ABSTRACT  Like the United States, the United Kingdom (U.K.) population expresses ongoing interest in the mental health of their nation’s armed forces and veterans. Current U.K. military mental health research efforts center on the work of military and civilian academics based at King’s College London. These academics work closely with NATO partners, in particular the United States, in planning for future research. Conscious of the cultural dimensions to mental health among military personnel, considerable efforts have been made to strengthen informal support mechanisms including the training of lay Trauma Risk Management (TRiM) practitioners and other welfare services. Formal healthcare support provision comes from primary care providers and Departments of Community Mental Health, which provide local case management and appropriate escalation to in-patient services where required. Although veteran’s healthcare is provided by the National Health Service, considerable efforts have been made to ensure their services best meet the needs of veterans and their families.

INTRODUCTION
The psychological consequences of military conflict have been acknowledged after all the major wars of the last century. However, contemporaneous recognition and management of these illnesses has improved substantially over this time, beginning as early as 1914 with British neurologists and psychiatrists deploying alongside troops in France. The early reactive treatments for shellshock² have been replaced by, or added to, contemporary proactive recognition of potential psychological morbidity. Examples of such secondary prevention measures include the use of the Trauma Risk Management (TRiM) program which has been rolled out across the U.K. armed forces over the last decade.³⁴ The military population continues to pose significant challenges to mental healthcare provisioning not least because of the nature of the occupational hazards they face, their mobility, and stigma relating to mental illness.

In the U.K. armed forces, the surgeon general’s department is responsible for mental healthcare, developed and enacted through executive and professional advisory committees. The surgeon general can be a member of any of the three services (Royal Navy, Army, or Royal Air Force), but is head medical officer of all services. Each service also retains a consultant advisor and a senior nursing officer.

Within the U.K. armed forces, much has been achieved (see Table I). This article outlines the epidemiology of mental illness within the U.K. armed forces, the framework of mental health services within the U.K. military, and finally the plans for the future of military mental health in a time of heightened operational tempo and combat intensity.

MEETING NEEDS: THE CURRENT UK DEFENSE MENTAL HEALTH SERVICES

Forming an Evidence Base and Promoting Research
Concerns arising out of the controversies surrounding Gulf War illnesses⁵ identified a pressing need for a independent and systematic examination of the health of the U.K. armed forces to further augment routine statistics collected by the Ministry of Defense (MoD). The Defense Analytical Services and Advice (DASA) has collected mortality and cancer incidence data on individuals serving at the time of the Gulf conflict; these data have been published as national statistics since January 2004,⁶ before which data had been released via parliamentary questions.

In 2003, the MoD in association with King’s College London, funded the creation of the King’s Centre for Military Health Research (KCMHR). Since its inception, KCMHR has enrolled over 10,000 service personnel into a cohort study systemically examining the effects of deployment on physical and mental health.⁷⁸ Alongside this, further independent research has been undertaken to examine and improve veterans’ health,⁹–¹¹ as well as the prevention and treatment of mental health disorders¹² within the U.K. armed forces.
TABLE I.  Timeline for the Policy and Organizational Developments in U.K. Military Mental Health

<table>
<thead>
<tr>
<th>Year</th>
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<tr>
<td>2001</td>
<td>Medical Quinquennial Review (MQR) recommended:</td>
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<td>- The prime focus of Defense Mental Health services should be the</td>
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<td>occupational return of fit service personnel.</td>
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<td>- Departments of Community Mental Health should focus on local</td>
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<td>rehabilitation and provide the spine of mental health services for</td>
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<td>service personnel.</td>
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<td>- An independent service provider (ISP) be appointed for</td>
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<td></td>
<td>the provision of in-patient services.</td>
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<td></td>
<td>- The Academic Centre for Defense Mental Health be created.</td>
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<td>2003</td>
<td>The Priory Group appointed as in-patient service provider (ISP).</td>
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<td></td>
<td>Creation of the King’s Centre for Military Health Research.</td>
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<td>2004</td>
<td>Remaining MQR recommendations implemented. Creation of the</td>
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<td></td>
<td>Academic Centre for Defense Mental Health.</td>
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<td>2005</td>
<td>Overarching Review of Operational Stress Management (OROSM)</td>
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<td></td>
<td>identified responsibilities for stress management within the</td>
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<td>single services. The single services have consequently developed</td>
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<td>their own stress management policies.</td>
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<td>2006</td>
<td>Introduction of predeployment stress management briefings to</td>
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<td>personnel and separate presentations to families.</td>
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<td>2007</td>
<td>Introduction of TRiM across single services, following successful</td>
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<td>pilot in the Royal Marines.</td>
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<td>2008</td>
<td>Introduction of the NHS Mental Health Pilot Schemes for veterans</td>
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<td></td>
<td>with analysis due in 2011.</td>
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<td>2009</td>
<td>House of Commons Defense Select Committee reported that health</td>
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<td>care services were adequate for serving personnel.</td>
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<tr>
<td>2009</td>
<td>New ISP implemented from February 2009. Inaugural meeting of Defense</td>
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<td>Faculty of Mental Health.</td>
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</table>

KCMHR maintains surveillance of the King’s cohort, which includes individuals both nondeployed and deployed. The principal modality of data gathering is via a self-completion questionnaire that collects demographic and service-related data and uses a number of validated instruments including the General Health Questionnaire 12 (GHQ-12), assessing general levels of common mental disorders, physical symptom scores, and alcohol misuse and PTSD Checklist Civilian Version (PCL-C), a screening tool for post-traumatic stress disorder (PTSD) and a checklist of traumatic experiences and exposures.

KCMHR has worked on two key themes: the first, examining the general health of the military population before, during and after service, and second, an examination of the effects of deployment upon the individual.

In 2004, again in collaboration with King’s College London, the MoD established a military mental health research team, called the Academic Centre for Defense Mental Health (ACDMH). ACDMH is a combination of uniformed and civilian personnel and includes psychiatric nursing and epidemiology specialists. The role of the ACDMH is to develop a research culture within the defense mental health services, as well as cultivate links with other militaries around the world.

The following provides a snapshot of the principal challenges facing U.K. military mental health identified from both research data and routine statistical monitoring.

Surveillance: Population Level Snapshot

Soldiers spend most of their military career not being deployed. While PTSD occupies the majority of news stories surrounding military mental health, it forms only a small proportion of cases within the total burden of mental illness in the U.K. armed forces; estimates of PTSD prevalence rates in U.K. service personnel range from 3 to 6%. Approximately 200 individuals are medically discharged from the U.K. armed forces for mental health reasons each year, representing 0.1% of the serving population.

In a study from 2002 in a relatively low-tempo operational environment, 20% of respondents representing the whole of the armed forces (excluding Special Forces) scored above cut-offs for GHQ-12, a marker of psychological distress. Although this does not imply that 20% of the U.K. armed forces have a mental health problem, it does highlight that self-reported psychological ill health is present and potentially substantial. While GHQ-12 has not been validated specifically within military populations, it has been used elsewhere and facilitates comparison with other high-stress professional groups such as emergency department doctors (where 44% score above the relevant cut-off).

More recently, and as operational tempo has increased, further research has quantified the rates of mental health disorders among troops, some of whom have been deployed, finding a prevalence of 27.2% for common mental disorders, a figure in keeping with a 2005 review of the rates of common mental health disorders in the European population. This study showed the most commonly reported problems are to do with alcohol abuse (prevalence of 18.0%), followed by neurotic disorder (13.5%), and then PTSD (4.8%).

Since 2003, the U.S. military has conducted a series of Mental Health Assessment Team (MHAT) surveys on deployed personnel, which have led to an increase in the number of mental health professionals deployed to theater. In February 2009, ACDMH conducted the first U.K. Operational Mental Health Needs Evaluation (OMHNE) on service personnel deployed to Iraq (Op TELIC, the U.K. military code name for the 2003–2009 conflict in Iraq). The OMHNE provides insights into mental health matters affecting specific groups of deployed personnel, with the aim of making specific recommendations about mental healthcare provisioning in the operational environment. Rates of general psychological morbidity, again using the GHQ, found rates (20%) that were no different to a similar group of personnel in garrison, suggesting there is no immediate impact of deployment on the mental health of those serving on Op TELIC. A further OMHNE examining those deployed to Afghanistan (Op HERRICK) is planned for 2010.

Suicide rates among the U.K. military have been found to be below population averages with the exception of males...
aged 16–20 who show an elevated risk.29 Due to the low absolute numbers involved, it is difficult to draw conclusions.30

As the role of the U.K.’s reserve forces has expanded both in the operations undertaken and the number of deployments undertaken, so has concern regarding the impact on them and their mental health. Data, from the King’s cohort, suggests that although reserves report similar rates of psychological morbidity to regular forces, they are at higher risk of developing PTSD following deployment.7.31 Reasons suggested for this increased incidence include lower unit cohesion and more problems adjusting to homecoming.31

Approximately 20,000 personnel leave the services each year,32 and it is estimated that there are approximately 3–5 million veterans at present in the U.K. population.33 The Adult Psychiatric Morbidity Survey 2007, a national representative survey of private households in England, reported 7.7% of veterans screening positive for a mental illness, a proportion not significantly different from the percentage reported among nonveterans.34 There was no significant differences between the prevalence of PTSD in veterans compared to nonveterans.35

With these data in mind, the following outlines the principal mental health services provided by the military and their subsequent use among service personnel and veterans.

SERVICE USAGE AND UPTAKE
In 2005 the MoD undertook a wide-ranging review, which made recommendations that have contributed to a comprehensive community-centric framework for mental health service delivery, reflecting best practice in the civilian setting but tailored to the intricacies of military life.

There are four discrete environments within which formal mental health structures need to operate: first and most commonly, within the nondeployed environment for serving regular soldiers; secondly, within the context of operations in a deployed population; thirdly, for reservists who return to civilian life following deployment; and finally, for veterans (i.e., individuals who have left the services).

Welfare and Informal Mental Health Support
The majority of mental health interventions occur informally. There is much informal support provided for the recognition and management of mental health issues via the nonmedical community.

In nondeployed units, this includes welfare officers, family officers, padres and TRiM practitioners. TRiM practitioners are lay personnel, with considerable practical experience and normally noncommissioned officers (NCOs) who receive training on the identification of stress and signposting toward formal mental health services.4 TRiM was originally used by the Royal Marines and has now been rolled out across the three services. It is designed for use after potentially traumatic events to help units identify those who may benefit from increased support from their leaders and colleagues and maintains a watchful eye on personnel so as to encourage those who might benefit from professional help to access it from the Defense Medical and Mental Health Services.

Around deployment, considerable progress has been made in education on mental health issues. Preoperational, operational, and postoperational mental health briefings are held. While deployed, units maintain much of their informal structures, in particular those based around TRiM practitioners. Further informal contacts are established by field mental health teams (FMHTs) consisting of community mental health nurses and visiting psychiatrists. The role of FMHTs is to identify those individuals likely to recover and who can remain in theater and the appropriate evacuation of those who require further management.

Personnel returning from operations as part of formed units pass through “decompression” in Cyprus, which aims to facilitate the adjustment process of returning to nondeployed status.36 At this stage a community mental health nurse (CMHN) will deliver educational materials on mental health matters and deal with any immediate mental health issues. Informal support is also provided by a padre. Furthermore because of the higher risks of road traffic collisions faced by returning military personnel,37 a specific video is played to highlight road safety.

Primary Care
Primary care is the first formal level of mental health support and comprises general duty medical officers (GDMO) and general practitioners (GP). At this stage, doctors have the opportunity to either manage simple cases by themselves, sometimes with advice from a mental health professional, or refer onwards to the DCMH services.

Departments of Community Mental Health (DCMH)
Departments of Community Mental Health are local mental health service groupings comprising consultant psychiatrists, CMHN and mental health social workers (MHSW) with access to clinical psychologists. There are 15 DCMHs in the United Kingdom and 5 more at major permanent overseas bases. Their mission is to support personnel in the service environment, and where appropriate to refer cases to in-patient care. DCMH care is based on U.K. National Health Service (National Institute for Health and Clinical Excellence, NICE) guidelines.

In 2008, 4,454 new attendances were recorded for the DCMH network, representing 2.26% of the total armed forces’ strength; of these 3,181 (1.6% of total armed forces’ strength) received a diagnosis.38 The remainder who were not found to suffer from a formal mental health disorder, most likely reflects the awareness of mental health issues within service personnel and the consequent low threshold of referral from military primary care.

DCMH are also involved in the provision of mental health services within defense medical and surgical establishments including the Defense Medical Rehabilitation Centre (DMRC) and the Royal Centre for Defense Medicine (RCDM). Further
DCMH personnel undertake mental health promotion and education for military bases within the catchment area of the DCMH. MHSW provide support to patients leaving the services upon psychiatric discharge to ensure that they are linked into civilian health services to access whatever ongoing care needs they may have.

**In-Patient Admissions**

An independent service provider (ISP) contract for provision of in-patient mental health services was begun in 2003 and as a result of a competitive tendering process, since February 2009 the contract has been placed with South Staffordshire NHS Foundation Mental Health Trust. This contract assures that service personnel can access admission to dedicated psychiatric beds throughout the United Kingdom within 4 hours of a referral being made, at a location as close as possible to the patient’s place of residence. The aim of this hospital admission is to stabilize a patient sufficiently that their care can be transferred to a DCMH as soon as is reasonably possible. The DCMH service liaison officer (SLO) makes their first visit within 48 hours of admission during the working week and follows up at least weekly for the period of admission.

During 2008, there were 213 first admissions to the ISP.\(^3\) Due to the small numbers involved, statistical conclusions are difficult to draw; however there was no statistically significant difference in rates of those being admitted to the ISP between those deploying to Iraq or Afghanistan and those who did not deploy.\(^3\)

**Reserves Mental Health Program**

Mobilized reservists receive the same in-service mental health care as regular personnel; however, this is not the case for reservists who have been demobilized who do not have an automatic right to access the DMHS. However for those reservists who have deployed since 2003, the Reserves Mental Health Program (RMHP) has provided assessments at the Reservist Training and Mobilization Centre Chilwell and outpatient treatment offered at DCMH for those requiring further management for a service-related mental health condition.

Between November 2006 and December 2008, the RMHP was contacted 226 times. However not all personnel required intervention, and as of August 2009, 114 appointments had been booked with 65 referrals to a DCMH.\(^3\) Twenty-two of these personnel did not require treatment, and 5 cases were transferred to NHS as treatments fell outside military provisioning.\(^3\)

**Veterans**

The medical care of veterans in the United Kingdom is met by the NHS and has been since its inception in 1948. Since 1919, the independent charity of mental health concerns among veterans, Combat Stress, has operated to provide specialist services tailored to veterans.

In 2005 the Health and Social Care Advisory Service (HASCAS) reviewed the services offered by Combat Stress and set about making recommendations on strengthening services for veterans across both NHS and Combat Stress.\(^3\) Among their recommendations was the introduction of six pilot schemes of community veterans mental health services. These pilots aim to cater to their local veterans’ communities; veterans can refer themselves or be referred by their GP. These pilot centers all operate slightly differently but aim to either provide treatment themselves, or more commonly to ensure that veterans access already existing services such as those within the NHS. The pilots are run by a community veterans mental health therapist (CVMHT) who has an appreciation of the culture issues surrounding military service and mental health. The CVMHT aims to not just coordinate care, but also to provide an out-reach capacity with local groups such as the Royal British Legion to ensure those at risk are offered access. The scheme is being monitored by the University of Sheffield, and an analysis is planned for 2011. Early uptake suggests veterans are willing to access this service; however, full data are not yet available.

The Medical Assessment Program (MAP) is an MoD-funded program based at Guy’s and St Thomas’ NHS Foundation Trust in London, which offers specialist mental health assessment for those individuals concerned about their health. Although the MAP does not provide any treatment, those who might benefit from treatment are referred on to an appropriate treatment source, usually the NHS. Veterans are usually referred via their GP.

Veterans have been allocated a special interest group status within the NHS England Improving Access to Psychological Therapies (IAPT).\(^4\) This program is a regional initiative with central funding, which aims to improve access to talking therapies locally for all personnel including veterans.

Given these substantial innovations across mental health care services once bedded down, further data acquisition and analysis will be used to determine the efficacy of these programs, after which further developments will no doubt be undertaken.

**INTERNATIONAL COLLABORATION AND COMPARISON**

Close collaboration on military mental health issues is maintained with the U.K.’s strategic partners, most notably the United States, Canada, Australia, and New Zealand, covering both research and service delivery. While similarities in policy exist across the North Atlantic Treaty Organization (NATO) countries, there is considerable diversity and a NATO Committee of the Chiefs of Military Medical Services in NATO (COMEDS) Military Mental Health Expert Panel (MMH) has undertaken an audit examining the differences between nations, which is yet to report.

Work to explore the scope for future collaboration between the U.K. cohort maintained by KCMHR and the Millennium Cohort Study\(^4\) run by the U.S. Department of Defense is ongoing.
Screening

The United States and Australia conduct screening for mental health problems among their postoperational personnel. The U.K. military does not currently screen as it is felt that the low prevalence of operational-related mental illness in the context of low selectivity screening tools would render considerable numbers of false positives (which are likely to cause further concern and distress); this is a strategy reflective of NHS Screening Committee policy, which is based on World Health Organization criteria for screening. Research has been proposed by KCMHR to explore this topic further.

Post-Traumatic Stress Disorder

The prevalence of PTSD among U.S. forces returning from Iraq has approached 20% of combat personnel. This is in contrast to U.K. forces, which have reported approximately 5% using the same screening tools. There are differences between the forces deployed, some of which may explain the differences in mental health outcomes: U.S. troops are younger, less experienced, deploy for longer tours, and are more likely to be reservists than U.K. forces, all of which are independent risk factors for the development of symptoms of PTSD. A further explanation is that the higher levels of reporting may reflect societal and cultural factors not necessarily associated with deployment.

THE FUTURE OF MENTAL HEALTH IN THE U.K. ARMED FORCES

Further strengthening of the academic infrastructure supporting audit and research is central to developing further structures for mental health service delivery. The Defense Faculty of Mental Health has been formed and first met in late 2009; this comprises researchers and practitioners, military and nonmilitary. Further a professor of military mental health has recently been appointed. In addition a formal research agreement with the United States is at an advanced stage, which will allow closer collaboration between these two countries.

Training researchers and practitioners is another key theme for development. Already a postgraduate degree (Master’s) in War and Psychiatry is run through King’s College London, and a Diploma in Military Mental Health is currently being drawn together in collaboration with the single services into a mental health plan, which is with the single services into a mental health plan, which is expected to become a requirement for recognition as a service consultant psychiatrist. It is envisaged that continued emphasis of mental health issues across all three services will improve the availability and efficacy of mental health interventions, further reduce the stigma associated with these issues, and ultimately improve the mental health of the U.K.’s armed forces.

CONCLUSIONS

Advances have been made by the government and armed forces in providing mental health support at home, in theater, and postdischarge from the military. Academics, practitioners and policy makers, military and nonmilitary, have been brought together with the express aim of improving the mental health of the armed forces. These various intentions, developments, and delivery will be drawn together in collaboration with the single services into a mental health plan, which is currently being drawn together.

It is envisaged that continued emphasis of mental health issues across all three services will improve the availability and efficacy of mental health interventions, further reduce the stigma associated with these issues, and ultimately improve the mental health of the U.K.’s armed forces.

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