

## Update: Pre- and Post-deployment Health Assessments, US Armed Forces, September 2002-August 2003

Recent issues of the MSMR have reviewed the background of, rationale for, and policies and guidelines related to pre- and post-deployment health assessments of deploying servicemembers.<sup>1-10</sup> Briefly, prior to deploying, the health of each servicemember is assessed to ensure his/her medical fitness and readiness for deployment; and at the time of redeployment, the health status of each servicemember is again assessed to identify medical conditions and/or exposures of concern to ensure their timely evaluation and treatment. Completed pre- and post-deployment health assessment forms are sent to the Army Medical Surveillance Activity (AMSA) where they are scanned, data entered, and archived in the Defense Medical Surveillance System (DMSS).<sup>11</sup> In the DMSS, data recorded on pre- and post-deployment forms are integrated with data that document demographic and military characteristics and medical experiences (e.g., hospitalizations, ambulatory visits, immunizations) of servicemembers.<sup>11</sup> The continuously expanding integrated DMSS database can be used to monitor the health of servicemembers who participated in various deployments.<sup>11-13</sup>

The population of interest for this report included servicemembers who were mobilized and/or deployed after 1 October 2002. The report summarizes responses to selected questions on pre- and post-deployment health assessments and changes in responses from pre- to post-deployment.

**Methods.** For this update, the DMSS was searched to identify all pre- and post-deployment forms that were completed after 1 September 2002 (in order that assessments of servicemembers who deployed in October 2002 were included in analyses). For summary purposes, pre-deployment responses included all assessments (DD Form 2795) that were completed after 1 September 2002; and post-deployment responses included all assessments (DD Form 2796) that were completed after 1 January 2003. Because numbers of processed forms change from day to day, dates of summaries are noted with tables and figures.

**Results.** During the surveillance period, 385,511 pre-deployment health assessment forms were completed at field sites, shipped to AMSA, and entered into the DMSS database—nearly two-thirds (62.7%) were completed in January, February, or March (table 1).

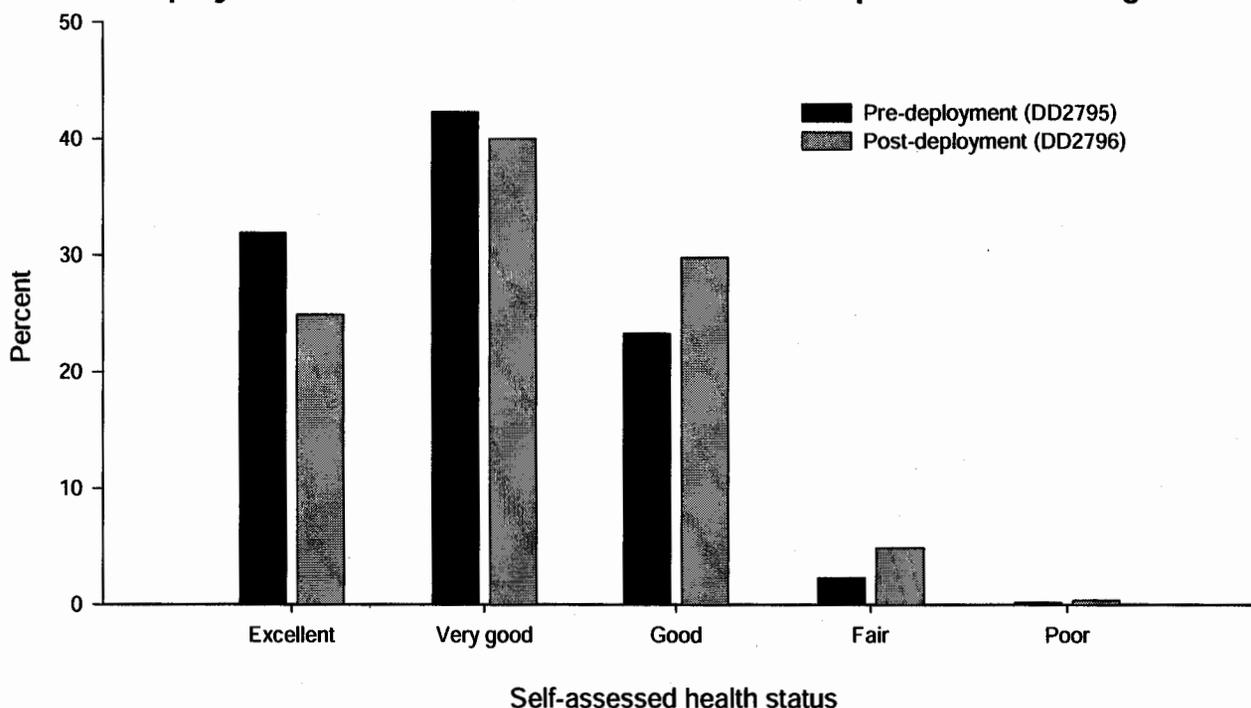
From January through August 2003, 213,251 post-deployment health assessments were completed at field sites, shipped to AMSA, and entered into the DMSS database—approximately three-fourths (76.0%) were completed in May, June, or July (table 1).

The distributions of self-assessments of “overall health status” were generally similar among pre- and post-deployment respondents (figure 1). However, relatively more pre- (74.2%) than post- (64.9%) deployment respondents assessed their overall health as “excellent” or “very good”; and relatively more post- (34.7%) than pre- (25.6%) deployment respondents assessed their overall health as “good” or “fair.” During both phases, fewer than 0.5% of respondents assessed their overall health as “poor” (figure 1).

On post-deployment forms, approximately one of six (16%) active and one of four (25%) Reserve component respondents reported “medical/dental problems.” Among active component respondents, relatively more members of the Army (23%) than the other Services reported “medical/dental problems”; however, among reserve component respondents, relatively more members of the Navy (32%) and Marines (35%) than the other Services reported “medical/dental problems” (table 2). Across the board, 1-4% of respondents reported “mental health concerns” (table 2). Approximately one-sixth (16%) of post-deployment forms overall—but one-fourth (27%) of active Army and reserve Marine respondents—included “indications for referrals.” (table 2).

Among servicemembers (n=105,466) who completed both forms during the period, approximately half (50.4%) used the same descriptor of their “overall health” before and after deploying (figures 2, 3). Of those (n=52,399) who changed their assessments from pre- to post-deployment, most (79.0%) changed by one category (on a five category

**Figure 1. Percent distributions of self-assessed overall health status, pre- and post-deployment health forms, US Armed Forces, September 2002-August 2003.**



**Table 1. Total pre-deployment and post-deployment health assessments, by month and year, US Armed Forces**

	Pre-deployment *		Post-deployment **	
	No.	%	No.	%
<b>Total</b>	<b>385,511</b>	<b>100.0</b>	<b>213,251</b>	<b>100.0</b>
<b>2002</b>				
September	10,977	2.8		
October	16,384	4.2		
November	18,804	4.9		
December	15,802	4.1		
<b>2003</b>				
January	66,178	17.2	5,226	2.5
February	106,323	27.6	4,639	2.2
March	67,262	17.4	6,094	2.9
April	34,497	8.9	15,129	7.1
May	10,892	2.8	72,940	34.2
June	13,361	3.5	53,486	25.1
July	12,826	3.3	37,066	17.4
August	12,205	3.2	18,671	8.8

\* Total pre-deployment assessments (DD form 2795), 1 September 2002-30 August 2003.

\*\* Total post deployment assessments (DD form 2796), 1 January 2003-30 August 2003.

scale) (figure 2,3); and of those who changed by more than one category, more than 6-times as many indicated a decline (n=9,523) as an improvement (n=1,445) (figure 3).

Finally, approximately one of eight returning servicemembers reported a deployment-related "exposure concern." The likelihood of reporting an "exposure concern" increased with age; in addition, reservists, members of the Marine Corps and Army, females, officers, and individuals of Hispanic ethnicity were more likely to report "exposure concerns" than their respective counterparts (table 3).

**Editorial comment.** Most deploying and redeploying servicemembers describe their overall health as good, very good, or excellent; and most servicemembers do not significantly change their overall health assessments from pre- to post-deployment. Of note, however, of the relatively few servicemembers who changed their descriptions of their overall health by at least two categories from pre- to post-deployment, many more reported declines than improvements.

This finding deserves more detailed analysis (findings will be reported in future MSMRs); however, it is not surprising for several reasons: first, many more servicemembers are "eligible" for significant decreases than increases in their perceived overall health—because prior to deploying, many more servicemembers describe their overall health as very good or excellent than fair or poor; and second, in general, the health and fitness statuses of very healthy and fit individuals would be expected to decline during prolonged exposures to extreme physical and psychological stresses.<sup>14</sup>

Across the board, relatively few returning servicemembers (1-4%) reported "mental health concerns." However, mental health problems may be more prevalent than suggested by responses on a self-administered general health questionnaire that is completed at the time of redeployment. Commanders, supervisors, careproviders, peers and family members should be vigilant for mental health problems that may emerge among servicemembers who have recently returned from overseas deployments.<sup>12, 14, 15</sup>

**Table 2. Responses to selected questions from post-deployment forms (DD2796) completed since 1 January 2003, by service and component, US Armed Forces\***

Active component	Army	Navy	Air Force	Marines	Total
SMS with DD 2796 at AMSA	52,776	16,607	27,345	28,258	124,986
General health ("fair" or "poor")	8%	4%	2%	5%	5%
Medical/dental problems	23%	13%	11%	16%	17%
Currently on profile	11%	1%	1%	2%	5%
Mental health concerns	4%	2%	1%	1%	2%
Exposure concerns	14%	6%	5%	11%	10%
Health concerns	13%	7%	4%	8%	9%
Referral indicated	27%	10%	15%	11%	16%
Med. visit following referral***	88%	68%	81%	52%	80%
Post deployment serum**	94%	32%	93%	70%	82%
<b>Reserve component</b>					
SMS with DD 2796 at AMSA	39,654	7,114	11,079	5,893	63,740
General health ("fair" or "poor")	7%	4%	2%	10%	6%
Medical/dental problems	29%	32%	18%	35%	27%
Currently on profile	14%	4%	2%	4%	9%
Mental health concerns	3%	2%	1%	3%	2%
Exposure concerns	14%	12%	10%	32%	14%
Health concerns	16%	18%	9%	24%	15%
Referral indicated	22%	17%	18%	27%	17%
Med. visit following referral***	39%	82%	19%	50%	41%
Post deployment serum**	93%	66%	77%	73%	86%

\* As of 27 October 2003.

\*\* Only calculated for DD form 2796 completed since 1 June 2003.

\*\*\* Inpatient or outpatient visit within 6 months after referral.

Note: Subgroup totals may not equal the overall total due to missing/unknown data.

Overall, approximately one of eight servicemembers who completed post-deployment health assessments reported "exposure concerns." Older servicemembers were more likely to report exposure concerns than their younger counterparts. Interpretations of the finding require more detailed analyses.

References

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**Figure 2. Self-assessed health status on post-deployment form, in relation to self assessed health status pre-deployment, US Armed Forces, September 2002-August 2003.**



Pre-deployment response: Excellent

Very good

Good

Fair

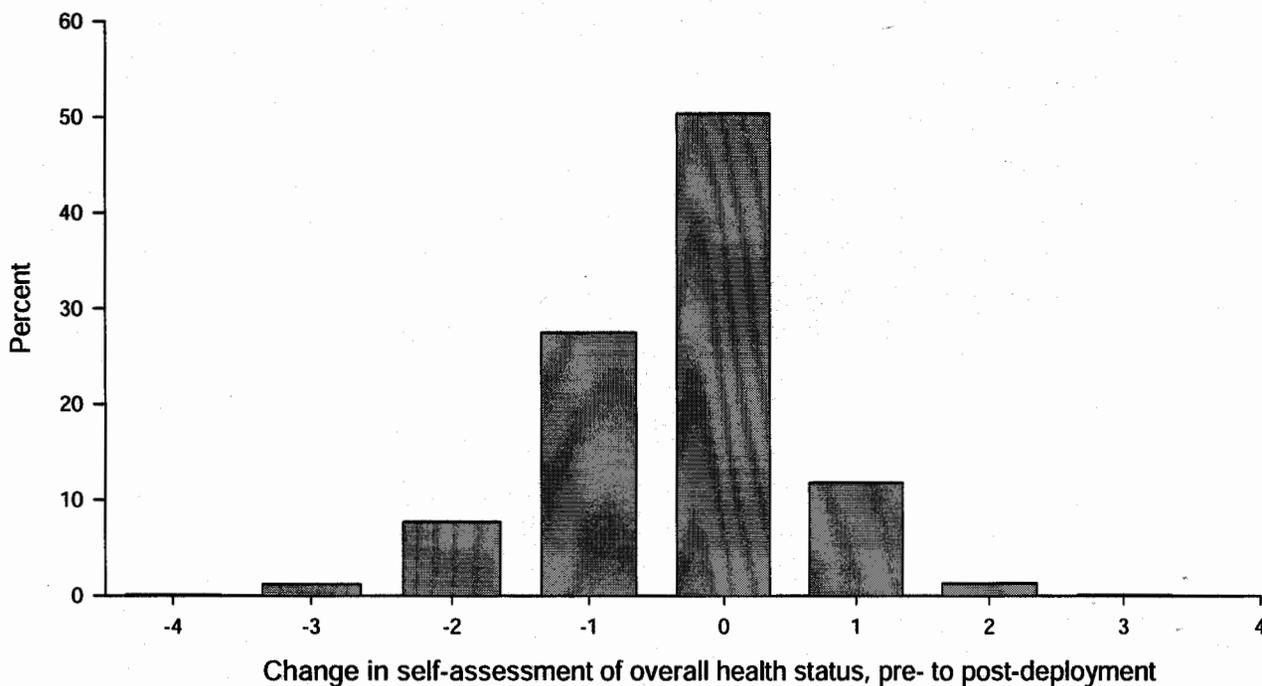
Poor

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**Figure 3. Distribution of self-assessed health status changes from pre- to post-deployment form, US Armed Forces, September 2002-August 2003.**



Change in self-assessment of overall health status, pre- to post-deployment, was calculated as:  
post deployment health status - pre-deployment health status, using the following scale for health status:  
1= "poor"; 2="fair"; 3="good"; 4="very good"; and 5="excellent."

**Table 3. Deployment-related "exposure concerns" reported on post-deployment health assessments\*, US Armed Forces, January-August 2003**

	Total respondents	Exposure concerns no.	%
<b>Total</b>	184,784	22,343	12.1
<b>Component</b>			
Active	123,044	13,342	10.8
Reserve	61,665	9,428	15.3
<b>Service</b>			
Army	90,034	13,223	14.7
Navy	23,415	1,958	8.4
Air Force	37,772	2,573	6.8
Marine Corps	33,563	5,027	15.0
<b>Age (years)</b>			
<20	6,909	462	6.7
20-29	96,608	10,358	10.7
30-39	52,220	7,283	13.9
>39	29,047	4,678	16.1
<b>Gender</b>			
Male	163,998	19,933	12.2
Female	20,784	2,848	13.7
<b>Race/ethnicity</b>			
Black	33,658	4,596	13.7
Hispanic	8,751	1,307	14.9
Other	3,992	598	15.0
White	129,891	15,333	11.8
<b>Grade</b>			
Enlisted	159,012	19,051	12.0
Officer	25,768	3,729	14.5

\* Post-deployment health assessments (DD Form 2796) with completion dates: 1 January-31 August 2003.

Note : Subgroup totals may not equal the overall total due to missing/unknown data.