

# The debrief imperative: building teaming competencies and team effectiveness

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Healthcare providers are expected to communicate, coordinate and collaborate with people both within and outside their formal team on a regular basis, often with individuals from different professions, specialties or teams. Continuous 'teaming' is the norm. Almost everyone involved in the provision of healthcare must therefore possess teamwork competencies in addition to clinical expertise.

Fortunately, research has matured to the point where the drivers of team effectiveness are increasingly clear. For example, in highly effective teams, team members possess shared mental models about roles, priorities and the situation; communicate information that others need and confirm their understanding; engage in mutual performance monitoring and backup behaviours and make it safe for others to speak up and ask questions.<sup>1</sup>

The research is also clear about the efficacy of team debriefs. During a debrief, team members reflect on a recent experience, discuss what went well, identify opportunities for improvement and agree on what they will do going forward. A debrief can be conducted after a training event (eg, a simulation), work experience (eg, treating a patient) or time period (eg, end of a shift). Teams that engage in debriefs generally outperform others<sup>2 3</sup> because debriefs promote learning and enable teams to adjust. Individuals also benefit from participating in debriefs,<sup>4</sup> in part by developing transportable teamwork competencies they can use whenever teaming is required.

Research has examined how to optimise team debriefs. In this issue of *BMJ Quality & Safety*, Kolbe *et al* observed and analysed over 18 000 interactions that occurred during 50 team debriefings in the simulation centre of a large urban academic medical hospital.<sup>5</sup> The debriefs

followed three high-risk anaesthetic training scenarios and averaged 49 min in duration. Participants were all employed as anaesthesia care providers and the debriefs were led by clinical simulation educators who were trained in simulation-based education. The researchers conducted a detailed micro-analysis of communications and behaviours among and between team members and debriefers, illuminating patterns of interactions that occur during debriefs. For example, they revealed how debriefers' use of feedback and open-ended questions encouraged participants to verbalise their thoughts and mental models. Overall, their study yielded insights about how to structure and facilitate a constructive debrief, including how to balance inquiry and advocacy, and it reinforced the need to explore how debriefs work.

While there is a need for further research, we would argue that enough is already known to merit an increased use of team debriefs, both in educational and clinical settings. In this commentary, we compare debriefing in education and clinical practice, highlight a few universal debriefing guidelines while acknowledging the need for purpose-driven practices, endorse the call for building debriefing skills by Kolbe *et al*, and suggest three specific research needs.

## TEAM DEBRIEFING IN EDUCATION AND IN CLINICAL PRACTICE: RELATED BUT DIFFERENT

While debriefs have become fairly common in simulation-based training, they are only slowly beginning to gain traction in clinical settings. Table 1 highlights a few similarities and differences between team debriefing in educational and clinical practice environments.



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**Table 1** Team debriefing in education and in clinical practice: related but different

	Education/Training	Clinical
Typical use	Conducted after an exercise such as a simulated patient encounter involving more than one healthcare provider <ul style="list-style-type: none"> <li>► May occur during formal education or work-placed training</li> <li>► Involves students/trainees from one or more discipline</li> </ul>	Conducted after a clinical experience such as a patient interaction (eg, surgery or treatment) or after a period of performance (eg, end of a shift) <ul style="list-style-type: none"> <li>► May involve an ongoing, intact team or one formed to complete a specific task (eg, trauma team)</li> <li>► Sometimes examines a mistake or error</li> </ul>
Learning objectives	Learning objectives are typically established in advance	Specific learning objectives cannot be established in advance, as learning opportunities are contingent on the nature of the experience
Timing	Time is allotted based on the learning objectives but the debrief is typically longer than a debrief in a clinical setting	If conducted immediately in situ, then often very brief (5–15 min). If conducted retrospectively, more time may be allotted
Roles	<ul style="list-style-type: none"> <li>► Debrief leader (faculty member or occasionally peer-led)</li> <li>► Student participants/trainees</li> </ul>	<ul style="list-style-type: none"> <li>► Debrief leader (team leader or a trained debrief facilitator)</li> <li>► Team members</li> </ul>
Primary intent	In an educational setting, build transportable competencies students can use throughout their career In a work-placed training setting, if trainees are participating as an intact team, help them build a shared mental model	Reinforce positives and identify quick lessons learnt or adjustments to ensure teamwork is performed effectively/safely Build shared mental models about how the team expects to work together going forward
Secondary intent	Help prepare students to participate in clinical debriefs in the future	Build transportable competencies; identify recommendations to improve processes/systems (to share with leadership)

## A FEW UNIVERSAL TEAM DEBRIEFING GUIDELINES

Regardless of the setting, research supports some universally applicable guidelines for conducting an effective team debrief.

- *Minimise the time between performance and feedback:* given human memory constraints, it is advantageous to conduct a team debrief closer in time to the experience being discussed.<sup>6</sup>
- *Cover both teamwork and taskwork factors:* teams in all professions gravitate towards discussing taskwork (eg, clinical) factors, so the debrief process should explicitly guide them to consider teamwork factors.<sup>7</sup>
- *Provide adequate structure:* structured debriefs are more effective than free form debriefs, although the appropriate structure is contingent on the context of the debrief.<sup>8</sup>
- *Create psychological safety:* ensure participants feel it is safe to ask questions, admit concerns, voice alternative perspectives and share constructive feedback.<sup>9</sup>
- *Reflect backward and look forward:* explore and synthesise what happened (backward reflection) and then identify lessons learnt, agreements and/or action plans (look forward).<sup>10</sup>
- *Balance inquiry and advocacy:* the debrief leader should solicit input from the group (inquiry) and where appropriate offer their own insights<sup>5</sup> (advocacy), although the relative emphasis may need to vary for different debriefing purposes.
- *Explore how the team worked* (process feedback) and not simply the results of their work (outcome feedback): focusing on outcomes either too early or too frequently in a debrief can reduce team learning.<sup>6</sup>

## NOT EVERYTHING APPLIES UNIVERSALLY ... PURPOSE-DRIVEN PRACTICES ARE NEEDED

While some guidelines are universal, not all debriefs can or should be the same.<sup>11</sup> For example, while ‘adequate

structure’ is a universal guideline, the specific structure for a thorough 45 min postsimulation debrief should be different than for a 5 min postoperative debrief. The approach chosen should align closely with the context and intent of the debrief.<sup>12</sup>

For example, while inquiry is important in all instances, a debrief leader should ask different questions based on the purpose of the debrief. Consider a nursing team with a stable membership that works together constantly. They might debrief to maintain a shared mental model and improve coordination within their team. A relevant, forward-looking discussion question the leader could ask is “what should we continue to do, stop doing, and do differently?” In contrast, a trauma team with a continually changing membership might use their debriefs to agree on some consistent behaviours team members should demonstrate in any trauma team. A forward-looking question they could discuss is “what should we each be prepared to do when we are on a future team facing this type of challenge?” And students who are completing a team experience together but who will not be working together in the future would debrief as a way to develop individual, transportable teamwork competencies. The faculty leader could ask the debrief question, “what did you learn from this that you’ll take with you to use on future teams?”

While the universal principles are increasingly clear, few studies have examined detailed interaction patterns during debriefs, so the study by Kolbe *et al* is a welcome addition to the research literature. By examining team debriefs at such a granular level, they were able to provide more specific insights about debriefing practices, for example, about how to balance inquiry and advocacy by pairing observations and opinions with open-ended questions. However, it is important to keep in mind that they studied debriefs

in a simulated training environment, so the case was preset, the learning objectives were known, the debriefers were trained and more time was available to conduct the debrief than in a typical in situ debrief. A micro-analysis of in situ debriefs might reveal different interaction patterns.

### PREPARE FACULTY, TRAINERS AND TEAM LEADERS TO LEAD TEAM DEBRIEFS

Given the prevalence of teams in healthcare and the demonstrated efficacy of well-conducted team debriefs, we contend that debriefs should occur more consistently. However, one limiting factor that inhibits the adoption and expanded use of debriefs is a lack of trained debrief leaders.

Other researchers, including Kolbe *et al* in this issue, have called for the development of debriefing skills in faculty, trainers and clinical team leaders.<sup>13 14</sup> We strongly endorse that perspective. As Kolbe *et al* note, many clinicians and faculty find it difficult to lead debriefs. The aviation industry discovered that strong interpersonal skills and technical competence were insufficient for leading a debrief, and that specific debriefing skills were also needed.<sup>15</sup> Fortunately, it appears that debriefing capabilities can be built through training and feedback.<sup>16 17</sup>

One group that would clearly benefit from the development of debriefing skills are faculty members who both educate students and engage in clinical practice. As educators, they could apply those skills when they lead debriefs during class exercises and simulations as well as during student internships, clerkships and rotations. When a faculty member conducts an effective debrief, the direct impact is that the students are likely to learn more, while students also experience what effective debriefs look like. This exposure can help normalise the use of debriefs, increasing student receptivity to and readiness for future debriefs. When students graduate, they immediately become team members, where they may be asked to participate as peers in clinical debriefs. Their readiness is important, because as Kolbe *et al* demonstrate, peer behaviours influence how effectively a team engages in reflection.

When faculty are acting as practising clinicians, they can also lead debriefs for their work team. Ultimately, any team leader, faculty or otherwise, would benefit from learning how to conduct quick, structured team debriefs. We encourage healthcare systems to embed the development of debriefing skills into their manager training, teaching the universal debriefing guidelines and specific debriefing practices.

A second group worthy of additional attention are advanced trainees such as medical and nursing residents/fellows. They should be considered a priority target for debrief training because of their dual status as learner and influencer. Junior residents and other students pay close attention to experienced residents and fellows.<sup>18</sup> Seeing a role model lead an effective debrief may encourage junior

trainees and students to adopt a similar approach as they progress in their career.

We would also recommend that healthcare systems develop a small cadre of expert team coaches who are available to help teams improve their effectiveness. Coaches can facilitate team debriefs, model effective debrief facilitation, prepare team leaders to lead subsequent debriefs and provide relevant feedback to leaders.<sup>19</sup>

### LOOKING AHEAD

We believe enough is known about team debriefing to merit expanded use. However, we also acknowledge that there is more to be learnt. Research should further examine similarities and differences in educational and in situ debriefs, to clarify the unique dynamics and needs in various settings. The type of micro-analytic approach used by Kolbe *et al* may be useful here.

A second research need relates to the frequency and timing of debriefs. Some recent research suggests that primary care teams were more likely to improve with higher debriefing exposure.<sup>20</sup> Currently, little is known about the optimal frequency and timing of debriefs, particularly in intact teams.

Third, far less research has been conducted involving teams of teams. These complex, dynamic teaming arrangements are increasingly common (eg, cancer care is performed by interconnected teams of primary care providers, oncologists, surgeons, etc). This arrangement offers potential advantages, but members can find it difficult to maintain a shared mental model, communicate across boundaries and engage in mutual performance monitoring and backup. As a result, this type of dynamic teaming would logically benefit from purpose-driven debriefing practices and tools, and future research should test this supposition.

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### REFERENCES

- 1 Tannenbaum S, Salas E. *Teams that work: the seven drivers of team effectiveness*. New York: Oxford University Press, 2021.
- 2 Keiser NL, Arthur W. A meta-analysis of the effectiveness of the after-action review (or debrief) and factors that influence its effectiveness. *J Appl Psychol* 2021;106:1007–32.
- 3 Couper K, Salman B, Soar J, *et al*. Debriefing to improve outcomes from critical illness: a systematic review and meta-analysis. *Intensive Care Med* 2013;39:1513–23.
- 4 Tannenbaum SI, Cerasoli CP. Do team and individual debriefs enhance performance? A meta-analysis. *Hum Factors* 2013;55:231–45.

- 5 Kolbe M, Grande B, Lehmann-Willenbrock N, *et al.* Helping healthcare teams to debrief effectively: associations of debriefers' actions and participants' reflections during team debriefings. *BMJ Qual Saf* 2023;32:160–72.
- 6 Salas E, Klein C, King H, *et al.* Debriefing medical teams: 12 evidence-based best practices and tips. *Jt Comm J Qual Patient Saf* 2008;34:518–27.
- 7 Tannenbaum S. I, Goldhaber-Fiebert SN. Medical team debriefs: simple, powerful, underutilized. In: *Improving patient safety through teamwork and team training*, 2013: 249–53.
- 8 Keiser NL, Arthur, W. A meta-analysis of task and training characteristics that contribute to or attenuate the effectiveness of the after-action review (or debrief). *J Bus Psychol* 2022;37:953–76.
- 9 Kolbe M, Eppich W, Rudolph J, *et al.* Managing psychological safety in debriefings: a dynamic balancing act. *BMJ Simul Technol Enhanc Learn* 2020;6:164–71.
- 10 Reyes DL, Tannenbaum SI, Salas E. Team development: the power of debriefing. *People & Strategy* 2018;41:46–52.
- 11 Allen JA, Reiter-Palmon R, Crowe J, *et al.* Debriefs: teams learning from doing in context. *Am Psychol* 2018;73:504–16.
- 12 Kolbe M, Schmutz S, Seelandt JC, *et al.* Team debriefings in healthcare: aligning intention and impact. *BMJ* 2021;374:n2042.
- 13 Cheng A, Grant V, Dieckmann P, *et al.* Faculty development for simulation programs: five issues for the future of debriefing training. *Simul Healthc* 2015;10:217–22.
- 14 Peterson DT, Watts PI, Epps CA, *et al.* Simulation faculty development: a tiered approach. *Simul Healthc* 2017;12:254–9.
- 15 Dismukes RK, Jobe KK, McDonnell LK. Facilitating LOFT debriefings: A critical analysis. In: Dismukes RK, Smith GM, eds. *Facilitation in aviation training and operations*. Aldershot, UK: Ashgate, 2000: 13–25.
- 16 Ahmed M, Arora S, Russ S, *et al.* Operation debrief: a sharp improvement in performance feedback in the operating room. *Ann Surg* 2013;258:958–63.
- 17 Tanoubi I, Labben I, Guédira S, *et al.* The impact of a high fidelity simulation-based debriefing course on the debriefing assessment for simulation in healthcare (DASH)© score of novice instructors. *J Adv Med Educ Prof* 2019;7:159–64.
- 18 Sternszus R, Cruess S, Cruess R, *et al.* Residents as role models: impact on undergraduate trainees. *Acad Med* 2012;87:1282–7.
- 19 Finch EP, Langston M, Erickson D, *et al.* Debriefing in the OR: a quality improvement project. *Aorn J* 2019;109:336–44.
- 20 Hysong SJ, Amspoker AB, Hughes AM, *et al.* Improving team coordination in primary-care settings via multifaceted team-based feedback: a non-randomised controlled trial study. *BJGP Open* 2021;5. doi:10.3399/BJGPO.2020.0185. [Epub ahead of print: 26 04 2021].