“Check” This Out: A Review of Gawande’s The Checklist Manifesto

Nicole E. Gravina; Thomas R. Cunningham

Roosevelt University, Schaumberg, Illinois, USA
National Institute for Occupational Safety and Health, Cincinnati, Ohio, USA

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BOOK REVIEWS

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The Checklist Manifesto


Our ability to make a positive impact on people and society has increased exponentially with the advancement of science and technology. We can build towering skyscrapers, send massive amounts of information across the world in seconds, and bring people without heartbeats back to life. This rapid advancement has resulted in jobs that are much more complex and demanding than they were even 20 years ago. In medicine, physicians must apply an exponentially increasing body of knowledge. For example, the number of new medications approved for use increased dramatically from the early 1980s to 2001, with 311 new drugs approved in the 1990s alone (Corrigan, Donaldson, & Kohn, 2001). Along with more complexity comes the increased challenge of employing knowledge consistently, accurately, and safely. This requires highly specialized health care employees to correctly apply this vast knowledge and work together flawlessly with other specialties, both introducing opportunities for errors. Gawande (2009) explains,

Know-how and sophistication have increased remarkably across almost all our realms of endeavor, and as a result so has our struggle to deliver on them. You see it in the frequent mistakes authorities make when hurricanes or tornadoes or other disasters hit. You see it in the 36 percent increase between 2004 and 2007 in lawsuits against attorneys for legal mistakes—the most common being simple administrative errors, like missed calendar dates and clerical screwups, as well as errors in applying the law. You see it in flawed software design, in foreign intelligence failures, in our tottering banks—in fact, in almost any endeavor requiring mastery of complexity and of large amounts of knowledge. (p. 11)

Fortunately, as The Checklist Manifesto describes, one potential solution for reducing or eliminating errors in complex jobs is rather simple—a checklist. Researchers and practitioners of Organizational
Behavior Management (OBM) have been including checklists in their interventions for years (e.g., Bacon, Fulton, & Malott, 1982; Doll, Livesey, McHaffie, & Ludwig, 2007; LaFleur & Hyten, 2005; Rose & Ludwig, 2009) as an antecedent in the case of a task clarification scheme or as a consequence when checklists are used as either self-monitored or supervisor feedback. However, OBM researchers have rarely studied checklists in depth and independent of other intervention procedures to determine optimal implementation. Gawande’s *The Checklist Manifesto* (2009) provides insight into how and when checklists should be best used and also alludes to behavioral principles that may be in play when checklists are employed in organizations.

**IMPROVING PATIENT SAFETY**

Atul Gawande, an endocrine surgeon and Harvard Medical School and Harvard School of Public Health professor, became interested in checklists when he recognized their potential value for reducing errors in hospitals. In chapter 2, he describes a critical-care specialist at Johns Hopkins Hospital named Peter Pronovost who designed a checklist aimed at reducing central line infections of patients in the Intensive Care Unit (ICU). The checklist was simple; it precisely described behaviors and included only five steps: “Doctors are supposed to (a) wash their hands with soap, (b) clean the patient’s skin with chlorhexidine antiseptic, (c) put sterile drapes over the entire patient, (d) wear a mask, hat, sterile gown, and gloves, and (e) put a sterile dressing over the insertion site once the line is in” (pp. 37–38). Pronovost asked the nurses to observe and record whether doctors completed these five steps for one month. Their observations indicated doctors missed at least one step more than a third of the time, a surprisingly high rate for a frequently performed task.

The following month, hospital administrators authorized nurses to alert doctors when steps were missed and to suggest redoing the central lines if the procedure may have introduced an infection. Infection rates were monitored for one year. The results were astounding. The ten-day line infection rate dropped from 11% to zero, which in turn resulted in a reduction in infection-related deaths and associated costs. When implemented effectively, checklists appear to have a large impact on performance, and this success made Gawande to want to know more.

**BUILDING GOOD CHECKLISTS**

To learn more, Gawande studied aviation and construction, which lean heavily on checklists to promote accuracy and safety, and discovered several best practices described in chapters 2 through 6. For example, each checklist item
should use simple, precise language and be as short as possible. The font should be easy to read, using both upper- and lower-case letters. The layout of a checklist should be free of clutter and all items should fit onto one page. In order to fit these specifications of length and simplicity, every step does not need to be included in a checklist. Rather, the focus should be on the most important steps that may potentially lead to errors. For example, a surgery checklist described in the book left fire prevention steps out because surgical fires happen so rarely and instead focused on prevention of surgical site infections, which happen more frequently.

Just as important as the checklist content is how the checklist should be used. In chapter 6, Gawande recommends that checklist completion should be planned during natural pauses in a work task and should not take more than two minutes to complete. In aviation, the top of each checklist is labeled as DO-CONFIRM (i.e., complete each necessary step and then verbally confirm) or READ-DO (i.e., complete each step as it is read from the checklist).

Gawande also makes a distinction between classic checklists that follow specific steps and complex checklists that ensure team members have considered all procedures and potential outcomes of a task. OBM typically employs classic checklists outlining specific steps like providing customer service (e.g., Crowell, Anderson, Abel, & Sergio, 1988) or closing task completion (e.g., Austin, Weatherly, & Gravina, 2005). However, sometimes more complex checklists are required. One example provided was related to construction where one minor change in building the support structure can affect a range of other planned steps, including plumbing and electrical. All potential issues that may arise cannot possibly be planned for, so instead, construction managers use a checklist that requires input and approval from each person leading an aspect of a project that could potentially be affected before the change is implemented. In OBM, the Performance Diagnostic Checklist (Austin, 2000) could be considered a complex checklist that prompts the user to evaluate a variety of organizational factors that may contribute to poor performance.

According to Gawande, complex checklists help to decentralize power. He states, “They supply a set of checks to ensure the stupid but critical stuff is not overlooked, and they supply another set of checks to ensure people talk and coordinate and accept responsibility while nonetheless being left the power to manage the nuances and unpredictabilities the best they know how” (p. 79). Indeed, a real power of the checklist for solving complex problems is making sure necessary communication happens. Many complex tasks may not be a step-by-step sequence of specific behaviors, but a sequence of communications. This approach might prompt more OBM researchers to examine systems-level interventions rather than focusing solely on target behaviors of employees, as has been suggested by advocates of behavioral systems analysis (e.g., Hyten, 2009). The simple tool
from OBM’s repertoire could enter a new realm of application; checklists may be developed for each process in the system and intervene on critical decision and communication behaviors involved in upper-level management processes.

THE LARGE-SCALE EVALUATION

Building on the aforementioned results and lessons from other industries, Gawande, in 2009, along with a team of researchers, implemented a surgery checklist at eight diverse hospitals across the globe. The checklists prompted the surgical team to introduce themselves, review the surgery plan, and voice any concerns to improve communication among team members. This was followed by nineteen checks—seven before anesthesia, seven before the first incision, and five at the end of the operation. Three months of baseline data were collected prior to implementation, including data on surgery complication, death rates, and direct observations of checklist items during surgeries. Two-thirds of the time a tracked checklist item was missed, approximately 10% of surgeries resulted in complications, and an eighth of those complications resulted in death. The final results indicated improvements in every hospital, translating into a 36% reduction in surgical complications and 47% reduction in deaths across hospitals.

A survey of surgical team members that participated in the study indicated that while 20% did not think checklists were useful, 93% reported that they would want one used for their own surgery. At the end of 2009 after the study results were made public, about 10% of U.S. hospitals and approximately 2000 hospitals worldwide had committed to adopting checklists for surgery.

CONNECTIONS TO OBM

Gawande also acknowledges that checklists have limitations. In referencing a conversation he had with an aviation checklist expert, Gawande writes, “The power of checklists is limited. . . . They can help experts remember how to manage a complex process or configure a complex machine. They can make priorities clearer and prompt people to function better as a team. By themselves, however, checklists cannot make anyone follow them” (p. 120). Indeed, resistance was encountered by doctors who felt using a checklist somehow devalued their training and experience, and even Gawande admitted to feeling similarly. Resistance is likewise experienced by OBM researchers in its various applied settings (e.g., Mihalic & Ludwig, 2009). Gawande’s approach to countering resistance echoes some
of the recommendations by McSween and Matthews (2001) for creating long-lasting behavioral safety processes, including (a) involving managers and front-line workers from the target population in developing the checklist and (b) gaining involvement and vocal support of upper management. Gawande also suggests that saving a patient’s life by noticing that a critical step was missed prior to surgery may also increase subsequent buy-in. In behavioral terms, specific, certain, and important consequences can reinforce checklist completion.

The classic checklist procedure outlined in the book is similar to the behavioral safety process prominent in OBM (Austin, 2006). Checklists focus on specific behaviors (or outcomes) and observations are conducted by peers using forms that are turned in and analyzed. However, the medical checklists described in the book are often reviewed only verbally with nothing marked or recorded. This suggests a cogent research question: Are recording observations necessary, and if so, how much value do they add? Perhaps recording observations provides reinforcing feedback when reviewed later in aggregated form. Gawande highlights that checklists also include a structure for providing feedback and prompts across levels in organizational hierarchies (e.g., Pronovost et al., 2006). On the other hand, the natural consequences of reduced errors and patient safety may provide enough support to encourage continued use once those consequences become salient. There may be contextual differences across industries (not involved in human life), which contribute to the necessity for written records.

Nevertheless, Gawande provides a valuable lesson in selling the approach: focus on the simplicity of the tools rather than the finer points of the process. Get people to use a checklist first and foremost to communicate better. OBM researchers can learn from Gawande how to make the case for using our solutions to save lives.

On one hand, it is exciting to see an example where an OBM tool is accepted by mainstream business, but on the other hand, we should take pause in the fact that OBM is not mentioned in this mainstream conversation about checklists. Some attempts have been made at delivering OBM solutions, including checklists, for patient safety to the medical audience (e.g., Cunningham & Geller, 2008; Geller & Johnson, 2007), but these efforts have not led to the kind of large-scale research and widespread recognition that the work of Gawande and Pronovost has activated. The Checklist Manifesto is yet another reminder of the all too familiar point that OBM falls short in marketing itself. Perhaps the lessons the OBM community can take away from this book is that we must not only continue striving to do things bigger and better; we must also seek to identify problems and solutions that are interesting to the public and then find the right person to tell our story.
REFERENCES


