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SYSTEMS-LEVEL QUALITY IMPROVEMENT

Opportunities and Accountable Care Organizations

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As new health systems realize new policy and structure in the United States, opportunities for redesign are abundant. Accountable Care Organization models are part of this redesign. Recent research has provided insight into coordinated healthcare prior to the Affordable Care Act, and ongoing research strives to capture opportunities for cost containment and quality improvement. Studies also work to identify programs and policies that are ineffective at quality improvement and patient care delivery as well as detect ones that do not result in cost effective care. While ongoing service delivery research is necessary to continually identify best practice for care delivery models and financial incentives, there are many opportunities to refresh outdated professional norms. The current climate surrounding Accountable Care Organizations provides a clean slate and fresh potential in medical education and health systems research.

Under the Affordable Care Act, new regulations allow hospitals, healthcare providers and doctors to better coordinate care for Medicare patients through Accountable Care Organizations (ACOs). Under a specific program administered by Medicare, ACOs are rewarded when they meet "quality' performance standards and lower healthcare cost growth. In voluntary ACO participation, measures are reported through clinical quality reports and patient experience surveys. ACOs must manage 5000 Medicare beneficiaries for at least 3 years. Claims data are used to calculate measures in order to reduce administration burden. ACOs pay for the survey and reporting through CMS certified vendors. ACOs are scored on a point system for each measure and then determine sharing rate [1]. As of December 2015, there were 782 ACOs covering 23 million persons [2].

Original pilot programs assisted in initial insight, and these included the Medicare Pioneer Program. The Pioneer Program consisted of 20 ACOs and 333 Shared Savings initiatives, in which $411 million savings was generated but $2.6 million of a trust fund was lost. Still, quality and cost measures were overall viewed as favorably improved for ACOs as compared to other healthcare organizations [3]. While specifics in definition of ACOs continue to evolve, and design of ACOs are individually tailored, measures are standardized and specifically calculated on a point system [3]. The Department of Health and Human Services' goal by 2018 is to have 50 % of Medicare payments to be tied to quality or value through new payment models [1].

The assessment of ACOs for shared savings qualifications includes 33 required quality measures that fall under four domains: patient and caregiver experience, preventative health measurements, care coordination and patient safety and identifying at-risk populations. This structure is similar to previous managed care incentives designed decades ago. The difference in new structures under new shared savings models is that responsibility for these measures is not under the payer, rather it is the responsibility of the provider. While some ACOs consist of provider groups without external management, newer strategies incorporate ACOs as part of hospital investments [4]. Because the design of ACO models will increasingly incorporate multiple players, under the ultimate responsibility of the provider, it is imperative that medical education and training shift accordingly.

Decades of managed care and reimbursement models have encouraged financial and administrative provider knowledge. Increasingly, care coordination, quality metrics and health

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systems research are core components of medicine. As such, medical education redesign initiatives should incorporate these concepts in development of ideal team players in medicine.

Current research on ACOs is published by many professionals originating from many schools of health and policy. In a literature search and review through PubMed, 27 observational or experimental studies were returned on the subject of Accountable Care Organizations and outcomes. The majority of these studies listed a medical doctor as a contributing author. Recognition that clinical analytics and metrics are increasingly tied to payments has led to new physician leadership in healthcare organizations. Quality and patient safety have grown as distinctive in educational offerings. While unique positions assist in organization focus on quality, new responsibilities on providers, including public reporting, set the tone that places all clinicians at the forefront of this culture change. Organizational support to clinicians and medical students will assist in foundational build.

Evidence based practice and clinical analytic interpretations will strengthen as a result of this transformation. Current literature is consistent in approach, aware of limitations and acknowledges future need for ongoing research. Literature is inconsistent on findings regarding ACOs and utilization as well as inconsistent on specifics of quality measure improvement. Cost savings has also been reported in multiple reports and studies on Accountable Care Organizations.

Research and implications

Accountable Care Organizations hold promise in addressing current healthcare challenges. One such challenge is behavioral health, an area of healthcare consisting of unmet needs in which improvement opportunities are clear. Behavioral health can be measured with feasibility. Current measures on readmissions involve emergency department assistance in behavioral health data analytics. A recent study reported that Pioneer ACO contracts demonstrated lower spending on mental health admissions, while other ACOs have not realized success in mental health spending changes, diagnoses or readmissions. Many ACOs have not yet focused on mental illness altogether [5]. An integrated academic medical center in California instituted behavioral health care as part of ACO care and realized a three-fold increase in behavioral patient population served as well as 13 % reduction in ED use [6]. Opportunities in sustainable reimbursement favor systematic and replicated design. Behavioral health care coordination involving these changes is not just a concern for behavioral health providers; rather, it is part of integrated care all providers should have familiarity on. This comes not just with current basic understanding in medical education but with quality, metrics and clinical analytic comfort cemented through culture change in all medical training.

Vulnerable and disadvantaged populations are another challenge in current healthcare. Early analyses indicate ACOs are concentrated away from disadvantaged populations, potentially widening health inequities [7]. A potential solution and strategy to mitigate these effects, as well as realize health equity, may also involve ACO structures for vulnerable and disadvantaged populations. One large safety net Accountable Care Organization applied to Medicaid patients in Minnesota realized financial savings through a model that reduced emergency department utilization, increased preventative visit utilization and redistribute funds. Patient satisfaction scores are high with this Medicaid ACO model, a model that has also increased patient outcomes in optimal care [8]. Replication of this system alongside incorporation of required medical student participation, education in clinical analytics and process improvement would encourage the systems culture change necessary for future model sustainability.

ACOs have also demonstrated success with pediatric populations. One study found that the duration of ACO use was associated with utilization differences in pediatric Medicaid populations. Continuous attribution to the ACO, for more than 2 years, was associated with a decrease in inpatient days but increase in office visits [9]. An Ohio program demonstrated that costs were lower and grew slower in association to a pediatric ACO, with mixed quality measure outcomes. Specifically, quality measures improved in 5 categories, declined in 3 and remained consistent in others over the years [10]. This same program demonstrated that provider incentives produce mixed results among ACO versus non ACO performance [11].

Given that ACO agenda is derived from Medicare administration with Medicaid involvement, pediatric perspective is imperative. As most physicians in the country accept Medicare and Medicaid, medical education reform with new and changing Accountable Care Organization models is logical.

Clinical outcome research on Accountable Care Organizations is growing. By studying nondiscretionary carotid and coronary imaging and procedure codes, researchers found no difference in utilization of discretionary or nondiscretionary cardiovascular care among Accountable Care Organization patients and matched controls [12]. Opportunities in payment reform can address imaging utilization and hospital readmissions through physician leadership, which can positively affect oncology care [13]. End Stage Renal Disease patients have coordinated care and structured payment initiatives already in place, and some authors argue that ACO options may not benefit ESRD population care in the same manner as the general Medicare population [14]. Still, opportunities for better care coordination, including in addressing comorbidities [14], offer the flexibility of ACO

design and subsequent research on clinical outcomes and different, smaller and scattered risk pools. The development of measures for clinical care must involve medical direction and leadership, as demonstrated in recent model development of risk-standardized acute admission rates (RSAARs) for patients with diabetes and heart failure [15]. Efforts to analyze and create future ACO recommendations based on cost effective care and financial projections will ultimately be compared to, and shaped by, clinical outcomes. Clinical outcome research can be resource intensive, but investments in high impact research through clinical analytics can provide great return. To shape this research and analytical structure, medical provider education, training and support is crucial.

Conclusion

In conclusion, the opportunities for optimal population health with Accountable Care Organizations are abundant. Flexibility in design, accompanied by research and data analytics, has potential to optimize cost effectiveness, utilization, patient satisfaction and quality. Unlike previous financial modeling in managed care, providers are at the helm of leadership in accountable care. Never has there been a better time for education, training and positive culture change in provider instruction on behalf of metrics and analytics research. The highest impact research shaped through genuine and systematic involvement of all providers will transform care coordination and accountable care.

Compliance with ethical standards

Conflict of interest Author declares that she has no conflict of interest.

Human and animal rights This article does not contain any studies with human participants or animals performed by any of the authors.

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