

# Medical mentorship in Afghanistan: How are military mentors perceived by Afghan health care providers?

Maj Andrew Beckett, MD  
Robert Fowler, MD  
Neil Adhikari, MD  
Laura Hawryluck, MD  
Tarek Razek, MD  
Col Homer Tien, MD, MSc

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**Correspondence to:**

A. Beckett  
1 Canadian Field Hospital  
Petawawa ON K8H 2X3  
andrew.beckett@muhc.mcgill.ca

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**Background:** Previous work has been published on the experiences of high-resource setting physicians mentoring in low-resource environments. However, not much is known about what mentees think about their First World mentors. We had the opportunity to explore this question in an Afghan Army Hospital, and we believe this is the first time this has been studied.

**Methods:** We conducted a pilot cross-sectional survey of Afghan health care providers evaluating their Canadian mentors. We created a culturally appropriate 19-question survey with 5-point Likert scores that was then translated into the local Afghan language. The survey questions were based on domains of Royal College of Physicians and Surgeons of Canada's CanMEDS criteria.

**Results:** The survey response rate was 90% (36 of 40). The respondents included 13 physicians, 21 nurses and 2 other health care professionals. Overall, most of the Afghan health care workers felt that working with mentors from high-resource settings was a positive experience (median 4.0, interquartile range [IQR] 4–4), according to CanMEDS domains. However, respondents indicated that the mentors were reliant on medical technology for diagnosis (median 5.0, IQR 4–5) and failed to consider the limited resources available in Afghanistan.

**Conclusion:** The overall impression of Afghan health care providers was that mentors are appropriate and helpful. CanMEDS can be used as a framework to evaluate mentors in low-resource conflict environments.

**Contexte :** Des travaux ont déjà été publiés sur l'expérience des médecins de milieux favorisés en ressources qui font du mentorat dans des milieux défavorisés en ressources. Toutefois, on en sait relativement peu sur ce que pensent les pupilles de leurs mentors des pays industrialisés. Nous avons eu l'occasion d'explorer cette question dans un hôpital militaire afghan et nous croyons qu'il s'agit de la première fois que ce sujet est étudié.

**Méthodes :** Nous avons réalisé un sondage pilote transversal auprès des professionnels de la santé afghans pour qu'ils évaluent leurs mentors canadiens. Nous avons créé un sondage culturellement approprié comportant 19 questions assorties d'échelles de Likert à 5 points, qui a ensuite été traduit en langue afghane locale. Les questions du sondage s'inspiraient des domaines des critères CanMEDS du Collège royal des médecins et chirurgiens du Canada.

**Résultats :** Le taux de réponse au sondage a été de 90 % (36 sur 40). Les répondants étaient : 13 médecins, 21 infirmières et 2 autres professionnels de la santé. Dans l'ensemble, la plupart des professionnels de la santé afghans ont estimé que de travailler avec des mentors provenant d'un milieu favorisé en ressources a été une expérience positive (médiane 4,0; intervalle interquartile [IIQ] 4–4), selon les domaines CanMEDS. Les répondants ont toutefois indiqué que les mentors se fiaient à la technologie médicale pour le diagnostic (médiane 5,0; IIQ 4–5) et négligeaient de tenir compte des ressources limitées accessibles en Afghanistan.

**Conclusion :** L'impression globale des professionnels de la santé afghans a été que les mentors sont qualifiés et utiles. Les critères CanMEDS peuvent être utilisés comme cadre pour évaluer les mentors dans des zones de conflit où les ressources sont limitées.

Previous work has been conducted on the experiences of high-resource setting medical and surgical mentors' impressions of teaching in resource-poor environments.<sup>1,2</sup> Mentors' perceptions, attitudes and actions in modelling professionalism and improving the quality of patient care are important to the success of such structured mentorship programs,<sup>3,4</sup> despite the difficulty in applying metrics to the concept of mentorship.<sup>5</sup> However, mentoring successfully in the immediate aftermath of a conflict situation poses additional challenges that have infrequently been described.<sup>16,7</sup> Such mentorship could be an important component of rebuilding and stabilizing health care infrastructure in several countries, including Afghanistan.<sup>8</sup>

In addition, there is a paucity of literature on how the recipients of such endeavours perceive such interactions and their objectives. The importance of understanding perceptions of Afghan trainees is not only to conduct more effective training but also to avoid incidents where cultural and personal differences may lead to resentment and even violence against mentors.<sup>9,10</sup>

From 2011 to 2012, personnel from 1 Canadian Field Hospital, Petawawa, Ont., were tasked with mentoring health care providers in Mazar-e-Sharif and Kabul, Afghanistan. This mentorship program for practising surgeons and physicians was the first mission of its kind for the Canadian military and presented a unique opportunity to explore mentees' perceptions of optimal medical and surgical mentorship in a conflict environment.<sup>11</sup> The program was designed to include mentoring of the 7 roles that make up the Royal College of Physicians and Surgeons of Canada's (RCPSC) CanMEDs framework: medical expert, communicator, collaborator, manager, health advocate, scholar and professional. The framework is based on empirical research, educational design techniques and RCPSC consensus decisions.<sup>12</sup>

The primary objectives of the present study were to determine how practising Afghan surgical and medical mentees perceive mentors from Canada as members of a North Atlantic Treaty Organization (NATO) training mission in Afghanistan, using a pilot self-administered, cross-sectional survey. A secondary objective was to improve predeployment training for future Canadian mentorship teams in Afghanistan.

The physician mentoring team consisted of a general and an orthopedic surgeon, an anesthesiologist, an internist and a family doctor. All specialists had served in combat and low-resource areas before, and all were employed in academic centres before the study. Other members of the team included nurses, a pharmacist, a dentist and a laboratory and diagnostic imaging technician.

## METHODS

### *Research setting*

Afghan National Army Region Military Hospital North (RMH-N) is located in the city of Mazar-e-Sharif in north-

western Afghanistan. It was a 50-bed permanent hospital and was expanding to 100 beds at the time the study was conducted from Nov. 15 to Dec. 24, 2011. The hospital included medical and surgical wards, 2 operating rooms, an emergency department with outpatient clinics and dental services, and basic laboratory and radiology facilities. The hospital mostly served Afghan National Army (ANA) soldiers, other members of the Afghan security forces and their dependents.

### *Canadian Forces Health Services mentors*

Members of the Canadian Forces Health Services (CFHS) mentorship team were trained before deployment using a modified CanMEDS model to give a Canadian values-based model of health care professionalism and expertise to Afghan trainees. Training included cultural sensitivity training, "train the trainer" instruction and a guide to CanMEDS mentorship. The 3-day training program was developed by Canadian Forces physicians and educational content experts in consultation with global health educators. Canadian mentors had the largest representation on a United States-led NATO mentoring team.

### *Study survey*

We developed a 19-question self-administered survey (Appendix 1) in consultation with native Afghan speakers and had it translated into the local official Afghan language of Dari (Afghan Language Services, Toronto, Ont.). We carefully reviewed each question to ensure its validity and effectiveness when translated into Dari. The survey questions were back-translated using official local interpreters. The back-translated questions matched the original English questions. Pilot testing was not conducted. In addition, we adopted a prior survey technique without full steps of survey development methodology undertaken.<sup>13</sup> This was done because of a limited time frame and because it was unknown how many Afghan mentees would be present when the mentorship team arrived. This survey tool was not previously validated, as no similar survey tool existed at the time of deployment of the mentorship team.

Question stems were based on domains of the RCPSC's CanMEDS physician development program.<sup>12</sup> Response frames used a 5-point Likert scale (1 = very inappropriate/strongly disagree, 2 = inappropriate/disagree, 3 = appropriate/neutral, 4 = good/agree, and 5 = very good/strongly agree). Designers of the study agreed to final question stems based on consensus.

### *Study participants*

We administered the survey among 40 Afghan army physicians, nurses and other Afghan health care mentees working at RMH-N. Areas of the hospital covered in this survey

were general surgery, orthopedic surgery, anesthesia, internal medicine, radiology, laboratory, emergency medicine and intensive care. Participation was voluntary, and all responses were anonymous and confidential. Translators explained the purpose of the study and distributed it to potential participants. The participants were able to ask one of us (A.B.) questions of clarification before completing the survey. Completed surveys and the related database were stored in a secure, locked facility. The database was stored on a password-protected computer.

**Study approval**

The research ethics board at the Canadian Defence Research Development Centre in Toronto, Ont., the NATO Medical Training Advisory Group in Mazar-e-Sharif and the ANA Commanding Officer of RMH-N approved the study.

**Statistical analysis**

All quantitative analyses were performed using Microsoft Excel 2007. Descriptive data are presented using means,

medians and interquartile ranges (IQR). No sample size calculation was performed, as the number of potential respondents was not known before commencement of the study.

**RESULTS**

Our survey response rate was 36 of 40 (90%); we received completed surveys from 13 physicians, 21 nurses and 2 other health care professionals. All respondents were men. Respondents generally reported the experience of working with NATO medical advisors as positive (Tables 1–3). For the CanMEDS roles of medical expert and scholar, most respondents agreed that the training and advice offered by NATO medical advisors was appropriate in the 6 items composing the medical expert role (mean rating 4.41).

However, respondents indicated that NATO advisors relied too heavily on advanced medical technology for diagnosis (median 5.0, IQR 4–5), failing to consider the limited resources available in an Afghanistan clinical setting. For the professional and communicator roles (Table 2), NATO advisors were perceived to be good partners in training and in cross-cultural communication (mean score 4.46). For the roles of collaborator, manager and health advocate, the

**Table 1. Royal College of Physicians and Surgeons of Canada medical expert and scholar domains of Canadian military mentors assessed by Afghan health care trainees using a 5-point Likert score survey**

Question	Likert question stem 5-point Likert scale	Mean (range)	Median (IQR)
1	NATO physician mentors provide adequate training in clinical knowledge for Afghan physician trainees.	4.47 (1–5)	5.0 (4–5)
2	NATO physician mentors provide adequate training in clinical skills (procedures/operations) to Afghan physician trainees.	4.41 (1–5)	4.0 (4–5)
3	NATO physician mentors give appropriate feedback for you to improve your skills.	4.73 (2–5)	4.5 (4–5)
4	NATO physician mentors give sufficient supervision.	4.44 (2–5)	4.5 (4–5)
5	The quality of training provided by NATO physician members is adequate.	4.52 (2–5)	4.0 (4–5)
6	NATO physician mentors are reliant on diagnostic imaging and laboratory equipment.	4.50 (3–5)	5.0 (4–5)

IQR = interquartile range; NATO = North Atlantic Treaty Organization.  
Overall mean: 4.51 (n = 36).

**Table 2. Royal College of Physicians and Surgeons of Canada professional and communicator domains of Canadian military mentors assessed by Afghan health care mentees using a 5-point Likert score survey**

Question	Likert question stem 5-point Likert scale	Mean (range)	Median (IQR)
1	NATO physician mentors set a good example for Afghan physician trainees.	4.47 (2–5)	5.0 (4–5)
2	NATO physician mentors are culturally sensitive to the needs of Afghan physician trainees.	4.47 (3–5)	5.0 (4–5)
3	The concern NATO physician mentors have for Afghan patients is appropriate.	4.47 (3–5)	4.0 (4–5)
4	NATO physician mentors are patient enough with Afghan physician trainees.	4.64 (2–5)	5.0 (4–5)
5	NATO physician mentors are approachable with regards to clinical matters and training issues.	4.44 (2–5)	5.0 (4–5)
6	NATO physician mentors are available for training of Afghan trainees.	4.52 (2–5)	5.0 (4–5)

IQR = interquartile range; NATO = North Atlantic Treaty Organization.  
Overall mean: 4.52 (n = 36).

scores were slightly lower (mean score 4.04; Table 3). Most respondents perceived their experience as having met their expectations (median 4.0, IQR 4–4). The overall score for their experience with NATO advisors was somewhat lower (mean 3.97) than the scores in individual areas.

## DISCUSSION

We found that ANA health care workers reported that the experience of NATO mentoring was beneficial overall; however, respondents perceived that NATO advisors were heavily reliant on advanced medical technology and had some difficulty adapting to realities of the limited resources available to Afghan military physicians. These findings were considered when training subsequent mentorship teams; training included greater emphasis on the use of clinical examinations and avoidance of overusing diagnostic laboratory and radiographic modalities.

The RCPSC CanMEDS roles were easily understood by Afghan respondents, revealing the cross-cultural versatility of the program and their utility in a limited-resource setting. In all 7 domains of CanMEDS, NATO mentors were evaluated as appropriate, competent and helpful.

This study is important because, to our knowledge, it reports the first survey of the perceptions of health care workers from a low-resource setting in combat regarding a health care mentorship program from high-resource setting physicians. However, conducting surveys in regions that have been destabilized by conflict and civil strife is difficult.<sup>7</sup> Issues of trust, especially with respect to confidentiality and anonymity of respondents, are important. These issues are compounded by the difficulties of evaluating the process of mentorship, where there can be role confusion between supervisors and

mentors.<sup>5</sup> This is particularly important when repercussions in the setting of conflict may include the threat of physical or financial harm to participants or their families and where there is no prior experience with research. However, research in these areas is still paramount to improve care.<sup>7</sup>

Other surveys and needs assessments have been done in Afghanistan, demonstrating a willingness among health care providers and consumers to participate. One survey was administered among Afghan consumers of health care facilities and involved a novel visual analogue scale, as many consumers were illiterate.<sup>14</sup> Another one was a needs assessment on maternal health care needs.<sup>15</sup>

A survey of civilian surgical and trauma care services in Afghanistan<sup>16</sup> revealed a system that has many deficits to providing adequate care to surgical and trauma patients. The study reported that of the 17 surveyed Afghan Health Care facilities only 5 (29.4%) had 24-hour surgical coverage, only 11 (64.7%) had certified surgeons, and only 5 (29.4%) had certified anesthesiologists. Life-saving procedures are rarely available in peripheral hospitals outside Kabul. Only 59% of facilities had functioning anesthesia equipment, and one-third did not have a blood bank. Only 12 (70.6%) facilities had the capability to position a chest tube, and only 8 (47%) had the capability to perform cricothyroidotomy and remove a foreign body from the throat.<sup>16</sup>

Little previous work has focused on surgical and medical training in Afghanistan. A recent, small study on the feasibility of laparoscopic cholecystectomy highlighted the difficulty and potential hazards of introducing surgical techniques and training to Afghanistan; the study reported a high number of bile duct injuries and other complications.<sup>17</sup> In another small study, mentorship by NATO countries in an ANA intensive care unit was shown to improve in-hospital mortality.<sup>6</sup> The CFHS, as

**Table 3. Royal College of Physicians and Surgeons of Canada collaborator, manager and advocate domains of Canadian military mentors assessed by Afghani health care trainees using a 5-point Likert score survey**

Question	Likert question stem 5-point Likert scale	Mean (range)	Median (IQR)
1	NATO physicians stay will stay long enough in Mazar e Sharif to allow for proper training of Afghan physician trainees.	4.50 (3–5)	5.0 (4–5)
2	NATO physician mentors have already prepared Afghan Army Physicians in Mazar e Sharif to establish a self sustaining Afghan Military Hospital.	4.52 (2–5)	4.5 (4–5)
3	NATO physician mentors provide clinical guidance that is appropriate to the local situation in Mazar e Sharif.	4.38 (3–5)	4.0 (4–5)
4	My opinion toward NATO physician mentors has changed since working with them.	3.9 (1–5)	4.0 (4–4)
5	Working with NATO physician mentors is what I expected.	4.05 (3–5)	4.0 (4–4)
6	The attitude of NATO physician mentors toward Afghan physician trainees is appropriate.	4.11 (2–5)	4.0 (4–4)
7	My overall experience with NATO physician mentors was good.	3.97 (2–5)	4.0 (4–4)

IQR = interquartile range; NATO = North Atlantic Treaty Organization.  
Overall mean: 4.2 (n = 36).

part of NATO, has had previous experience in training Afghan military health care providers in Kandahar province. It was noted that providing an appropriate curriculum to Afghan trainees in 2007 necessitated an increased emphasis on the basic principles of medical education, including anatomy and physiology.<sup>18</sup>

### Limitations

Conducting this type of survey in a region of conflict has the potential for multiple biases, including respondents not wanting to criticize NATO advisors for unfounded fears of repercussions. Many of the participants had never seen or completed a survey previously. In addition, as we did not pilot the study question stems, it is possible that there were problems with the way these questions were framed and that respondents were not reading the survey correctly. Finally, we had an incomplete response rate, and all respondents were men. As this was a unique environment, the generalizability of our results to other environments is uncertain.

### CONCLUSION

To our knowledge, this is the first report of using the RCPSC CanMEDs framework to evaluate the performance of medical and surgical advisors in a region of conflict. Our work demonstrates that surveys can be administered and completed in a conflict environment, as we obtained a high response rate of 90%. The overall impression of ANA health care providers was that NATO advisors are appropriate and helpful. This collaboration shows that NATO mentors using CanMEDS mentoring techniques in this setting is effective.

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**Affiliations:** From the 1 Canadian Field Hospital, Petawawa, Ont. (Beckett, Tien); Trauma Program, McGill University Health Centre, Montréal, Que. (Beckett, Hawryluck, Razek); Critical Care Medicine, University of Toronto, Toronto, Ont. (Fowler, Adhikari); and Sunnybrook Health Sciences Centre, Toronto, Ont. (Fowler, Adhikari, Tien).

**Competing interests:** None declared.

**Contributors:** A. Beckett, N. Adhikari and H. Tien designed the study. A. Beckett acquired the data, which all authors analyzed. A. Beckett, L. Hawryluck and H. Tien wrote the article, which all authors reviewed and approved for publication.

### References

1. Hubner ME, Ditzler TF. Humanitarian military medical mission in a postconflict environment: lessons from Cambodia. *Public Health* 2004;118:421-5.
2. Fricchione GL, Borba CP, Alem A, et al. Capacity building in global mental health: professional training. *Harv Rev Psychiatry* 2012;20:47-57.
3. Paice E, Heard S, Moss F. How important are role models in making good doctors? *BMJ* 2002;325:707-10.
4. Walker WOKP, Hume R. Mentoring for the New Millenium. *Med Educ Online* 2002;7.
5. Taherian K, Shekarchian M. Mentoring for doctors. Do its benefits outweigh its disadvantages? *Med Teach* 2008;30:e95-9.
6. Lin AH, Glover DE, Myers JS Jr. An overview of Afghan National Army critical care capabilities. *Mil Med* 2011;176:1003-6.
7. Ford N, Mills EJ, Zachariah R, et al. Ethics of conducting research in conflict settings. *Confl Health* 2009;3:7.
8. Kerry VB, Auld S, Farmer P. An international service corps for health—an unconventional prescription for diplomacy. *N Engl J Med* 2010;363:1199-201.
9. Bergen P. Shootings by Afghan forces take growing toll on NATO troops. CNN 2012 Aug. 13. Available: [www.cnn.com/2012/08/13/opinion/bergen-green-on-blue/](http://www.cnn.com/2012/08/13/opinion/bergen-green-on-blue/) (accessed 2015 Apr. 20).
10. Roggio B, Lundquist L. Green-on-blue attacks in Afghanistan: the data. *The Long War Journal* 2012. Available: [www.longwarjournal.org/archives/2012/08/green-on-blue\\_attack.php](http://www.longwarjournal.org/archives/2012/08/green-on-blue_attack.php) (accessed 2015 Apr. 20).
11. Tien H. The Canadian Forces trauma care system. *Can J Surg* 2011;54:S112-117.
12. Frank J, Jabbour, M. Report of the CanMEDS Phase IV Working Groups. Ottawa: The Royal College of Physicians and Surgeons of Canada; 2005.
13. Burns KE, Duffett M, Kho ME, et al. A guide for the design and conduct of self-administered surveys of clinicians. *CMAJ* 2008;179:245-252.
14. Hansen PM, Peters DH, Viswanathan K, et al. Client perceptions of the quality of primary care services in Afghanistan. *Int J Qual Health Care* 2008;20:384-91.
15. Khorrami H, Karzai F, Macri CJ, et al. Maternal healthcare needs assessment survey at Rabia Balkhi Hospital in Kabul, Afghanistan. *Int J Gynaecol Obstet* 2008;101:259-63.
16. Contini S, Taqdeer A, Cherian M, et al. Emergency and essential surgical services in Afghanistan: still a missing challenge. *World J Surg* 2010;34:473-9.
17. Manning RGAA. Should laparoscopic cholecystectomy be practiced in the developing world: the experience of the first training program in Afghanistan. *Ann Surg* 2009;249:794-8.
18. Saguil A, McCormack MT. Preparing for Afghanistan's medical future. *CMAJ* 2008;178:990.

## APPENDIX 1: SURVEY QUESTIONNAIRE FOR AFGHAN PHYSICIAN TRAINEES ON HOW FIRST WORLD SURGICAL MENTORS ARE PERCEIVED BY SURGICAL TRAINEES IN AFGHANISTAN, A LOW-INCOME COUNTRY

Indicate your judgment for each of the scales below by circling the number that you feel best characterizes your judgment		Strongly disagree	Disagree	Neutral	Good/agree	Strongly agree
A	NATO physician mentors provide adequate training in clinical knowledge for Afghan physician trainees	1	2	3	4	5
B	NATO physician mentors provide adequate training in clinical skills (procedures/operations) to Afghan physician trainees	1	2	3	4	5
C	NATO physician mentors are culturally sensitive to the needs of Afghan physician trainees	1	2	3	4	5
D	NATO physician mentors set a good example for Afghan physician trainees	1	2	3	4	5
E	NATO physician mentors give appropriate feedback for you to improve your skills	1	2	3	4	5
F	NATO physician mentors give sufficient suggestions	1	2	3	4	5
G	NATO physician mentors provide clinical guidance that is appropriate to the local situation in Mazar-e-Sharif	1	2	3	4	5
H	NATO physician mentors are reliant on diagnostic imaging and laboratory equipment	1	2	3	4	5
I	NATO physician mentors are available for training of Afghan trainees	1	2	3	4	5
J	NATO physician mentors are approachable with regards to clinical matters and training issues	1	2	3	4	5
K	The quality of training provided by NATO physician members is adequate	1	2	3	4	5
L	The concern NATO physician mentors have for Afghan patients is appropriate	1	2	3	4	5
M	NATO physicians stay long enough in Mazar-e-Sharif to allow for proper training of Afghan physician trainees	1	2	3	4	5
N	NATO physician mentors have already prepared Afghan Army physicians in Mazar-e-Sharif to establish a self-sustaining Afghan Military Hospital	1	2	3	4	5
O	NATO physician mentors are patient enough with Afghan physician trainees	1	2	3	4	5
P	The attitude of NATO physician mentors toward Afghan physician trainees is appropriate	1	2	3	4	5
R	My opinion toward NATO physician mentors has changed since working with them	1	2	3	4	5
S	Working with NATO physician mentors is what I expected	1	2	3	4	5
T	My overall experience with NATO physician mentors was good	1	2	3	4	5
This survey was translated in Afghan languages (Pashto and Dari). NATO = North Atlantic Treaty Organization.						