

# Long-Term Outcomes of a Simulation-Based Remediation for Residents and Faculty With Unprofessional Behavior

Jeannette Guerrasio, MD

Eva M. Aagaard, MD

## ABSTRACT

**Background** There are few studies describing remediation for unprofessional behavior in residents and faculty and none that assess the long-term impact of remediation.

**Objective** We implemented a simulation-based personalized remediation program for unprofessional behavior in residents and faculty and collected assessments from participants and referring supervisors.

**Methods** Residents and faculty were referred for unprofessional behaviors, including aggressive, condescending, and argumentative communication styles as well as an inability to read social cues. We had standardized patients recreate the scenarios that triggered the unprofessional behavior. After each scenario, participants reviewed a videotape of their performance, participated in guided self-reflection and feedback, and then iteratively practiced skills. In 2017, about 2 to 4 years after the intervention, we conducted structured phenomenological qualitative interviews until thematic saturation was reached. Transcripts were analyzed inductively for themes by 2 reviewers (J.G. and research assistant).

**Results** Requests for interviews were sent to 16 residents, 8 faculty members, and 24 supervisors, including program directors. Nine remediation participants (38%) and 19 referring supervisors (79%) were interviewed. Sixteen supervisors reported no recurrence of unprofessional behavior in participants 2 to 4 years after the intervention, and participants identified behavioral strategies to reduce unprofessional behavior. Participants and respective supervisors reported similar themes of behavior changes that resulted in improved professional interaction with others.

**Conclusions** A simulation-based personalized remediation program for unprofessional behavior, where faculty and residents practice behaviors with guided feedback, can lead to sustained positive behavior change in participants.

## Introduction

Remedial training methods for physicians who struggle with unprofessional behavior are often ad hoc, are poorly described, and have unknown long-term results.<sup>1</sup> While a 2011 report of the Association of American Medical Colleges survey concluded that medical simulation is being used to teach and assess students, residents, and practicing physicians in nearly all of the Accreditation Council for Graduate Medical Education core competencies, including professionalism, only 44% of medical schools and 19% of teaching hospitals reported using simulation for the remediation of professionalism.<sup>2</sup> In 2012, a think tank of experts on professional behavior identified a need for the academic community to develop evidence-based interventions to remediate lapses in professional behavior.<sup>1</sup>

In this article, we describe the simulation-based remediation methodology used to address individual skill deficiencies in struggling residents and practicing

physicians at the University of Colorado School of Medicine.<sup>3</sup> The study assessed the long-term effect of simulation used for specific unprofessional behaviors in residents and faculty referred for remediation.

## Methods

### Setting and Participants

In 2017, about 2 to 4 years after the remediation intervention, a research assistant conducted structured telephone interviews with participants and their referring supervisors to assess perceptions of the remediation, impact on subsequent performance, sustainability of any described changes, and subsequent career outcomes. The interview guide was designed by 2 investigators (J.G. and E.M.A.) through an iterative consensus-building process and was conducted by a research assistant to allow for confidential responses (interview guide provided as online supplemental material). A phenomenological qualitative interview approach was chosen to obtain in-depth descriptions of the impact of the remediation and the perspectives of the participants and supervisors involved in the process. This qualitative approach allowed us to better understand the experience

DOI: <http://dx.doi.org/10.4300/JGME-D-18-00263.1>

*Editor's Note: The online version of this article contains the interview guides and a case example with sample recommendations.*

of the participants. Invitations to participate were sent to all 24 participants in the remediation simulation and to their supervisors. Participants did not know that the supervisors were invited to participate.

### Description of the Intervention

From 2013 to 2015, remedial training was conducted at a simulation center, led by 2 physicians and a communication skills specialist with prior experience and successful outcomes in remedial training (the remediation team). Faculty and residents were referred by program directors, department chairs, or the office of professionalism, which receives and investigates reports of unprofessional behavior. Behaviors that triggered the need for a remediation intervention included aggressive, condescending, and argumentative communication styles; events resulting from these deficiencies; and the inability to read social cues. Referrals were substantiated with collateral information using multisource evaluations and verbal and e-mail reports from administrators, faculty, learners, and staff. The remediation team then met with each referred individual for 1 hour to review the person's performance history and perspectives on the performance challenges, events related to the referral, current impact on work performance, and prior attempts at behavior change. The interviewers attempted to identify and verify patterns of behavior and triggering events.

To prepare for the remediation, we designed cases and scenarios based on data we collected. Cases typically included interactions involving respectful dissent; managing disoriented or disruptive patients, family, and team members; providing feedback to challenging supervisors, peers, and learners; managing interdepartmental and interprofessional peer conflicts; and advocating for self, team, program, and resources further up the organizational chain.<sup>3</sup> The scenarios were designed to replicate the situations that resulted in the referral and were vetted with the respective clinical departments for validity. We trained a core group of standardized patients who had been previously trained in advanced communication, feedback, and coaching skills on the scenario goals and portrayals.

Each remediation session lasted 10 to 15 minutes and included 3 to 4 simulated scenarios. Immediately after each scenario, the participant, remediation team, and standardized patient reviewed a video recording of the interaction. Participants were asked to openly reflect on their performance. Standardized patients and the remediation team provided focused and skill-based feedback with techniques participants could try

in subsequent encounters. The participants also provided feedback and constructed action plans for an individual with a professionalism lapse similar to their own. This allowed the remediation team to assess the individual's skill retention and capacity for deeper reflection.

Following the remediation session, participants received a written summary of how to implement the recommendations in their clinical environment. The entire process took approximately 8 hours (a case example with sample recommendations is provided as online supplemental material).

The study was deemed exempt by the Colorado Multiple Institutional Review Board.

### Outcomes and Analysis

Interviews were audiorecorded for transcription, and transcripts were deidentified prior to analysis. One investigator (J.G.) and 1 research assistant both independently developed an initial coding scheme, compared and identified common emergent categories to create a thematic framework, coded the transcripts independently, and met to compare results until agreement on final themes, subthemes, and codes was achieved. Similar themes and subthemes were paired between residents and faculty when possible, highlighting similarities and differences between these 2 groups. Interviews continued until saturation was reached. Final codes and themes were member checked and confirmed to be correct.

### Results

Nine participants (6 residents, 3 faculty; 38%) and 19 referring supervisors (1 dean, 11 residency program directors, 7 department chairs; 79%) participated in the guided interviews. While all interviewed individuals reflected positively on their experience at the simulation center, 3 (33%) acknowledged frustration that remediation was mandatory and described feeling targeted. All participants readily identified behavioral strategies acquired during the remediation and reported appreciation for and repeated use of the postintervention written summary. Participants and supervisors both reported similar changes in behavior as a result of the intervention (TABLE). The FIGURE includes paired comments from participants and supervisors.

Of the 19 supervisors interviewed, 16 reported that the participant had shown no recurrence of unprofessional behavior. Two reported that the participant had continued to demonstrate the same behaviors that resulted in his or her referral, and 1 reported improvement but not complete cessation of unprofessional behavior. Four referred individuals were

TABLE

Reported Observed Changes in Behavior After Intervention From Referred and Referrer Perspectives<sup>a</sup>

Observed Changes in Behavior	
Per Referred Resident and Faculty	Per Referring Supervisors
Improved self-awareness, resilience, and well-being: <ul style="list-style-type: none"> <li>▪ More self-aware</li> <li>▪ More empathetic</li> <li>▪ Open to continuous self-improvement and feedback</li> <li>▪ Improved job satisfaction</li> <li>▪ Improved ability to manage stress</li> <li>▪ Better able to regulate emotions</li> <li>▪ More self-reflective</li> <li>▪ Happy at work and in personal relationships</li> </ul>	Improved self-awareness, resilience, and well-being: <ul style="list-style-type: none"> <li>▪ Improved body language</li> <li>▪ More confidence</li> <li>▪ Improved ability to manage stress</li> <li>▪ Asks for help</li> <li>▪ Improved job satisfaction and perceived mood</li> <li>▪ Better able to regulate emotions</li> </ul>
More professional interactions: <ul style="list-style-type: none"> <li>▪ Ability to choose conflict resolution options</li> <li>▪ Improved situational monitoring</li> <li>▪ Ability to elicit more information from patients</li> </ul>	More professional interactions: <ul style="list-style-type: none"> <li>▪ Improved communication about patient care</li> <li>▪ More collaborative teamwork</li> <li>▪ More effective leader</li> </ul>
Improved work effectiveness: <ul style="list-style-type: none"> <li>▪ More assertive</li> <li>▪ Awareness of other perspectives</li> </ul>	Improved work effectiveness: <ul style="list-style-type: none"> <li>▪ Improved documentation</li> <li>▪ Better able to make quick decisions</li> <li>▪ Safe to practice clinically</li> <li>▪ Better cross-cultural and system awareness</li> </ul>
Improved feedback and evaluations: <ul style="list-style-type: none"> <li>▪ Improved patient survey data</li> <li>▪ Fewer patient complaints</li> <li>▪ More organized</li> <li>▪ Return to good academic standing</li> </ul>	Improved feedback and evaluations: <ul style="list-style-type: none"> <li>▪ Return to good academic standing</li> <li>▪ Off remediation or probation</li> <li>▪ Graduated</li> <li>▪ Teaching privileges reinstated</li> <li>▪ Fewer complaints</li> <li>▪ Absence of risk management reports</li> </ul>
Change in career trajectory: <ul style="list-style-type: none"> <li>▪ Opportunity for hire after postgraduate training at same institution or others</li> </ul>	Change in career trajectory: <ul style="list-style-type: none"> <li>▪ Hired after postgraduate training without performance concerns</li> <li>▪ Successful chief resident</li> <li>▪ Won teaching awards</li> <li>▪ Chosen as teaching/education scholar</li> <li>▪ Appointed to leadership position</li> <li>▪ Resigned, still in practice elsewhere</li> </ul>

<sup>a</sup> Referred residents and faculty were asked to identify any self-observed changes in behavior, while supervisors were asked about directly observed behaviors.

hired following their postgraduate training and remained employed at the time of the interview. The supervisors identified 11 individuals for their subsequent achievements, with 8 being appointed to positions of leadership, 2 winning teaching awards, and 1 achieving both. Four participants had fewer subsequent risk management reports than prior to referral for remediation. One individual resigned but is in practice in new settings.

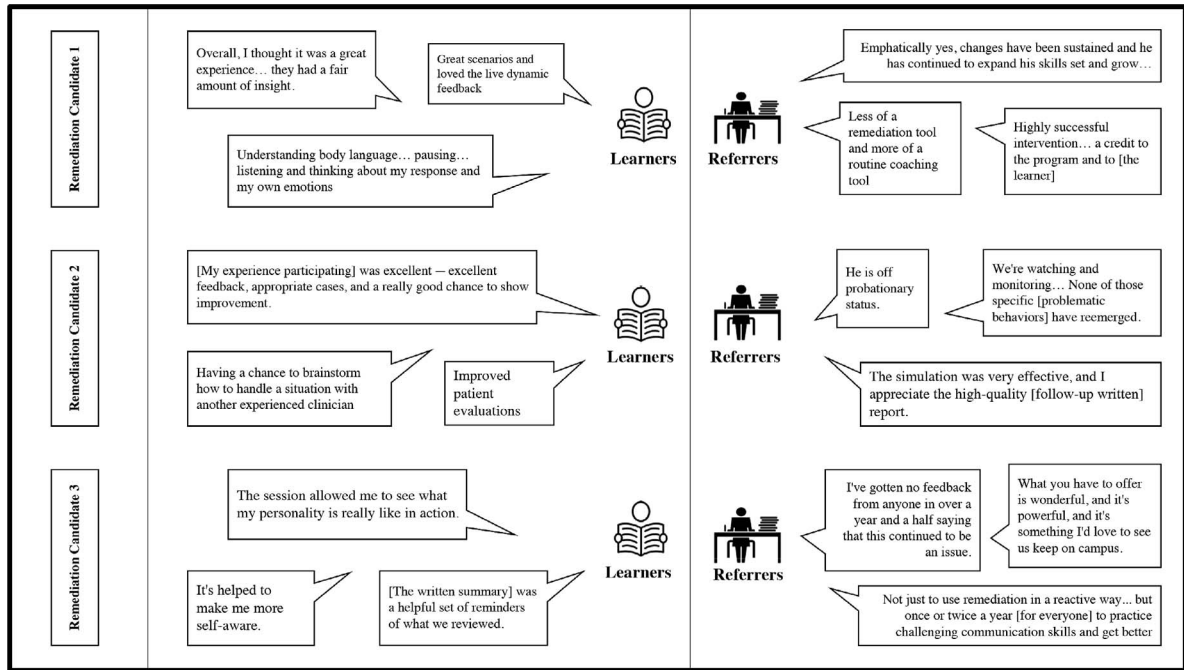
## Discussion

While medical schools and teaching hospitals report using simulation for the remediation of professionalism, further description of how it was used is not available.<sup>2</sup> To our knowledge, this is the first

description of a personalized remediation program with encouraging long-term outcomes.<sup>4,5</sup>

The remediation methodology, grounded in expertise theory,<sup>6</sup> represents a unique approach to provide remedial training for those who struggle with professionalism. Prior studies on the remediation of unprofessional behavior have focused on describing remediation methods without individual outcomes,<sup>7,8</sup> or as 1 area of deficiency embedded in a larger remediation program.<sup>9-11</sup>

This study has several limitations. The intervention occurred at 1 institution with special resources, including a remediation team and a well-developed simulation center with highly skilled standardized patients, which may not be feasible for all programs. Although we reached saturation with the interviews,



**FIGURE**  
Paired Comments From Referred Individuals and Their Supervisors

only 38% of the total participants and 79% of their supervisors were interviewed. It is possible that those with more positive results volunteered to participate. The study was conducted 2 to 4 years after remediation, and behaviors may have regressed as participants continue in their careers.

Our next steps include reproducing this program at other institutions, reassessing participants' status in 7 to 10 years, and seeking less resource-intensive methods to achieve similar results.

## Conclusion

A simulation-based personalized remediation program for unprofessional behavior, which is supportive of faculty and residents practicing positive behaviors with guided feedback, appears to result in long-term positive behavior change in participants.

## References

- Papadakis MA, Paauw DS, Hafferty FW, et al. Perspective: the education community must develop best practices informed by evidence-based research to remediate lapses of professionalism. *Acad Med.* 2012;87(12):1694–1698.
- Passimant M, Sacks H, Huang G. Medical simulation in medical education: results of an AAMC survey. September 2011. <https://www.aamc.org/download/259760/data/>

medicalsimulationinmedicaleducationanaamcsurvey.pdf. Accessed October 11, 2018.

- Broadfoot K, Guerrasio J, Aagaard E. Beyond procedures and checklists: using simulation to remediate communication and professionalism skill challenges. *SGIM Forum.* 2015;38(9):1–2.
- Ericsson KA. Acquisition and maintenance of medical expertise: a perspective from the performance approach with deliberate practice. *Acad Med.* 2015;90(11):1471–1486.
- Eppich WJ, Hunt EA, Duval-Arnould JM, et al. Structuring feedback and debriefing to achieve mastery learning goals. *Acad Med.* 2015;90(11):1501–1508.
- Ericsson KA, Smith J, eds. *Toward a General Theory of Expertise: Prospects and Limits.* Cambridge, MA: Cambridge University Press; 1991.
- Regan L, Hexom B, Nazario S, et al. Remediation methods for milestones related to interpersonal and communication skills and professionalism. *J Grad Med Educ.* 2016;8(1):18–23.
- Ziring D, Danoff D, Grosseman S, et al. How do medical schools identify and remediate professionalism lapses in medical students? A study of US and Canadian medical schools. *Acad Med.* 2015;90(7):913–920.
- Warbuton KM, Goren E, Dine J. Comprehensive assessment of struggling learners referred to a graduate medical education remediation program. *J Grad Med Educ.* 2017;9(6):763–767.
- Guerrasio J, Garrity MJ, Aagaard EM. Learner deficits and academic outcomes of medical students, residents,

fellows and physicians referred to a remediation program, 2006–2012. *Acad Med.* 2014;89(2):352–358.

11. Zbieranowski I, Takahashi SG, Verma S, et al. Remediation of residents in difficulty: a retrospective 10-year review of the experience of a postgraduate board of examiners. *Acad Med.* 2013;88(1):111–116.



**Jeannette Guerrasio, MD**, is Director of Undergraduate Medical Education and Graduate Medical Education Remediation, University of Colorado School of Medicine; and **Eva M. Aagaard, MD**, is Senior Associate Dean for Education, Washington University in St. Louis.

Funding: The authors report no external funding source for this study.

Conflict of interest: The authors declare they have no competing interests.

This study was presented as a poster at the Accreditation Council for Graduate Medical Education Annual Educational Conference, Orlando, Florida, February 28–March 4, 2018.

The authors would like to thank Kirsten Broadfoot, PhD, for collaborating in the intervention design and implementation and the staff and standardized patients at the Center for Advancing Professional Excellence; Janet Corral, PhD, for her comments on the final manuscript; and David Jensen, research assistant, for conducting interviews and assisting with data analysis.

Corresponding author: Jeannette Guerrasio, MD, University of Colorado School of Medicine, Mail Code F782, 12401 East 17th Avenue, Aurora, CO 80045, 720.848.4289, fax 720.848.4293, jeannette.guerrasio@ucdenver.edu

Received April 3, 2018; revisions received June 10, 2018, and July 26, 2018; accepted August 8, 2018.