MENTAL HEALTH SCREENING
WHAT'S THE EVIDENCE?

Neil Greenberg

2017
Who am I?

» Professor at King’s College London

» Occupational Psychiatrist;

» Served in the Royal Navy for 23+ years

» Provide psychological advice and assessments:
  - FCO
  - BBC
  - Emergency Services
  - PSCs
  - Military
  - Plus.....oil, news etc

» Director of a small business (www.marchonstress.com)
Disclosures

» Grants from the National Institute for Health Research, US Dept of Defence, Ministry of Defence, Military Charities

» I run and work for March on Stress Ltd and Psych Health Solutions Ltd; I am also a major shareholder in both companies

» I consult with the UK Government, various rail companies, media organisations and military charities
Many personnel work in challenging roles

Their work can lead to psychological and physical injury

Many personnel with problems do not come forward to request professional help

Screening may represent a mechanism to improve ‘employee resilience’
House Passes New Recruit Mental Health Screening

WASHINGTON -- New mental health screening that supporters say could help stem the high rate of military suicides or even stop shooting rampages passed the House on Thursday as part of the massive 2015 defense budget.

The House bill, sponsored by Rep. Glenn Thompson, R-Pa., orders the National Institutes of Health to create a universal mental health evaluation for potential recruits that would catch past suicide attempts and psychiatric disorders. The data could be used by the services to weed out candidates with potentially dangerous mental health issues.

Army Mental Health: Better Screening Yields Better Results

Just how closely should the nation be screening its troops for mental fitness before they’re shipped off to war? We are seeing, again and again, that bad things — depression, divorce, suicide, murder — can happen in combat’s wake.

If there is a way to weed out — that may not be the right word — the folks who might be driven to such ends by war, is it the government’s job to keep them at home?

You bet, say five Army mental-health experts in the April issue of The American Journal of Psychiatry:

This predeployment screening process was associated with a decreased need for clinical care for combat stress, psychiatric and behavioral disorders, and suicidal ideation. This systematic approach, they concluded, is the first dual purpose: to prevent the use of a service-wide screening program.
What is screening?

» Asking questions in order to ascertain an individual’s vulnerability to develop mental ill-health or to identify their mental health status

» Aim is to maintain or improve an individual’s state of mental health
Screening – potential options

» Selection (pre-joining, pre-role)

» Health screening (post exposure)

» Surveillance (research, unit climate surveys)
The seduction of pre-screening

» Screening beforehand for “vulnerability to PTSR” is seductive

» The grandmother test is good...however other tests are very poor

» Historically - US Army and WW2
King’s College London – Screening research

Data collected in 2002 → Troops sent to Iraq in 2003 → Follow up in 2004

Research

Mental health screening in armed forces before the Iraq war and prevention of subsequent psychological morbidity: follow-up study
Roberto J Rona, Richard Hooper, Margaret Jones, Lisa Hull, Tess Browne, Oded Horn, Dominic Murphy, Matthew Hotopf, Simon Wessely
## Pre deployment Selection/Screening: PTSD Cases

<table>
<thead>
<tr>
<th>Screening Study (02)</th>
<th>Main Study (04)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>+ 6</td>
<td>33</td>
</tr>
<tr>
<td>-</td>
<td>- 41</td>
<td>1581</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>47</strong></td>
<td><strong>1614</strong></td>
</tr>
</tbody>
</table>

**PPV 18% (5-31%); NPV 97% (96-98%)**
The grandmother test?

Effectiveness of Mental Health Screening and Coordination of In-Theater Care Prior to Deployment to Iraq: A Cohort Study

Christopher H. Warner, M.D., George N. Appenzeller, M.D., Jessica R. Parker, Psy.D., Carolynn M. Warner, M.D., and Charles W. Hoge, M.D.

Received: September 13, 2010
Accepted: October 29, 2010
Published online: April 01, 2011 | http://dx.doi.org/10.1176/applaja.2010.10091303

Abstract

Objective:
The authors assessed the effectiveness of a systematic method of predeployment mental health screening to determine whether screening decreased negative outcomes during deployment in Iraq's combat setting.

Method:
Primary care providers performed directed mental health screenings during standard predeployment medical screening. If indicated, on-site mental health providers assessed occupational functioning with unit leaders and coordinated in-theater care for those cleared for deployment. Mental health-related clinical encounters and evacuations during the first 6 months of deployment in 2007 were compared for 10,678 soldiers from three screened combat brigades and 10,353 soldiers from three comparable unscreened combat brigades.
US ex-astronaut to plead insanity

By Andy Gallacher
BBC News, Florida

Lawyers for former Nasa astronaut Lisa Nowak say they are planning to pursue a defence of temporary insanity when she stands trial in Florida next month.

The 44-year-old mother of three is charged with attempted kidnap, assault and burglary.

Police say she confronted a woman she believed was a rival for the affections of a space shuttle pilot.

Capt Nowak made headlines after police said she drove across the US wearing adult nappies to avoid toilet breaks.

She was arrested at Orlando airport here in Florida after confronting Air Force Capt Colleen Shinyan, a woman she believed had been involved with her husband.
Risk Factors for PTSD

Importance in prediction

Brewin et al, 2000
Pre-role/deployment screening

» No evidence of effectiveness

» Factors related to the event and the handling of the post event period are far more influential

» PIES (BICEPS) of potential relevance
Post Incident Screening

» Within organisations this aims to be a system of early detection (for intervention)

» However, this can be problematic

» Concerns about stigma/labelling and confidentiality may hinder benefit

» Routinely used by US, CAN, ADF, NLD and many others
Post deployment screening - US

» US military Post Deployment Screening
  – Written and then face to face check
  – Done at “immediate redeployment” and again at 3-6 months
  – Leads to referral advice if score +ve

» Questions on mental health (inc PTSD) and mTBI and exposures

10.a. During this deployment, did any of the following events happen to you? (Mark all that apply)
(1) Blast or explosion (e.g., IED, RPG, EFP, land mine, grenade, etc.)?  ☐ Yes  ☐ No
   If yes, please estimate your distance from the closest blast or explosion:
   ☐ Less than 25 meters (82 feet)
   ☐ 25-50 meters (82-164 feet)
   ☐ 50-100 meters (164-328 feet)
   ☐ More than 100 meters (328 feet)

(2) Vehicular accident/crash (any vehicle including a
   ☐ Fragment wound or bullet wound?
      a. Head or neck
      b. Rest of body
   ☐ Other injury (e.g., sports injury, accidental fall, etc)

15. Have you ever had any experience that was so frightening, horrible, or upsetting that, in the PAST MONTH, you:
   a. Have had nightmares about it or thought about it when you did not want to?
   b. Tried hard not to think about it or went out of your way to avoid situations that remind you of it?
   c. Were constantly on guard, watchful or easily startled?
   d. Felt numb or detached from others, activities, or your surroundings?
### US Army post deployment screening research

Milliken, et. al., Table 4, JAMA 2007 (N=56,350)

<table>
<thead>
<tr>
<th>PTSD Screen Positive (PC-PTSD ≥ 3) n=3474 (6.2%)</th>
<th>Number (%) Who Received Mental Health Treatment and Number of MH Sessions</th>
<th>Number (%) Recovered 6 Months Post-Iraq (PC-PTSD &lt; 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referred to Mental Health n=804</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None, 349 (43.4)</td>
<td>205 (58.7)</td>
<td></td>
</tr>
<tr>
<td>1 Session, 128 (15.9)</td>
<td>69 (53.9)</td>
<td></td>
</tr>
<tr>
<td>2 Sessions, 70 (8.7)</td>
<td>36 (51.4)</td>
<td></td>
</tr>
<tr>
<td>≥3 Sessions, 257 (32.0)</td>
<td>96 (37.3)</td>
<td></td>
</tr>
<tr>
<td>Not Referred to Mental Health n=2670</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None, 1721 (64.5)</td>
<td>1181 (68.6)</td>
<td></td>
</tr>
<tr>
<td>1 Session, 419 (15.7)</td>
<td>254 (60.6)</td>
<td></td>
</tr>
<tr>
<td>2 Sessions, 129 (4.8)</td>
<td>67 (51.9)</td>
<td></td>
</tr>
<tr>
<td>≥3 Sessions, 401 (15.0)</td>
<td>150 (37.4)</td>
<td></td>
</tr>
</tbody>
</table>
Post Operational Screening Trial (POST)

» Part of the 2010 Murrison Report on MH; US funded ~ $3M RCT

» Involved ~9000 troops returning from Afghanistan (Herrick 14-16)

» Computer based screening vs. control group

» Tailored feedback offered to screened troops

» 6-12 weeks (initial); 10-24 months (follow up; mean 15 months)

» Outcomes: Primary: Mental Health; Secondary: Help-seeking
Post Operational Screening (POST) cRCT

434 Platoons

Randomised

274 Platoons (n = 6350)

Computerised Surveys (n = 5577) (88%)

Computerised help-seeking advice based on screening scores

No help needed Welfare support Primary medical care

Help-seeking, medication, mental health & alcohol outcomes

3996 (63%)

12-24 months follow-up

2369 (62%)

160 Platoons (n = 3840)

Computerised Surveys (n = 3149) (82%)

Computerised generic advice about mental health

Pre-intervention, two-stage MH Measures

Screening Arm

Control Arm

Computerised help-seeking advice based on screening scores

Primary medical care

Help-seeking, medication, mental health & alcohol outcomes

3996 (63%)

12-24 months follow-up

2369 (62%)
POST Screening outcomes - MH

Post-deployment screening for mental disorders and tailored advice about help-seeking in the UK military: a cluster randomised controlled trial

Roberto J. Riva, Howard Barden, Maya Khandoker, Melanie Chernokov, Kevin Green, David Perrett, Norman Jones, Neil Greenberg, Simon Wessely, Nicola T Fear

Outcome comparisons of those screened and controls

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Screened</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD-C</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>PHQ-9 / GAD-7</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Any mental disorder</td>
<td>12%</td>
<td>13%</td>
</tr>
<tr>
<td>AUDIT</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>SF-36</td>
<td>8%</td>
<td>8%</td>
</tr>
</tbody>
</table>
POST Screening outcomes - behaviour

Effects of screening on help-seeking and pharmaceutical use - Prevalence

- Any health visit: 60% (Screened), 63% (Control)
- Medical service use: 58% (Screened), 61% (Control)
- Welfare service use: 14% (Screened), 15% (Control)
- Mental health service use: 13% (Screened), 12% (Control)
- Antidepressant use: 3% (Screened), 3% (Control)
- Sleeping pill use: 9% (Screened), 9% (Control)
Overall outcome

» No improvement in mental health or help-seeking

» Interesting finding that 1/3 did not want to see feedback (no link with MH status)

» No support for introduction of post deployment screening

» **WHY**
  
  – Organisational/stigma concerns
  
  – Wrong natural history (variation, recovery, delay)

  Wrong approach (no interviewer???)
Does anonymity make a difference?

• Data collected in-theatre during deployment to Iraq (2009)

• Operational Mental Health Needs Evaluation (OMHNE)

OMHNE

Anonymous (n=315)

Identifiable (confidential) (n=296)

- Name
- Date of birth
- Service number
- Address unit/home
OMHNE

Measures:

• Post-Traumatic Stress Disorder Checklist (Civilian) - probable PTSD

• General Health Questionnaire (GHQ-12)
  - symptoms of common mental disorders

• Stigma measure
<table>
<thead>
<tr>
<th>Sample</th>
<th>611</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Rate</td>
<td>99.8%</td>
</tr>
<tr>
<td>Men</td>
<td>89%</td>
</tr>
<tr>
<td>Women</td>
<td>11%</td>
</tr>
<tr>
<td>Army</td>
<td>82%</td>
</tr>
<tr>
<td>Regulars</td>
<td>94%</td>
</tr>
<tr>
<td>3+ Combat related events experienced</td>
<td>35%</td>
</tr>
<tr>
<td>Symptom Reporting</td>
<td>Identifiable (n=296) (%)</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>PTSD</td>
<td></td>
</tr>
<tr>
<td>17-29</td>
<td>88.4</td>
</tr>
<tr>
<td>30-39</td>
<td>7.5</td>
</tr>
<tr>
<td>40-49</td>
<td>2.4</td>
</tr>
<tr>
<td>50+</td>
<td>1.7</td>
</tr>
<tr>
<td>Common mental disorders</td>
<td>18.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stigma statements</th>
<th>Identifiable (n=296) (%)</th>
<th>Anonymous (n=315) (%)</th>
<th>Adjusted OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived social stigma</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It would be too embarrassing</td>
<td>32.5</td>
<td>41.6</td>
<td>1.55 (1.10-2.18)</td>
</tr>
<tr>
<td>I would be seen as weak</td>
<td>34.2</td>
<td>46.6</td>
<td>1.78 (1.26-2.50)</td>
</tr>
<tr>
<td><strong>Barriers to Care</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaders discourage the use of mental health services</td>
<td>4.6</td>
<td>9.3</td>
<td>2.23 (1.12-4.43)</td>
</tr>
</tbody>
</table>
Importance of Anonymity to Encourage Honest Reporting in Mental Health Screening After Combat Deployment

Christopher H. Warner, MD; George N. Appenzeller, MD; Thomas Grieger, MD; Slava Belenkiy, MD; Jill Breitbach, PsyD; Jessica Parker, PsyD; Carolynn M. Warner, MD; Charles Hoge, MD
So....

» People do not tell the truth [when filling in questionnaires]

» Even when ‘reassured’ that no personal outcome will occur

» However well intentioned....monitoring/screening cannot work
So is mental health screening futile?

Promoting Mental Health Following the London Bombings: A Screen and Treat Approach

Chris R. Brewin, Peter Scragg, Mary Robertson, and Monica Thompson
Traumatic Stress Clinic, London, UK

Patricia d’Ardenne
Institute of Psychotrauma, London, UK

Anke Ehlers
Centre for Anxiety Disorders and Trauma, London, UK

on behalf of the Psychosocial Steering Group, London Bombings Trauma Response Programme

Following the 2005 London bombings, a novel public health program was instituted to address the mental health needs of survivors. In this article, the authors describe the rationale for the program, characteristics of individuals assessed within...
The problems with mental health selection/health screening within organisations

» No evidence of effectiveness to date

» Natural history wrong – most get better

» False positives swamp system (labelling)

» Suspicion amongst target population

» May be well intentioned but not organisationally effective

So what to do

» Don’t screen – focus on improving helpseeking

– Eg. Royal Foundation ‘heads together’
Stigma in the UK AF over time

![Graph showing the decrease in stigma over time for different deployments and post-deployment stages. The y-axis represents the percentage, ranging from 0 to 100. The x-axis has categories for OMHNE I, OMHNE A, OMHNE A2, OMHNE A3, OMHNE M, Decompression 2008, Battlemind 2009, IA Decompression, and Decompression 2011. The graph indicates a downward trend in stigma over these periods.]
So what to do

» Self-assessment and improved advice / online therapy

» Good evidence that military personnel prefer to self-manage

» Give them the tools
So what to do

» Improve the ability of social networks to encourage help-seeking

– e.g. Community Reinforcement and Family Training (CRAFT)
– Used in the VA in San Fran area
– Trial in the UK beginning
Improving the knowledge/skills of primary care professionals/screening in higher risk environments

RESPECT-Mil: Feasibility of a Systems-Level Collaborative Care Approach to Depression and Post-Traumatic Stress Disorder in Military Primary Care

COL Charles C. Engel, MC USA*; Thomas Oxman, MD†; MAJ Christopher Yamamoto, MC USA†; MAJ Darin Gould, MC USA§; Sheila Barry, BA¶; Patrice Stewart, PhDII; COL Kurt Kroenke, MC USA (Ret.)#; John W. Williams Jr., MD**; Allen J. Dietrich, MD‡‡

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§Womack Army Medical Center, Fort Bragg, Building C-1624, Room T101, Fort Bragg, NC 28310.
¶RESPECT-Mil Center of Excellence, Department of the Army, P.O. Box 2048, Newbury, NH 03255.
IIRESPECT-Mil Center of Excellence, Robinson Health Clinic, Womack Army Medical Center, Fort Bragg, Department of the Army, Fort Bragg, NC 28310.
Conclusions on screening

» Easy to see why screening is seen as an attractive option
» However, evidence is lacking that it works within organisational settings
» May be useful in ‘already help-seeking populations’ or within populations with no career/attitudinal impact concerns of their responses
» Possibility that screening may ‘cause harm’
» Improving appropriate help-seeking may be best achieved by other means (family, colleagues, leaders)
» Potential opportunity for screening in veterans might exist (military career gone?)
Any Questions?

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