Understanding High-Reliability Organizations: Are Baldrige Recipients Models?

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EXECUTIVE SUMMARY

Chassin and Loeb argue persuasively that healthcare organizations (HCOs) can and should be "high-reliability organizations" (HROs) seeking zero defects in outcomes quality. They suggest that the Baldrige model is a sound platform for achieving high reliability. This article analyzes the similarity of the HRO concept to the Baldrige model using a recent Malcolm Baldrige National Quality Award recipient's application. The analysis suggests that neither high reliability nor Baldrige criteria are easily achieved, but the two have strong similarities. The principal difference is in Baldrige's emphasis on strategic independence versus the HRO commitment to "zero patient harm" and quality as "the organization's highest-priority strategic goal."

Based on this analysis, the article reviews data on the actual performance of Baldrige recipients as recorded at WhyNotTheBest.org. The data show that the Baldrige approach is an effective method of generating above-average performance. Award recipients have made substantial strides in safety, reductions of infections, immunizations, and patient satisfaction, but receipt of the award has not translated as effectively to reduced readmissions, mortality, and costs.

The pattern of results suggests that Baldrige recipients have exploited the right to establish their own strategic goals and are likely to respond to strengthened financial rewards for quality. The Baldrige model has documented successes in quality improvement and should be the standard of excellence in managing all HCOs.

For more information about the concepts in this article, contact Mr. Griffith at jrg@umich.edu.

INTRODUCTION

Chassin and Loeb (2013) argue persuasively that healthcare organizations (HCOs) can and should be "high-reliability organizations" (HROs). They outline a series of 14 steps, which they call Robust Process Improvement (RPI; discussed in more depth later), that form "a practical framework that individual healthcare organizations can use to evaluate their readiness for and progress toward the goal of high reliability" (Chassin & Loeb, 2013, p. 461). This article compares the practices of one group of high-performing HCOs—recipients of the Malcolm Baldrige National Quality Award—to Chassin and Loeb's 14 steps and reviews their performance using data assembled by WhyNotTheBest.org, an online resource operated by The Commonwealth Fund.

BACKGROUND

The Baldrige Award in Healthcare

The Baldrige National Quality Program (now known as the Baldrige Performance Excellence Program) began as a congressionally sponsored effort "to identify and recognize role-model businesses, establish criteria for evaluating improvement efforts, and disseminate and share best practices" (NIST, 2010). With the beginning of the Baldrige Awards in Health Care in 2002, the applications of award recipients have become a unique resource from which to understand the operation of successful HCOs. The applications are densely written, 50-page documents following rigorous seven-part criteria addressing leadership, strategy, customer relations, human resources, knowledge management, operations, and results (NIST, 2014c).

Only award recipients' applications are made public; the names and all other information about other applicants are held in strict confidence. The award selection process is based on scoring by multiple reviewers and heavily weighted to quantified results, including measures of patient care outcomes and processes, patient satisfaction, workforce satisfaction, and financial and market performance (NIST, 2014d; Evans & Mai, 2014). Award recipients typically report top-quartile and often top-decile performance.

Recipient organizations are extensively audited by the Baldrige Board of Overseers (NIST, 2014b). Thus, there is no comparable source of documented best practice descriptions for healthcare organizations.

High-Reliability Organizations

Chassin and Loeb (2013, p. 461) define high-reliability organizations as having an environment of "collective mindfulness" in which all workers look for, and report, small problems or unsafe conditions before those issues pose a substantial risk to the organization and when they are easy to fix (Weick & Sutcliffe, 2007, paraphrased in Chassin & Loeb, 2013, p. 461).

Working from the Weick and Sutcliffe research, Chassin and Loeb (2013, p. 461)

> developed a conceptual and practical framework for assessing hospitals' readiness for and progress toward high reliability. By iterative testing with hospital leaders, we refined the framework and, for each of its fourteen components, defined stages of maturity through which we believe hospitals must pass to reach high reliability.

They note that seeking high reliability, as through the Baldrige criteria, is a journey and that "we know of no hospitals that have achieved high reliability across all their activities" (Chassin & Loeb, 2013, p. 472). The highest stage of maturity of the 14 components in the Chassin-Loeb model, Approaching, is described in Table 1, with an assessment of whether North Mississippi Health Systems (NMHS), a recent Baldrige award recipient, meets the standard. Our judgment is based on specific wording in the NMHS application, cited by application section number. Other recent applications are generally consistent as to both practice and the section references.

Chassin (2013, p. 1761) argues:

> Desired progress will not be achieved unless substantial changes are made to the way in which quality improvement is conducted. . . . Newer and much more effective strategies and tools are needed to address the complex quality challenges confronting healthcare. Tools such as Lean, Six Sigma, and change management are proving highly effective in tackling problems as difficult as hand-off communication failures and patient falls. Finally, the organizational culture of most American hospitals and other healthcare organizations must change.

Chassin calls the Lean–Six Sigma–change management tool set Robust Process Improvement.

The Joint Commission (2013) has published a detailed review of its criteria, the Baldrige criteria, and Magnet Recognition Program (ANCC, 2014) criteria on its website. *Joint Commission Perspectives* has also compared performance at NMHS, the 2012 Baldrige healthcare award recipient, to outcomes desired in the high reliability concept ("Together, Joint Commission," 2013).

In short, the Baldrige Health Care Criteria and recipients' practices are fully congruent with 11 of the 14 Chassin-Loeb standards. The major difference lies in strategic emphasis. Baldrige explicitly leaves strategic priorities to the corporate governance; Chassin and Loeb (2013) ask for a commitment to "zero patient harm" and quality as "the organization's highest-priority strategic goal."

The financing of HRO and RPI is a critical matter. Noting that virtually every transition in Table 1 implies extra expenditures, one key issue is the dynamic by which best practice becomes a sustainable business model. Baldrige recipients' data suggest that they are performing quite well in a wide variety of situations. Their success appears to be attained through the power of service excellence.

The service excellence model assumes that an HCO operates in a competitive market and thrives because it produces a superior product. It changes the focus of strategic decision making from inputs to outputs. It moves managerial conversations and activities from cost control to process improvement. The HCO application of the concept is shown in Figure 1. The massive investment in knowledge management, training, and performance improvement teams (PITs), coupled with deliberate empowerment, senior management rounding, consultative support, and a focus on measured

TABLE 1
One Baldrige Recipient's Practices and High-Reliability Organizations

Chassin-Loeb Component and Approaching Standard[a]		NMHS Practice[b]
	Leadership	
Board	Board commits to the goal of high reliability (i.e., zero patient harm) for all clinical services.	Met, except commitment to zero harm. Balanced scorecards routinely address outcomes quality (1.1a.3), but the board sets goals based on its strategic priorities (1.1b(1)).
CEO/management	CEO leads the development and implementation of a proactive quality agenda.	Partially met. The agenda is based on the strategic priorities set by the governing board rather than "proactive quality" (1.1b(1), 7.1).
Physicians	Physicians routinely lead clinical quality improvement activities and accept the leadership of other appropriate clinicians; physicians' participation in these activities is uniform throughout the organization.	Met (6.2b). Uniform compliance is emphasized in the criteria and judging process (see "Scoring," NIST, 2013, pp. 28–33).
Quality strategy	Quality is the organization's highest-priority strategic goal.	Not met. The board retains the right and the obligation to establish locally relevant goals.
Quality measures	Key quality measures are routinely displayed internally and reported publicly; reward systems for staff prominently reflect the accomplishment of quality goals.	Met. Measures are now reported by CMS and private organizations such as WhyNotTheBest.org. Recipients emphasize internal review (P.1a(2), 4.2a(2)).
Information technology	Safely adopted IT solutions are integral to sustaining improved quality.	Met. (Section 4 of the applications details IT strategies.)
	Safety Culture and High Reliability	
Trust	High levels of (measured) trust exist in all clinical areas; self-policing of codes of behavior is in place.	Met. Communication, trust, and associate satisfaction are routinely measured and studied for improvement (see Section 5, especially 5.2a(2)).

Continued

TABLE 1 ***continued***

Accountability	All staff recognize and act on their personal accountability for maintaining a culture of safety; equitable and transparent disciplinary procedures are fully adopted across the organization.	Met. Processes are described in Section 5 of the application. Results are reported in Section 7, especially NMHS figures 7.13–7.19.
Identifying unsafe conditions	Close calls and unsafe conditions are routinely reported, leading to early problem resolution before patients are harmed; results are routinely communicated.	Met. NMHS reports a patient safety program promoting "An environment of trust & fairness where it is safe to report and learn from mistakes" (1.1a(3), P.2). It encourages reporting "any variance that results in harm or risk of harm to a patient or visitor" (p. 58) and studies these reports closely (6.1b(2)).
Strengthening systems	System defenses are proactively assessed, and weaknesses are proactively repaired.	Met. NMHS documents a sophisticated continuous improvement program (6.2).
Assessment	Safety culture measures are part of the strategic metrics reported to the board; systematic improvement initiatives are under way to achieve a fully functioning safety culture.	Met. NMHS documents 22 quality and safety measures tracked and benchmarked (7.1 and 7.3).
	RPI	
Methods	Adoption of RPI tools is accepted fully throughout the organization.	Met (6.2a(1)).
Training	Training in RPI is mandatory for all staff, as appropriate to their jobs.	Met. NMHS invests more than 80 hours/FTE-year (1.1a(3); 5.2c; figures 7.3–7.23).
Spread	RPI tools are used throughout the organization for all improvement work; patients are engaged in redesigning care processes, and RPI proficiency is required for career advancement.	Met. Systematic continuous improvement is a core concept of the Baldrige criteria.

[a]*Source.* Chassin & Loeb (2013, table 1, p. 471; table 2, pp. 474–475; table 3, pp. 478–479).

[b]Summary of material describing NMHS performance, identifying the relevant application section(s) and figures. (The applications are publicly available. See NIST, 2014b).

Note. NMHS = North Mississippi Health System; CMS = Centers for Medicare & Medicaid Services; IT = information technology; RPI = Robust Performance Improvement; FTE = full-time equivalent.

outcomes, creates a workforce that is substantially more effective than the norm and delivers a product that costs less and is more attractive in the marketplace.

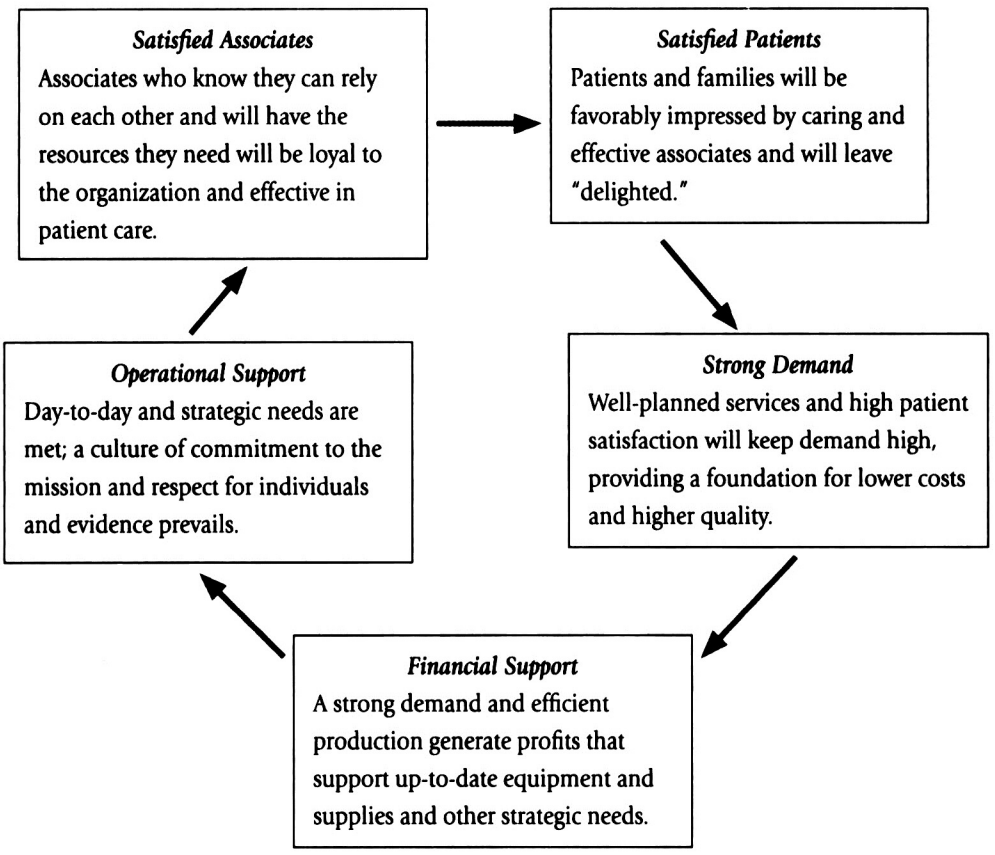
HYPOTHESIS

It is understood that, as Chassin and Loeb (2013, p. 459) claim, there are no high-reliability HCOs. Receiving the Baldrige award is not equal to achieving perfection; recipients' scores are usually around 60%. However, given the congruence of recipient processes and the Chassin-Loeb high-reliability model, the profile of recipient performance should be exceptional.

METHODOLOGY

Many of the measures used by recipients have become public through the Centers for Medicare & Medicaid Services (CMS, 2014) Hospital Compare program and voluntary efforts such as WhyNotThe Best.org, a website operated by The Commonwealth Fund (2014). Using

FIGURE 1
The Service Excellence Chain in Healthcare



Source. White & Griffith (2010, p. 48).

these data allows a comparison of recipients to the larger population of healthcare organizations.

We assembled the list of award recipients from the Baldrige website, which are as follows (NIST, 2014a) (asterisk denotes an application from a multihospital system):

1. *SSM Health Care, 2002
2. Saint Luke's Hospital of Kansas City, 2003
3. Baptist Hospital Inc., 2003
4. Robert Wood Johnson University Hospital Hamilton, 2004
5. Bronson Methodist Hospital, 2005
6. North Mississippi Medical Center, 2006 (see also system award, 2012)
7. *Mercy Health System, 2007
8. *Sharp HealthCare, 2007
9. *Poudre Valley Health System, 2008
10. *AtlantiCare, 2009
11. Heartland Health, 2009
12. Advocate Good Samaritan Hospital, 2010 (system not included)
13. *Henry Ford Health System, 2011
14. *North Mississippi Health Services, 2012

We excluded Southcentral Foundation (2011) from the above list, as its acute care hospital was not part of its application.

Seven of the 15 recipients applied as systems. In those cases, we collected data on all hospitals identified with the system on WhyNotTheBest.org as of January 2014. In cases where the application was for a single hospital, we collected data only on that hospital. The set contained 44 hospitals, but not all data are reported for each hospital. We collected the WhyNotTheBest.org benchmarks—national means and top-decile measures—posted as of January 2014. We grouped the measures to reflect similar characteristics, as follows (definitions and sources of the measures may be found at http://www.whynotthebest.org/methodology#rc):

- Outcomes of acute care
  - *Readmission rates*
  - *Mortality rates*
  - *Healthcare-associated infections*
  - *Inpatient quality indicators*
  - *Patient safety indicators*
- Prevention and population health
  - *Immunization*
  - *Prevention quality indicators*
  - *Population health/utilization and costs*
  - *County health rankings*
- Customer service
  - *Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)*
  - *Emergency care*
- Costs
  - *Spending per Medicare beneficiary*
  - *Healthcare costs*
- Process of acute care
  - *Recommended care (CMS Core Measures)*
  - *Composite measures of recommended care*
  - *Health information technology*

The measures are taken from data submitted to The Joint Commission and CMS, with the exception of some health information technology measures from the American Hospital Association (AHA) Annual Survey and the inpatient

quality, safety, and prevention measures from the Agency for Healthcare Research and Quality.

We were unable to use the following measures offered by WhyNotTheBest.org:

Early elective delivery rates: checked February 2014; no data for set
Surgical care improvement: national mean of 97.5 compliance; too compressed to use
Healthcare costs: no national values
Health information technology: process measure with no national standard (most recipients had top score)
County health rankings: no national values

The available measures cover many elements important in high reliability. Compared to the usual balanced scorecard (White & Griffith, 2010, p. 27), one dimension—worker satisfaction and retention—is noticeably lacking. There is no public source for national data on this dimension.

We compared recipients to national means. For each measure, we report the mean, standard deviation, and standard error of the recipient set, the national mean, the difference, and significance.

RESULTS

Results are shown in Table 2. Overall, Baldrige award recipients' performance is good and sometimes, but not consistently, exceptional. On five mortality measures, recipients are superior to national averages on all but one, but only The Joint Commission nonsurgical composite is statistically significant. On readmissions, recipients perform better than the national averages, but the differences are not significant. Recipients excel on five of six infection measures, but only two are significant. Patient safety results and pneumonia immunization rates are significantly better than the national average.

The magnitude of some of the significantly superior performance is of interest. WhyNotTheBest.org's composite safety index is 13% better than the national average, central line infections are more than 40% better, and colon surgery infections are almost 50% better.

Baldrige recipient organizations perform significantly better on most of the CMS Core Measures than the national average, while their emergency service measures are not significantly different. Response counts are low for most of the six Joint Commission Recommended Care measures, and recipients are significantly better in only two.

WhyNotTheBest.org's cost per case index of Medicare spending does not indicate a significant advantage for recipients.

The recipients excel on patient satisfaction. They are clearly superior on two important summary measures: "highly satisfied" and "would recommend." (They also excel on all of the eight detailed measures WhyNotTheBest.org reported, but their measures did not reach significance on physician communication, nighttime quiet, or clean bathrooms.)

Recipient performance is consistent. The median coefficient of variation is only 0.11, although high variation occurs in several important measures, most notably the infection rates and the composite patient safety score,

TABLE 2
Performance of Baldrige Recipients Compared to National Means, WhyNotTheBest.org Compilations[a]

	Count	Mean	*SD*	*SE*	National Average	National Average (mean)	Significance
OUTCOMES MEASURES							
Mortality							
Average Medicare hospital 30-day mortality rates for heart failure, heart attack, and pneumonia	41	0.122	0.01469	0.002294	0.1231	0.000939	n.s.
Heart attack 30-day mortality rate	30	0.149	0.015754	0.002876	0.152	0.002733	n.s.
Heart failure 30-day mortality rate	40	0.118	0.018261	0.002887	0.117	−0.00125	n.s.
Pneumonia 30-day mortality rate	41	0.117	0.016178	0.002527	0.119	0.001976	n.s.
Mortality for selected procedures, composite	17	0.994	0.061751	0.014977	1	0.005882	n.s.
Mortality for selected conditions, composite	18	0.944	0.097933	0.023083	1	0.055556	$p < .05$
Readmissions							
Average Medicare hospital 30-day readmission rates for heart failure, heart attack, and pneumonia	40	0.217313	0.02083	0.003294	0.2119	−0.00541	n.s.
Heart attack patients readmitted to hospital within 30 days	30	0.202	0.0193	0.003524	0.197	−0.005	n.s.
Heart failure patients readmitted to hospital within 30 days	40	0.2486	0.021134	0.003342	0.247	−0.0016	n.s.
Pneumonia patients readmitted to hospital within 30 days	40	0.18915	0.020488	0.003239	0.185	−0.00415	n.s.

	Count	Mean	*SD*	*SE*	National Average	National Average (mean)	Significance
Infections							
Central line–associated bloodstream infection	27	0.567	0.433119	0.083354	1	0.433333	$p < .001$
Catheter-associated urinary tract infection	29	0.818	0.589695	0.109504	1	0.182414	n.s.
Surgical site infection from colon surgery	27	0.541	0.421371	0.081093	1	0.459259	$p < .001$
Surgical site infection from abdominal hysterectomy	15	0.791	0.800558	0.206703	1	0.209333	n.s.
Methicillin-resistant *Staphylococcus aureus* blood infections	13	1.115	1.05395	0.292313	1	−0.11462	n.s.
Clostridium difficile infections	33	0.977	0.616017	0.107235	1	0.022727	n.s.
Patient Safety							
Patient safety for selected procedures, composite	17	0.869	0.160347	0.03889	1	0.13056	$p < .001$
PREVENTION							
Immunization for pneumonia	41	0.894	0.09306	0.014534	0.8644	0.02999	$p < .05$
Immunization for influenza	41	0.879	0.107879	0.016848	0.8476	0.030937	n.s.
PROCESS MEASURES							
CMS Core Measures							
Overall recommended care	32	0.987	0.010455	0.001848	0.9805	0.006916	$p < .001$
Overall heart attack care	28	0.996	0.011896	0.002248	0.9831	0.012479	$p < .001$
Overall heart failure care	32	0.986	0.021046	0.00372	0.964	0.0217	$p < .001$

Continued

	Count	Mean	*SD*	*SE*	National Average	National Average (mean)	Significance
Overall pneumonia care	39	0.968	0.024536	0.003929	0.9617	0.006759	n.s.
Overall surgical care	35	0.987	0.010252	0.001733	0.9793	0.007769	$p < .001$
Emergency Care							
Time from ED arrival to ED departure for admitted ED patients (minutes)	41	255.12	77.69787	12.13437	272.86	17.73805	n.s.
Admit decision time to ED departure time for admitted patients (minutes)	41	97.268	59.04957	9.221993	98.6	1.331707	n.s.
Patient left without being seen	38	0.017	0.014384	0.002333	0.0189	0.002321	n.s.
Thrombosis Care							
Patients who got treatment to prevent blood clots on the day of or day after hospital admission or surgery	40	0.855	0.097419	0.015403	0.8063	−0.04889	$p < .001$
Patients who got treatment to prevent blood clots on the day of or day after being admitted to the intensive care unit	8	0.962	0.032309	0.011423	0.9047	−0.05761	$p < .001$
Patients with blood clots who got the recommended treatment, which includes using two different blood thinner medicines at the same time	20	0.921	0.102755	0.022977	0.9232	0.00197	n.s.

	Count	Mean	*SD*	*SE*	National Average	National Average (mean)	Significance
Patients with blood clots who were treated with an intravenous blood thinner and then were checked to determine if the blood thinner was putting the patient at an increased risk of bleeding	11	0.950	0.16553	0.049909	0.9563	0.006209	n.s.
Patients with blood clots who were discharged on a blood thinner medicine and received written instructions about that medicine	17	0.687	0.267122	0.064787	0.6653	−0.02191	n.s.
Patients who developed a blood clot while in the hospital who did not get treatment that could have prevented it	1	0.032			0.0658	0.0335	
COSTS							
Spending per hospital patient with Medicare	37	0.986	0.050797	0.008351	1	0.014054	n.s.
PATIENT SATISFACTION							
Percentage of patients highly satisfied	38	0.745	0.058851	0.009547	0.6973	0.047963	$p < .001$
Patients would definitely recommend this hospital to friends and family	38	0.752	0.068439	0.011102	0.7076	0.043979	$p < .001$

[a]The Baldrige award recipient values are treated as a sample compared to the national average, which is presumably the universe. Significance was calculated from the standard error, and the *p* value is the probability that the variation is random.

Note. *SD* = standard deviation; *SE* = standard error; n.s. = not significant.

where several smaller hospitals appear to struggle.

In summary, it is safe to say the Baldrige approach is an effective method of generating above-average performance. Recipients have made substantial strides in safety, infections, immunizations, and patient satisfaction, but receipt of the award has not translated to reduced readmissions, mortality, and costs.

DISCUSSION

Overall, the Baldrige award recipients are not yet HROs, but they are clearly closer than the typical hospital to becoming one. The findings raise two questions: Why is performance not better, and can the Baldrige model create a high-reliability healthcare system?

Why Is Performance Not Better?

The best recipient values suggest that the model can be highly effective, but some results are disappointing. Why have mortality and readmissions not fallen more? Why is there variability across seemingly similar risks, such as in central line–associated bloodstream infection and catheter-associated urinary tract infection control? Why, if recipient organizations can make breakthrough improvements in colon surgery infections, can they not do the same for hysterectomy infections? We examined the overall recipient infections data and found eight scattered cases with more than twice the national average but only five better than the national 25th percentile. The most obvious explanation is that these matters were not perceived as high priorities for improvement.

Why is the per case cost not lower? All 36 reported values are between 0.9 and 1.1 on the WhyNotTheBest.org index, evenly distributed around 0.99. It appears the recipients' goal was 0.99, not lower. It is notable that the payment system in place in 2012 did not encourage lower Medicare costs. The local governing boards recognize that Medicare revenue constitutes direct support of the local economy, and they had little financial incentive to reduce it.

The recipients use a deliberate goal-setting process, working from strategic needs at the institutional level to specific, achievable goals for each work group or unit. The goal measurement system requires installing and tracking several hundred different measures. Recipients are committed to negotiating rather than imposing work group goals. Shortfalls from benchmarks are identified as opportunities for improvement (OFIs). The most promising OFIs are assigned to PITs to study and improve the work processes involved. The PITs use RPI to identify realistic improvements that are translated to unit goals. Almost all the unit goals are achieved, and bonuses are distributed. For example, "Reduce readmissions" would be a strategic target, and "Adult pneumonia readmissions are above benchmark" would be an OFI. Similarly, "Reduce adult pneumonia readmissions from ___ to ___" would be a goal for an infectious disease or general adult medicine service line. It would be established after a PIT had studied root causes of readmissions, identified process improvements, tested them, and shown that the goal was achievable. New methods are often

needed, requiring training, equipment, and supply changes.

According to comments by recipients and Baldrige judges, a medium-sized HCO performing at the recipient level will have more than 100 pending OFIs. Priorities are essential. They are generally based on marginal return—the greatest improvement for the least effort. Recipients follow a systematic pattern of evaluating OFIs and strategic needs and establishing and supervising PITs. An entire system is devoted to pursuing OFIs, forming PITs, applying RPI methods, seeking best practices, and removing implementation difficulties.

The pattern of results suggests that Baldrige award recipients have exploited the right to establish their own strategic goals, as identified in Table 1. Their choices, however, have fallen short of a commitment to "zero patient harm." Quality, while important, may not be these organizations' highest-priority strategic goal, as required for HROs. From a trustee's or CEO's perspective, the need to maintain patient, employee, and physician satisfaction, reflected in Figure 1, is also critical. Bluntly put, HCOs need the patients to make money. An HCO can move the system only as fast as it can train, motivate, and satisfy its caregivers. The Baldrige model is intrinsically and inescapably linked to that dynamic. Changing the model would be destructive.

If the rewards for high reliability are increased, hospitals pursuing the Baldrige model are positioned to respond. The CMS (2012) hospital payment system is eliminating payment for readmissions and adding mortality scores to the 2014 incentives. We predict recipient hospitals will be in the vanguard responding. The value-based insurance concept is supportive (Thomson, Schang, & Chernew, 2013); if private insurers add similar incentives, progress will be faster.

Can Baldrige Create High-Reliability Healthcare?

An article in *Joint Commission Perspectives* suggests that The Joint Commission feels Baldrige should be the model of choice for improvement ("Together, Joint Commission," 2013). The findings reported here are generally supportive of that conclusion, but they illustrate how challenging the zero-harm goal is. In Baldrige terms, zero harm is a strategic target. We need to get to work on how to translate it to an achievable goal. That involves starting several thousand HCOs on the journey to performance excellence.

There are fewer than 20 Baldrige recipients, representing about 50 hospitals. The number making the Baldrige journey—striving to apply the practices and taking advantage of the Baldrige evaluation system for feedback—is believed to be about 1,000. (The journey usually begins at the state level, and the states do not uniformly report participation.) More than 4,000 hospitals have not begun the journey.

The Baldrige journey requires knowledgeable and committed senior managers and time. The knowledge is widely available. The Baldrige program offers seminars and self-study materials. A number of consultants have become Baldrige examiners and are available to help. Most states have programs tailored to help HCOs

beginning the journey (NIST, 2013). HCOs making the journey generally find the detailed review of their applications, with outsiders' identification of OFIs, helpful. Both the American College of Healthcare Executives (2014) and the AHA (Baldrige Foundation, 2014) have endorsed the Baldrige process. There are also compatible efforts by other organizations, such as the American Hospital Association's Hospitals in Pursuit of Excellence program, the Institute for Healthcare Improvement (IHI), and the Premier Healthcare Alliance. Premier (2014), itself a Baldrige award recipient, claims to be one of the largest performance improvement collaboratives in the United States and has "clinical, financial and outcomes databases based on 1 in every 4 U.S. patient discharges." IHI (2014) estimates that it has reached 700,000 individuals worldwide (noting that 17 million are employed in U.S. healthcare [BLS, 2013]).

The Baldrige journey is a systematic learning process that takes time. The first year does not yield widespread results; however, by Year 3, some evidence suggests, organizations can experience substantial improvement (Griffith & White, 2003). If HCOs follow the formal Baldrige progression, each application is reviewed by several trained examiners, who are expected to provide specific, helpful OFIs. Award recipients have been through several rounds of these reviews, and they report the reviews as constructive (Calhoun, Griffith, & Sinioris, 2007).

What would encourage more widespread adoption? Two critical steps have already been taken. First, CMS is revising the payment structure. CMS and The Joint Commission have begun to make available many of the measures essential for high reliability. Second, WhyNotTheBest.org's user-friendly retrieval systems are key resources.

An important third step would be for The Joint Commission to mandate the reporting of WhyNotTheBest.org data to the organization's governing board, along with national and state benchmarks, with acknowledgment of receipt in the board minutes. Mandatory strategic review is the best next step in the evolution to Chassin and Loeb's (2013) goal.

A second step would be to work directly with larger not-for-profit systems. The largest healthcare systems have not documented a commitment to the Baldrige approach. If they did, they could expand the educational capability relatively quickly. Many of these systems are committed to missions entirely compatible with high reliability. They also have the educational capacity and can enforce goal setting. A pilot program, similar to that used by CMS and Premier to develop the initial Core Measures, would stimulate interest and expand commitment.

LIMITATIONS

Two elements of the methodology bias the comparisons against recipients: (1) Most of the data are for 2012, while the awards were made as much as 10 years earlier. Thus, the comparison is of the ability of recipients to sustain high performance. (2) The systems are

actively acquiring new member hospitals, and it takes at least 3 years to install the management activities described in Table 1 and to see uniform improvements. We believe recent acquisitions tend to lower recipient results, although we did not test this.

Endogeneity prevents us from assuming that the methods described in the applications cause the results found. There almost certainly are inherent characteristics of applicants in general, and recipients in particular, that distinguish them from organizations that have not pursued the Baldrige award. It is difficult to identify those characteristics, other than to say that the commitment of the chief executive seems to be central.

It has been argued that the recipients represent an advantaged elite, but several operate safety net facilities in economically challenged locations. The hospitals on the list cover a wide range of American life—states from coast to coast and north to south as well as rural, small city, and large urban locations.

It is possible that there is a radically different approach to managing HCOs that is superior to the one evolving in the Baldrige process. If so, it has not been documented or audited.

CONCLUSION

HCOs today face numerous challenges: quality incentives, reduced reimbursement, accountable care organizations, increased physician practice integration, and others. The larger systems, such as Baldrige award recipients NMHS, SSM Health Care, Sharp HealthCare, and Henry Ford Health System, clearly have the resources to support the transition that makes Baldrige criteria, RPI, HRO, and extended ambulatory and chronic disease services a reality. For smaller HCOs, the solution may lie in stronger system affiliation and stronger internal systems.

There are potential dangers in an aggressive improvement program. Failure or loss resulting from the Baldrige model does not appear likely. HCOs may encounter frustration or make small gains, but they are not likely to end up worse off. Concerns were expressed about the Baldrige approach in the early years of the program. The examples were from other industries (Loomba & Johannessen, 1997) and have not been repeated in published literature. The Baldrige model does not explicitly protect against fraud. The outcomes measures can be distorted by upcoding and by admitting low-risk patients unnecessarily. An effective auditing system will be essential if incentives are increased.

A bigger danger may lie in not pursuing the Baldrige model, instead accepting or encouraging less comprehensive change management. The history of incentives in corporations is full of failures. Results have been fabricated and workers' needs unmet, leading to labor problems, production problems, and increased costs (Chenhall & Langfield-Smith, 2003). The Baldrige approaches to corporate culture, incentive payment, and strategy now have a substantial, positive body of documentation of success. They should be the standard of excellence in managing all HCOs.

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PRACTITIONER APPLICATION

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I was intrigued by the title of this article, as it reflected the thoughts of our leadership team as we began our Baldrige journey in 2007. At that time, we were performing near the national median on most quality, patient safety, and clinical outcome measures and recognized that we needed to shift our culture to one that embraced eliminating preventable harm. The Baldrige Criteria for Performance Excellence provide our organization with a framework to achieve high reliability. As stated in the article, Baldrige provides an overarching structure for setting and achieving goals but does not require a specific commitment to eliminating preventable harm. Additionally, with an emphasis on clinical process and outcome results, Baldrige Criteria foster a culture of performance improvement and high reliability.

With approximately 1,000 hospitals currently on a Baldrige journey at the state or national level, it is evident that many senior leaders recognize the benefits of the Baldrige model for meeting and/or exceeding Centers for Medicare & Medicaid Services and other payers' value-based purchasing programs. As healthcare organizations apply the criteria and engage staff and physicians in achieving quality goals, it is important to remember that this is a challenging journey. It takes time to systematically identify opportunities for improvement (OFIs) and implement effective process changes to sustain results. Leaders must prioritize OFIs and balance action plans with resource availability and have the fortitude to continue building on ever-improving levels of performance.

Organizations may use the Baldrige framework to apply many of Chassin and Loeb's high-reliability standards cited by Griffith in his article. Many Baldrige recipients have done so through a quality focus on their strategic plan. At our organization, one of our four strategic objectives is to eliminate preventable harm. We support this objective with specific action plans and goals based on identified OFIs. While not required by the Baldrige model, reporting clinical outcome and process

performance and comparisons to national benchmarks at all levels of the organization is important. This process includes reporting such results to the board along with specific action plans to close any performance gaps. Such transparency and accountability support the Baldrige core value of patient-focused excellence.

As illustrated by Table 2 in the article, Baldrige recipients on average outperform the national median on publicly reported outcome and process measures, but some variation still exists. So while Baldrige recipient organizations demonstrate good to excellent levels of performance, there is still room for improvement. The Baldrige model is a framework, and many highly effective performance improvement tools, such as Lean and Six Sigma, work well within the framework to improve and standardize processes.

In today's healthcare environment, organizations are trying to maintain balance with one foot in each of two boats: one of traditional fee-for-service reimbursement and one of population health and quality-of-care reimbursement. The Baldrige model and the associated criteria will assist healthcare leaders to navigate this changing environment and improve healthcare outcomes for patients. At our organization, we have seen the benefits of the Baldrige model in that we have documented year-over-year reductions in incidence of patient harm. If applied correctly, the Baldrige Criteria will move healthcare organizations ever closer to achieving high reliability.