Checklists: The Good, the Bad, and the Ugly

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Are checklists helpful? A colleague recently confided to me that she struggles to use a one-size-fits-all checklist, required by her organization, for her specialized procedures. The usefulness of checklists seems intuitive, and checklists have been mandated in many healthcare settings. However, these tools have both fierce advocates and determined detractors, so perhaps the devil is in the details of checklist creation and implementation. Even checklist promoters, including Atul Gawande, author of "The Checklist Manifesto,"[1] acknowledge both the potential and the limitations of checklists.

A checklist is "typically a list of action items or criteria arranged in a systematic manner."[2] But the term "checklist" can encompass a variety of formal and informal cognitive aids designed for a variety of functions: to support recall of vital information, enhance communication, activate team members, share situational awareness, and anticipate needs and hazards for individual patients.[1,3,4,5] Checklists can also be designed to document or audit processes—as lists of items requiring attention or verification, often in a sequential manner ("challenge-do-respond"), or as summations or "clean up" to confirm that the team has completed all of the requisite tasks ("do-verify").[4] Checklists in healthcare may be used to document compliance with protocols or policies and are often accompanied by the refrain that "if it's not documented, it didn't happen;" in contrast, Verdaasdonk and coauthors note that "checklist items in aviation are not marked when completed."[4]

The Good. Checklists have been used successfully and found to be effective in several high-hazard industries, including healthcare in specific settings.[2,6] Checklists can be used to reduce variability and improve performance[3,7] and may be most beneficial during urgent or emergent medical care[8] or when treating unusual conditions. They may ensure the predictability[3] and completeness of selected processes. Winters and colleagues point out that checklists democratize knowledge, thereby improving the reliable translation of information and reducing the risk of miscommunication among members of healthcare teams.[7]

The Bad. A systematic review of safety checklists for use by medical care teams in acute hospital settings revealed limited evidence of effectiveness,[9] and compliance with checklists has been only moderate.[10] Checklists targeting novices tend to be thorough but may penalize experts unfairly for being more direct or efficient.[11] Checklists may create dependence, which can interfere both with professional judgment and the objectivity of decision-making.[2] Completing checklists might also distract participants from recognizing or communicating important information about specific patients if it does not fit easily into the pre-set categories included in the checklist.

The Ugly. Checklists have the potential to create a negative impact.[12] They can be too long, hard to use, or impractical;[1] they may penalize efficiency,[11] decrease participant satisfaction,[13] create "clumsy roadblocks;"[3] and contribute to "checklist fatigue."[2,3] The greatest danger may occur when checklists are completed in a rote, perfunctory, or disengaged manner; creating a false veneer of safety without meaningful attention to potential hazards.

Creating and implementing helpful checklists involves both science and art. There is an iterative relationship between the content of the checklist and its interactions with the ambient healthcare system. The qualities of efficiency, adaptability, thoroughness, standardization, predictability, practicality, and customization for relevance may compete with each other.[3,5] The appropriate content emerges from trade-offs about the purpose, the users, and the use setting. Once the desired content is determined, whether the checklist is presented in a paper or electronic format, design principles

can be applied to the visual layout to enhance readability. Established principles can help address the number of items included, the sequence in which items are listed, how items are grouped, text fonts, colors, bulleted lists, and other factors.[1,3,4,7,14] Adding a "not applicable option" to "yes or no" formats can improve relevance.[12] Concluding team checklists with an open-ended invitation for any team member to speak up may elicit additional information or concerns that can benefit the safe and compassionate care of a patient.

Beyond creating the checklist content and display, the context of implementation should be considered.[4] Involving users in the checklist's development can improve both relevance and buy-in, and pilot testing in situ allows refinement based on information gained in actual work circumstances. How does the checklist fit the unique characteristics of the healthcare facility? How should the checklist fit into the participants' workflow? How can ease of access be accomplished? How can we ensure sufficient, but not excessive, redundancy with other processes?[12] Can we include branching logic and decision support to make both paper and electronic checklists more intelligent and adaptable?[3]

Finally, even if a carefully crafted and thoughtfully implemented checklist approaches perfection, will it have the same relevance over time? Several authors recommend periodic review of checklists.[4,8,15] Attention to both the small details and the big picture of creating and implementing checklists can be used to optimize their helpful aspects and minimize counterproductive components. Applying both science and art to checklist creation and implementation can help resolve the devil in the details.

NOTES

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