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Review Article

Defining Value-Based Care in Cardiac and Vascular Anesthesiology: The Past, Present, and Future of Perioperative Cardiovascular Care

Lavinia M. Kolarczyk, MD*, Harendra Arora, MD*, Michael W. Manning, MD, PhD†, David A. Zvara, MD*, Robert S. Isaak, DO*,[1]

*Department of Anesthesiology, University of North Carolina School of Medicine, Chapel Hill, NC
†Department of Anesthesiology, Duke University School of Medicine, Durham, NC

Health care reimbursement models are transitioning from volume-based to value-based models. Value-based models focus on patient outcomes both during the hospital admission and postdischarge. These models place emphasis on cost, quality of care, and coordination of multidisciplinary services. Perioperative physicians are challenged to evaluate traditional practices to ensure coordinated, cost-effective, and evidence-based care. With the Centers for Medicare and Medicaid Services planned introduction of bundled payments for coronary artery bypass graft surgery, cardiovascular anesthesiologists are financially responsible for postdischarge outcomes. In order to meet these patient outcomes, multidisciplinary care pathways must be designed, implemented, and sustained, a process that is challenging at best. This review (1) provides a historical perspective of health care reimbursement; (2) defines value as it pertains to quality, service, and cost; (3) reviews the history of value-based care for cardiac surgery; (4) describes the drive toward optimization for vascular surgery patients; and (5) discusses how programs like Enhanced Recovery After Surgery assist with the delivery of value-based care.

Key Words: value-based care; quality improvement; patient outcomes; Enhanced Recovery After Surgery; cardiac surgery; vascular surgery

Health Care Economics 101: The Past, Present, and Future of Reimbursement

IN 2015, THE United States spent $3.2 trillion on health care expenditures, or 17.8% of its gross domestic product. It is projected that health care spending will rise to $4.6 trillion by 2020, nearly 20% of the gross domestic product. As a percentage of the total national health expenditure, Medicare, Medicaid, and private health insurances contributed 20%, 17%, and 33%, respectively, in 2015.[1] The US government provides health care coverage for 58 million people through Medicare and another 72 million through the Medicaid programs, making the government the single largest provider of health care in the United States.[2] As a result of the rising health care expenditures, approximately 50% of government health care entitlement programs are now being funded with sources other than payroll taxes and premiums.[3] Some blame the traditional "fee-for-service" payment model for the escalating and excessive health care costs in the United States. To attempt to control health care costs and improve the quality of patient care, payment models are transitioning from the traditional volume-driven fee-for-service reimbursement to value-based payment systems.

[1]*Address reprint requests to* Robert S. Isaak, DO, Department of Anesthesiology, University of North Carolina School of Medicine, N2198 UNC Hospitals, CB 7010, Chapel Hill, NC 27599-7010.
E-mail address: risaak@aims.unc.edu (R.S. Isaak).

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The Past: Historical Perspective on Payment Models

Before the Great Depression, hospitals relied primarily on direct payment from patients. In an attempt to control declining revenues during the Great Depression, the American Hospital Association developed the Blue Cross concept in 1929 (Fig 1).[4] Blue Cross plans primarily guaranteed payment for in-hospital costs, creating an economic disparity in access to noncovered out-of-hospital services, especially to low-income patients. In 1939, Blue Shield was developed by employers in the lumber and mining camps of the Pacific Northwest to provide out-of-hospital medical care through monthly fees to medical service bureaus. After World War II, the commercial health insurance industry rapidly expanded. This led to an increasing demand for health insurance as a standard benefit of employment. Despite the growth in the insurance sector, an increasing coverage gap emerged between those who had insurance and those who did not. To bridge this gap, Congress enacted the Medicare and Medicaid Act in 1965. Medicare and Medicaid, one of the largest public health reform initiatives in US history, provided a safety net for retirees and the underserved. The legislation extended health coverage to almost all Americans ages 65 and older and provided health care services to low-income children and the disabled. This expanded coverage linked with a fee-for-service reimbursement scheme and soon led to cost overruns and a precipitous run-up in health care costs. In the 1980s and 1990s, innovative managed care models attempted to deliver service while containing rising health care costs. In the managed care model, providers receive a capitated or a "lump sum" payment per beneficiary for the health care services rendered. The capitation of payments placed the health care providers in the role of micro-health care insurers and incentivized them to restrict expensive, but sometimes necessary, health care services.

The Present: Transition from Fee-for-Service to Value-Based Payment Models

Although several factors are believed to be contributing to the rising health care costs, the fee-for-service model and exorbitant administrative costs have been targeted as major areas of reform.[5] Administrative costs are estimated to be as high as 20% to 25% of the national health expenditures.[6] In addition, it is estimated that 3% to 10% of total health care spending is attributable to fraudulent billing by public and private programs.[7] To address these issues, the National Commission on Physician Payment Reform was convened in 2012.[8] On March 4, 2013, the commission issued a report detailing a series of recommendations aimed at controlling health care spending and improving the quality of care (Table 1). The key recommendations eliminate fee-for-service payment systems for medical services and replace them with payment systems based on value through mechanisms such as bundled payment, capitation, and increased financial risk sharing.

The Future: Alternative Payment Models

Alternative payment models such as accountable care organizations (ACOs), bundle payment models, and patient-centered medical homes reimburse providers for the value of care delivered. An ACO is an integrated network of health care practitioners accountable for the quality, cost, and overall care delivered to the enrolled beneficiaries.[9] In the ACO model the financial risk is largely shared between the physicians and their respective organizations, incentivizing optimal use of high-value services while cutting unnecessary waste. Unlike in managed care payment models, payment in the ACO model health care organizations is dependent on meeting predefined quality metrics. Although a majority of core quality measures are focused around the primary care setting, major subspecialties have measures that are specialty-specific. Failure to meet these standards results in financial penalty. Thus far, there have been only modest reductions in Medicare spending among the organizations that entered the pioneer ACO program, with no significant changes in the quality of health care.[10] Currently, there are minimal data to show that value-based payment systems lead to superior outcomes compared with fee-for-service payment models. Also, it is unclear

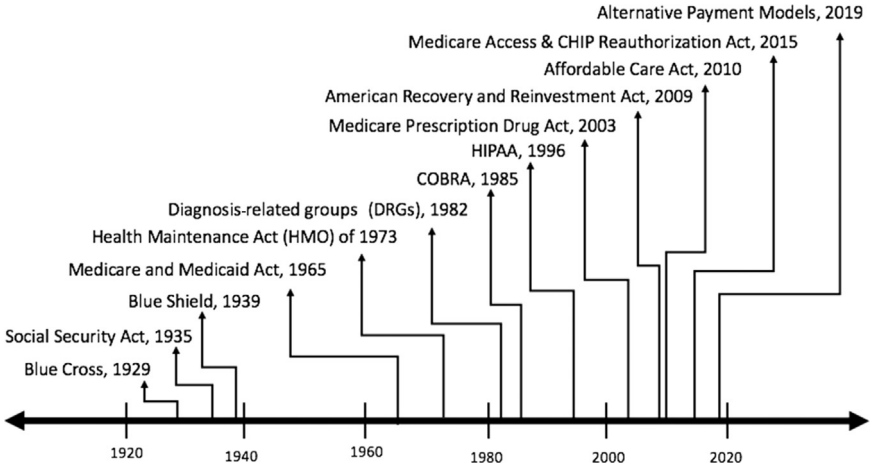

Fig 1. An overview of the history of health care reimbursement. COBRA, Consolidated Omnibus Budget Reconciliation Act; HIPPA, Health Insurance Portability and Accountability Act.

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