https://dx.doi.org/10.17845/JSA.2018.0801.01

Editorial

Developing value Based Healthcare Services in Surgical Practice

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More than anytime in the past 3 decades there has been a need for change in how health care is delivered. Factors such as rising patient expectations, technological advances, and escalating costs are all compelling reasons for this change. Despite this need however, the structures and processes involved in healthcare is delivery have changed little in that time (1). Value based healthcare models represent such a change as they are designed to improve quality of healthcare services by aligning the activities and goals of all the protagonists in the system.

Improving performance of healthcare services in a sustainable way depends on setting shared goals which unite all stakeholders and developing pathways of care which can reliably achieve them (2). The concept of value encompasses many of the goals which are already embraced by healthcare systems and relates them to cost (2).

Outcome is a multi-dimensional variable and includes adherence to guidelines, safety, health indicators, patient satisfaction and sustainability and not just absence of treatment complications or survival at discharge or in for the first 30 days following treatment. The renowned Harvard economist Michael Porter defines the hierarchy outcomes into 3 different tiers based on the health status achieved, the process of recovery and sustainability (Fig. 1) (3).

Avedis Donabedian who was considered a pioneer in healthcare improvement, defined healthcare as the triad of structures, processes and outcomes (4-6). Structures are '*features of organizations that are relevant to their capacity to provide their services'* (6). Processes are pathways of care. Value based healthcare services are structured into Integrated Practice Units (IPU) have clear pathways and processes which map the patients journey to recovery and have transparent recording and reporting of outcomes and costs of treatment (1-4). The traditional model of healthcare services has been designed so that patients initially access primary care services, initial diagnosis or clinical suspicion is raised and referral to appropriate specialist clinic or hospital department is made (7). The definitive diagnosis requires investigations *(blood tests, radiological imaging or invasive investigations such as endoscopy, biopsy etc)*, the results of which are interpreted by a number of supporting specialties such as pathologists, radiologists, biochemists etc, and the patient reviewed, and treatment offered (1-2). After the treatment is complete the patients are followed up to ensure sustainability of treatment. This process happens within the organizational structure which is specialty based and delivered by one clinician (or group of clinicians) who draws on the expertise of others as and when he or she sees fit. However, interpretation and treatments offered for many conditions are increasingly multi-modality and involve multiple specialist services. Integrated practice units are an extension of the multidisciplinary teams (MDT) which are organized around a medical condition such as or a set of closely related conditions such as colon cancer, abdominal aortic aneurysms or stroke care. The providers become part of a common organizational unit, are co-located and provide the full cycle of care for a condition. They meet regularly to discuss individual patients but also processes and results. The integrated practice unit jointly accepts responsibility for outcomes and costs (8). Above all IPUs are

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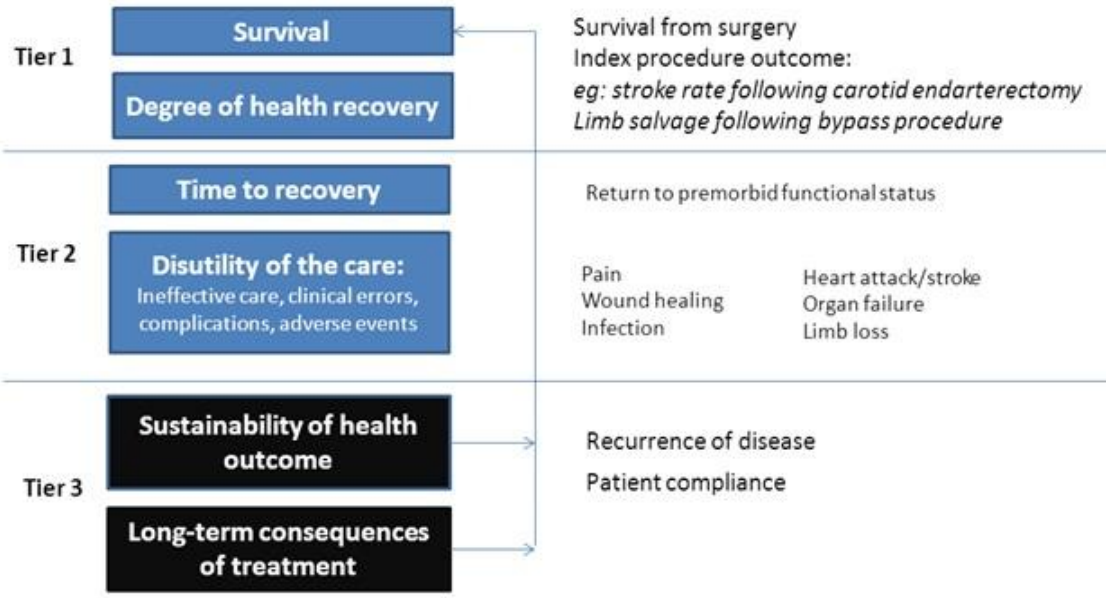

Figure 1: Outcome measures hierarchy in Surgery

designed to deliver pathways of care which are essentially value chains designed optimized to deliver value-based services.

In the mid 1990's Beth Israel-Deaconess medical Centre in Massachusetts demonstrated the value of utilizing the spoke-hub distribution paradigm in creating competitive advantage. Spoke-hub model is a centralized system of providing care which has been widely adapted by healthcare providers worldwide. This requires system integration between providers which often lie in different organizations. There are four levels of provider system integration (1) which range from defining the scope of services in the hub-spoke rationalizing service lines across the facilities, offering appropriate service at the appropriate facility and finally integration of care across units and facilities within the hub and spoke model.

The level of integration between hub and spoke depends on needs of the service rather than a prescribed model of care. Spoke-hub models allow for complex investigation/treatments to be performed in the hub creating economies of scale (1) and improve outcome of treatment by developing larger volume operations in the hub (9-11). The spoke centers remain as point of contact with the patient and provide facility for day-case, outpatient and rehabilitation services which are protocol driven and less complicated.

Creating an electronic value chain is essential for delivering value-based healthcare system particularly if a spoke-hub model is utilized as the main way IPUs save money is by shortening the pathways of care and an electronic value chain is critical to this. The infrastructure for this already exists in many healthcare systems including the National Health Service in the United Kingdom (12,13). The electronic value chain includes electronic requesting of investigations, accessing results and review of medical imaging though unified accessible, picture archiving and communication system (PACS). An electronic value chain is a major point for innovation as can allow for formation of virtual integrated IPUs where consultations and MDT meetings are temporally co-located but have participants from different parts of the country with every patient having access to the similar level of expertise available in the IPU (14,15).

Part of the efficiency attributed to delivery of value based healthcare is as a result of alignment of activities of every stakeholder with an interest in the clinical problem or condition treated by that IPU (1). When rolled out in institution wide setting this has a

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transformative effect. One such example is MD Anderson in Houston Texas where they have resulted in significant improvements in outcome and patient experience (16). IPUs are also significantly more cost efficient (17). Most notably completely integrated healthcare system has been instituted in the region of Kinzigtal in southern Germany where it has been associated with improvements in almost every health indicator as well as 17% reduction in regional healthcare costs (17). Transition to value a based healthcare model involves many iterative steps and involves many healthcare practitioners as well as other stakeholders including funding bodies and reimbursement models (17). This can be mapped using the value chain concept. Accurate and transparent measurement of outcomes, costs and bundled reimbursement systems have all been subjects of recent healthcare reform in the United Kingdom and globally. They are essential for development structures and processes required for value creation in based hospital services (18-20).

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