBP models” (Figure 1). See [Appendix C](#) for additional information about related content produced by the LAN that informed the development of this paper.

Figure 1: APM Framework (At-a-Glance)



Source: [Alternative Payment Model \(APM\) Framework and Progress Tracking Work Group](#)

The Work Group determined that four priority issues are foundational for the success of population-based payment models. These include:

- Patient attribution;
- [Financial benchmarking](#);
- [Performance measurement](#); and
- [Data sharing](#).

Population-based models vary in the mechanism by which payment passes from payers to providers. Some models use a global budget while retaining the underlying FFS payment architecture. In others, an actual population-based payment is made from payer to provider. All of these population-based models, however, involve provider accountability for a patient population across the full continuum of care, including preventive care to end-of-life care and everything in between – with the goal of achieving better quality and outcomes and lower total cost for the population involved¹. The PBP Work Group’s efforts pertain to the full range of models in Categories 3 and 4 in which providers accept accountability for a population across the full care continuum for physical and behavioral health. The CMS Pioneer ACO Model and Medicare Shared Savings Program (MSSP), and private sector models such as the Blue Cross Blue Shield of Massachusetts Alternative Quality Contract (AQC), represent examples of Category 3; they employ a global population-based budget, but retain the underlying FFS architecture.

By contrast, the CMS Next Generation ACO program or commercial models, such as Kaiser Permanente, represent examples of Category 4 in which the population-based payment is made from payer to provider. The PBP Work Group’s focus differs from that of the Clinical Episode Payment (CEP) Work Group because, while both share a focus on Categories 3 and 4, PBP models involve provider accountability for an entire population, while in CEP models, providers assume accountability for all the patients in a specific population who are affected by a particular condition, health event, or treatment intervention.

To encourage shifts away from FFS payment to enable more substantial reforms in care delivery, PBP models must address priorities such as attributing patients to a provider group, setting and updating financial benchmarks, sharing data between payers, providers, purchasers, and patients in the market, and measuring performance. In order to assure equity, better alignment is needed between the way these components are implemented in the private and public sectors.

The PBP Work Group brings together public and private stakeholders to develop recommendations. A roster of Work Group members, representing the diverse constituencies brought together by the LAN, is provided in [Appendix A](#). Work Group members participate in this effort as individuals and not on behalf of their organizations.

¹ This definition is based on definitions found in the following sources: McClellan, et al., “A National Strategy To Put Accountable Care Into Practice,” *Health Affairs* **29** (2010): 982–990; and Mark McClellan, James Kent, Stephen J. Beales, Samuel I.A. Cohen, Michael Macdonnell, Andrea Thoumi, Mariam Abdulmalik, and Ara Darzi, “Accountable Care Around The World: A Framework To Guide Reform Strategies,” *Health Affairs* **33** (2014): 1507–1515.

Purpose of the White Paper

The purpose of this White Paper is to address the first of the four priority areas, patient attribution. Future PBP Work Group White Papers will address the other three priorities. The Work Group believes that patient attribution, which identifies a patient-provider health care relationship, is a foundational component of PBP models because it both designates the population for whom a provider will accept accountability in a PBP model, and forms the basis for performance measurement, reporting, and payment.

The White Paper documents principles that can guide payer and provider approaches to these topics in their PBP models. The aim is to support increased alignment in how public and private payers address attribution in their PBP models, and in so doing, lower barriers to PBP model acceptance and adoption. Even though many methods typically begin by identifying a patient-clinician dyad, recommendations are for patient attribution at the provider group or delivery system level. This decision recognizes that a provider group or system, and not an individual clinician, will be accountable for total cost of care (TCOC) and quality outcomes for a patient population. Using claims/encounter data to identify a patient-clinician relationship does not preclude team-based care; rather, it is a starting point for attributing a patient to a provider group or delivery system accountable for the patient's care.

These recommendations are also intended for use in payment models that assume primary care providers are the principal starting point for managing a population across the entire continuum of care. However, the primary care provider for a specific patient is not always a general practitioner. The role of primary care provider can be fulfilled by physicians in traditional primary care specialties or by other providers who accept accountability for coordinating a patient's overall care. With this in mind, the provider group or delivery system that accepts accountability for a patient population must first identify the primary care and/or specialty care providers who will accept the role of primary care provider for

Definitions

Following are the key patient attribution terms used throughout this paper:

Full Continuum of Care: All aspects of care delivery, spanning preventive to end-of-life services in all settings.

Patient Attribution: The method used to determine which provider group is responsible for a patient's care and costs.

Population-Based Payment Model: A payment model in which a provider organization is given a population-based global budget or payment and accepts accountability for managing the total cost of care, quality, and outcomes for a defined patient population across the full continuum of care. PBP models discussed in this paper correspond to payment models in Categories 3 and 4 of the LAN's APM Framework (Figure 1).

Total Cost of Care (TCOC): A broad indicator of spending for a given population (i.e., payments from payer to provider organizations). In the context of PBP models, in which provider accountability spans the full continuum of care, TCOC includes all spending associated with caring for a defined population, including provider and facility fees, inpatient and ambulatory care, pharmacy, behavioral health, laboratory, imaging, and other ancillary services.

patients. This selection should take place prior to attribution. These issues will be discussed later in more detail.

Although outside the scope of the Patient Attribution White Paper, the Work Group believes that achieving the promise of PBP models requires activated patients engaged in their own care. The Work Group acknowledges that additional work must be done to enable patients to be fully engaged in their own health.

Population-Based Payment Model Adoption

The LAN is unanimous in its desire to drive payment approaches that improve the quality and safety of care and the overall performance and sustainability of the U.S. health system. The Work Group, along with many other stakeholders, envisions a health care system that provides person-centered care. The Work Group understands person-centered care to mean *high-quality care that is delivered efficiently, where individual preferences, needs, and values of patients and caregivers are paramount*.

Recommendations throughout this White Paper refer to PBP models in Categories 3 and 4 in which providers accept accountability for the full continuum of care. PBP models are a particularly promising approach to creating and sustaining delivery systems that value quality, cost effectiveness, and patient engagement. Many believe that these types of payment models have significant potential because they give providers more flexibility to coordinate and manage care for individuals and populations. Because PBP models reward providers who successfully manage all or much of a patient's care, such models enable providers to develop more innovative approaches to person-centered health care delivery.

As the LAN works to accelerate adoption of PBP models, understanding the incentives that motivate patients, providers, payers, and purchasers to participate in these models is vital. Also, identifying patient/provider relationships through patient attribution yields different benefits for different stakeholder groups:

- **Patients** have an increased likelihood of attaining health goals in a PBP model dedicated to person-centered care and care coordination. Patient attribution signals that a particular provider group is accountable for a patient's overall care. This is important even if the patient has access to a broad array of providers. In fact, patients can still choose to visit other providers. Attribution does not change the way patients receive care and does not disrupt relationships with providers. It is a mechanism for creating accountability within a provider group to coordinate a patient's overall care needs.
- **Providers** have more of an opportunity to provide preventive care and manage attributed patients' complex and long-term health concerns with PBP models. Providers are rewarded for delivering appropriate clinical care and for skillfully managing the care of their attributed patients. Patient attribution identifies a patient population for providers, with incentives for reaching out to patients proactively to help close gaps in care, take preventive measures, connect patients to necessary specialists, and address barriers to adherence or other impediments to achieving favorable health outcomes—all to optimize clinical health outcomes.

Finally, since payment to a provider group under PBP models is tied to quality and TCOC goals, attribution methods need to be accurate and transparent.

- **Payers** develop PBP models to create provider incentives for value rather than volume of services delivered. Patient attribution identifies the group of patients under the care of a provider group and/or delivery system and is foundational to establishing accountability and to measuring, monitoring, and rewarding performance.
- **Purchasers** benefit from PBP models through improved employee health management and a healthier workforce. Patient attribution is an important starting point for PBP models. Even if broad-access programs are promoted, employers should encourage employees to select a provider group and/or delivery system organized to meet the employee's care needs. Studies have shown that patients with a primary care relationship are healthier, have less expensive care patterns, are more productive at work, and miss less work due to illness.

Recommendations

The PBP Work Group, including public and private stakeholders, began with a review of current literature to evaluate the most important aspects of patient attribution. Reference documents consulted in White Paper development are provided in [Appendix D](#). Recommendations made by the PBP Work Group are intended for use by payers when determining which patients are attributed to provider groups within the payment model.

The recommended approach is very different from auto-assignment of patients. Auto-assignment, used by many Medicaid managed care programs and initiated when a beneficiary qualifies for the program, assigns a patient to a provider randomly or based on geographic location of the beneficiary or other criteria. In contrast to auto-assignment methods, the recommended approach in the White Paper relies on a patient's declared or revealed preferences regarding his or her primary care provider. Patient self-report represents a patient's declared choice; and use of claims or encounter data enables identification of a patient's revealed preferences regarding their primary care physician. Using a patient's declared or revealed preferences is a wholly different approach to attribution from auto-assignment. The Work Group recommends that these guidelines be adopted by commercial insurers and, when possible, government programs.

Recommendation 1: Encourage patient choice of a primary care provider.



The ideal method for patient attribution is active, intentional identification or self-reporting by patients. In simple terms, the patient knows his or her own primary care provider. Primary care is an important starting point in PBP models, which hold primary care providers accountable for managing quality and financial outcomes. The Work Group recommends that key stakeholders encourage patients to select a primary care provider. This may be an opportunity to engage patients around the topic of the importance of a primary care provider. In many PBP models, patients have full access to primary

and specialty care; however, patients are often not required to select or declare a primary care provider and may not understand the benefits of doing so. This can create barriers or resistance to patient self-reporting. To increase patient selection of a primary care provider, patient outreach is critical and should be allowed and welcomed by key stakeholders.

Within open-access insurance products, purchasers may be reluctant to allow or facilitate the collection of employee preferences for primary care. Open-access products allow employees and patients freedom of choice without interference. Purchasers are not always motivated to require employee selection of a primary care provider and may not have a mechanism to require employee selection of a primary care provider. This creates a barrier to explaining to patients the benefits of the delivery model supported by PBP and to collecting information on patient choice of a primary care provider.

To enable patient choice, employees and individuals may need to be given information on the benefits of selecting a primary care provider and evaluating performance data. In many markets, this information is lacking. Methods are needed to collect patient-reported selection of primary care providers. Other logistical and operational issues on patient choice need to be addressed.

We recommend that employers, purchasers, payers, and health exchanges facilitate the patient selection process, including creating a shared understanding of the necessity for patients to be engaged in the attribution process.

***Recommendation 2: Use a claims/encounter-based approach
when patient attestation is not available.***

When patient attestation cannot be collected, or when patients' selections may be particularly vulnerable to undue influence from providers (e.g., if a patient is cognitively impaired), other methods must be used to identify a primary care provider to link the patient to a medical group and/or delivery system. We have found that claims/encounter-based attributions can be valid, feasible, and highly accurate. The evidence-based approach uses historical insurance information about patients' use of health care services during a defined look-back period. The claims/encounter data demonstrates what primary care providers and services the patient has used over a period of time. Payers can attribute most patients by using claims/encounter data. Results of the patient attribution process should be transparent to providers and patients because transparency is paramount in enabling patients to be proactive in the management of their own health care.

Patient attestation includes patient self-reporting, declaration, or confirmation of which provider is their primary care provider.

Attribution in PBP models is based on the number of services used or the number of claims or encounters, rather than the greatest expenses during a look-back period. Approaches to using claims or encounter data vary, such as by the types of claims used, eligible services evaluated, eligible providers, and length of the look-back period. These issues are discussed below.

Recommendation 3: Define eligible providers at the beginning of the performance period.

Provider organizations must identify the individuals who can serve as primary care providers, managing the patient's care across the care continuum, before the beginning of a performance period. A clear definition of eligible providers, including eligible clinical specialties and provider types, is recommended. The provider organization must develop an accurate, up-to-date list of providers for attribution.

For attribution purposes, primary care typically encompasses traditional general medicine and pediatric specialties, although the provider and/or delivery system could identify any specialty willing to be accountable for care management as outpatient primary care. Traditional general medicine specialties for patient attribution are family medicine, internal medicine, general practice, and geriatrics. The definition should also address which provider types will be designated for attribution, including physicians, nurse practitioners, physician assistants, and other practitioners as mandated by law. We do not anticipate hospitalists or hospital specialties to be included in the definition of primary care.

As stated above, if a primary care provider cannot be identified, specialty providers should be considered for patient attribution. Specialties can include endocrinology, oncology, rheumatology, pulmonology, nephrology, cardiology, obstetrics/gynecology, and gastroenterology, which sometimes serve as the locus of care coordination, particularly for patient with complex illnesses. This list is not an exhaustive list of the specialties that could be designated as being responsible for overall care management of specific patients. Payers and providers should agree on qualifying medical specialty types before attribution. The provider group and/or delivery system accepting the patient population must identify the providers within the specialty who will be accountable for patient care coordination before attribution.

Recommendation 4: Provide transparent information to patients about their attribution.

Transparency is paramount to enabling patients to be proactively engaged in their own health care. Regardless of whether patient self-attestation or a claims/encounter-based approach is used to determine patient attribution, patients should have access to information on their own attribution. When a claims-based approach is used to attribute patients, it is important to have a verification step that allows the patient to confirm that the algorithm has correctly identified their primary care physician.

Communication should include the findings, a process for the patient to verify his or her primary care provider, and a discussion of the value of primary care. Information should be provided in a culturally and linguistically appropriate manner. Patients should also be informed of the process for changing the provider to whom they have been attributed. In turn, this list of attributed patients should be shared with the providers on a regular basis.

Information on attribution can be provided to patients in many ways. Providers, payers, or purchasers, all of whom have access to this information, can facilitate a process to enable information sharing on patient attribution. Determining who provides the information, and how it is explained to patients, is essential to ensuring that patients understand the goals of PBP models. The choice of which organization informs patients of their attribution should be weighed carefully.

After a patient is linked to a provider group and/or delivery system, the provider, payer, or purchaser can initiate outreach. For example, physician organizations can send patients a letter that describes how attribution is done and confirming their attribution selection at the group level. In the same communication, quality and service information about the physician organization could be provided. This type of information, already approved in Medicare by CMS, empowers patients with information about their attributed organization, confirms patient attribution, and provides additional information to engage patients in their own health care (See [Appendix B](#) for examples.). Information should indicate who a patient's primary care provider is and mention the fact that attribution will not change the patient's relationship with his or her other providers.

Safeguards need to be built into this approach to ensure provider groups do not deliberately send information to patients encouraging them to de-select their providers, as might happen with complex, high-risk patients. Consistent information should be sent to all patients.

Given that payers also have access to information on patient selection, along with the mechanisms for communicating with insured patients, they could also send the letter described above. However, the Work Group has found that many patients prefer to receive information about their care from their providers, rather than from an insurer; information sent by payers has previously tended to relate to payment determinations and not care management. Purchasers can also contact patients with this information, but as stated earlier, purchasers in some markets have been reluctant to be involved in patient attestation or attribution activities that link the patient to a medical group and/or delivery system. Purchasers need to understand how attribution to primary care benefits their employees.

Recommendation 5: Prioritize primary care providers in claims/encounter-based attribution.



In cases that lack patient attestation, a well-defined algorithm to determine patient attribution is important. Claims data holds information on patient encounters with providers for wellness care, which is a starting point for assigning accountability to a provider group for whole-person care. The provider from whom a patient receives wellness care is typically the provider who the patient will consider to be his or her regular primary doctor.

The first step in patient attribution is tying patients to primary care by using evaluation and management (E&M) codes for wellness care. A patient's visit for well care is focused on non-acute and preventative services. Using claims and/or encounter data to find a patient well visit is an important step in patient attribution to a medical group and/or delivery system. In a Massachusetts study, one provider

group compared the cohort identified by using claims data with internal clinical data and found that “the patient was appropriately attributed 90–100% of the time if he/she had one well visit E&M during the two year look-back period” (Mariotti, 2015).



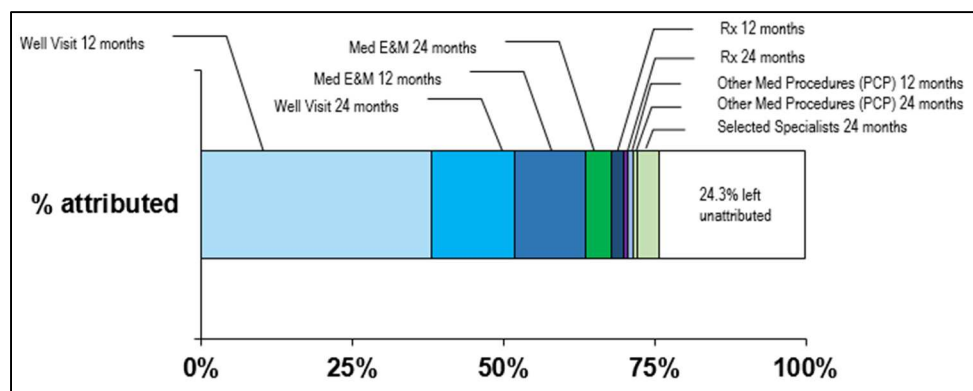
When no encounter data exists for primary care wellness visits, the second step is evaluating all primary care E&M codes to attribute a patient to a primary care provider. These encounters may cover a host of different issues, such as chronic care management and regular screenings. In the Massachusetts study, providers auditing the data found that this step could attribute another 10–15% of an eligible population to provider groups (Mariotti, 2015).



For patients who remain unattributed after this step, the third step is to identify the primary care provider from whom the patient received one or more prescriptions. Studies of attribution efforts find that 70–80% of patients are successfully linked to a primary care provider by these three steps.

Claims and/or encounter data should be used to allow a look-back at actual patient use of services over a period of time; however, certain issues arise in using this data. One consideration is the timeframe for the look-back, which can be from 12 to 36 months. This timeframe can influence the stability of the assignment. This is particularly evident in a study conducted by three Massachusetts health plans. The study found that the difference in using an 18- versus 24-month look-back was a slight gain in the percentage of the population attributed to the longer look-back with no deterioration in the stability of the results (Figure 2).

Figure 2: Blue Cross Blue Shield of Massachusetts Attribution Levels



Blue Cross Blue Shield of Massachusetts has demonstrated that many patients can be attributed by evaluating claims data for evidence of a primary care wellness visit during a 12- and 24-month look-back period. Nearly 75% of members were attributed based on a combination of wellness visit E&M claims, other primary care E&M claims, and primary care pharmacy claims during a 24-month look-back period. It also shows that if no primary care claims are evident and select specialty claims are evaluated, a small percent of otherwise unattributed patients can be attributed. In Figure 2, 3.6% of patients were attributed by including claims from obstetrics and gynecology, endocrinology, neurology, gastroenterology, rheumatology, hematology and oncology, cardiology, pulmonology, nephrology, infectious disease, and pediatric development. In a claims-based method of attribution, however, some

percentage of patients will always remain unattributed because they have not used the system during the relevant period. In this case, 24.3% of patients were left unattributed. The Work Group welcomes case studies and findings about claims-based patient attribution from other states. However, as noted below, the Work Group believes that results from claims-based attribution algorithms should generalize across markets.

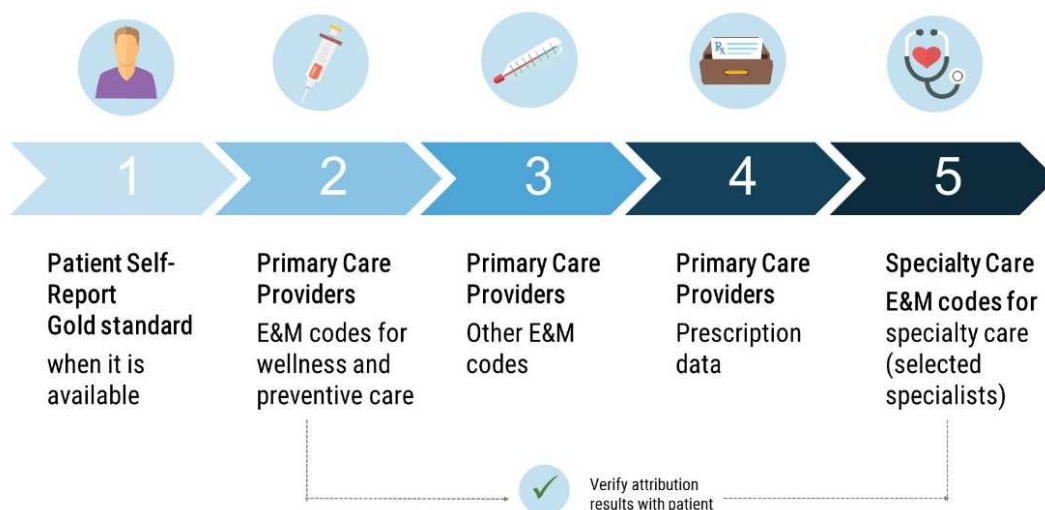
Recommendation 6: Consider subspecialty providers if no primary care encounters are evident.



Although attribution to primary care providers is the starting point, if a primary care provider cannot be identified based on the approaches described above, claims and/or encounter data for subspecialty providers should be evaluated. Often, a patient who has not visited a primary care provider may be seeking regular services from a subspecialty provider. For example, patients receiving treatment for congestive heart failure or diabetes might seek care predominantly from subspecialists through the course of the year. The attribution algorithm will identify visits to subspecialty providers and attribute the patient to the subspecialty medical group and/or delivery system.

Private insurers report that limited additional patients are attributed through this additional step. For example, Figure 2 illustrates that BCBSMA found that an additional 3.6% of members were able to be attributed if visits to certain specialty physicians were considered among patients remaining unattributed after all primary care visits and prescription claims were considered. However, given the different populations in public programs, this step to attribution might yield a larger “bump” of patients than that which occurs within a privately insured population. Figure 3 illustrates all the steps of attribution outlined above.

Figure 3: Patient Attribution Flow Chart



The Patient Attribution Flow Chart shows a process for starting with patient self-report of his/her primary care provider, if available, and where not available, moves to a claims/encounter-based approach. The claims/encounter-based approach requires verification with the patient.

Massachusetts health plans, along with key stakeholders in the market, developed guidelines for a voluntary shared approach to patient attribution for commercial non-HMO members for whom attestation was not available. The approach was not to standardize the methods used by all health plans in the market, but to agree on a core set of elements in patient attribution. The resulting guideline addresses types of data used, the measurement unit, provider types included in attribution, and a specified look-back period for evaluating claims data.

Two of the three participating Massachusetts health plans tested the guidelines using historical claims data to identify patient attribution cohorts for provider groups. Three provider groups performed internal validation using the data to evaluate the accuracy of cohort lists. The Massachusetts work group concluded that the methodology was fair and reasonable. Achieving consensus on a feasible methodology led to administrative simplification, with providers and payers spending less time and effort determining patient attribution (Mariotti, 2015). Figure 4 shows a patient attribution guideline created by a multi-payer, multi-provider consensus effort in Massachusetts.

Figure 4: Consensus Non-HMO Commercial Patient Attribution Guideline

STEP	EVENT TYPE	PROVIDER SPECIALTY & TYPE	PROCEDURE TYPE	ASSIGNMENT METHOD		
				Assignment Criteria	Minimum Threshold	Tie Breaker
0	Patient selection of Primary Care Physician	Provider Group Identified and Defined as Eligible Physicians (Any specialty, type)	n/a	n/a	n/a	n/a
1	Primary care visit		Well visit E&M only	Plurality	1 visit	Most recent
2	Primary care visit		Any E&M claim	Plurality	1 visit	Most recent
3	Primary Care prescription		Any Rx claim	Plurality	3 events	Most recent

* 24 month look back period for each step

Source: Massachusetts Multi-Stakeholder Attribution Workgroup, *Consensus Guideline for Commercial non-HMO Attribution Methodology*, August 2015.

This example demonstrates that multiple stakeholders in a market can agree on a common approach. Step 0 is patient selection; step 1 uses claims data to find a single primary care well visit E&M code; step 2 uses claims data to find a primary care visit for any E&M code; and step 3 uses pharmacy data to look for a primary care prescription. A previous version of this guideline included a step to look at primary care procedures after no evidence of any primary care or specialty office visits was found. The Massachusetts work group decided to remove the step from the final algorithm because it attributed few additional patients, and providers expressed concerns about the accuracy of attribution resulting from this step.

Recommendation 7: Use a single approach for attribution for performance measurement and financial accountability.

Patient attribution is needed to define provider accountability for patients under PBP models. Although different approaches to attribution may show differential benefits, we recommend a single attribution approach for both performance measurement and financial accountability. A single approach provides clarity, ties together quality and financial goals, and attributes a single group of patients to a provider group. Separate approaches can result in slightly different patient populations.

***Recommendation 8:** Use the patient attribution guideline nationally for commercial products.*






For commercial populations, a claims-based algorithm should be generalized to a national model. That is, commercial claims-based attribution does not need to vary by locality. Key elements of attribution discussed in the recommendations could be implemented.

This recommendation is meant to provide flexibility since, at this point, a best approach to all aspects of the patient attribution recommendations has not been defined. While our recommendation is to use claims or encounter data to identify use of a primary care provider and then a specialty provider to attribute the patient to a provider group, the evidence for the optimal look-back period is not definitive. For example, we do not know of any rigorous testing that compares accuracy, completeness, and stability for 24 versus 36 months.

***Recommendation 9:** Alignment among commercial, Medicare, and Medicaid populations may be possible with adjustments.*

Although creating close alignment among commercial payers seems possible, it is unclear whether alignment between private and public programs is possible within a short timeframe. We recommend further exploring the possibility of attaining as much alignment as possible between commercial populations and Medicare, with exceptions made for special needs populations. Further work is required to understand the potential for alignment with Medicaid programs. Figure 5 compares recommendations in this White Paper with Medicare approaches to patient attribution.

Figure 5: Comparison of the PBP Work Group Recommendations and CMS Program Approaches to Attribution

PBP Work Group Recommendations		Medicare Shared Savings Program Tracks 1 and 2	Medicare Shared Savings Program Track 3	Pioneer ACOs	Next Generation ACOs
 1 Patient Self-Report Gold standard when it is available		None	None	1 Voluntary Alignment Tested 2015 onward	1 Voluntary Alignment Beginning 2016
 2 Primary Care Providers E&M codes for wellness and preventive care		1 Primary Care Providers Plurality of primary care services	1 Primary Care Providers Plurality of primary care services	2 Primary Care Providers Plurality of primary care services	2 Primary Care Providers Plurality of primary care services
 3 Primary Care Providers Other E&M codes					
 4 Primary Care Providers Prescription		N/A	N/A	N/A	N/A
 5 Specialty Care E&M codes for specialty care (selected specialists)		2 Non-Primary Care Providers Primary care services	2 Non-Primary Care Providers Primary care services	3 Non-Primary Care Providers Primary care services	3 Non-Primary Care Providers Primary care services
Prospective or Concurrent Attribution	Either is Acceptable As long as provider has timely, actionable data on the attributed patients	Concurrent Attribution	Prospective Attribution Limited exclusions occur throughout the performance year and at the end	Prospective Attribution Limited exclusions occur throughout the performance year and at the end	Prospective Attribution Limited exclusions occur throughout the performance year and at the end

A number of Medicare programs attribute beneficiaries. In the Medicare Shared Savings Program, beneficiaries do not have the ability to select a provider for the sake of attribution to a provider group; they are assigned to an accountable care organization (ACO) using a two-step process to evaluate encounter data. As shown in Figure 5, step 1 assigns a beneficiary based on the plurality of visits or charges for primary care services provided by primary care physicians, nurse practitioners, physician assistants, or clinical nurse specialists within the ACO. Step 2, used if there are no visits to a primary care provider, assigns a beneficiary based on the plurality of primary care services provided by other health care professionals within the ACO, including non-primary care physicians, nurse practitioners, clinical nurse specialists, and physician assistants.

In the Pioneer ACO model, testing of approaches for patient selection of providers started in 2015. If a beneficiary does not select a provider, claims data is used to attribute starting with primary care services from a primary care provider within the ACO. If less than 10% of services in the claims or encounter data are from primary care providers, the attribution models look for primary care services provided by a non-primary care provider. The Next Generation ACO model follows the same steps as the Pioneer ACO model. The programs that rely on the prospective approach to attribution allow for limited exclusions throughout the performance year and at the end, including exclusions if a patient moves out of the service area or changes to a Medicare Advantage plan.

Medicaid programs use a variety of approaches. The Work Group is interested in hearing more about Medicaid programs.

Recommendation 10: Regardless of whether prospective or concurrent attribution is used, providers should receive clear, actionable information about patients attributed to them.

At the beginning of a performance period, providers should know which patients they are responsible for managing and the expected time period for management. Updated lists of patients should be shared periodically with provider groups and/or delivery systems in a PBP model, preferably monthly.

Providers need to know the patients for whom they are accountable. One approach is to create regular joint operating meetings between health plans and physician organizations so that providers can coordinate their efforts and programs and apply accountable care initiatives to relevant patient populations. Also, once providers have an accurate patient list, they can reach out to assigned patients and deliver customized care coordination that best suits these patients' health needs. An industry standard for the length of time a patient is attributed to a provider group and/or delivery system has not yet been set and varies widely among different models. A patient can be attributed for a quarter or a calendar year or on a rolling basis for a 12-month period. This is an evolving practice that may vary depending on the population being managed.

A key methodological question is whether to use a prospective or concurrent attribution model. Published evidence does not clearly identify an empirically superior approach. There are trade-offs with selecting either approach.

Prospective attribution uses a look-back at historical claims to identify patient use of services and then prospectively attributes the patient to a provider group and/or delivery system before the measurement period begins. This attributed list of patients then remains fixed throughout the measurement period (typically, 12 months). In the case of Medicare programs some beneficiaries are excluded at the end of the measurement period for special cases such as death. In the prospective model, provider groups know the patients for whom they are accountable at the beginning of the measurement period. The locked-in list can help providers prioritize patients for outreach and preventative health care. However, changes in patients' use of care during the measurement period do not change the patient cohort or attribution list. Providers are accountable for their original patient list, regardless of whether patients' care patterns over the year suggest they have changed systems; by contrast, the provider cannot gain formal accountability for new patients during the year, even if those patients' care patterns identify the provider to be their primary source of care.

Concurrent attribution also uses a look-back at historical claims and gives providers a defined list of patients at the start of the measurement period. However, at that time, the patient attribution list is not final or fixed. Patients may be added and subtracted to the attributed list based on care patterns observed throughout the measurement period. For example, patients whose care patterns demonstrate that they have shifted their primary care arrangement to another primary care provider will be removed, while those who manifest as relying on this provider will be added. In the concurrent model, final settlement on cost and quality performance is based on the population of patients who manifest as attributed to the provider at the end of the measurement period. However, this does not imply that the provider is unaware of their attributed population or unable to manage them. Indeed, a best practice in

concurrent attribution models is to provide regular updates to providers throughout the measurement period on how their attributed patient list is changing, and which patients are attributed to them, so that they can proactively manage this population.

Although the evidence is not definitive on whether prospective or concurrent attribution achieves better results, a common and essential component of both approaches is that providers have clear, actionable information on the set of patients for whom they are accountable. In prospective models, this list is fixed at the start of the measurement period. In concurrent models, it can evolve over the measurement period and providers receive updated patient lists as it does.

Conclusion

The Work Group is committed to the concept of transitioning from FFS to population-based payment models as a critical component of health care transformation to achieve better quality and outcomes while also lowering costs. The recommendations in this White Paper lay out an approach to patient attribution that can be used nationally by commercial PBP programs. The Work Group believes that over time, alignment between public and private programs may be possible.

The Work Group believes that patient attribution, which identifies a patient-provider health care relationship, is a foundational component of PBP models because it both designates the population for whom a provider will accept accountability in a PBP model, and it forms the basis for performance measurement, reporting, and payment. The White Paper documents principles that can guide payer and provider approaches to these topics in their PBP models. The aim is to support increased alignment in how public and private payers address attribution in their PBP models, and through doing so, to lower barriers to PBP model acceptance and adoption.

Appendix A: Roster

PBP Work Group Co-Chairs

Dana Gelb Safran, ScD

Chief Performance Measurement & Improvement Officer and Senior Vice President, Enterprise Analytics, Blue Cross Blue Shield of Massachusetts

Glenn Steele, Jr., MD, PhD

Chair, xG Health Solutions, Inc.

PBP Work Group Lead on Patient Attribution

Amy Nguyen Howell, MD, MBA

Chief Medical Officer, CAPG

PBP Work Group Members

Andy Baskin, MD

National Medical Director, Aetna

Mike Chernew, PhD

Leonard D. Schaeffer Professor of Health Care Policy, Harvard Medical School

Steve Hamman

Senior Vice President, Enterprise Network Solutions and Provider Partnerships, Health Care Service Corporation

Gretchen Hammer, MPH (as of March 15, 2016)

Director, Medicaid Colorado

Kate Kinslow, EdD

President and Chief Executive Officer, Aria Health System

Sanne Magnan, PhD, MD

Former President and Chief Executive Officer, Institute for Clinical Systems Improvement

Elizabeth Mitchell

President and Chief Executive Officer, Network for Regional Healthcare Improvement

David Muhlestein, PhD, JD

Senior Director of Research and Development, Leavitt Partners, LLC

Hoangmai Pham, MD, MPH

Chief Innovation Officer, Center for Medicare & Medicaid Innovation

Tom Raskauskas, MD

Formerly with St. Vincent's Health Partners

Andrew Sperling, JD

Director of Federal Legislative Advocacy, National Alliance on Mental Illness

Dawn Stehle (*until March 15, 2016*)

Medicaid Director, Arkansas Department of Human Services

Jeff White

Director, Health Care Strategy and Policy, the Boeing Company

CMS Alliance to Modernize Healthcare (CAMH) Staff

[CAMH](#), sponsored by CMS, is a federally funded research and development center operated by the MITRE Corporation. MITRE is chartered to work in the public interest.

Sarah Callahan

LAN PBP Work Group Lead

Chris Izui

LAN PBP Work Group Lead

Grischa Metlay, PhD, MA

LAN Health Policy Analyst and Technical Subject Matter Expert

Anne Gauthier, MS

LAN Project Leader

Amy Aukema, MPP

LAN Deputy Project Leader

Leina Slater

LAN Project Support

Appendix B: Sample Beneficiary Letters

Sample Next Generation ACO PY1 Beneficiary Notification:

Dear <BENEFICIARY FULL NAME>,

Your doctor has chosen to participate in <ACO NAME>, a Medicare Next Generation Model Accountable Care Organization (ACO). An ACO is a group of doctors, hospitals, and other health care providers who come together voluntarily to coordinate high quality care for Medicare patients, like you, to better meet your individual needs and preferences. Coordinated care helps patients get the right care at the right time and avoid getting the same service repeated unnecessarily.

If you are in Original Medicare, your relationship with ACO providers will NOT limit your benefits and you still have the right to use any doctor or hospital that accepts Medicare, at any time.*

New Features

[Insert applicable Beneficiary Enhancements. See the Appendix A for these inserts.]

About <ACO NAME>

[ACO can insert their own CMS approved language here]

Questions or Concerns?

- If you have any questions about <ACO NAME> or the Next Generation ACO Model, you can ask your doctor, contact your ACO by calling <ACO NUMBER>, contact your local State Health Insurance Assistance Program (SHIP), or contact Medicare at 1-800-MEDICARE (1-800-633-4227). TTY users should call 1-877-486-2048. You can also get more information online at the websites below:
 - <ACO NAME & WEB SITE ADDRESS>
 - Centers for Medicare & Medicaid Services: <http://www.medicare.gov/manage-your-health/coordinating-your-care/accountable-care-organizations.html>
 - Next Generation ACO Model: <http://innovation.cms.gov/initiatives/Next-Generation-ACO-Model/>
- To find contact information for your local State Health Insurance Assistance Program (SHIP) visit <https://shipnpr.shiptalk.org/> or look on the back of your *Medicare and You 2016 Handbook*.

You can hear this information in your primary language by calling 1-800-633-4227 and asking about Accountable Care Organizations.

ARABIC	<p>لقراءة هذه المعلومات لك عبر الهاتف ، دعوة 1-800-633-4227 ويسأل عن منظمات الرعاية للمساءلة</p> <p>لاستلام هذه المعلومات باللغة العربية، اتصل بالرقم 1-800-633-4227</p>
SPANISH	<p>“Para que le proporcionen esta información por teléfono en [español], llame al 1-800-633-4227 y pregunte por las Organizaciones Responsables por la Atención Médica.”</p>
HINDI	<p>"यह जानकारी आपको फोन पर हिंदी में पढ़ कर सुनाए जाने के लिए, 1-800 633-4227 पर कॉल करें और अकाउंटेबल केयर ऑर्गेनाइजेशन्स के बारे में पूछें"</p>

Appendix A:

- 3-day Skilled Nursing Facility (SNF) Rule Waiver: Under current Medicare law, Medicare only covers care in a SNF if a patient has a prior three-day inpatient hospital stay. This new feature may allow you to get Medicare covered SNF services at a participating SNF without a mandatory three-day inpatient hospital stay. For a list of participating SNFs, please visit our website at: [Insert link to page on ACO’s website that lists this information].
- Post-Discharge Home Visits: <ACO NAME> is expanding its post-discharge service to provide more comprehensive follow-up care at home after discharge from a hospital to help with the sometimes challenging transition between the hospital and home. For a list of participating physicians, please visit our website at: [Insert link to page on ACO’s website that lists this information].
- Telehealth Expansion: Telehealth services allow you to receive some health care services using real-time communication between you and your primary care doctor or specialist. For a list of participating physicians, please visit our website at: [Insert link to page on ACO’s website that lists this information].

You can learn more about these initiatives by visiting the following web page:

<http://innovation.cms.gov/initiatives/Next-Generation-ACO-Model/> or by contacting any of the resources listed at the end of this letter.

Sample ACO PY1 Voluntary Alignment Form:

Dear [\$BENENAME]:

Medicare has started a new initiative where health care providers who share a common set of goals aimed at improving patient care can work together more effectively. This initiative brings together health care professionals in an Accountable Care Organization (ACO), to work together with Medicare to give you more coordinated care and services.

[\$PROVNAME/\$ MEDICALGROUP is or \$PROVNAMES are] is voluntarily taking part in this new initiative by joining [\$ACONAME] because we think it will help us provide better quality care for our patients.

You are receiving this letter and form because your doctor thinks that you might benefit from care coordination and preventive services offered by [\$ACONAME].

[ACO may insert the same information about unique care coordination and preventive services offered by the Pioneer ACO/Next Generation ACO as included in the ACO Welcome Letter]

Please use this form to confirm that [\$PROVNAME OR \$MEDICALGROUP] is the main doctor you see or the main place you go for routine care, to help determine if [\$ACONAME] should help coordinate your care. Routine care can include regular care and check-ups you get from a doctor and care for other chronic health problems, such as asthma, diabetes, and hypertension. **Please complete and return the enclosed form in the envelope provided by [\$RETURNDATE].**

Your benefits will NOT change, and you can visit any doctor or hospital.

Whether or not you complete this form, you remain eligible to receive the same Medicare benefits and you still have the right to use any doctor or hospital that accepts Medicare, at any time. If you have questions, feel free to ask your doctor, call [\$ACONAME] at [\$ACONUMBER], or call Medicare at 1-800-MEDICARE (1-800-633-4227) to ask about ACOs. TTY users should call 1-877-486-2048.

Completing this form is your choice AND you can change your mind.

If you choose to complete this form you should complete it yourself. No one else should complete it for you. If you have an appointed representative, please contact [\$ACONAME] to receive a different form.

No one is allowed to attempt to influence your choice to complete this form by offering or withholding anything in exchange for you to complete or not complete the form. If you feel pressured to sign or not sign this form, please call 1-800-MEDICARE (1-800-633-4227). TTY users should call 1-877-486-2048.

If you change your mind later about whether you consider [\$PROVNAME] to be the main doctor you see or the main place you go for routine care, please call [\$ACONUMBER] by [\$RETURNDATE].

Sincerely,

[\$SENDER]

Appendix C: LAN Related Content

Visit our website (<https://www.hcp-lan.org>) for an up-to-date list of LAN [work products](#) and for a [glossary](#) of terms.

Last updated 6/15/2016

Accelerating and Aligning Selected [Clinical Episode Payment \(CEP\) Models](#)

This paper covers three selected clinical episode payments: Coronary Artery Disease; Maternity Care; and Elective Joint Replacement. A clinical episode payment is a bundled payment for a set of services that occur over time and across settings. The papers outline design elements and operational considerations for each of the selected models. Design elements address questions stakeholders must consider when designing an episode payment model, including the definition, the duration of the episode, what services are to be included, and others. Operational considerations relate to implementing an episode payment model, including the roles and perspectives of stakeholders, data infrastructure issues, and the regulatory environment in which APMs must operate.

[Coronary Artery Disease](#)

This chapter of the CEP White Paper outlines an innovative approach to designing a condition-based episode payment model for clinicians to more appropriately balance the needs of patients with the number and types of services provided for coronary artery disease (CAD). This episode includes a “nested” bundle for procedures like percutaneous coronary intervention (PCI) and coronary artery bypass graft (CABG). The recommendations also encompass the delivery of high quality procedures, overall condition management designed to reduce the need for procedures, and strong coordination and communication between the surgeons who perform cardiac procedures and the providers who deliver follow-up and long-term cardiac care.

[Maternity Care](#)

This chapter of the CEP White Paper offers recommendations for how to design a person-centered maternity episode payment model that emphasizes the inclusion of patient engagement, education, and parenting support services, in addition to clinical maternity care, to achieve a number of critical goals. These include increasing the percentage of full-term births and the percentage of vaginal births, while decreasing the percentage of pre-term and early elective births, complications, and mortality. The paper also addresses a number of operational considerations that significantly impact the implementation of clinical episode payment. The recommendations are designed to speak to a multi-stakeholder audience with the goal of supporting broad clinical episode payment adoption.

[Elective Joint Replacement](#)

This chapter of the CEP White Paper provides recommendations for how to design patient-centered episode payment for elective hip and knee replacement. Specifically, the White Paper discusses the Work Group’s recommendations for those design elements and operational considerations that support clinical episode payment adoption across a broad set of health plans, providers, and purchasers.

Accelerating and Aligning Population-Based Payment (PBP): [Financial Benchmarking](#)

The Financial Benchmarking White Paper describes approaches for setting an initial benchmark and updates over time and also addresses risk adjustment considerations. The White Paper discusses the need to balance voluntary participation with the movement towards convergence in a market with providers at different starting points.

Accelerating and Aligning Population-Based Payment (PBP): [Patient Attribution](#)

The Patient Attribution White Paper describes the method by which patient populations are assigned to providers who are accountable for total cost of care and quality outcomes for their designated populations in a PBP model. The paper recommends that active, intentional identification or self-reporting by patients should be considered first. The paper also outlines nine additional recommendations that payers and providers can use when making decisions on attribution in their PBP models.

Accelerating and Aligning Population-Based Payment (PBP): [Performance Measurement](#)

The Performance Measurement White Paper offers both short-term action recommendations and a longer-term vision for accelerating alignment around APMs. The paper offers a way forward that could lead to radical change in how performance is measured across the board in order to enable effective population-based payments. The White Paper describes how to evolve from granular measurement systems of the full continuum of care, which focus on narrow and specific care processes, to more macro-level measurement systems oriented on outcomes. The paper also makes strong recommendations for immediate action steps by describing four key performance measurement principles and seven recommendations for building and sustaining a performance measurement system that supports and encourages collaboration among stakeholders.

Accelerating and Aligning Population-Based Payment (PBP): [Data Sharing](#)

The Data Sharing White Paper offers several guiding principles and recommendations that highlight the future development of data sharing arrangements in PBP models. The paper also outlines Use Cases for data sharing which describe particular types of data sharing arrangements, in both their current and aspirational states. The goal is to create an environment where data follows the patient and is available to stakeholders (patients, providers, purchasers, and payers) in a timely manner.

Appendix D: References

- Bognar, S. (2013, November 19). Population health—step 1: Provider-patient attribution (Web log post). Retrieved from <http://arcadiasolutions.com/population-health-provider-patient-attribution/>
- Centers for Medicare & Medicaid Services. (2015, August). Two-step attribution for measures included in the value modifier (Fact Sheet). Retrieved from <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/Downloads/Attribution-Fact-Sheet.pdf>
- Centers for Medicare & Medicaid Services. (2015, December). Beneficiary assignment for Medicare shared savings program shared savings and losses and assignment methodology specifications (Fact Sheet). Retrieved from <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/Shared-Savings-Losses-Assignment-Spec-V4.pdf>
- Connecticut State Innovation Model (CT SIM) Equity Council. (2015, March). Background about shared savings program design features: Patient attribution, cost target calculation, and payment calculation and distribution (Excerpted). Retrieved from http://www.healthreform.ct.gov/ohri/lib/ohri/work_groups/quality/2015-04-01/quality_ssp_contract_design_features.pdf
- HealthPartners. (2014, May 28). Attribution use in total cost of care: An observational study of commercial administrative methods (HealthPartners Technical Report). Retrieved from https://www.healthpartners.com/ucm/groups/public/@hp/@public/documents/documents/cntrb_031064.pdf
- The Henry J. Kaiser Family Foundation. The Kaiser Commission on Medicaid and the Uninsured. (2013, October). Data analytics in Medicaid: Spotlight on Colorado's Accountable Care Collaborative (Issue Brief). Retrieved from <https://kaiserfamilyfoundation.files.wordpress.com/2013/10/8484-data-analytics-in-medicaid1.pdf>
- Lewis, V. A., McClurg, A. B., Smith, J., Fisher, E. S., and Bynum, J. P. (2013). Attributing patients to accountable care organizations: Performance year approach aligns stakeholders' interests. *Health Affairs*, 32(3), 587–595. doi: 10.1377/hlthaff.2012.0489
- Mariotti, M. (2015, August). Consensus guidelines for commercial non-HMO patient attribution methodology. Retrieved from Massachusetts Association of Health Plans website: http://www.mahp.com/unify-files/AttributionMethodologyReport_8.25.15.pdf
- McClellan, M., Kent, J., Beales, S. J., Cohen, S. I. A., Macdonnell, M., Thouni, A., ... Darzi, A. (2014). Accountable care around the world: A framework to guide reform strategies. *Health Affairs*, 33(9), 1507–1515. doi: 10.1377/hlthaff.2014.0373
- McClellan, M., McKethan, A. N., Lewis, J. L., Roski, J., and Fisher, E. S. (2010). A national strategy to put accountable care into practice. *Health Affairs*, 29(5), 982–990. doi: 10.1377/hlthaff.2010.0194
- Miller, H., Miller, E., and Hasselman, D. (2015, January). Moving from quality to value: Measuring and controlling the cost of health care (Payment Reform Series No. 1). Retrieved from Network for Regional Healthcare Improvement website: <http://www.nrhi.org/uploads/payment-reform-paper-no-1-february-18-2015.pdf>

- MN Community Measurement. (2015). 2014 total costs of care report: Comparison of medical group costs across Minnesota. Retrieved from <http://mncm.org/wp-content/uploads/2015/06/2014-TCOC-Report-Final.pdf>
- Pham, H. H., Schrag, D., O'Malley, A. S., Wu, B., and Bach, P. B. (2007). Care patterns in Medicare and their implications for pay for performance. *New England Journal of Medicine*, 356(11) 356;11, 1130–1139. doi: 10.1056/NEJMsa063979
- State of New York, Department of Health, VBP Workgroup, Technical Design I Subcommittee. (n.d.). VBP Patient Attribution Methodology: Options and Considerations. Retrieved from http://www.health.ny.gov/health_care/medicaid/redesign/dsrip/docs/vbp_patient_attribution.pdf
- State of Vermont, Department of Vermont Health Access, Agency of Human Services, Vermont Blueprint for Health. (2012, January 5). Vermont blueprint PPPM common attribution algorithm commercial insurers and Medicaid. Retrieved from <http://blueprintforhealth.vermont.gov/sites/blueprint/files/BlueprintPDF/vermont-attribution-algorithm-2-8-13.pdf>
- Yalowich, R., Wirth, B., and Takach, M. (2014, May). Matching patients with their providers: Lessons on attribution and enrollment from four multi-payer patient-centered medical home initiatives (Briefing). Retrieved from National Academy for State Health Policy website: http://www.nashp.org/wp-content/uploads/sites/default/files/PCMH_Attribution_and_Enrollment.pdf