ORIGINAL PAPER

# Screening for physical and psychological illness in the British Armed Forces: II: Barriers to screening – learning from the opinions of Service personnel

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**Objective:** To identify any potential barriers to the effectiveness of a military health screening programme based on the beliefs of British Service personnel.

**Methods:** As part of a pilot evaluation of the suitability of a new health screening questionnaire for the British Armed Forces, 73 men and women from the three Services, of various ranks and age, underwent a semi-structured interview after completing a screening questionnaire. Participants were asked about the veracity of their answers and their views regarding a screening questionnaire. Afterwards questionnaires were sent to 4496 randomly selected personnel from the three Services, which validated the main emerging themes. A constant comparative method of analysis was used to identify and categorise all ideas presented.

**Results:** The main barriers to health screening were lack of trust, perceived low quality of healthcare, and perceived lack of concern within the institution about work environments and home life. The central issue was 'confidence' in military health care provision. Screening was considered worthwhile, but many confided that they would not honestly answer some items in the questionnaire. Lack of trust in medical confidentiality, stigmatisation and fears that the process would jeopardise career prospects were stressed. Many Service personnel admitted to seeking medical help outside the Armed Forces.

**Conclusions:** Concerns raised by Service personnel may endanger the value of a screening programme and the provision of health services. Greater emphasis needs to be placed upon gaining the confidence of those targeted for health screening.

The debate over military health screening is high on the agenda following the reported ill health of some Servicemen from the 1991 Gulf War. The recent war in Iraq further ignites the situation.[1–3]

Previous research in the military has mainly focused on the choice of instruments available, their validity, and when best employed, e.g. during recruit selection or pre/post operational deployment.[4–6] The acceptability of a screening programme to the target population has also previously been raised,[7–9] but the reasons for low acceptability from the perspective of those invited to participate has been infrequently addressed. Service personnel, like their civilian counterparts, are not passive recipients of healthcare, and if they do not accept or have confidence in the service being provided, the screening programme will not be effective.

The aim of this paper was to investigate possible barriers to health screening related to beliefs held by British Service personnel. Potential barriers related to medical and administrative personnel are not reported. This paper results from an epidemiological study of a health screening questionnaire developed for the British Armed Forces which was not designed to incorporate a qualitative element to assess any barriers to health screening. However, during the pilot study of the screening questionnaire, it became apparent that participants wished to express their views on military healthcare provision and health screening, and the opportunity was seized to gather information on this. This paper is the first to report potential barriers to a health screening programme related to beliefs of Service personnel.

## METHODS

The study samples were drawn from two sources: the piloting of a screening questionnaire, the main analytical stage for this paper, and the written responses to the questionnaire in a later epidemiological postal survey, the validation stage.

Two questionnaires were developed, a full and an abridged instrument, which are detailed in the accompanying paper.[10] The full questionnaire included three qualitative questions: (i) 'Are you currently downgraded? If yes please explain why', (ii) 'Have you consulted a doctor in the past month and are you currently receiving any medical treatment or taking any medication? If yes to either please give details' and (iii) 'Do you have any health problems or concerns that have not been covered in this questionnaire? If yes, please describe them.' The abridged version of the questionnaire included only (i) and (iii).

### Main analytical stage (questionnaire pilot and interview)

For the purpose of piloting the full screening questionnaire, we gained access to one unit from each of the three Services. A total of 73 Servicemen and women representing various ranks and ages completed the questionnaire immediately prior to being interviewed by one of two researchers, with interviews lasting between 15 and 30 minutes. The face-to-face interviews provided a private, informal and 'safe' environment in which Service personnel could talk freely.

Participants were asked about their understanding of the questionnaire, the veracity of their written responses and their opinions on the value and possible success of a health screening questionnaire for British Service personnel. In addition to our questions, most subjects spontaneously wanted to discuss their health concerns in more depth and give opinions on military healthcare. Responses to questions were transcribed during the interview by the interviewer.

### Validation stage (postal survey)

A random sample of 4496 service personnel was sent the questionnaires at their Unit address with a letter explaining the study. Individuals were advised that participation was voluntary and that responses would be kept confidential as their identity would be known only to the researchers. The Defence Medical Services Clinical Research Committee, Scientific and Ethics Committee gave approval for the study.

### Methods used to identify barriers to health screening

Qualitative data obtained from both stages of the study were analysed using the constant comparative method of analysis.[11,12] Using this method, raw data from the questionnaires and interview transcripts were broken down into segments of text which shared similar themes or characteristics, and were grouped (or coded) into initial sub-categories. These sub-categories were constructed as themes emerged and were allocated a descriptive title by the researcher. This initial process of coding resulted in the generation of preliminary sub-categories, each containing data with a common theme.

Further analysis was undertaken to define the numerous sub-categories in relation to each other i.e. data patterns were looked for by comparing similarities or differences between the different themes. This comparative process resulted in four main categories as it became apparent that many of the initial sub-categories belonged under more generic headings. Subsequently, salient issues were identified, and the four categories, whilst having clear relationships with each other, were deemed unique. This ensured that themes, differences and relationships between sub-categories were re-examined and confirmed or modified. In the results, quotations showing respondent ID have been used to illustrate these themes.

This constant comparative analysis permitted a conceptual theory of potential barriers to health screening, based upon the concerns and experiences of service personnel, to emerge during the data analysis as opposed to being defined *a priori*. The final stage of analysis led to the formulation of a key theme that encompassed all generated categories.

**Box 1** Sub-categories derived from the main analytical stage (questionnaire pilot and interview)

**Lack of trust in military medical services**
'Lack of trust [between] Servicemen and Medical Officers. Need independent outside medical help.' (P9)
'Climbed all over American tanks [in the Gulf]. Worried about depleted uranium, think there is a MoD conspiracy to deny any problem. The doctors are all part of the conspiracy' (P38)

**Fear of lack of confidentiality and stigmatisation regarding psychological disorders**
'[GHQ-12] – medical confidentiality doubtful. I wouldn't be honest on certain questions and especially true for people in positions of responsibility.' (P18)
'Medical confidence is an issue. I would only consult a doctor 'off base' because Medical Assistants talk in the mess especially when they have had a drink.' (P53)

**Fear that screening could be detrimental to career if truthful answers given to some of the questions**
'I'm keeping problems to myself, not seeking help, don't want anything to affect job prospects. People won't answer honestly as detrimental to career.' (P5)
'Need these questions to be asked by independent body not employer' (P32)

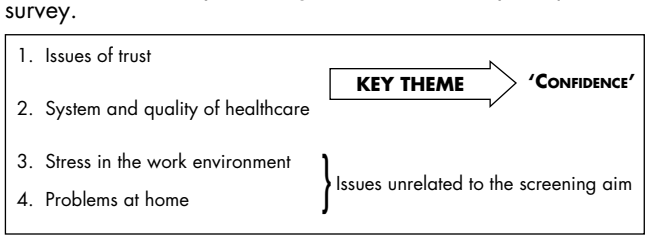
**Poor system and quality of healthcare**
'Seriously considering taking out private health insurance because I am not happy with medical provision in the Military.' (P5)
'Broken collarbone on exercises in Canada in 1995. I was told to return to duty and break wasn't diagnosed until 1998 when I had another injury. There is nothing recorded in my medical notes.' (P47)
'Difficult to see a doctor, the medical centre is very busy.' (P56)
'Service doctors don't have time to talk about problems, just give out antibiotics and contraceptives.' (P65)

**Health concerns include problems at home**
'Military don't pick up problems, MoD need to ask questions about home life and financial matters.' (P19)
'Family worries – have 4 kids, one with [a rare condition was mentioned].' (P42)

**Suspicions about motives behind implementing health screening**
'Don't trust MoD, very careful filling out questionnaire, think most people would feel the same.' (P1)
'The MoD need to invest in people. The MoD [pointing to the questionnaire] are covering themselves from people suing the MoD.' (P18)

**Poor work environment and & lack of support to deal with this**
'At work, health and safety goes out the window when there is a job to do…No one cares' (P14)
'Very stressful job… for which I have no training, it just goes with the post. I am finding it very difficult to cope but have no-one to talk to and won't consider seeing a doctor on the base. I intend to see my old GP when on leave.' (P61)

**Box 2** The four categories and the key theme derived from the main analytical stage and validated by the postal survey.




## RESULTS

### Main analytical stage

Whilst almost half of the 73 Service personnel interviewed believed health screening was worthwhile, many expressed reservations about it being implemented by the Armed Forces. Analysis of their reservations generated seven sub-categories (Box 1) from which four main categories were defined (Box 2).

#### Category 1: Issues of trust

This category of concerns was the most prevalent and incorporates suspicion of motives behind screening, suspicion of benefits to the individual and lack of trust in military healthcare. This was reinforced by perceived poor relationships between Service personnel and primary care staff. A main concern was that screening questionnaires, if answered truthfully, would be used against the individual and that promotions could be affected, along with fear of stigmatisation. Most people felt they could not be honest in answering psychological scales or questions on alcohol consumption.

A common resolution was the suggestion by interviewees that an independent body should undertake health screening. In the current absence of such a programme, more than a third of personnel interviewed admitted that they sought

medical treatment outside of the military, unbeknown to their employer. A common practice was to seek treatment with their local civilian doctor whilst on leave:

'People here seek help privately otherwise blackballed. . . . I'm seeing a private doctor [psychiatrist], we all keep it to ourselves.' (P26, whose answers throughout the questionnaire indicated model good health.)

### Category 2: System and quality of healthcare

Perceived poor healthcare provision was another factor behind seeking private healthcare. Lack of medical resources and the perceived poor quality of care was frequently reported in the questionnaires:

'Osteoporosis not followed up at 40th birthday medical. Tinnitus is now boring me, no follow up and the military health service is chronically under funded.' (P10)

During the interviews and in light of these concerns, the more pertinent question was raised of how a screening questionnaire would be of any help?

'Just more paper to fill out. If filled out would it be acted upon or just filed?' (P12)

Apart from seeking medical treatment outside of the military, interviewees offered no other solutions to this particular group of problems.

### Category 3: Stress in the work environment

Whilst stress in the work place is not an issue relating directly to screening, it illustrates how daily life activities may affect health screening and medical services in general. Service personnel interpreted the lack of support at work as a general lack of interest and concern for their health and so doubted the proposed benefits of health screening.

'At work, Health and Safety goes out the window. No one cares. How would a survey help? We are looking in the wrong place, why not look at work practices?' (P14)

### Category 4: Problems at homes

Over one fifth of those interviewed felt that the Armed Forces needed to place more importance on the problems encountered by Service personnel in their home life, and that the screening questionnaire didn't address this, further promoting the feeling that 'no-one cared'.

'Military don't pick up problems. MoD [Ministry of Defence] need to ask about home life and financial matters.' (P19)

Only one person voiced the opinion that the questionnaire, especially sections relating to psychological problems, should refer to military matters only.

## Validation stage

Of the 2783 respondents who completed a postal questionnaire, 249 people voiced 338 separate concerns about health provision and emotional or lifestyle problems linked to military service. Two thirds of these concerns, representing 180 people, were identified as potential barriers to health screening. Of the total respondents, 356 (12.4%) were recorded as medically downgraded at the time of completing the questionnaire. Of the medically downgraded, 13.5% expressed concerns identified as potential barriers compared to 5.2% of those not downgraded ($p<0.001$).

The 223 'barrier' comments were organised into a total of 14 analytical sub-categories (Box 3). These concerns reinforced themes that had been previously identified during the main analytical stage, albeit a greater number of sub-categories were derived because of the larger sample. Of the main four categories (Box 2) 'System and quality of healthcare' accounted for more than 40% of all 'barrier' comments compared to approximately 30% for 'Issues of trust', 20% for 'Stress in the work environment' and just under 10% for 'Problems at home'.

**Box 3** Sub-categories derived from the validation stage (postal survey)

**Lack of confidence in poor quality of healthcare, and lack of resources**
'[Can] the medical system in the Forces be relied upon to act quickly and efficiently? I have suffered cysts for well over a year and have to wait potentially for another 18 months for them to be removed. It is depressing!!' (Y2820)
'why do I not report medical problems? … over many years I have had contradicting diagnosis and treatment … My confidence in the care provided is low.' (Y1330)

**Stressful work environment**
'Feel emotionally drained and tired. Want to lay down and forget all things at times. I only want to stay wanted and needed. Not a workhorse, I'm human.' (X5990)
'My current job is so busy that my life is very stressful. I have no-one to turn to for help for fear of being seen to be giving in.' (X3814)

**Health concern not taken seriously**
'Large unwillingness of Forces doctors to send patients for x-rays or other treatments at hospital. They are quick to dismiss serious injuries or problems as minor!' (Z0672)

**Problems at home**
'The Service medical organisation appears to focus on 'service related' injuries/ problems and does not appear to provide a great deal of information or support to problems that may be related to family/ private issues i.e. breakdown of relationships, family members death etc.' (Y0412)

**Lack of support, feelings that the Armed Forces don't care**
'Miscarriage in [month mentioned]… still upset and no counselling available!' (Z1990)
'Injuries in Army – I'll feel worse and OK for Army, as they can just forget about them.' (X0712)

**Unexplained symptoms that doctors can't or won't explain**
'Asthmatic for 5 years, in Army for 16 years. I feel not getting straight answer when ask who's fault I'm suffering from severe asthma.' (X6324)

**Concern over exposure to chemical and other pollutants during operational deployments**
'As an EOD operator in Kosovo for the break in, I was all over the country. Depleted Uranium is a concern which seems to have disappeared?' (X6590)

**Seeking health treatment outside of the military**
'Over the years in the diagnosis of my back pain I have been given several different reasons for the same problem of which none of the treatment worked. Since I have been seeing a private chiropractor, the problems have been getting better, my painful shoulder is no more. The point I'm trying to make is that I don't feel as I should have to pay for my own treatment.' (PY3474)

**Lack of trust in military health services re confidentiality and truthfulness**
'The medical system lacks confidentiality, if I sought help and counselling everyone would soon find out. There is no mechanism for those of us with a lot of responsibility to off-load without being seen to be weak.' (X3814)

**Concerns about effect of poor health on career prospects**
'Fear in going to Med Branch and being discharged, fear of failure in being downgraded' (Y3038)

**Don't seek help at the Medical Centre for fear of stigmatisation**
' I have been suffering nightmares and been depressed ever since the Falklands… but I have never been able to seek medical help in a Service environment as it is not the 'done thing'.' (Y2254)

**Need help, but nowhere to turn**
'An incident happened to me and I have not talked it through with anyone because where do I go?' (X5940)

**Fear over vaccinations received**
'Does the UK anthrax vaccine have any effects on male fertility any more or less than other vaccines?' (Z4040)

**Medical records insufficiently kept or missing**
'Exposure to asbestos, all records missing, including the form I signed. Took Op health nurse two years to find one bit of evidence.' (Y0438)

## DISCUSSION

'Confidence' in health care provision was initially identified as the key theme and when later validated, proved to be a

robust conclusion. This study has shown that confidence of British Service Personnel in military healthcare is the overall barrier to participation in health screening.

Two of the four main 'barrier' categories, 'Stress in the work environment' and 'Problems at home', are not directly related to the main functions of military healthcare providers. However, they should be addressed in any screening programme so that the aims and proposed benefits are understood.

The fairness or otherwise of the concerns expressed by Service personnel does not detract from the fact that they are still potential barriers. These beliefs are reinforced by the widely acknowledged problems of military healthcare following Options for Change and the closure of military hospitals.[13] Seeking the opinions of a target population prior to screening to assess acceptability and viability is not new,[7–9] but the undertaking of this task within a military context has never been carried out. We believe that the strength of feelings among Service personnel is genuine because we did not need to prompt during the interviews. Participants wanted their opinions to be heard and as we were perceived as outsiders, opinions about military healthcare were freely expressed. This also appeared true for the postal survey validation stage.

Patient satisfaction is a key factor in the perception of good healthcare.[14] If the focus is on specific procedures, quality of care is often considered excellent and no intervention is necessary.[15] If the focus incorporates the whole episode of care, the perceived standard of quality frequently drops. Even small improvements in clinic time keeping have been shown to increase patient satisfaction towards health staff, along with the patient's perception of the success of treatment.[16] Roark stated that as the products of health care are services, if the consumers are dissatisfied with the service on offer, they would rather avoid it or choose a 'better' product elsewhere.[14] Determinants of patient satisfaction within the Armed Forces are difficult to tackle because, like all occupational health services, military medical services have a duty of care to both their patients and their employer, overseeing the interests of the whole organisation.[17] If Service personnel suspect that the outcome of medical encounters may jeopardise their future they may avoid attending the medical centre, withhold information or consult outside the military. This in itself will threaten the continuity of patient's care.

A screening programme will fail if those expected to benefit from the screening distrust the purpose of the activity and those implementing it. The Australian Defence Force demonstrated that lack of truth is highly prevalent when health screening questions are of a sensitive nature, especially amongst those who suspect the intended purpose of the questionnaire.[9] However, there is a possible unexpected gain from untruthfulness, as shown in an alcohol-screening programme in UK general practices. It was noted that false answers from patients who did not wish to screen positive permitted resources to be concentrated amongst those who did wish to change life style.[8] It is problematic to accept this view in the Armed Forces as Queens Regulations specify that military command is responsible for all aspects of the welfare of Service personnel. Institutional awareness of health problems in an individual can only be achieved if he or she is willing to disclose truthful information. There are several factors unique to the Armed Forces that affect confidentiality and trust, such as the apparent stigma within some Units of reporting to 'sick parade', and the integrity and confidentiality within the chain of command.[18]

We are currently facing a general lack of confidence in public institutions as a whole, and that includes both medicine and the Armed Forces.[3,19,20] As O'Neill stated, whether mistrust is well founded or not, it has a debilitating impact on society.[20] From this perspective the Armed Forces are no different to the NHS and other public institutions.

In conclusion, if the Defence Medical Services were interested in implementing a health screening programme it would have to tackle barriers related to its health provider status, military culture and characteristics of the population being screened. Some problems cannot be addressed solely by the Defence Medical Services and need an institutional resolution.

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