Five Influential Factors for Clinical Team Performance in Urgent, Emergency Care Contexts

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ABSTRACT

Introduction: In deployed contexts, military medical care is provided through the coordinated efforts of multiple interdisciplinary teams that work across and between a continuum of widely distributed role theaters. The forms these teams take, and functional demands, vary by roles of care, location, and mission requirements. Understanding the requirements for optimal performance of these teams to provide emergency, urgent, and trauma care for multiple patients simultaneously is critical. A team’s collective ability to function is dependent on the clinical expertise (knowledge and skills), authority, experience, and affective management capabilities of the team members. Identifying the relative impacts of multiple performance factors on the accuracy of care provided by interdisciplinary clinical teams will inform targeted development requirements.

Materials and Methods: A regression study design determined the extent to which factors known to influence team performance impacted the effectiveness of small, six to eight people, interdisciplinary teams tasked with concurrently caring for multiple patients with urgent, emergency care needs. Linear regression analysis was used to distinguish which of the 11 identified predictors individually and collectively contributed to the clinical accuracy of team performance in simulated emergency care contexts.

Results: All data met the assumptions for regression analyses. Stepwise linear regression analysis of the 11 predictors on team performance yielded a model of five predictors accounting for 82.30% of the variance. The five predictors of team performance include (1) clinical skills, (2) team size, (3) authority profile, (4) clinical knowledge, and (5) familiarity with team members. The analysis of variance confirmed a significant linear relationship between team performance and the five predictors, $F(5, 240) = 218.34, P < .001$.

Conclusions: The outcomes of this study demonstrate that the collective knowledge, skills, and abilities within an urgent, emergency care team must be developed to the extent that each team member is able to competently perform their role functions and that smaller teams benefit by being composed of clinical authorities who are familiar with each other. Ideally, smaller, forward-deployed military teams will be an expert team of individual experts, with the collective expertise and abilities required for their patients. This expertise and familiarity are advantageous for collective consideration of significant clinical details, potential alternatives for treatment, decision-making, and effective implementation of clinical skills during patient care. Identifying the most influential team performance factors narrows the focus of team development strategies to precisely what is needed for a team to optimally perform.

INTRODUCTION

In deployed environments, military medical care is provided through the coordinated efforts of multiple teams of interdisciplinary providers working across and between a continuum of widely distributed theaters and roles of care. These levels of care vary substantially in facility, infrastructure, and both human and material resources. For example, an injured patient...
may be cared for at the point of injury by a medic working out of their backpack medical kit and then transferred to an austere far-forward Role 2 Military Treatment Facility (MTF) for damage control resuscitation or damage control surgery.\textsuperscript{2,3} Role 2 MTFs may be supported by a small team of physicians, surgeons, and nurses but have no reasonable capability to hold patients, so when the patient has proven clinical stability, they will be transferred to a higher level of care. The Role 3 MTF is the highest level of care on the battlefield and includes additional, but still limited, capacity, capabilities, and resources, including some specialty care for selected definitive surgical care and prolonged critical care, if needed.\textsuperscript{5} When the patient is able to withstand lengthy transport, they will be transferred to a well-equipped Role 4 theater outside the continental USA and subsequently to a Role 4 military medical center in the continental USA for definitive care and rehabilitation. The forms these teams take, and functional demands that are demanded of them, vary by role, location, and mission requirements.\textsuperscript{3,4}

Role 4 military health care teams largely function in a similar way to civilian care teams, with designated roles and responsibilities distributed along professional lines. Physicians, surgeons, nurses, and other health care providers perform their specific duties individually and in parallel. However, military team members at Role 1 through Role 3 must have multidisciplinary knowledge and function as they are challenged with performing tasks that are not typical of their specialty or discipline.\textsuperscript{5,6} For example, a six-member Role 2 team comprised of two surgeons, one physician, two nurses, and a technician must be able to provide emergency, urgent, and trauma care for multiple patients presenting simultaneously.\textsuperscript{2,5,6} Understanding the multidisciplinary requirements and implied redundancy of capabilities for optimal performance of small teams is essential to assure that the team is competent to perform the implicit and explicit individual and collective tasks to optimize clinical outcomes.

In any performance context, team members contribute their clinical abilities within their scope of practice, but also must collectively adapt and adjust to the situational requirements of clinical care (facilities, resource limitations, etc.) and military-specific challenges (multiple patients with variable criticality, site security, transport limitations, etc.). A military medical team will collectively share the individual complexities of each team member, as well as the contextual complexities of the patient care environment, which itself is set within a complex, interconnected, distributed system. This is especially true for military medical teams in deployed contexts, where care is provided in MTFs ranging from remote, austere sites to well-resourced facilities with subspecialty services.\textsuperscript{1–9} Each team member will bring their own professional training and experience to the team, which will influence their understanding of, and response to, the situational factors of patient care.\textsuperscript{10} These disparate perspectives may challenge the alignment of patient care efforts, especially during high-stress, high-acuity situations such as multiple concurrent emergency patients or trauma patients from a mass casualty event.\textsuperscript{2,3,5–13}

Individual factors such as clinical and procedural knowledge and skills; affective elements such as fatigue, intimidation, and distress associated with caring for devastating injuries or injured children; and anxiety over contextual limitations differentially impact an individual’s ability to perform, as well as the team’s ability to effectively function.\textsuperscript{13–20} Therefore, the team’s collective ability to function effectively is dependent on the clinical expertise (knowledge and skills), authority, experience, fatigue, and affective management capabilities of each individual team member. Teams that understand each member’s expertise and constraints are able to collectively minimize detrimental internal and external factors that can hamper team effectiveness.\textsuperscript{21–24} The team performance literature includes studies examining the various influences of discrete individual and group factors on team performance; however, it is not clear which of these factors are most impactful. The purpose of this study was to determine the relative impacts of contributing factors identified in the team performance literature on the clinical performance of interdisciplinary teams during the concurrent provision of urgent, emergency clinical care for multiple patients.

METHODS

Study Design

The study was reviewed and completed in compliance with the United States Army Medical Research and Development Command (USAMRMC) Office of Research Protections Human Research Protection Office requirements (A18987). The research question was: What are the separate and collective effects of the 11 previously identified contributing factors on the clinical performance of interdisciplinary teams during the concurrent provision of urgent, emergency clinical care for multiple patients? We implemented a regression study design to determine the extent to which the collective characteristics of team members impacted the effectiveness of small, six to eight people, interdisciplinary teams tasked with concurrently caring for multiple patients with urgent, emergency care needs. Regression analysis was used to understand which among these independent factors significantly contribute to team performance, and how they relate to each other. Understanding the relationships between these factors is essential for determining how to effectively improve team performance, especially as they relate to the development of potential training solutions (Suppl Figure A).

Sample

The study was completed using a purposive sample of clinically active urgent, emergency care personnel from four academic medical centers with level-one trauma facilities at demographically distinct sites in Norfolk, VA; Providence, RI; Phoenix, AZ; and New York, NY. The sample included physicians, nurses, and other health professionals from each
site \( (N = 241) \). Participants were first stratified by professional discipline to assure that each team had at least one physician and one nurse. After stratification, participants were randomly assigned to teams of six to eight clinicians, for a total of 34 different interdisciplinary teams. All participants voluntarily consented to engage in study activities and to be video-recorded as part of the study records. The gender composition of the sample was 145 females (60%) and 96 males (40%).

**Variables and Measurement**

**Criterion**

The criterion variable was team performance and was measured by the accuracy of clinical care provided to the standardized and simulated study patients and the associated interpersonal dynamics within the teams during patient care. The accuracy of clinical care was defined as the correct and timely implementation of patient examination, diagnosis, treatment, monitoring, and dispositioning to the next level of care. The standard for each performance element was consistent, accurate, and timely completion of the element (score +1). Efficient teams were also awarded a bonus (score +0.5). Performance items that were accurate, but either inconsistent or delayed, were scored as partially meeting the performance standard (score +0.5). Performance elements that were inconsistent, inaccurate, and delayed were scored as not meeting the performance standard (score −0.5). Unprofessional or unsafe practice, including clinical errors and significant delays in care, was also scored (score −1). The criterion variable for each team was calculated as the sum of the team performance assessments for the three study patients. Additional measurement details for the criterion are provided in the Supplementary material (Supp_Measurement of Variables).

Team performance assessment was scored in real-time by three trained and verified raters during the provision of care in the high-stress simulated urgent, emergency care context. All project-associated staff, standardized patients, and raters were trained to achieve reliable performance between the data collection sites. All assessment instruments were programmed into a tablet-based app to facilitate real-time performance measurement at each site and write all encrypted data to a single secure database. This system improved the efficiency of data collection, minimized the risk of transcription or coding errors, and assured the confidentiality of all human performance data.

**Predictors**

The predictor variables included 11 team characteristics known to have potential impacts on urgent, emergency care team performance:\(^{14–20}\) Predictor variables were calculated from data captured from each participant before study activities and through direct assessment during study activities. Predictor variables included: (1) clinical knowledge, (2) fatigue, (3) assertiveness, (4) authority level, (5) experience in the patient care context, (6) clinical experience in emergency care, (7) gender distribution within the team, (8) familiarity with team members, (9) certainty of team abilities, (10) clinical skills, and (11) the number of team members. Clinical knowledge was measured through an exam covering the content of the patient scenarios. Fatigue and assertiveness predictors were measured with published, validated instrumentation.\(^{25,26}\) Authority level, experience in the patient care context and emergency care, gender distribution within the team, familiarity with team members, and certainty of team abilities were measured through self-reported responses to a survey. Clinical skills were assessed in real-time by the team raters during the provision of patient care, as described for the criterion. Interdisciplinary emergency teams rely on the collective capabilities of the team to work interdependently and accurately as a unit, and their function is connected to the combined capabilities of the team members. Therefore, predictor data for the teams were calculated as the mean of the data captured for the team members assigned to each team, with the exception of gender composition. Additional measurement details for all predictors are provided in the Supplementary material (Supp_Measurement of Variables).

**Data Collection**

Participants completed the instrumentation designed to measure the predictor variables before entering the simulation space. Before engaging in the simulated care activity, participants were oriented to the environment and briefed about the study activities, including that they would be managing patients in a simulated emergency department. Participants were then presented with the first of three patients. All activities in the simulated care environment were video-recorded to confirm any potential discrepancies that might arise between the team performance raters.

The constituent components of a high-stress urgent, emergency care context were created using simulation-based methods and standardized patients. The three patient scenarios were designed to elicit the use of both breadth and depth of knowledge, skills, affective management strategies, and interdisciplinary acumen to accurately and effectively provide patient care. In selecting the cases for the study activities, we attempted to choose non-trauma clinical situations that could be present at civilian and military treatment facilities, as well as military deployed care contexts, where patients may include local nationals, contractors, military personnel, and enemy combatants. We did not include a trauma scenario as part of the study because it would have required the inclusion of both surgical personnel and expensive single-use models to simulate traumatic injuries, neither of which were feasible to implement at each of the four sites. Each scenario was designed to be an emergency and urgent, with symptomologies that could indicate multiple etiologies. The purpose was to challenge the teams without the use of obscure, rare events that do not represent the more typical, stressful case management situations that occur more routinely in
urgent, emergency care contexts. Details associated with the patient scenarios are presented in the Supplementary material (Suppl_Patient Scenarios).

The clinical presentations of the patients included critical conditions with symptoms that could represent a variety of illnesses: septic shock, pediatric exposure to neurotoxin, and an obese teen in labor with an unknown pregnancy. The patients were introduced to the teams sequentially, in the same way they might be in an actual urgent, emergency care context. The occurrence of clinical indicators for each patient was timed to force decision-making and team coordination under the pressures of both time and criticality (Supp_Figure B). Teams worked to stabilize the patients during the time allotted to the scenario (45 minutes), after which the team leader (physician) dispositioned the patients to the next level of care (intensive care, surgery, obstetrics, neonatology, etc.) by completing a “hand-off” to one of the team’s performance raters. Communication errors frequently occur during the transition of patient care between teams (patient hand-off). After the patients were transferred to the next level of care (scenarios completed), all team members had the opportunity to debrief and discuss their performance; however, these discussions were neither recorded nor analyzed for the purposes of this study.

Teams were concurrently assessed by three raters in real-time on their performance of clinical skills and the accuracy of clinical care provided to the patient. After the activity was complete, the raters discussed and resolved any variance between their scoring, with weight given to direct observation of actions. If necessary, video playback was accessed to confirm perceptions so that all ratings were based and documented on consensus agreement.

**Statistical Analyses**

Descriptive values for team performance and each of the predictor variables were calculated. Because the predictors and criterion were measured using different scales, transforming the coefficients into standardized scores (z-scores) assured that they were directly comparable to one another.

In preparation for performing multiple regression analyses, we examined the interrelationships between the predictors and the criterion to confirm that the data assumptions were met. Specifically, the independence of all data was confirmed using Durbin–Watson statistics, and tests for homoscedasticity, normality, multicollinearity (absence), and outliers (absence) were confirmed.

We performed a multilevel regression with the site as a predictor at one level and the other predictors at a second level. The site location did not indicate a significant relationship with the criterion, and so we completed a stepwise linear regression analysis (probability of F to enter ≤.05; F to remove ≥.10) to predict the value of team performance from the values of the 11 predictors. The normal distribution of residuals (errors) was confirmed. Lastly, the regression model was tested as a whole using the analysis of variance to confirm a significant linear relationship between team performance and at least one of the predictors. Statistical significance was set as P < .05.

**RESULTS**

Descriptive values for the study sample, team performance, and each of the predictor variables are presented as raw scores (not standardized) in Table I. There were no significant differences between the overall team performance outcomes for the four sites, confirming that site selections balanced geographic location as a potentially confounding factor.

**Team Performance Linear Regression Analyses**

All data met the assumptions for regression analyses. Stepwise linear regression analyses of the 11 predictor variables on team performance yielded a model of five predictors accounting for 82.30% of the variance. Table II shows the stepwise model for each of the five predictors, with $R^2$ indicating the relative percentage of team performance variance contributed by each predictor, ranging from 0% to 100%. The five predictors of team performance include (1) clinical skills, (2) team size, (3) authority level, (4) clinical knowledge, and (5) team familiarity. Figure 1 shows the resulting line from the

### Table I. Descriptive Statistics for Team Predictors and Criterion Variables

<table>
<thead>
<tr>
<th>Predictor and criterion variables</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean/frequency</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predictor Team gender mix (%F)</td>
<td>0.17</td>
<td>1.00</td>
<td>0.60</td>
<td>0.18</td>
</tr>
<tr>
<td>Predictor Team size (max: 8)</td>
<td>4.00</td>
<td>8.00</td>
<td>7.22</td>
<td>0.88</td>
</tr>
<tr>
<td>Predictor Team certainty (max: 6)</td>
<td>1.00</td>
<td>6.00</td>
<td>4.86</td>
<td>1.37</td>
</tr>
<tr>
<td>Predictor Team fatigue (max: 30)</td>
<td>6.00</td>
<td>14.00</td>
<td>9.56</td>
<td>1.55</td>
</tr>
<tr>
<td>Predictor Team assertiveness (max: 105)</td>
<td>34.50</td>
<td>45.17</td>
<td>39.90</td>
<td>6.56</td>
</tr>
<tr>
<td>Predictor Team experience in patient care context (max: 52)</td>
<td>22.00</td>
<td>48.00</td>
<td>35.74</td>
<td>5.75</td>
</tr>
<tr>
<td>Predictor Team clinical knowledge (max: 100)</td>
<td>3.00</td>
<td>11.88</td>
<td>7.27</td>
<td>2.45</td>
</tr>
<tr>
<td>Predictor Team familiarity (max: 7)</td>
<td>0</td>
<td>7.00</td>
<td>3.00</td>
<td>2.05</td>
</tr>
<tr>
<td>Predictor Team clinical skills (max: 285)</td>
<td>126.00</td>
<td>285.00</td>
<td>192.42</td>
<td>41.95</td>
</tr>
<tr>
<td>Criterion Team performance accuracy (max: 34)</td>
<td>6.00</td>
<td>21.00</td>
<td>12.51</td>
<td>4.60</td>
</tr>
</tbody>
</table>
linear regression analysis plotted over the correlation scatter-plot of the predictor (x-axis) and criterion (y-axis) data. The regression line has a clear positive slope with minimal offset, showing a relatively strong, positive correlation between the predictors and team performance. The derived model predicts that improvements in the five identified predictors will lead to improvements in team performance. A residual is the difference between the measured value (scatterplot) and the predicted value from the regression line (regression line), and residuals for a strong model should be normally distributed. Figure 2 shows the actual residuals of the derived model versus their expected values when the distribution is normal. The close alignment of the actual residuals with the expected values further confirms the strength of the derived model. Lastly, the analysis of variance confirmed a significant linear relationship between team performance and the five predictors, \( F(5, 240) = 218.34, P < .001 \).

### DISCUSSION

The purpose of this study was to determine the relative impact of 11 predictor variables on the performance of clinical teams in the provision of urgent, emergency care. The linear regression analysis for the team performance yielded a five-predictor model accounting for 82.30% of the total variance in team performance (\( P < .001 \)). All of the five significant predictors (clinical skills, team size, clinical knowledge, authority, and familiarity) had a positive relationship to team performance such that a greater value for these predictors corresponds with better team performance. It makes sense that a team with deep domain knowledge and the ability to accurately and effectively perform clinical skills would perform well. The team would have a collective depth of knowledge and skills that would allow it to function across a broader spectrum of cases. It also makes sense that teams who are more familiar with each other will perform significantly better than teams that have challenges communicating and working in synthesis. The comfort and confidence that arises from working with known teammates may allow for shared expertise to be more readily integrated into the diagnostic processes and implementation of treatment options.

It also makes sense that larger teams will have an easier time managing multiple demands than smaller teams. Notably, the incremental difference between six and eight people on a team made a significant difference in team performance when managing three concurrent patients. This suggests that even incremental increases in staffing may have a significant positive impact on the clinical accuracy of a team’s performance of concurrent patients. This would likely be magnified for larger numbers of patients, as might occur during a mass casualty event.

Teams with a greater number of physicians and advanced practice clinicians had a higher authority profile and performed significantly better than teams with fewer clinical authorities. Clinical authorities may be more confident and decisive in their clinical reasoning and judgment because they are more accustomed to these functions in their routine clinical work. In that sense, it makes sense that a team with a greater number of clinical authorities would perform better when compared to teams with fewer authorities. However, the potential for dissonance in a team could result if there are competing views between clinical authorities, even if these types of occurrences did not happen during the study activities. Similarly, teams without clinical authorities may be challenged to confidently make clinical judgments and decisions, even if they have sufficient knowledge and skills to provide the necessary patient care. Although all study teams included at least one physician, the outcomes from the analysis suggest that additional team members who are also clinical authorities increase the overall clinical team performance.

Proficient clinical teams significantly improve clinical outcomes, patient safety, and quality of care that benefits patients by decreasing the incidence of unanticipated infection, untreated pain, poor clinical outcomes, longer hospital stays, and increased recovery periods. Effective clinical teams also increase the diagnostic power applied to challenging medical problems and are more likely to develop improvements to the provision of patient care. There are a number of ways to improve the effectiveness of teams, but team training is the most common and is the best documented across multiple domains. Team training assumes that members are competent in performing individual task work and typically targets team-based competencies such as situational awareness, knowledge of roles and responsibilities, and strategies for communication and collaboration. Therefore, we considered the study outcomes as they might relate to the development of training methodologies for urgent, emergency care teams. Although important considerations, team size and the authority levels of clinicians that comprise a team are not amenable to training. Clinical skills, clinical knowledge, and team familiarity may all be improved through training.

### TABLE II. Five-Predictor Regression Model for Urgent, Emergency Care Team Performance

<table>
<thead>
<tr>
<th>Predictor</th>
<th>( R )</th>
<th>( R^2 )</th>
<th>( R^2 ) change</th>
<th>( F ) change</th>
<th>Significance ( F ) change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical skills</td>
<td>0.855</td>
<td>0.731</td>
<td>0.731</td>
<td>650.87</td>
<td>0.000</td>
</tr>
<tr>
<td>Number of team members</td>
<td>0.896</td>
<td>0.803</td>
<td>0.072</td>
<td>87.116</td>
<td>0.000</td>
</tr>
<tr>
<td>Authority profile</td>
<td>0.900</td>
<td>0.809</td>
<td>0.006</td>
<td>7.278</td>
<td>0.007</td>
</tr>
<tr>
<td>Clinical knowledge</td>
<td>0.903</td>
<td>0.816</td>
<td>0.007</td>
<td>8.422</td>
<td>0.004</td>
</tr>
<tr>
<td>Familiarity within team</td>
<td>0.907</td>
<td>0.823</td>
<td>0.007</td>
<td>9.349</td>
<td>0.002</td>
</tr>
</tbody>
</table>
especially if the training is facilitated with all team members completing training activities together.

Team training developers frequently focus on universal concepts such as leadership, communication, and situational awareness; however, the outcomes from this study suggest that a broad or generic approach to team training may not be relevant to the specific needs of urgent, emergency care teams. Training that does not address the perceived needs of a team is unlikely to be valued and integrated into practice, and a singular model to inform best team training practices may not adequately address the specific performance challenges of every clinical team. Adaptive strategies that adjust to the defined needs of a team and optimize training for particular types of teams have a greater likelihood of effecting positive change in team performance in a cost-effective way. Assuring each team member has the requisite clinical knowledge and the ability to perform necessary clinical skills within the performance domain is paramount for urgent, emergency care teams. Team training that serves to develop familiarity between team members would likely have a direct impact on the performance of the clinical team. For best effect, these training strategies should include contextually
relevant scenarios that engage the team members in realistic patient management activities that align with their team functions. Situationally appropriate simulated environments are well suited to this type of training, especially if the case management details are variably challenging to stretch the performance boundaries of the team. Debriefing opportunities further support this form of training by engaging team members in quality improvement processes and facilitating shared knowledge and clinical techniques between team members.

The outcomes from this study have the potential to inform training paradigms that serve the specific functional requirements of clinical teams by engaging team members with content and activities that have relevance and meaning to them. This may be especially true during pre-deployment windows, where individuals are preparing to work together in expeditionary settings with limited resources. The value of simulated drills for solidifying team practices and functionality during the management of urgent, emergency, and trauma patients is a well-established concept. In particular, in preparation for mass casualty events in deployed and domestic contexts and for small far-forward surgical teams, these drills provide opportunities for clinical teams to work through potential performance deficits in advance of their potential need.

Foundationally, the outcomes from this study indicate that along with team composition and familiarity within the team, clinical knowledge and skills are fundamental to the accuracy of team performance. That is, the study outcomes suggest that smaller teams must have the collective individual capabilities of the team. Expert teams of individual experts deploy military teams will be an expert team of individual experts. These outcomes reinforce the aims of the DoD clinical readiness program, which requires military medical personnel to maintain their individual clinical readiness for expeditionary care through the maintenance of specialty-specific knowledge, skills, and professional abilities. Maintaining individual readiness ahead of team readiness assures that team members are able to perform their respective roles and increases the probability of successful team performance. Facilitating opportunities to build familiarity among team members and assuring sufficient team structure will add further support.

The process of empirically identifying the most impactful components of performance for urgent, emergency care teams has value for other types of health care teams as well. By determining the factors with the greatest influence on the performance of any team, solutions can be developed with an optimal likelihood of achieving sustainable improvement. The identification of empirically derived factors that predict team performance will also lead to a more robust performance assessment by defining the factors most likely to adversely impact team performance. This will minimize the implementation of low-value assessment of loosely defined constructs, such as communication. The methodological approach of using regression analyses of contextually relevant empirical data will uncover the most important factors associated with team performance in any given clinical context, regardless of the type of team or member composition.

Limitations
There are several limitations to consider when evaluating potential implications of the study outcomes. Several of the predictors were measured using self-reported data, which are inherently biased and unverifiable for accuracy. Nonetheless, we implemented scales designed specifically for these measures, all of which have well-established validity and reliability evidence.

We measured individual knowledge in the domain because the shared reasoning and decision-making that is emblematic of highly functional teams is based upon a collective understanding of the clinical construct. However, we did not directly measure the clinical skills of each individual, opting instead to examine the completion of requisite skills for each case at the team level. We believe this to be a more accurate representation of a true clinical team, with all team members performing different skills within their respective scopes of practice, and assessing clinical skills that were required for the case but not within an individual's scope of practice would be inaccurate.

Additionally, this study implemented a process for identifying the discrete factors that significantly impact the performance of urgent, emergency care teams. The selection of cases for the study did not include trauma scenarios, the management of which would further amplify the performance requirements for the clinical team to include significant time pressures, resource management concerns, rapid diagnoses, and expeditious implementation of life–limb–eyesight saving procedures. The factors influencing trauma team performance may be slightly different from the results reported in this study. Likewise, the factors influencing the performance of clinical teams who work together in nonurgent, nonemergency care contexts may be quite different from these study results. Optimal team development strategies for other specialty contexts might require a different foundation because the factors that impact team performance in those contexts may be different.

Conclusions
The outcomes of this study demonstrate that the collective knowledge, skills, and abilities within an urgent, emergency care team must be developed to the extent that all team members are able to competently perform their role functions and that smaller teams benefit by being composed of clinical authorities who are familiar with each other. This expertise and familiarity are advantageous for collective consideration of significant clinical details, potential alternatives for treatment, decision-making, and effective implementation of clinical skills during patient care. Ideally, smaller, forward-deployed military teams will be an expert team of individual experts, with the collective expertise and abilities required for...
their patients. The process of defining the most influential factors in the performance of a specific type of team narrows the focus of team development strategies to precisely what is needed for that team and disregards that which does not significantly impact its performance. Identifying the most impactful contributors to the performance of any team type is essential for the development of effective solutions that ultimately improve clinical outcomes.

SUPPLEMENTARY MATERIAL
Supplementary material is available at Military Medicine online.

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CONFLICT OF INTEREST STATEMENT
None of the authors have additional disclosures or conflicts of interest.

ETHICAL REVIEW AND COMPLIANCE
The study was reviewed and completed in compliance with the USAMRMC Office of Research Protections Human Research Protection Office requirements.

DATA AVAILABILITY
The de-identified data underlying this article may be shared on reasonable request to the corresponding author.

REFERENCES
Predictors of Emergency Care Team Performance


