

# Hospital Budget Systems Are Holding Back Innovation

(by Derek A. Haas, Michael S. Jellinek, and Robert S. Kaplan)

## **Executive Summary**

*Nearly 800 digital health startups were funded in 2017, an all-time high. Each of the new companies offers the hope of transforming the performance of the U.S. health care system. The audience for such innovation wants to be receptive: A recent American Hospital Association (AHA) survey found that 75% of senior hospital executives endorsed the importance of digital innovation. Yet, despite their stated enthusiasm, hospitals have been notoriously slow to adopt digital innovations. Explanations include their IT departments already have their hands full installing, maintaining, and upgrading electronic health record (EHR) systems. But much of the blame can be attributed to hospitals' misaligned budgeting and incentive systems. The authors have identified how hospitals' budgeting systems have erected three distinct barriers to the adoption of technology. These barriers, however, can be overcome by changing how hospitals acquire new technology and by providing incentives to units to use digital innovations to provide more effective and efficient care.*

Nearly 800 digital health startups were funded in 2017, an **all-time high**. Each of the new companies offers the hope of transforming the performance of the U.S. health care system. The audience for such innovation wants to be receptive: A recent American Hospital Association (AHA) **survey** found that 75% of senior hospital executives endorsed the importance of digital innovation.

Yet, despite their stated enthusiasm, hospitals have been notoriously slow to adopt digital innovations. Explanations include their IT departments already have their hands full installing, maintaining, and upgrading electronic health record (EHR) systems. But much of the blame can be attributed to hospitals' misaligned budgeting and incentive systems.

We have identified how hospitals' budgeting systems have erected three distinct barriers to the adoption of technology. These barriers, however, can be overcome by changing how hospitals acquire new technology and by providing incentives to units to use digital innovations to provide more effective and efficient care.

**Barrier 1: Unaligned budgeting units.** Hospitals are typically organized by clinical departments (e.g., surgery, medicine, oncology), care areas (e.g., operating rooms, recovery floors, emergency department), and ancillary departments (e.g., pharmacy, radiology, pathology). Each of these departments has its own cost budget for which it is held accountable. A hospital organized into these different unconnected units finds it difficult to adopt innovations that reduce costs across a patient's complete cycle of care.

Consider, for example, a surgical patient who starts in the pre-operative area, then moves to the operating room, the post-anesthesia care unit, and the inpatient floor, with occasional side trips for

imaging, testing, and physical therapy. Each of these units acquires its own resources within constraints authorized by its departmental budget. Any unit that contemplates acquiring a new technology that would lower the total cost of the patient's care in the hospital must pay the full price for that technology from its departmental budget or persuade others to co-invest with it, which is not an easy task. Decentralized departmental budgets, therefore, lead to considerable under-investment in innovative technologies that create benefits across the entire cycle of care.

A central innovation budget would help to alleviate this severe sub-optimization problem. The innovation budget would be used to acquire technology solutions whose benefits get realized in multiple organizational units. Once acquired, the cost of the solution could be attributed, in approximate proportion to its benefits, to the budgets of each organizational unit. The AHA study we mentioned above found that 29% of hospitals had either built or intended to establish such a centralized innovation center.

A second, more radical solution is to create budgets and authority for a service line or integrated practice unit (IPU) that manages a patient's entire treatment for a high-volume medical condition. The IPU is an essential component of the value-based care model [advocated by Harvard Business School's Michael Porter](#).

The IPU/service line should become accountable for the outcomes and total costs when treating patients for that condition. While this might seem like a radical step for hospitals, it is exactly the transition that occurred 100 years ago in the business world in general when companies shifted from a departmental or functional structure to a decentralized, business-unit structure that was more aligned with and accountable for its products, services, and customers.

Not all hospital services would need to be incorporated into this more decentralized structure. Heads of the various service lines/IPUs (e.g., for osteoarthritis of joints, prostate cancer, and type 2 diabetes) could purchase services from other hospital units — such as nursing care and imaging. Ideally, the hospital, through its internal budgetary process or external payers, would compensate the IPU with [bundled payments](#) that incent the IPU to deliver better outcomes at lower total costs by charging one price for everything involved in, say, a knee replacement. A service line/IPU structure, combined with bundled payment, has the incentive to spend more on a new technology for one stage of the patient's care cycle if the technology reduces total costs across the entire care cycle.

**Problem 2: Rigid annual operating budgets.** Hospitals typically budget on an annual basis. A department running over its budget during a fiscal year must reduce its expenditures to meet the annual spending target regardless of the consequences in future years. This annual process makes it problematic for the department to invest in an innovative technology.

Consider the opportunity to raise spending in Year 1 by \$100,000 to acquire technology that would decrease spending each year thereafter by \$100,000. Despite a one-year payback period and a highly positive net present value (NPV) from this investment, the department will often reject the attractive opportunity. First, the front-end investment causes it to be over budget during the current year. Second, it will not receive credit for the large benefits from savings in future years; so unless the payback period from the new investment is realized in the current year, hospitals will reject the proposal to buy the technology.

A centralized innovation budget would again somewhat offset this dysfunction by shifting the spending from a department's annual operating budget to a centralized budget. This is an imperfect option though since it still does not give a department the incentive to achieve savings in future years. A more complete solution would involve moving away from setting budgets based primarily on the actual spend in the prior year. Instead, the finance office can allow the department to keep some of the savings it created, in excess of the original acquisition cost, in future year budgets.

**Problem 3: Separating operating- and capital-budget timelines and processes.** Typically, technology hardware and perpetual software licenses are purchased via capital budgets. Acquiring software through an annual subscription payment (called "software as a service," or SaaS) must be funded from the operating budget.

For example, users formerly purchased Microsoft Office with an upfront license payment for unlimited future use. Microsoft has recently shifted so users now make an annual payment to use Office 365. Software licenses typically have high upfront costs and low annual maintenance costs, while SaaS subscriptions have more level payments over time. Whether a hospital with separate capital and operating budgets can fit the licensed software solution into its capital budget or the subscription software into its operating budget often determines which software solutions it decides to purchase. In effect, the source of funding (capital or operating budget) rather than the functionality and performance of alternative solutions determines the choice.

Hospitals should consider retaining a capital budget for physical infrastructure (though a similar tension can exist with a buy-versus-lease decision for buildings and equipment). But they should also allow the acquisition of software technology to be determined by performance considerations and discounted-cash-flow calculations, not whether the acquisition fits within predetermined capital and operating budgets. Even for software sold under a SaaS contract, the acquisition should be assessed by a multi-period cash-flow analysis, not whether the current operating budget can afford the annual subscription cost.

Hospital budgeting systems have arguably performed well for decades. But they were not designed for contemporary, digital technology solutions whose benefits cross budgetary units and accrue over time. Traditional budgetary systems prevent clinical and ancillary departments from being agile and responsive to innovative technologies that deliver performance improvements for patient care. Hospital leaders should consider establishing a central innovation budget and decentralized service line/IPU structures. Such changes will make it easier for them to acquire innovative technologies that will enhance patient outcomes and lower their service lines' costs.