Adopting Care Bundles and Electronically Transmitted Quality Measures

By Terrence A. O'Malley, MD, and John F. Derr, RPh

Editor's note: This is the second in a series of three articles reviewing the current and desired state of longitudinal care, as well as the steps healthcare stakeholders need to take to embrace this emerging quality measurement process.

Healthcare quality for elective joint replacement is currently measured in each site of care-timeliness and appropriateness of pre-operative evaluation in the outpatient setting, operative and peri-operative care in the inpatient setting, pain and wound management in the skilled nursing facility (SNF), and further functional improvement and avoidance of complications in the home care setting. As important as these site-specific quality measures are, even in aggregate they do not adequately measure care across an entire patient's episode.

This is because care across an episode is more than just the sum of the optimum care received in each site. Quality measures for an episode of care should include the essential contributions of each site of care, the adequacy of the clinical transitions, and creation of and adherence to a plan of care defined by the patient that aligns with their individual satisfaction measures. Patient input is important since there may be outcomes that matter to the patient but are not part of quality measurement or the care plan at any site. This is a limitation in the way we measure quality, not a criticism of care.

Using Patient-Defined Quality Measures for Care

Site-of-care measures are often condition- or procedure-specific interventions. Transitions of care measures include essential clinical content, timeliness, format, and method of transmission. A plan of care requires a statement of goals, problems to be addressed, and a list of team members responsible for specific outcomes. Patient-reported satisfaction measures complete this set. Each of these elements can be combined to create a "bundle" of essential elements required to achieve the optimum outcome of care. The absence of any essential element places the outcome of the episode in jeopardy.

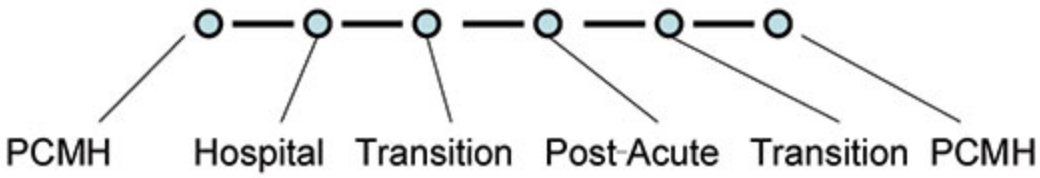
Take for example a 75-year-old patient (Patient A) scheduled for elective knee replacement for degenerative joint disease in the setting of mild cognitive impairment, hypertension, congestive heart failure, and atrial fibrillation on warfarin. He has been receiving "instrumental activities of daily living assistance" from his extended family, but his progressive physical disability has made it increasingly difficult for him to remain independent at home. He will require pre-operative clinical optimization, inpatient surgery, post-acute care in a skilled nursing facility, and continued physical therapy after he is discharged home.

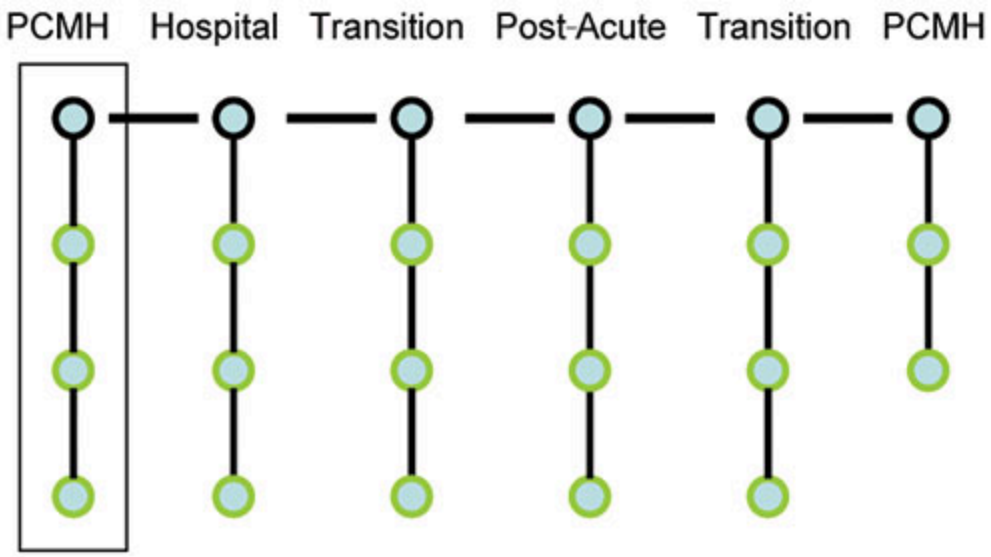
What is the most appropriate way to measure the quality of Patient A's care?

Patient A's goal is to return to independent living. This is possible only if he receives the essential components of care across all sites, and has an adequate level of support from his family that permits a discharge home when he completes his treatments. He will measure the quality of his care based on whether he achieves his goal at the end of this episode. This is the foundation of patient-centric quality measurement in an episode of care that is patient-defined.

Each essential element of care is a component in the process of providing care to an individual patient. If consensus is reached on the composition of a care bundle, measurement of quality can occur in parallel with the provision of care. Electronically exchanged health information becomes the mechanism to facilitate safe, efficient care and measure quality.

Patient A's Care Bundle Breakdown



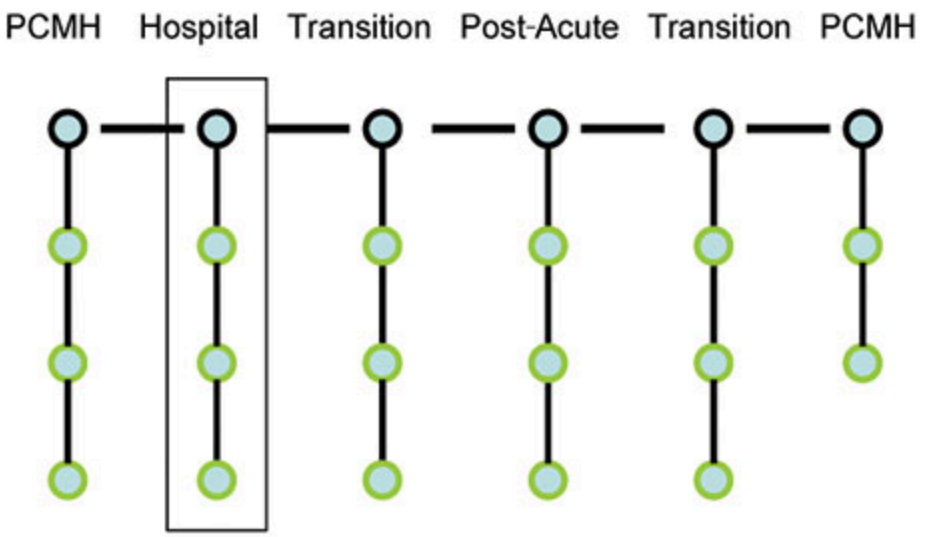


PCMH

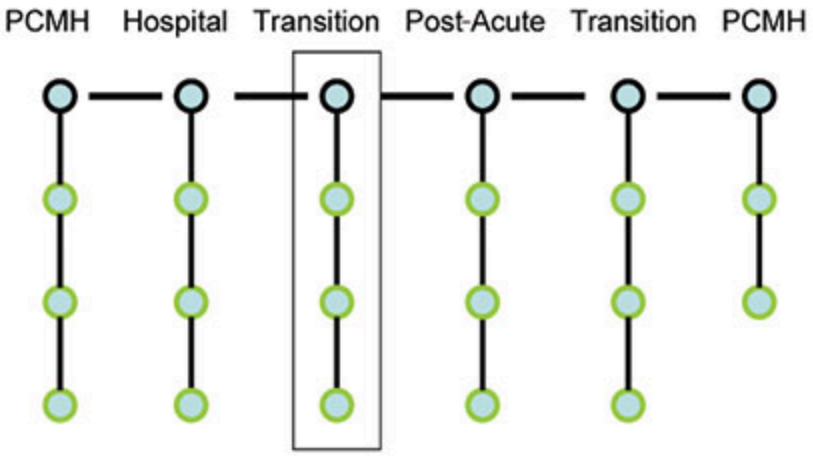
Pre-op education

Optimize medical issues

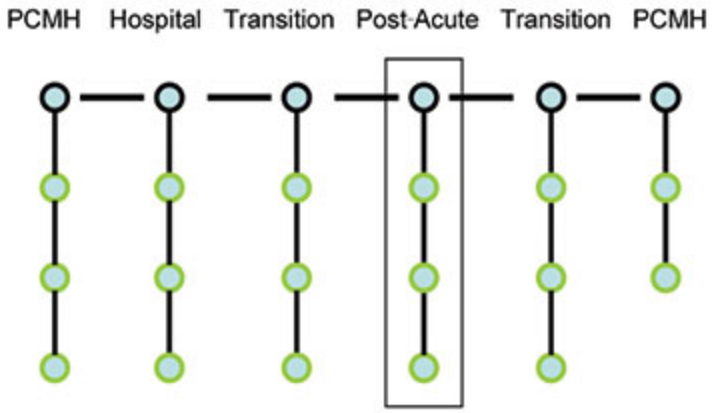
Stratify patient's post-acute care needs



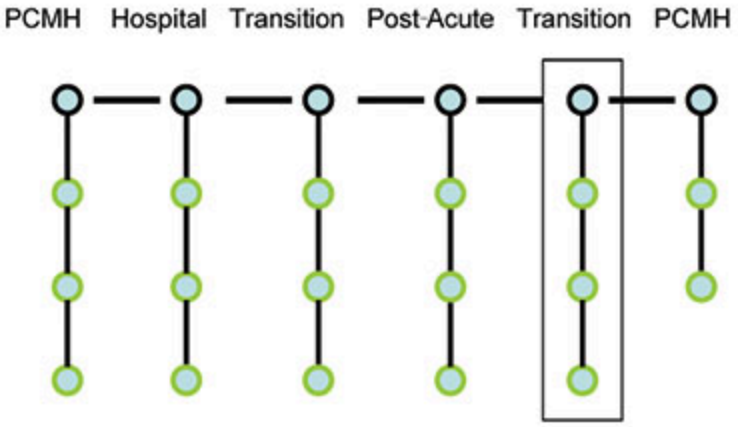
Hospital
Peri-operative bundle/SCIP measures
Pain control
DVT prophylaxis
Pre-discharge education and plan



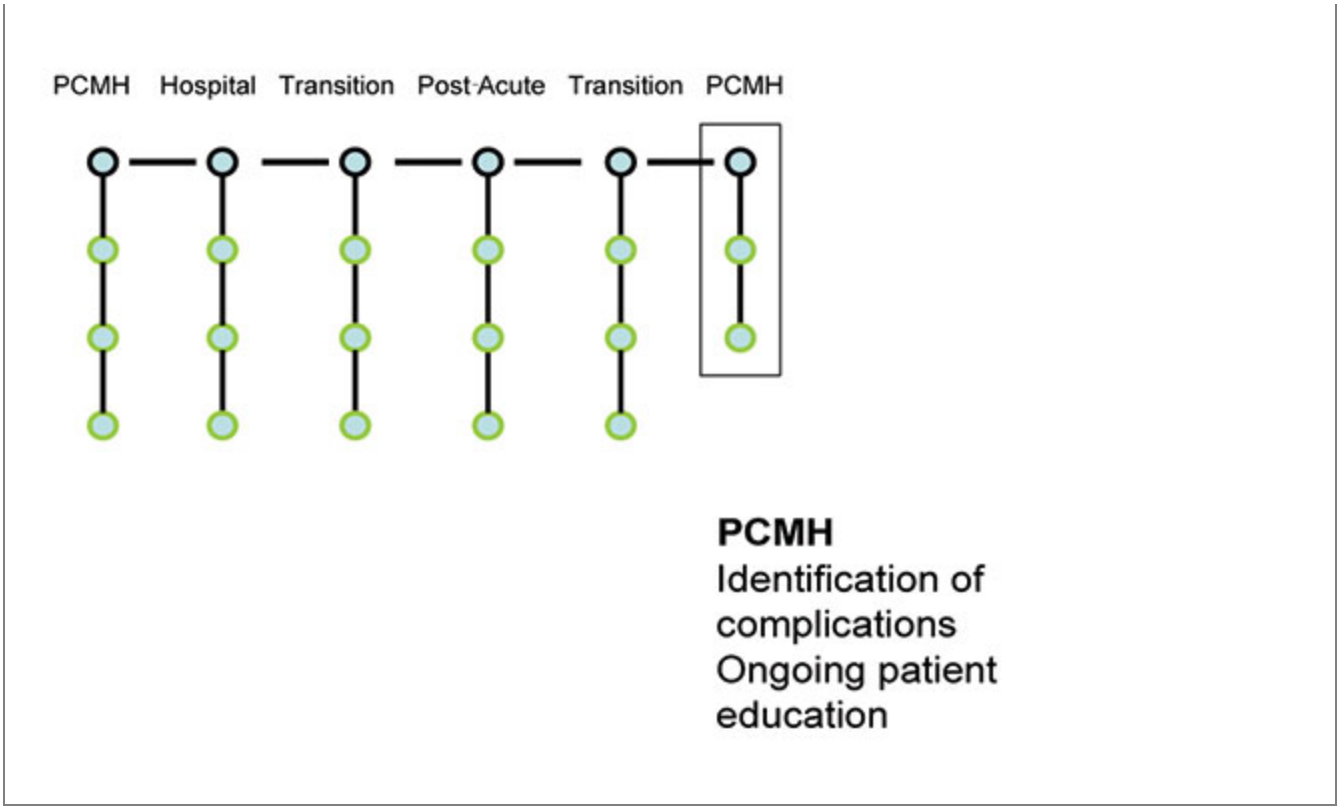
Transition to Post-Acute
Appropriate site of care
Transmit essential clinical elements
Pain control on transition



Post-Acute
Appropriate therapy
Early identification of complications
Maintain DVT prophylaxis



Transition to PCMH
Essential elements
Responsible clinician
Medication
Reconciliation



Care Bundles Essential for Longitudinal Treatment

Patient A's case is an example of an episode of care that will last several months and extends across four sites and four care teams. However even with the relative complexity of this episode there is a short list of essential elements required for optimum outcome. Some of these elements include effective pre-operative risk assessment and mitigation, compliance with National Quality Forum measures, early mobilization, satisfactory management of pain, anticoagulation and congestive heart failure relating to anti-congestive heart failure measures across sites, and careful transfers of care taking responsibility between sites.

Evidence-based best practice, standards of care, and expert consensus provide the essential elements that make up the content of clinical care. These elements reflect our best understanding of what is required clinically to achieve an optimal outcome. If one of these elements is missing, it is more likely that the outcome of the episode will be clinically unacceptable, entail additional expense, or expose the patient to avoidable risk.

Care is connected across multiple sites and multiple providers. A poor transition can undo the best outcomes of the highest quality care at the sending site and undermine care at the receiving site. Because transitions have a significant impact on the outcome and quality of care within an episode, they are included as "essential elements" in all care bundles. Currently, there are no nationally recognized standards for clinical transitions despite their acknowledged contribution to readmissions, gaps in care, unnecessary testing and treatment, and potentially inappropriate interventions.

Episode-based care requires a longitudinal care plan that extends over time across all sites of care so that the care provided is consistent with the patient's goals and wishes. Each site currently has its own plan of care to help manage services within that site. Often, this plan of care does not extend beyond the boundaries of the site, or is not communicated to the next team or site of care if it does.

The functionality required to create and exchange a longitudinal care plan is currently not widely available. It is also not possible to electronically exchange the components of such a care plan using health information and standardized data elements. The growing demand from risk-bearing healthcare providers to find ways to improve quality and safety while lowering costs of care will, however, continue to drive the development and emergence of these capabilities. Patients with complex care needs will most benefit from longitudinal coordination of care. This process starts with clearly articulated goals of care and the recognition on the part of providers that "the plan is what the patient says it is."

Patient-defined criteria apply to all aspects of care and are independent of site, provider, or health issue. The absence of any of the following elements reduces the likelihood of optimal patient engagement and optimal outcome:

- Proposed care is consistent with patient goals and wishes
- Proposed care is consistent with patient priorities
- Patient concerns have been identified and addressed
- Patients are able to trust in their clinician
- Patients are knowledgeable about who is directing care
- Patients understand the essential elements of care
- Patients understand when an essential element of care has been completed

The "Episode of Care" Bundle

The figures in the sidebar "Patient A's Care Bundle Breakdown" provide a high-level view of Patient A's episode of care, including preparation, joint replacement surgery, rehabilitation, and home care. The bundle demonstrates that it is possible to identify the essential elements of care at each stage and to assure that all essential elements have been provided.

At the highest level, this bundle includes care in four sites that are often involved in the care of orthopedic patients: the patient-centered medical home (PCMI), inpatient care, post-acute care, and the return to the PCMH and orthopedist for follow-up care. The bundle also includes the transitions of care between sites resulting in six "nodes" at which quality metrics are generated. Within each node there are elements essential to the optimal outcome of the episode. Often each element is made up of nested "sub-elements" which in turn are vital for the completion of the essential element. Quality measurement occurs on several levels simultaneously.

Patients are the Arbiter of Quality

The overall "bundle" in this illustration contains elements from all sites and transitions. In order to provide value to Patient A, these essential elements must be aligned to meet his or her goals of care. The patient is the ultimate arbiter of quality. While clinicians can and should determine which clinical elements are essential to care, only the patient determines when patient-defined quality criteria have been met.

It has been difficult to collect such longitudinal quality patient reports in real time to give the clinical team an opportunity to learn about or change a care plan. The emergence of social media provides a platform for gathering this information. This model can be applied much more broadly to "lifetime" episodes of wellness and disease management. Preventive care "bundles" and chronic disease management pathways already exist. In a parallel process, this model can be used to help clinicians, teams, or sites of care by providing elements of care bundles that provide a framework for the distribution of accountable care organization funds. The model can also be used to align clinician performance with quality measurement and the patient's goals of care.

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