

# AN EVALUATION OF THE MEDICAL TRAINING APPLICATION SERVICE AS EXPERIENCED BY DEFENCE MEDICAL SERVICE MEDICAL OFFICERS

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## Abstract

**Objectives:** In 2007 Defence Medical Service (DMS) Medical Officers (MOs) applying to train within hospital based specialities were selected using the Medical Training Application Service (MTAS). Recognising the problems being reported about MTAS, the Defence Postgraduate Medical Deanery (DPMD) conducted an evaluation in order to assess whether DMS MOs had also experienced problems with the MTAS process.

**Methods:** DMS MO applicants were sent an email questionnaire, requesting both graded (Likert scale) and narrative responses, to gauge their opinion about the application service. The questionnaire covered the technical aspects of the process, the support available and the ability to demonstrate appropriate knowledge and skills.

**Results:** Only 42 responses (32%) were received. However, having considered areas of potential bias, the graded questionnaire results and thematic analysis of the narrative responses showed a clear consensus amongst the applicants in many areas. More than three quarters (78%) of DMS applicants criticised the opportunity to record their abilities and achievements, and 91% recorded that the questions were unable to differentiate between candidates. These views were mirrored in the narrative responses, with more than 130 statements covering five topic areas highlighting areas for improvement. Strong support was recorded for the work and advice provide by DPMD in support of the candidates.

**Conclusions:** DMS MOs presented very negative opinions of their experiences of MTAS, highlighting their perceptions that they were unable to record their particular skills and experiences and that the questions were unable to discriminate between specialties. Particular difficulties were reported in presenting non-NHS experiences and skills.

## Background

The Medical Training Application Service (MTAS) was introduced for the selection of doctors into run-through training programmes in 2007. This on-line system was designed to process all communication between applicants, deaneries and trusts, with the aim of enabling trainee doctors to be considered for entry into specialty training using a transparent, straightforward and competitive system (1). Unfortunately the introduction of MTAS has proved to be extremely problematic with nationwide complaints of fundamental flaws in both the national press and scientific journals (2-6).

Defence Medical Services (DMS) Medical Officers (MOs) working in hospital specialties undertake their specialist training within the NHS schemes. In order to demonstrate clear parity, DMS MOs have used MTAS as the selection process to confirm that they are of a suitable standard to train alongside their NHS colleagues.

This evaluation was carried out to assess the perceptions of DMS doctors regarding MTAS, in order to help to inform the Defence Postgraduate Medical Deanery's (DPMD) decision whether to continue using MTAS or any derivative system next year.

## Methodology

In order to gauge opinion about MTAS without introducing outcome bias, it was necessary to conduct the evaluation during the short period between completion of the selection process and dissemination of the results. An email based questionnaire approach was used in order to access a dispersed population and to enable rapid data collection.

A five point Likert rating-scale based questionnaire was used to gauge opinion (7), examining three areas: firstly - the technical process and procedural aspects involved in accessing and completing the MTAS forms; secondly - the quality of supporting information and advice that was available from Royal Colleges, Defence Consultant Advisers (DCAs), DPMD and MTAS help desks; and thirdly - the validity and effectiveness of the application form questions in aiding selection.

A further section was also provided for a separate narrative script to enable more free ranging opinion to be expressed, covering two areas: those aspects of the application process that went well and those which could be improved. Thematic

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content analysis was carried out to identify patterns of opinion. This inductive analysis was carried out prior to examining the Likert scale data in order to minimise bias (8). The two sets of data were then compared to obtain a measure of internal consistency.

The questionnaire was distributed via email with a covering letter explaining the purpose of the questionnaire, highlighting the fact that it was voluntary, that it was totally separate and could not influence that outcome of the selection process. Individuals were invited to complete the questionnaire on-line and submit their responses by email, with the alternative of submitting paper copies for those might be concerned about maintaining anonymity (which would of necessity be compromised using email). Recognising that email surveys may well get a poor response rate, the questionnaire was circulated a second time with a further covering letter one week after the first.

**Results**

One hundred and thirty one DMS doctors, who had gone through the MTAS selection procedure for entry into hospital disciplines at ST1, ST2 or ST3, were contacted by email from the database held within DPMD. A total of 42 (32%) personnel responded (35 using email and 7 using paper responses). The Service mix was: Navy = 21%, Army = 57%, RAF = 21%, with 88% Male and 12% Female responders. The specialties applied for were: Surgery = 52%, Emergency Medicine & Acute Care Common Stem = 19%, Anaesthetics = 19%, Medicine = 10%.

The responder population was also compared with the total DMS applicant population in order to identify potential sources of bias (Table 1). No significant difference was seen in

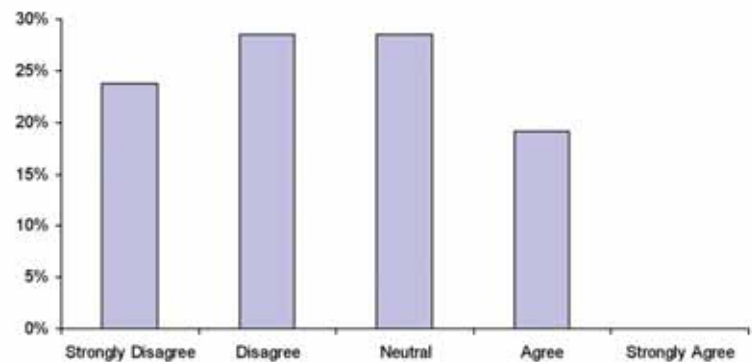
Table 2: Assessing the technical aspects of the application system

Questionnaire Statement	Mode & (% of total)
The screens on the application system were easy to read	4 (45%)
I was able to access and navigate through the application system as required	4 (45%)
I was able to save and exit the application form as required	4 (31%)
This system was an appropriate way for me to complete my application	2 (29%)
Learning how to operate the application system was straightforward for me	4 (45%)
The timescale for completing my application was sufficient	4 (29%)
How long did it take you to complete and submit your application?	21 hrs (Mean)

Rating Descriptors:

1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree

Figure 1: Appropriateness of the Application System



rate for the DMS MOs as a whole has been very high (82%), ranging from 100% passes for Medicine and 97% for Anaesthetics, down to 63% for Surgery (including all surgical sub-groups). In recognition of the fact that the surgical responder group might be different from the remainder, addition sub-group analysis was conducted on the Likert responses to compare Surgery v Non Surgery responses and is noted when a significant difference was detected.

Technical Aspects of Accessing and Completing the MTAS Forms. The modal values for the responses indicate that the candidates were able to access, navigate and use the on-line application system with ease (Table 2). When considering whether the online system was an appropriate method for applying, more than half responders (53%) disagreed or strongly disagreed, with only 19% agreeing to any degree (Figure 1). Whilst the modal value of applicants reported that they agreed that the timescale for submission was sufficient (29%), the overall response profile was more negative (50% = Disagree or Strongly disagree) whilst only 36% were in agreement (Figure 2).

When assessing ease of accessing the application system, just under half (43%) of the applicants stated that they had experienced difficulties to a greater or less extent (Figure 3). The experiences around submitting the application were a slightly better with 57% reporting minimal or no difficulty (Figure 4).

	Grouping	Questionnaire Responders Profile	Total Target Group Profile
Service	RN	9 (21%)	28 (21%)
	Army	24 (57%)	77 (59%)
	RAF	9 (21%)	26 (20%)
Gender	Male	37 (88%)	104 (80%)
	Female	5 (12%)	27 (20%)
Medical Specialty	Anaesthetics	8 (19%)	38 (29%)
	Emergency Medicine	8 (19%)	16 (12%)
	Medicine	4 (10%)	13 (10%)
	Surgery	22 (52%)	54 (41%)
	Other	0 (0%)	10 (8%)

Table 1: MTAS Questionnaire responder and target population profiles

the Service profile or the ST application year of the responders compared to the total group. There were however some differences between individual specialties, with an over-representation of surgical (Chi-Square Test: Surgery vs Non-Surgery Ratio, p = 0.025) and under-representation of anaesthetics applicants (Chi-Square Test: Anaesthetics vs Non-Anaesthetics Ratio, p = 0.028), though it should be noted that this equates to a single applicant difference in each group due to the relatively small numbers involved. Whilst the pass rate of the responder group could not be assessed, the MTAS success

Figure 2: Suitable Timescale for Submission

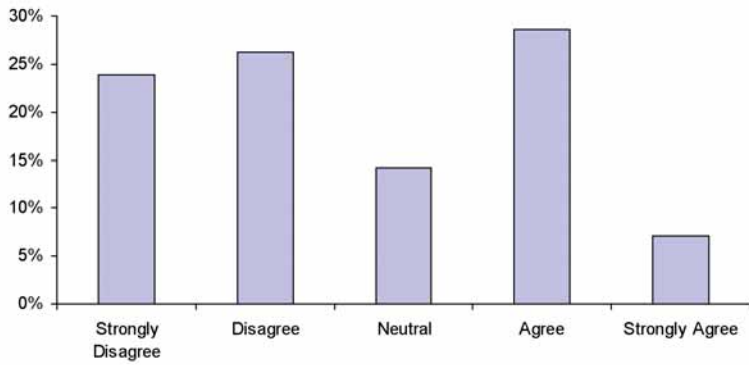


Figure 3: Degree of Difficulty Accessing the Application System.

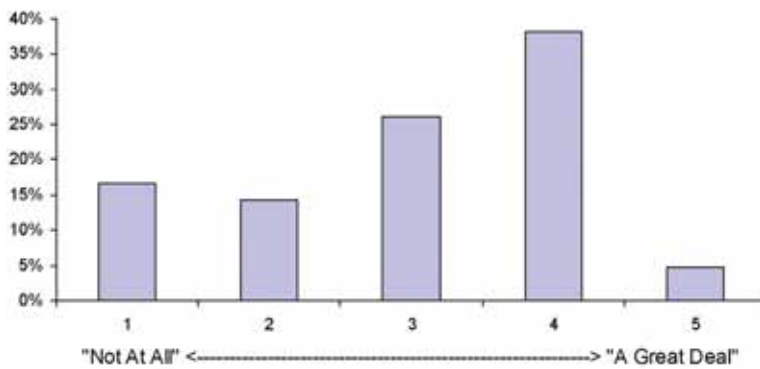
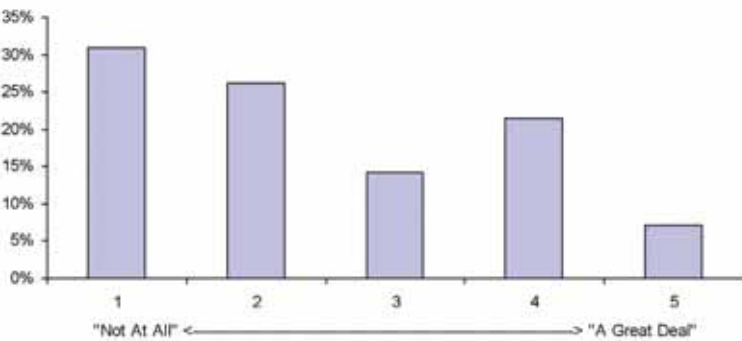


Figure 4: Ease of Submitting The Application On-Line



*Availability of Information.* The modal responses for this section were neutral or negative for all components except one (Table 3). None of the MMC/MTAS sources of information were considered useful, with 62% having negative responses regarding the MMC/MTAS applicants guide and 60% reporting that the MMC web site was not useful. Even more marked responses were seen when considering the usefulness of the MTAS web-based help with nearly three quarters (74%) of responders having a negative opinion of its usefulness (Figure 5). The only aspect rated positively was the advice provided by the Defence Consultant Advisers (DCAs) (43%), though even this showed a broad spread with only slightly fewer negative responses overall (34%) (Figure 6).

*Satisfaction with Advice Provided.* There was a marked contrast in satisfaction with advice provided by the MTAS/MMC help-desks and that from DPMD, with two thirds (67%) of applicants stating that they were satisfied with DPMD and only 17% expressing dissatisfaction, whilst the

Table 3: Availability of information when completing the application form

Source of Information/Advice	Extent of Use Mode & (% of total)	Usefulness Mode & (% of total)
Person specification(s) (MMC/MTAS websites)	3 (33%)	2 (36%)
Specialty pre-application information	2 (26%)	1 (33%)
Applicant's Guide (MMC/MTAS websites)	3 (29%)	2 (31%)
MTAS help and guidance pages	1 (29%)	1 (48%)
Guidance from individual Royal College(s)	3 (33%)	3 (31%)
MMC website	3 (40%)	1 (36%)
Advice from DCAs (if applicable)	4 (26%)	4 (29%)

Rating Descriptors:

- a. Extent of Use: 1 = "Did Not Use" ↔ 5 = "Used a Great Deal"
- b. Usefulness: 1 = "Not At All Useful" ↔ 5 = "Extremely Useful"

Figure 5: Usefulness of MTAS Web-based Help

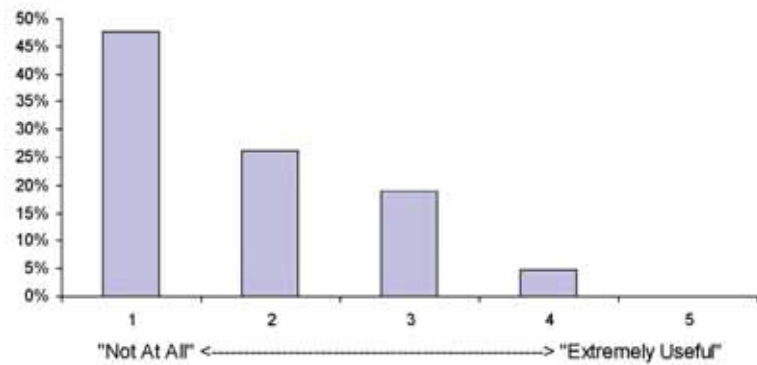
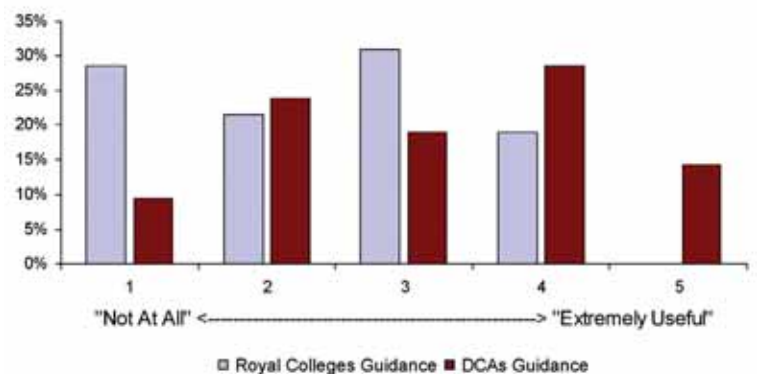


Figure 6: Guidance - Royal Colleges & DCAs



opposite was shown for the MTAS/MMC help-desk with only 5% positive responses and 69% negative (Figure 7).

*Content of the Application Form.* There was broad agreement that the entry criteria questions were relevant and fair, however when considering the selection criteria questions there was significantly more disagreement (Table 4). Nearly three quarters (72%) of the responders thought the selection criteria questions to be irrelevant and more than half (60%) thought the questions inappropriate for their specialty (Figure

Figure 7: Help & Advice Ratings (DPMD & MTAS/MMC Helpdesk)

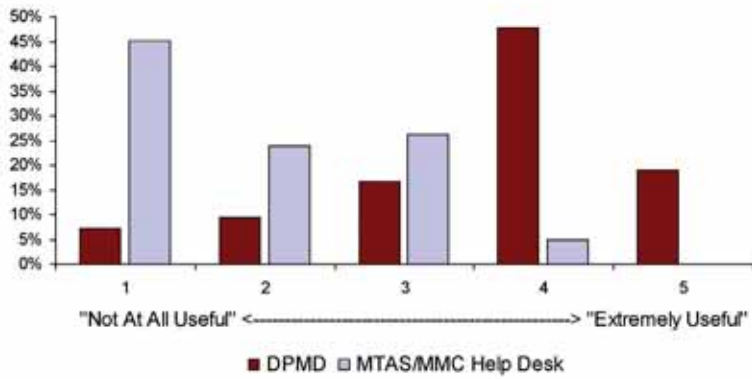


Table 4: The content of the application form

Questionnaire Statement	Mode & (% of total)
I believe most Service candidates completed their application honestly	5 (57%)
The content of the <b>entry criteria</b> sections of the application form was relevant to the training opportunities I was applying for	3 (38%)
The content of the <b>entry criteria</b> sections of the application form appeared to be fair	4 (33%)
The content of the <b>selection criteria</b> questions was relevant to the specialty/specialties I was applying for	2 (55%)
The content of the <b>selection criteria</b> questions seemed appropriate for the entry level(s) I was applying for	2 (36%)
The content of the <b>selection criteria</b> questions appeared to be fair	2 (40%)
The <b>selection criteria</b> questions gave me sufficient opportunity to record my abilities and achievements	1 (57%)
The <b>selection criteria</b> questions will help shortlisting panels to differentiate between candidates	1 (60%)
How long did it take you to complete the application form questions?	20 hrs

Rating Descriptors:

1 = Strongly Disagree, 2 = Disagree,

3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree

Figure 8: Selection Criteria Questions (Relevance & Appropriateness)

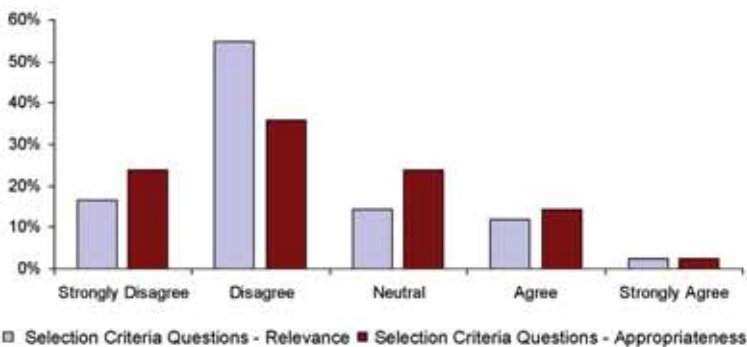


Figure 9: Selection Criteria Questions (Fairness)

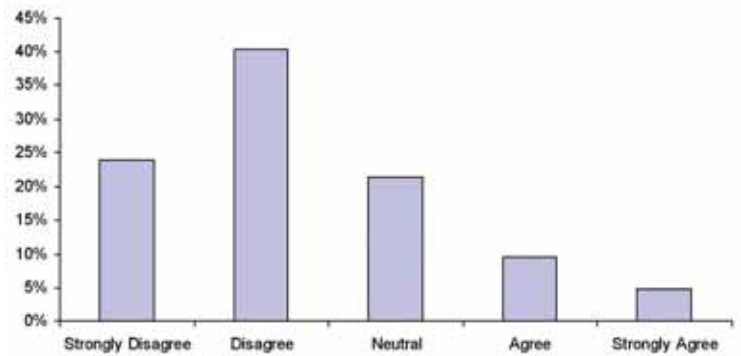


Figure 10: Selection Criteria Questions (Opportunity to Record Ability & Achievements)

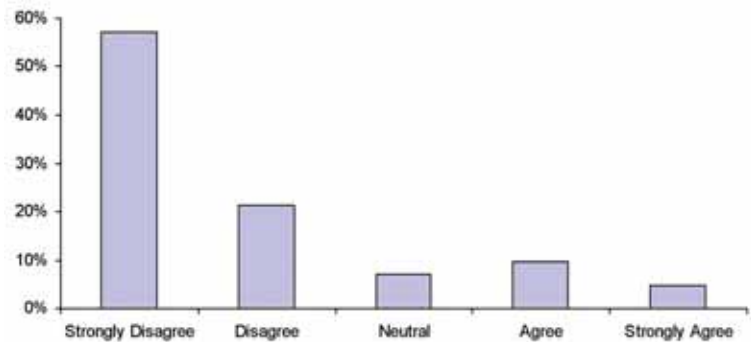
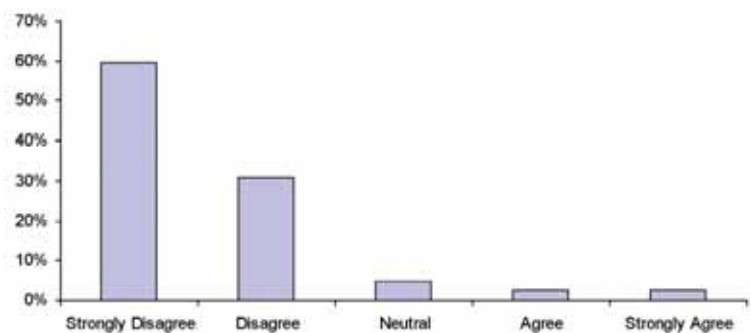


Figure 11: Selection Criteria Questions (Ability to Differentiate Between Candidates)



8). Even more polarised views were expressed in the remaining areas, with 64% regarding the selection questions as being unfair (Figure 9). More than three-quarters (78%) didn't think that they had sufficient opportunity to record their abilities and achievements (Figure 10) and, crucially, 91% recorded that they didn't think that the questions were able to differentiate between candidates (Figure 11). This last comparison also revealed a statistical difference between sub-groups (Chi Squared,  $p = 0.001$ ) with 85% negative response from surgical applicants and 94% negative response from non-surgical ones.

*Narrative Evaluation:* The narratives were read with the responses being grouped into themes. These were then compared and the narratives re-read independently, adding subsets within the themes if appropriate. The revised data sets were compared and consolidated into one set of broad themes with sub-topics, as summarised below:

*'What Went Well'*

<i>Themes:</i>	<i>Sub-Topics:</i>
General Supportive Statements	
IT Elements	- On-line application system - Application form
DPMD & DMS Specific Issues	- DPMD general support - Communication & information flow from DPMD - Defence Consultant Advisers

*'Areas For Improvement'*

<i>Themes:</i>	<i>Topics:</i>
General Dissatisfaction:	- 'Confusing Process' - 'Go Back to the Old System' - 'Totally Flawed System' - 'Excessive Political Correctness' - 'Lack of Specificity'
Flawed Concept Within the Application Process:	- SHO v FY Doctors - Inadequate Research and Development
Development	- CVs & Interviews
Application Process:	- IT Problems - Timings - Application Form Problems - CVs - Interview Format - Information Dissemination
Military Issues:	- Lack of Ability to Recognise Military
Medical Service	- Military Service Issues
DPMD Specific Issues:	- General Dissatisfaction - Communications - DCAs Roles

*"I did not encounter any significant problems with the IT".  
"The computer didn't crash and my application was received".*

The only theme that emerged with consistent positive comment related to the support provided by DPMD in areas of information dissemination, communication and personal help from the DPMD Staff Officers and the Defence Consultant Advisers (DCAs):

*"I doubt any civilian juniors had the level of support during the application process that was given to the military doctors".*

*"The military's open and honest approach was discernibly better than the MTAS/MMC shambles".*

*"DPM was always 'one step ahead of the game'".*

*"Clarity of communicating regarding the process by DPMD was much better than my civilian friends experienced".*

*"Excellent support from RAF DCA (practical advice)".*

**Narrative Evaluation - Areas for Improvement Summary:** When looking at the areas for improvement only 3/42 (7%) of the forms were left blank. There were 131 individual statements, covering 19 different topics within 5 main themes: General dissatisfaction; Flawed concepts within the application process; Problems with the application process; Military issues; DPMD specific issues.

The comments that were provided were longer and more emotive than those in the 'What Went Well' section. The general comments almost all expressed a strong feeling that the application system had failed the individuals:

*"I can safely say I think the process let me down".*

*"Having to go through the process as a paperwork exercise was an utter waste of time. Most things could be improved".*

These sentiments were mirrored in the other topics, where it was suggested that the system was conceptually flawed and was not being applied in a logical or appropriately researched manner:

*"Should have been piloted".*

*"Should have had a separate requirement for SHOs wrt FY doctors".*

*"Ridiculous weighting of research and papers over good clinical experience and references".*

*"Interviewers should have seen our application forms or CVs prior to interviews".*

*"I found it incredible that our CVs/portfolios were not taken into account in the system. This is now acknowledged as a failing in the MTAS system in general".*

There was frequent criticism for the way in which the IT system fared and the way the online application forms had been designed and their lack of suitability for purpose:

*"The capacity of the website was far less than it should have been".*

*"Extreme difficulties in accessing the information about interviews etc".*

*"150 words to express ones achievement is unrealistic (200 - 300 min)".*

*"Consultants marking horizontally have no feel for candidate".*

*"I could not fit everything I had done into 150 words".*

*"The application seemed to be more about how to write and do a good application than finding out about your achievements".*

There was consistent criticism that the system did not allow DMS MOs to demonstrate the military-specific components of their work or to display the 'added value' that their experiences may bring, albeit outside of an NHS hospital setting:

*"Took no account of Service experience and other qualifications, especially non standard experience (ie military*

**Narrative Evaluation - What Went Well:** When assessing the positive aspects, 16/42 (38%) of the responses were either blank or included a statement that there was nothing positive to say. There were 46 individual positive statements, covering six different topics within three main themes: general support; comments on the IT elements; DPMD and DMS specific comments.

It was notable that many of the positive comments were caveated with observations of some component that hadn't worked, or stating that although the respondent hadn't had a problem they knew of others who had. In other examples there was evidence of 'damning with faint praise':

*"I personally had no problems at all with the on line application however I do know people who had problems with the IT element (Site crashes etc)".*

*"The concept of submitting an application online is good as it is an improvement on the previous system of submitting numerous paper-based forms and many trips to the Post Office! However the 2 week time limit was unrealistic".*

GDMO time)".

*"As military surgeons/physicians we have a lot more to offer most interview panels than equivalent NHS colleagues. We could not do so with the interview process as it was".*

*"There was no scope for DMS candidates to expand on other relevant experiences they may have had during general duties including management, being a single handed practitioner etc".*

*Areas for improvement were also noted for both DPMD and the DCAs, though the number of comments were small (7 statements) and often related to specific scenarios, such as advising individuals who didn't fit the ST year group person-specifications:*

*"Poor understanding of the MTAS application form by deanery staff led to some poor advice on how to explain information for those few of us in between years (ie. Not FY2 and not SHO)".*

*"More guidance on question interpretation from DPMD/DCAs (i.e. What the often vague questions are trying to look/ask for in candidates)".*

## Discussion

This study has some constraints and potential weaknesses related to the relatively low response rate, which could introduce bias, however there are also a number of consistencies and strengths, which support the findings.

Email questionnaires have the advantage of reaching individuals very quickly and enabling rapid responses with minimal effort and no costs to the participant. There are, however, disadvantages with a lack of anonymity increasing the non-responder rate, as the sender's email address is displayed on the reply. In this study this was mitigated against through the explanatory covering letter, assuring participants that the data would be assumed to be anonymous by the researcher and providing an alternative option for responses via the postal system (An option only taken up by 17% of respondents).

Many questionnaire surveys, and especially email/internet based ones, are weakened by poor response rates. In this study two sequential email invitations to complete the questionnaire were distributed, resulting in a 32% response rate, which is lower than desired. Unfortunately the release of the interview results prevented any further attempts to follow up non-responders (e.g. a further mailing); however a review of the Service, Specialty and Gender profiles of the responders showed that this group broadly mirrored the proportions within the total eligible DMS doctor population, increasing confidence that this is a representative group. The very overall high success rate for DMS MOs also makes it unlikely that there was a significant proportion of poorly performing applicants amongst the responder group, further reducing the potential for bias.

Within the study there was consistency between the findings

of the Likert-scale questionnaire and the thematic analysis of the narrative responses. While the two methods of data collection are not independent, in that both sources of information were provided by the same individuals at the same time, having two different data sets has enabled a comparison to be conducted. It can be argued that triangulation such as this provides a further mechanism for increasing the validity of the information being assessed. It can also be of use as a mechanism of ensuring comprehensiveness and enhancing reflexive analysis, rather than as a pure test of validity .

## Conclusions

This evaluation has identified a clear consensus of opinion amongst DMS applicants that the MTAS process has fundamental flaws, undermining this group's ability to demonstrate their attributes and expertise. This is particularly noticeable when considering the need for the group to account for their 'non-standard'/non-NHS' military experiences which can be of great value in future training and is certainly of relevance for their employment.

From the DMS training perspective, DPMD remains fully committed to ensuring that military trainees are able to demonstrate suitable qualities to work and train effectively within both the NHS and Service environments (including military operations) prior to the allocation to training programmes. However DPMD does recognise the opinion of current applicants that the MTAS process is failing on both accounts. The deanery will monitor the developments of any MTAS derivative for next year and consider whether any additional mechanisms should be put in place to enable DMS candidates to present their Service specific skills and knowledge during the selection process.

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