

INTRODUCTION TO THE CASE STUDIES

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The ten case studies that follow describe management interventions that used some approximation of the evidence-based approach. These interventions were carried out and evaluated by the writers, all of whom are managers and researchers known to the co-authors. In some instances, EB management techniques were used from the outset of a project, and in some, the EB management framework was applied retrospectively to initiatives already underway or completed. Some of the cases explicitly follow the steps of the EB management process, whereas others followed only some of the steps, or failed to report some steps. Yet all of the cases illustrate how to bring the underlying principles of EB management to bear on a management challenge.

We believe discussion and analysis of these cases will encourage those who study and practice healthcare management to use a more evidence-based approach in responding to management challenges. As Berwick (2007) puts it, “our world is a world of true complexity, strong social influences, tight dependence on local context, a world less of proof than of navigation, less of final conclusions than of continual learning, a world not of certainty about the past but of uncertain predictions and tentative plans about the future.”

A wide range of important and timely management challenges is covered in these cases: disaster planning, leadership development, chronic care management, pain management, the improvement of health status of underserved children, the business case for a hospital palliative care unit, CEO evaluation, inpatient bed planning, and operating room scheduling.

None of the writers was able to satisfactorily analyze the costs and benefits of using EB management techniques. We do not suggest that these experiences can be generalized to other managers and management interventions, with respect to the amount of effort involved in the EB management process or its outcomes. Yet all the writers appear convinced that their efforts have led to improvements in their organizations, which are some of the nation's most complex healthcare enterprises.

This introduction provides a quick look at each case, enabling readers to focus on certain topics or themes. The most common characteristic

of these case studies is that the managers, in considering problem-solving interventions, have usually taken great care to properly frame their management challenges and researchable problems. They then obtain and evaluate the evidence, adapt the evidence to the situation, and assess actionability before implementing the intervention. A common shortcoming in many of the cases is the heavy reliance on internal evidence, rather than on the literature and benchmarking with other organizations. Most of the writers also are silent as to the nature of the deliberative process and any retrospective look they took to see whether the promised benefits and predicted costs actually materialized.

The following text summarizes, for each case, the problem addressed, the research question, commentary, and the perceived benefits of an EB management approach.

Leadership Development at the Saint Boniface Healthcare System (page 121)

Problem: The pre-intervention leadership development program at Saint Boniface Healthcare System (SBHCS) was not improving succession readiness or fostering internal promotions.

Research question: What competencies among SBHCS senior decision makers would prepare them for advancement, and what competency-enhancing mechanisms produce the best leadership succession readiness outcomes?

Comment: The setting of this case, written by Philip DiSalvio, is a large health system that comprises seven acute care hospitals and other facilities and, with more than 22,000 employees and 4,750 physicians, is the second largest employer in its state. The management question was first phrased as: How do we conduct leadership development programs? The research question implies that producing the best outcomes in the most cost-effective way is the goal of the programs. To gather evidence, top management had to specify assumptions regarding the desired succession readiness level, the factors that contribute to reaching that level, and the costs and benefits of achieving it.

Had managers gathered evidence related to the benefits and costs of the leadership program that did not involve succession readiness, they might have been able to determine whether succession readiness or management effectiveness was the real issue. Research suggests they should expect these benefits from a management leadership development program: perception of a positive benefit among employees wishing to become managers or better managers; increased perception among senior managers of the

importance of leadership development; and an increased focus by managers on factors that facilitate such development (for example, focus on empowering those who report directly to them). The leadership development program also draws attention to the increased priority on making changes to SBHCS's performance appraisal system, which will affect implementation of the evidence-based solution.

Results of EB management: SBHCS is in the process of changing the format and delivery of its Leadership Institute, so it is too early to report end results. However, EB management did bring about the use of tools that provide quantifiable feedback and performance metrics. SBHCS now has the ability to easily track outcomes like job movement, organizational advancement, and readiness in one place, through the Employment Initiative Dashboard Report.

Forming a Corporate University: More of the Same, or Something New? (page 137)

Problem: Training and development efforts at Best Health System were not equipping employees with the skills to move up in the organization, and those who did move up did not appear to be adequately prepared for their new roles. The system constantly had to recruit outside the organization for high-quality management candidates.

Research question: Would developing a corporate university at Best Health solve the system's human resources and organizational development issues?

Comment: This case, written by Ann McAlearney, explores a research question similar to that in the first case study: Should this large midwestern hospital start an in-house management development program? Alternative research questions could have been framed as: What is the current level of management skills and experience? What is the *desired* level, and how can the hospital's top management achieve it at acceptable costs? Top management then had to determine how managers are and should be selected and evaluated, how learning and improved effectiveness should be measured, and who should be accountable for program results among the managers being trained, their supervisors, and the department of human resources.

The author superbly reviewed research evidence on corporate universities and other approaches to management development. Her fine work reflects her previous experience conducting externally funded major exploratory research projects on this topic, in which she had reviewed the print and online literature and conducted a wide-ranging series of interviews

with managers. This case illustrates how deep knowledge of a subject can focus the evidence-based approach.

Results of EB management: The EB management process enabled development of four evidence-supported options to address the system's issues. The evidence then helped guide the selection of one among them. Most important, strong evidence helped the system move to something unfamiliar and unprecedented—in other words, creating a solid business case made a critical strategy move less risky.

Transforming CEO Evaluation in a Multi-Unit Healthcare Organization (page 153)

Problem: The CEO evaluation process was informal, qualitative, and unstructured.

Research question: Can the CEO evaluation process be redesigned to provide a solid platform for accountability?

Comment: This case, written by Lawrence Prybil and colleagues, describes the transformation of a lackluster CEO evaluation process to one based on reasonable goals, performance criteria, and actionable feedback. A different research question could have been asked: To what extent can demonstrable improvements in institutional performance such as quality, financial performance, and patient satisfaction be correlated with improved accountability for executive performance? The case is silent as to the source of the performance goals established, the evidence supporting the selection of data to measure progress toward the goals, and the evidence used to determine the driving principles of the new evaluation process. Nor does it explore how CEO performance goals and targets mesh with those for hospital-wide performance.

The case presents an intuitive framework for holding senior management responsible for measurable targets. These principles should be applied to all levels of management and to the organization's workforce at large. Holding an entire organization to reasonable, measurable targets related to patient quality, customer satisfaction, financial performance, and regulatory readiness—then linking incentive compensation to these targets—provides the framework for extraordinary performance and alignment across all levels of the organization.

Results of EB management: The new process fosters accountability and is more transparent and participative. It allows each board member to be actively involved in setting objectives, rating performance against targets, and providing fair and actionable feedback directly to the CEO.

Improving Pain Management in Long-Term Care (page 161)

Problem: Village Care of New York initiated a quality improvement program focusing on pain management to better serve its geriatric and HIV/AIDS patients, for whom pain management is a principal issue.

Research question: Can an evidence-based pain management initiative using a quality improvement approach improve bedside care across 14 diverse programs?

Comment: Arthur Webb and Ellen Flaherty apply an evidence-based approach to pain management initiatives in the multiple programs and sites operated by Village Care of New York. The process presented in the case underscores their real-world struggle to establish a literature-based model (the Institute of Medicine's ideal of safe, efficient, patient centered, timely, effective, equitable care) to promote evidence-based changes in the treatment of chronic pain. The pre- and post-intervention metrics are not available in the case.

The program's success was based on achievement of a series of performance management quality goals. Leadership training for approximately 120 middle managers and an integrated team approach were the greatest contributors. Opportunities for future uses of EB management at Village Care include the authors' challenge to gain manager confidence and trust in research evidence that is not well understood at the organization's operational level.

Given that top management appears committed to the use of empirical research to help the organization become results driven and person centered, consideration should be given to allocating as little as one-quarter of 1 percent of its human capital and a similar slice of its cash flow to a small but dedicated team of "transformationalists" who can educate and guide internal champions in this and other projects.

Results of EB management: The case demonstrates how to use EB management with evidence-based medicine. EB management led Village Care to the idea of performance measurement as a means of quality improvement, while evidence-based medicine helped it determine necessary changes to the pain management program.

The Business Case for a Hospital Palliative Care Unit: Justifying Its Continued Existence (page 171)

Problem: An external consulting firm deemed the hospital's palliative care unit (PCU) unprofitable and strongly recommended that it be closed as one step toward maintaining the hospital's financial stability.

Research question: Does the evidence support the continued existence of the PCU from a patient outcome and financial point of view?

Comment: Kenneth White and J. Brian Cassel discuss the successful use of an EB management approach to prevent a hospital PCU's closure as part of an apparently urgent, hospital-wide cost-reduction program. Their study design depended exclusively on internal financial data, an often weak link in the U.S. hospital sector. (These data were the same the outside consulting group used in assessing all programs under review at the medical center.)

The case demonstrated that a distinct, 11-bed PCU staffed by a multidisciplinary care team saved the hospital approximately \$3 million over three years and was even profitable for a subset of patients. The authors' research findings also indicated other strategies the hospital could use to cover the costs of care.

Of particular note in this case study is a circumstance in which apparently accurate data nonetheless can result in flawed recommendations. The EB management approach described in the case revealed the fallacy of the consultants' analytic methodology.

Results of EB management: EB management enabled the hospital to keep the PCU open, which allowed it to continue to provide much-needed, high-quality care. A thorough financial analysis also helped the unit identify the real issues and create a focused action plan to deal with them.

Using Evidence in Integrated Chronic Care Management (page 181)

Problem: Depression affects a large number of Americans. The pain, suffering, and cost can be reduced through proper treatment. However, most patients, if they do seek treatment, seek care from a primary care physician, not a mental health specialist. Primary care physicians do not have the clinical expertise, information systems, workflow techniques, or other evidence-based tools to effectively treat this chronic illness.

Research question: Can depression care be delivered to more individuals at their points of entry into the healthcare system? If so, how?

Comment: Kyle Grazier presents an intriguing study with a case-control experimental design seeking to inform the treatment of depression by primary care physicians. The research question differs fundamentally from typical management problem solving but embraces the broad spirit of EB management. A 1995 *British Medical Journal* report of a randomized con-

trolled trial of the treatment of major depression using amitriptyline prescribed in the primary care setting provides the clinical foundation for the case. Published literature related to the bundle of services that would be implemented in the “case” practices but not in the “control” practices provided information about the need to identify clinical champions for the proposed intervention, the need for shared medical and mental health information, the education needed by providers and staff, and the importance of readily available specialist consultation.

Grazier notes that economic research supports offering physicians financial incentives to promote behavior change, but we are unable to discern such an effect from data reported with the case. However, the case reports that primary care physicians were, in the end, motivated by the professional confidence that they were making the correct clinical interventions, “without regard for remuneration.”

The research question was inspired by published literature estimating that depression will be the second most common disease worldwide by 2020. In the context of EB management, the findings appear to be actionable, particularly in the context of large, self-insured employers or traditional health maintenance organizations, but follow-up is needed. As noted by Grazier, the business case is a work in progress. “While the improvements in the clinical depression scores among case subjects were noteworthy, the study could not directly translate these into cost savings for employers.” At the *management* frontier, this is likely to be a rather unequivocal go/no-go decision point that divides spirited EB management from the more rarified realm of experimentation.

Results of EB management: By analyzing medical and systems management and health economics, physician managers were able to implement a process aimed at improving the care of depression patients. The literature had already demonstrated the need for champions at each clinic, well-trained staff and providers, a computerized patient registry system, shared medical and mental health information, communication across all lines, and documentation of clinical outcomes and direct/indirect costs.

Data-Driven Inpatient Bed Planning (page 189)

Problem: A large academic medical center was functioning at 86 percent inpatient bed utilization, resulting in scheduling difficulties, emergency department diversion, and other operational issues. Trends suggested that demand for inpatient beds would continue to grow.

Research question: How can a hospital evaluate and realign inpatient beds to better meet the organization’s current and future needs?

Comment: Jancy Strauman’s case examines bed capacity constraints in a large quaternary academic medical center with growing inpatient volume. Using internal data, a model for forecasting utilization trends with interactive assumptions, and a demand analysis, the study created a bed utilization plan capable of meeting current needs and supporting strategic growth. This transparent, data-driven process allowed key stakeholders, such as clinical department chiefs, to view the demand assumptions and understand the evidence-based rationale for unit redesignations; to create new resources such as step-down beds; and to grapple with guidelines for bed access and assignment. Finally, the process unmasked how some root causes of current bed shortages, including physician scheduling and long patient lengths of stay, exacerbated both the current emergency and future bed shortages.

The research question was framed appropriately for a hospital confronting an immediate emergency situation as well as planning for the future. Benchmarking its utilization patterns with those of other organizations also would have been useful, particularly with regard to length-of-stay trends and the relationship of certain types of beds, such as multi-bed rooms and the availability of step-down beds, to overall utilization. The hospital’s own internal demand data were the primary and most important data source for actionable recommendations.

This hospital’s length-of-stay pattern has a profound, distortive effect on creating actionable bed-need scenarios. Management needs to understand better what drives this pattern and, more important, the steps being taken to address it, before costly bed resources are dedicated to what may be inherent inefficiency. Management also must examine how the “right” number of beds is being determined and updated.

Results of EB management: This case demonstrates the important role internal evidence can play in management decisions. Evaluating past utilization trends and conducting a demand analysis enabled the hospital to plan how to meet its future needs. Evidence supported the creation of bed stack options that would foster other strategic growth initiatives. Besides addressing the immediate issue, evidence also suggested what to expect if the hospital could not execute the solution effectively.

Using Evidence-Based Management to Improve Operating Room Scheduling (page 207)

Problem: Capacity challenges and expected continued growth forced operating room (OR) managers and clinical leadership to find a way to schedule OR time more efficiently.

Research questions: What is the current level of block utilization, what is the variation among departments, and what opportunities exist for improving overall utilization and minimizing interdepartmental variation?

Comment: This case, by Megyn Wolfman, addresses the problem of growing utilization in a capacity-challenged operating room environment in a major academic medical center. By framing the research questions appropriately, and at fairly low costs, the hospital was able to create OR utilization profiles by department and an interactive database that could fairly reallocate block time among departments on the basis of utilization. Because physicians are data and evidence driven, the EB management approach enabled major change to occur in an apolitical manner and avoided a turf battle based on anecdote, incomplete information, and opinion. Preliminary results were positive, in that departments whose block time was reallocated experienced significant gains in efficiency and utilization during the first review cycle.

It would have been interesting to benchmark this hospital against others to determine whether efficiency comparisons could be made. It would also be interesting to see whether efficiency improvements are sustained over time, since Wolfman believes the reallocation model “holds longer-term promise of improved efficiency and profitability and effective capacity creation.” Can physicians “game” the system? Are there perverse incentives associated with a “use it or lose it” mind-set for block booking? Finally, how does the model address the variability among physicians who take dramatically different amounts of time for relatively similar cases? Can it help narrow these differences, or does it just perpetuate the status quo? All these questions are important as hospital management continues to adapt and refine this model.

Results of EB management: Management was able to cost-effectively identify varying OR utilization patterns across clinical departments, enabling development of immediate solutions to accommodate growing demand. In addition, evidence enabled creation of an efficient and fair method of reallocating OR block time.

Evidence-Based Criteria for Hospital Evacuation: The Case of Hurricane Katrina (page 219)

Problem: The issues faced by hospitals in the aftermath of Hurricane Katrina—role confusion, poor coordination, inadequate communication, lack of integrated planning—have motivated many facilities to reassess their emergency preparedness plans.

Research question: Do hospitals have an effective, systematic, and evidence-based plan for evacuation in the event of a disaster, and if so, what are the criteria for determining that and how are they used?

Comment: The case, by K. Joanne McGlown and colleagues, explores the response of New Orleans hospitals to Hurricane Katrina, examines past response performance, and poses questions about how hospitals can plan more effectively for the future. Research questions could have been framed somewhat differently, such as: How did New Orleans medical centers plan for the Katrina disaster? How can such planning and disaster response be accomplished more effectively in the future, given acceptable cost constraints? Determining what defines acceptable costs and who pays them are key parts of the disaster planning challenge, which also require organizations to define the outcome sought: zero casualties? Or zero *avoidable* casualties? What are the trade-offs among the alternative desired outcomes and their acceptability under various conditions?

In this case study, the authors focus on New Orleans hospitals' poor planning for patient evacuations before Katrina. Clearly, a lack of preparedness for potential evacuation placed patients at risk. As the authors point out, a basic problem in healthcare disaster planning is unfunded mandates. From the manager's point of view, costs of planning are borne by specific institutions, but benefits are distributed widely across other organizations and the general public and may not be realized for years, or decades. Thus, the hospital manager's responsibility must be limited, for example, to ensuring that current patients are properly cared for. The manager should inform public authorities about planning the hospital has done and what it cannot do adequately because of lack of funding and other reasons.

Results of EB management: EB management can reduce variability in the planning process, thereby improving the quality of the plan. Successful evidence-based planning for emergencies means all managers learn to pay attention to the same critical issues, halt poor practices, and increase adoption of best practices.

Improving the Health Status of Underserved Children in Houston's East End (page 233)

Problem: Charities wanted to find a way to help an underserved neighborhood with unmet public health needs.

Research question: What is the best way to assess the health status of children in an underserved neighborhood in Houston?

Comment: Patricia Bray describes the interventions of a charitable foundation in the East End neighborhood of Houston. The Episcopal Health Charities were incorporated “to integrate philanthropy with community-based research through an evidence-based management approach.” The project is well-grounded in empirical evidence, partly due to the close interaction of the charity and the University of Texas School of Public Health, Houston. This interaction demonstrates the opportunity for more isolated practice environments to receive assistance with literature reviews, databases, and research methodology.

Of particular note in the East End project is a program design that incorporates “colloquial and research-based” evidence. Along with customary primary and secondary data sources, structured input from the underserved population was used to score possible interventions. The project posted data on the Web using data mapping software, which made baseline data and intervention results readily available to others. Thus, the researchers created an intentional Hawthorne effect, raising community awareness and generating participatory interest.

This case is a strong example of the potential impact of EB management in the health sector. Project leadership has grown from the research, rather than the management, side of a complex organization, which suggests that large health systems may benefit from internal development of certain skill sets.

Results of EB management: The EB management process enabled Episcopal Health Charities to break down its overall research question into smaller, more manageable queries. Assessing the evidence focused the researchers’ efforts by clearly identifying pressing public health needs, resulting in improved community health status.

Reference

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