

Accession Medical Standards Analysis and Research Activity (AMSARA)

Information Briefing in Support of the
Question Raised to the Defense Health
Board Concerning Evidence-Based
Medical Standards

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Accession Medical Standards Analysis & Research Activity
(AMSARA)

Policy Question:

- **Should DoD have a requirement to develop evidence-based medical deployment and retention standards as it currently does for accession standards?**

Agenda

- **Mission**
- **Evidence-based Policy Development**
- **National Academies of Science Committee on Youth Population and Military Recruitment 2006 Recommendations**
- **Current Research**
 - **Assessment of Recruit Motivation and Strength (ARMS)**
 - **Psychiatric Screen**
- **Funding and staffing**
- **AMSARA Mission Expansion Proposal**
 - **Evidence-based medical retention standards**
 - **Evidence-based medical deployment standards**
 - **Timeline for Capabilities Expansion of the Medical Standards Analysis and Research Activity (MSARA)**
- **Backup slides**

AMSARA's Mission

- Established in 1996 to support the Defense Accession Medical Standards Working Group (AMSWG):
 - Assist in development of evidence-based accessions standards
 - Overall goal: Maximize accession, minimize attrition
- From 1996-2005 AMSARA reviewed the DoD Instruction 6130.4 “Criteria and Procedure Requirements for Physical Standards for Appointment, Enlistment, or Induction in the Armed Forces”
 - Assessed the validity of current standards and proposed evidence-based policy changes where indicated
 - Attrition, morbidity, waiver, and EPTS studies of >20 common medical conditions
 - Provided data to support revision of DoD Instruction 6130.4 to screen in individuals with likelihood of success

Evidenced-Based Policy Development

Considerations

Burden of disease
Ability to screen and diagnose
Related morbidity and attrition
*Impact on occupational requirements
and deployability**

Research Tools Utilized

Survival analysis
Healthcare utilization patterns
Outcomes among population with waivers
EPTS analysis

New Policy Recommendations Briefed

AMSWG
Medical Consultants
Service SG's staff
USD Personnel and Readiness
MEDPERS Committee

New Standards Implemented

DoDI 6130.4 published 4 April 2004
Included changes to asthma and ADHD standards
Resulted in ~3,000 more applicants qualified
~\$15M/yr savings in recruiting costs

The Current Accessions Approach: Screen Out Potential Failures

- Current focus is on potential medical problems identified or revealed during the MEPS medical exam
- Screening relies heavily on *self-report*.
 - AMSARA research has shown that, for many conditions, individuals who report a prior history and receive a waiver onto active duty perform as well or better than those not requiring a waiver*
- The majority of EPTS discharges are for conditions not revealed (or unknown) and undetected during the MEPS exam

*An unknown number of “fully qualified” individuals fail to disclose known conditions

Medical Accession Screening: State of Affairs

- Military applicants have a strong incentive to report a negative history of any diagnosed or undiagnosed potentially disqualifying conditions
- Current screening practices (history-based) penalizes many honest applicants (waivers) and misses many who either are undiagnosed or conceal their diagnosis (EPTS)

National Academies of Science Committee on Youth Population and Military Recruitment 2006 Recommendations

- **Identifying Needed Research** needed prior to recommending changes in a current standard or in implementing a new one:
 - (1) analyze the physical requirements of the set of common military tasks across military occupational specialties to obtain a clearer picture of the physical demands of these tasks
 - (2) **study pre-basic training fitness interventions to determine whether they are a viable and cost-effective route to reduced injury and attrition**
 - (3) examine the causes of increased injury and attrition in women
 - (4) **compare attrition rates of enlistees with and without mental health conditions existing prior to service**
 - (5) conduct cost-benefit analysis regarding the effects of increasing the stringency of the current marijuana waiver policy
 - (6) conduct further research on the relationship between smoking and attrition, with particular attention to the behavioral factors driving the observed relationship.

http://books.nap.edu/catalog.php?record_id=11511#toc

AMSARA Current Research Initiatives

- Assessment of Recruit Motivation and Strength Study (ARMS)
- Psychiatric Screening of Military Applicants

Potential Benefits of Adding a Performance Test

- Emphasis on physical fitness prior to entry
- Recruiters provide information to applicants on how to train
 - Increase potential recruiting pool by at least 33 million
 - **Predicted: > 11,000 more annual accessions to BCT**
 - Based on NHANES estimates of US youth population with BMI >25 and excluding other medical disqualifications
 - **Actual: from Feb 05 to Sept 06 over 2,000 over body fat applicants passed the ARMS test and shipped to IET from the 6 study site MEPS**
- A measure of applicant motivation
- Losses will be moved “far to the left” (earlier in the soldier life cycle) based on measurable criteria likely to be related to future attrition
- Decreased injuries during BCT with higher level of physical fitness prior to entry

ARMS Phase III Results

- ARMS testing has been successfully implemented at 6 MEPS resulting in roughly 26,000 tests on 22,000 individuals from 8 Feb 05 to 30 Sep 2006
- 3,900 over body fat individuals tested with a 72% passing rate from Feb-Sep 06
- 2,000 over body fat granted waivers as of 30 Sep 06, and shipped to IET
- Slightly increased attrition (~5% net) and musculoskeletal injury (~10%) risk among males but not females with waiver for over body fat compared to fully qualified
- Limited event size and follow-up time prevent firm conclusions for particular categories of attrition (weight and body fat retention) and injuries (severe heat injuries)

Psychiatric Screening Research Objectives

- To develop a rapid, inexpensive method to screen military recruits for major psychiatric disorders or other behavioral factors that strongly predict occupational dysfunction in the military
- Results should be standardized and interpretable by physicians without specialty training in psychiatry
- The screening test should be reliable, and valid without significant health risk to persons tested

Psychiatric Screening

Future Research Proposal

- Propose, seek approval and funding for a tri-service, multi-site MEPS efficacy trial:
 - Phase I:
 - Follow all psychiatric screen responders who assess for all-cause and psychiatric morbidity and attrition thru IET and 1st term of duty
 - Phase II:
 - Screen-in applicants who reveal a history of selected disqualifying psychiatric conditions such as mood and anxiety disorders prior to the 13th birthday under defined set of clinical criteria
 - Refer selected applicants with pre-defined questionnaire responses for further mental health evaluation/consultation

AMSARA Research Funding: Current

- FY06 Defense Health Program budget: \$676,000
 - AMSARA was an OTSG Executive Agency
 - No RDTE core funding
 - **AMSARA paid for itself with every 20 premature attrites avoided**
- FY07 programmed DHP Budget: \$690,200
 - AMSARA transferred to a Medical Research and Materiel Command Executive Agency in Sept 06
 - Funds 6 FTE GSA contract employees, supply and travel expenses
 - Cost for new contract at current staffing with FY08 rates will result in approximately \$160,000 budget shortfall will be submitted as a UFR to MRMC

AMSARA Research Funding: Current

- ARMS study reimbursable funding by USA Accession Command \$838,000 for FY06
 - Funded 2 FTE contract research assistants at 6 MEPS study sites thru Sep 06 plus 1 FTE project manager at WRAIR
 - Funds outcome morbidity and attrition analysis of study subjects through Dec 07
 - ***Return on investment is \$750 per over body fat accession assuming approximately 1,200 accessions per year***

AMSARA Research Funding: Proposed

- AMSARA submitted a \$7.4 million UFR for the FY08-13 DHP POM
 - Plus the \$676,000.00 current program
 - Funds 19 FTE contract employees at WRAIR and the 6 MEPS study sites, 2 DA civilians at WRAIR, supply and travel expenses
- Programmed funding of longitudinal, prospective, outcome based research
 - Challenge accession tests with functional tests to include: weight and body fat standards, musculoskeletal conditions, psychiatric conditions
 - Anticipated return on investment from a 10% reduction in Existed Prior to Service Discharges to the medical (health care avoided) and personnel (attrition avoided) is \$28 million assuming a cost of \$35,000.00 to recruit, access and train (BCT and AIT) a service member
 - Proposed bill payer were the Services Personnel (Recruiting and Training) Commands based on their proportion of accessions
 - UFR was validated by SMAC but not funded for lack of a DHP bill payer

DoD Evidence-based Medical Standard Requirement Policy Issue:

- **Should DoD have a requirement to develop evidence-based DoD deployment and retention standards as it currently does for accession standards?**
 - **Military Health System (MHS) Transformation effort for the Quadrennial Defense Review (QDR)**
 - **Transform the Force**
 - **Initiative # 4: Healthy, Enhanced, and Protected Force**
 - **The objective of this initiative is to define standards and resource requirements for a healthy, enhanced, and protected force**

Mission expansion to evidence-based medical retention standards

- Proposed analytic approach to the development of would include:
 - Retrospective studies of risk factors for MEB and PEB outcomes
 - Survival analyses of various medical waivers for MEB and PEB outcomes (all-cause, orthopedic, psychiatric, asthma)
 - Survival analyses of MEB and PEB cases returned to duty, by medical category
 - Cost-effectiveness analyses of current versus proposed accession and retention medical standards, with future disability actions as the outcome measure

Mission expansion to evidence-based medical retention standards

- Acquisition of new datasets required for analysis
 - Navy/Marine Corps (MC) Physical Evaluation Board
 - Army Medical Evaluation Board (MEB) (MEBITS)
 - Air Force MEB
 - Navy/MC MEB

Mission expansion to evidence-based medical retention standards

- Manpower requirements and associated annual costs
 - DA Civilians (2 FTEs)
 - Health Scientist \$100,000
 - Statistician \$120,000
 - Contract Employees (4 CMEs)
 - Analyst \$100,000
 - Research Coordinator \$80,000
 - Health Economist \$80,000
 - Database Programmer/Manager \$80,000
 - Supply and TDY costs (15%) \$84,000
- Total annual manpower cost \$644,000

Mission expansion to evidence-based medical retention standards

- Return on investment
 - Cost avoidance is difficult to quantify.
 - Based on the FY04 to FY06 Army Physical Disability Agency annual budgets and caseloads, the average cost per case is approximately \$350, not including the costs per MEB
 - Comparable cost estimates are being developed for the Navy and Air Force
 - Based on a retention capability incremental cost of \$644,000 and a cost per case of \$355, MSARA would pay for itself with every 1,813 Army cases avoided per year, which represents a 12% reduction in caseload
 - This reduction could be realized in either MEB cases not initiated and/or MEB cases found fit for duty
 - This is a conservative estimate because it does not consider cases avoided in the Navy/MC and Air Force

Mission expansion to evidence-based medical deployment standards

- Proposed analytic approach
 - Retrospective studies of risk factors for Non-Deployable Cases by diagnosis
 - Predictive modeling of pre-accession medical status and related factors on likelihood of future deployability
 - Cost-effectiveness analyses of current versus proposed deployment medical standards

Mission expansion to evidence-based medical deployment standards

- Acquisition of new datasets required for analysis
 - Navy/MC Non-Deployable File by diagnosis
 - Army Non-Deployable File by diagnosis
 - Air Force Non-Deployable File by diagnosis
 - Navy/MC Non-Deployable File by diagnosis
 - DMDC Tri-service deployment database detailing all deployments at the individual level

Mission expansion to evidence-based medical deployment standards

- Manpower requirements and associated annual costs

- Contract Employees (3 CMEs)

■ Analyst	\$100,000
■ Research Coordinator	\$80,000
■ Statistician	\$100,000
■ <u>Supply and TDY costs (15%)</u>	<u>\$42,000</u>
■ Total annual manpower cost	\$322,000

Mission expansion to evidence-based medical deployment standards

- Return on investment
 - The cost avoidance is difficult to quantify because counts of past and current medical non-deployables are not available presently
 - The average cost per non-deployable case is unknown and would certainly depend on occupational specialty, rank, seniority and theater of operation
 - Based on a retention capability incremental cost of \$322,000 and once counts of past and current non-deployables are available, the cost per case of non-deployable avoided per year can be estimated, when MSARA would pay for itself, and the anticipated percentage reduction in medical non-deployable cases

Timeline for Capabilities Expansion of the Medical Standards Analysis and Research Activity (MSARA)

1. FY08 add \$388,000 to core DHP funding **\$676,000**: Total Funding \$1,064,000
2. FY 09 add \$429,000 to core DHP funding \$676,000: Total Funding \$1,105,000
3. Obtain validation of the requirement for evidence-based medical retention and deployment standards by 1st QTR FY08 thru the Defense Health Board
4. Establish MSARA as a DoD Executive agency with defined oversight per the appropriate DoD directive or instruction 1st QTR FY09
5. FY10-14 POM add \$644,000 (adjusted for inflation) to core DHP for retention medical standards capabilities starting in FY10
6. FY10-14 POM add \$322,000 (adjusted for inflation) to core DHP for deployment medical standards capabilities starting in FY12

MSARA Next Steps

- DHB review and recommendations
- Decision brief to the MEDPERS Co-Chairs (MPP & HA)
- MEDPERS briefing for endorsement
- Programming
- Execution

Back Up Slides

- **Past Research**
- **National Academies of Science Committee on Youth Population and Military Recruitment 2006 Recommendations**
- **Current Research**
 - **Assessment of Recruit Motivation and Strength (ARMS)**
 - **Psychiatric Screen**

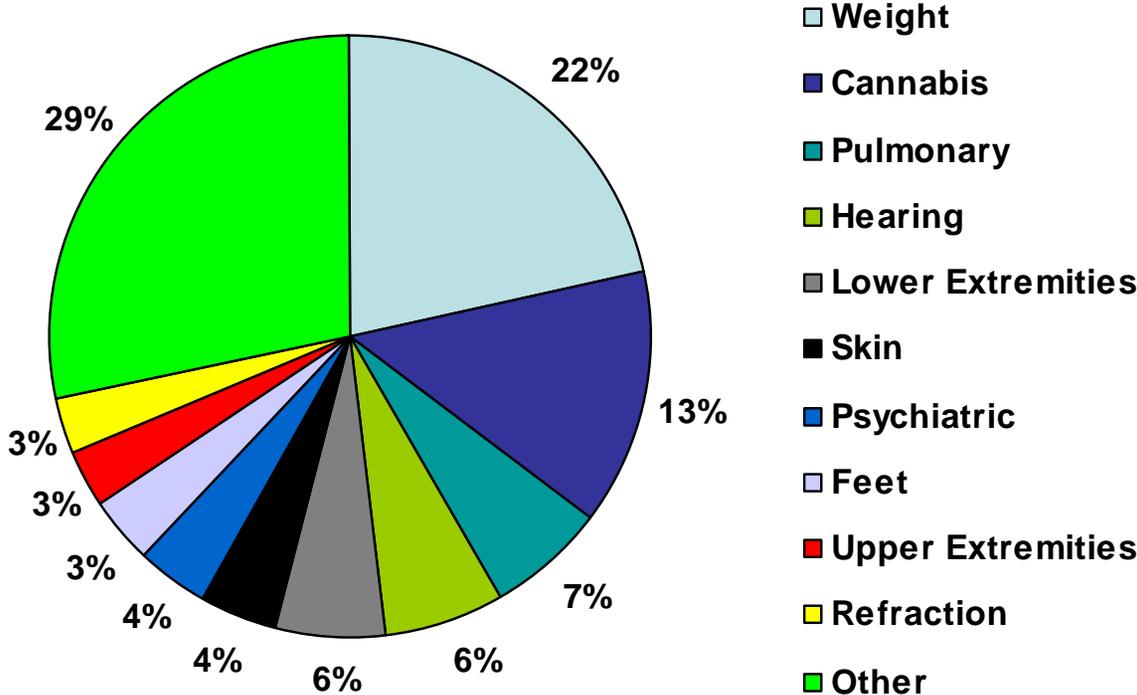
Questions?

- **The views expressed are those of the authors and should not be construed to represent the positions of the Department of the Army or Department of Defense**

Past Research

- Descriptive data of medical disqualifications, waivers, hospitalizations, EPTS and disability discharges
- Waiver survival analyses
- Hospitalization studies
- Existed Prior to Service (EPTS) case series reviews
- Past Accomplishments

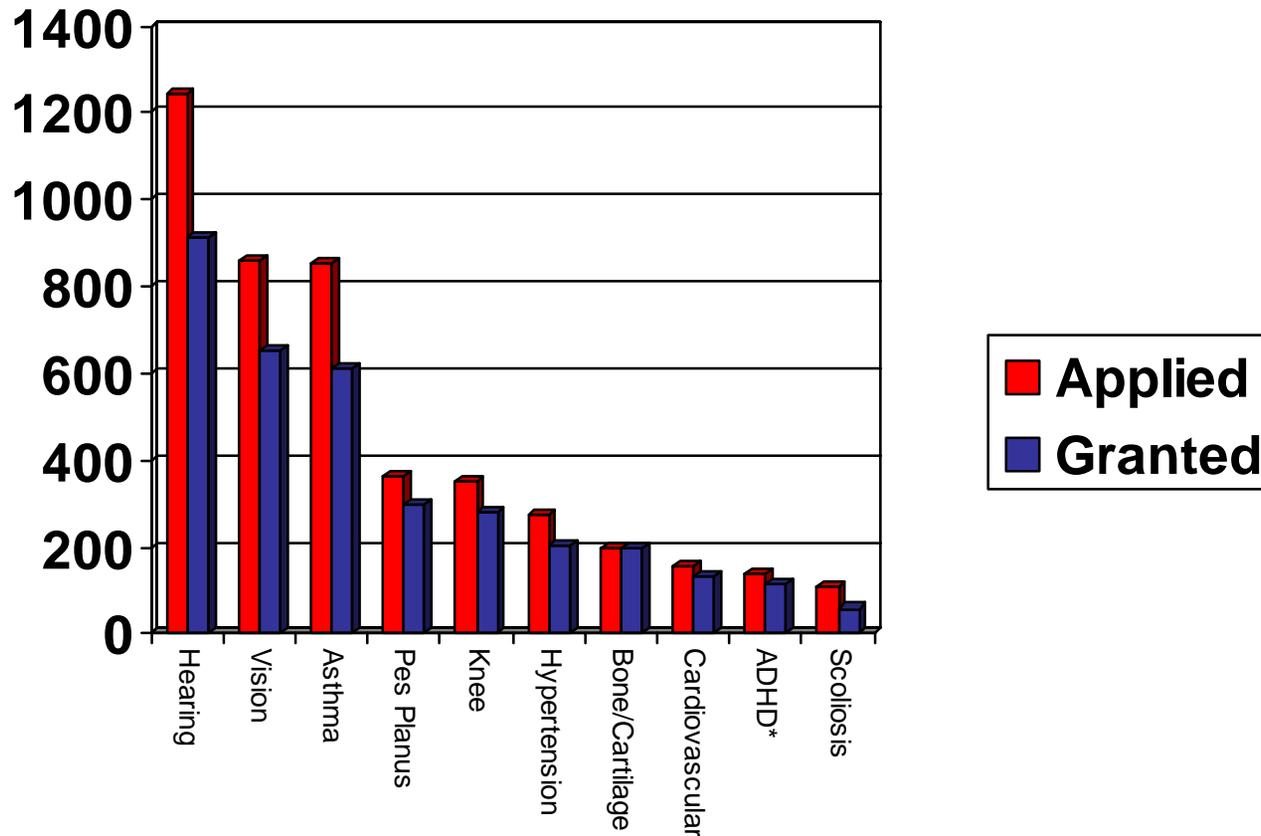
Medical Failure Diagnostic Categories in Disqualified Military Applicants: 5-Year Average (1997 to 2002 excluding 2001)*



* Average of 77,742 per year

Frequencies of Top Ten Average Diagnostic Categories of Waiver Applicants and Granted for Active Duty Enlisted

from 1997 through 2002: Army



ADHD=Attention Deficit with Hyperactivity Disorder

Source: *Accession Medical Standards Analysis and Research Activity Annual Report 2003.*

AMSARA Waiver Survival Studies of Various Medically Disqualifying Conditions

<u>Year of Report</u>	<u>Medical Condition</u>	<u>Number of Subject</u>
1998	Knee	281
1999	Back	248
	Skin and related tissues	334
2000	Asthma	1510
	ADHD	508
	Depression and Related Disorders	502
	Any/all medical waivers	25,716
2002	Hearing Deficiency	2935
2003	Hypertension	1039
	Pes Planus	1499
	Scoliosis	271
	Headaches	696
2004	Myopia	1589

Effect on Attrition Found in Waiver Survival Analyses Comparing Active Duty Enlisted Waived Accessions with Matched Fully Qualified Accessions

<u>Waiver Condition</u>	<u>DoD</u>	<u>Army</u>	<u>Navy</u>	<u>Marines</u>	<u>Air Force</u>
Knee	None	High	None	None	None
Back	N/A	High	None	None	N/A
Skin and related tissue*	High	High	None	High	N/A
Asthma	Low	None	None	None	None
ADHD***	None	None	None	None	None
Depression & related Disorders	High	High	High	High	N/A
Hearing deficiency	High	High	High	None	N/A
Hypertension	None	None	Low	None	N/A
Pes Planus	High	High	High	High	None
Scoliosis	High	High	High	High	N/A
Headache	None	None	None	None	None
Myopia	None	None	None	None	None
Any/all medical waivers**	High	High	High	High	High

* Study examined medical outcomes only—hospitalization, EPTS discharge, and disability discharge—rather than total attrition as in other studies in this table

** Comparison subjects were all recruits over same time period and were not matched

*** ADHD = Attention Deficit with Hyperactivity Disorder

Navy Bureau of Medicine and Surgery (BUMED) Waiver Case Series Reviews

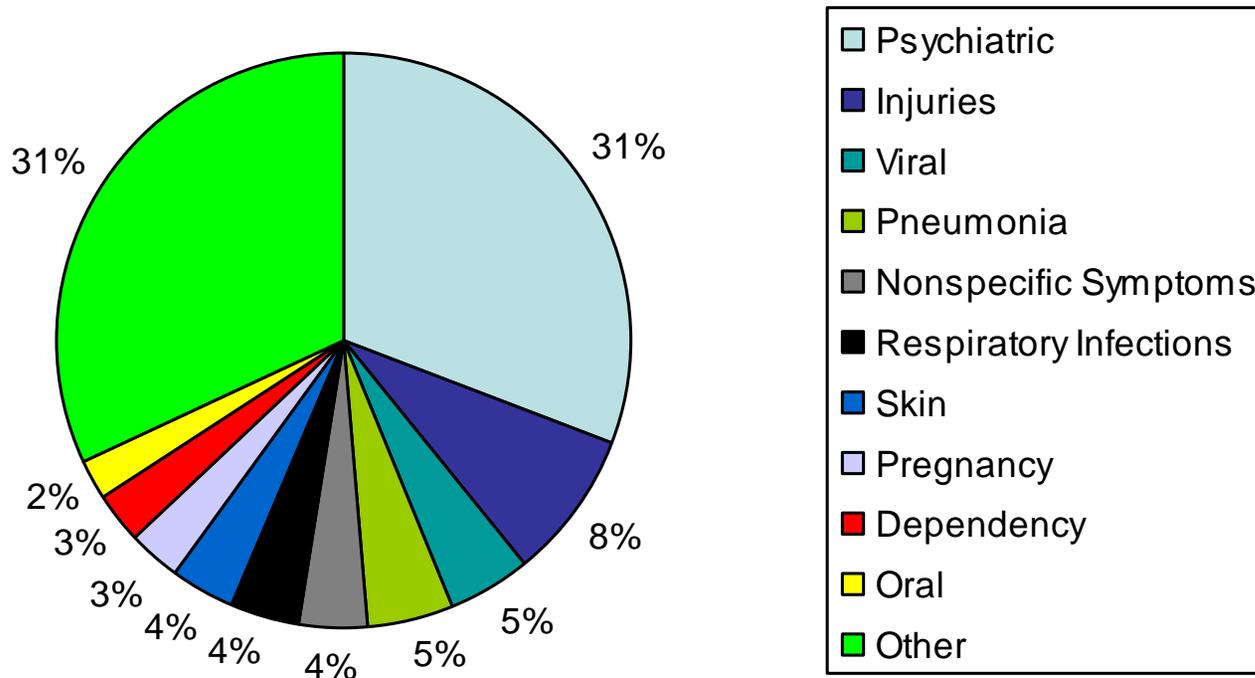
■ Methods:

- Examine detailed BUMED data on accession medical waiver considerations for a particular diagnostic condition
- Waiver approvals and denials are compared for differences in symptoms, treatment received, time since most recent symptoms, etc.

■ Conditions Studied to Date:

- Asthma
- ADHD
- Hearing Loss
- Myopia

Hospital Admissions by Diagnostic Category within the First Year of Service From 1996-2001*: All Services

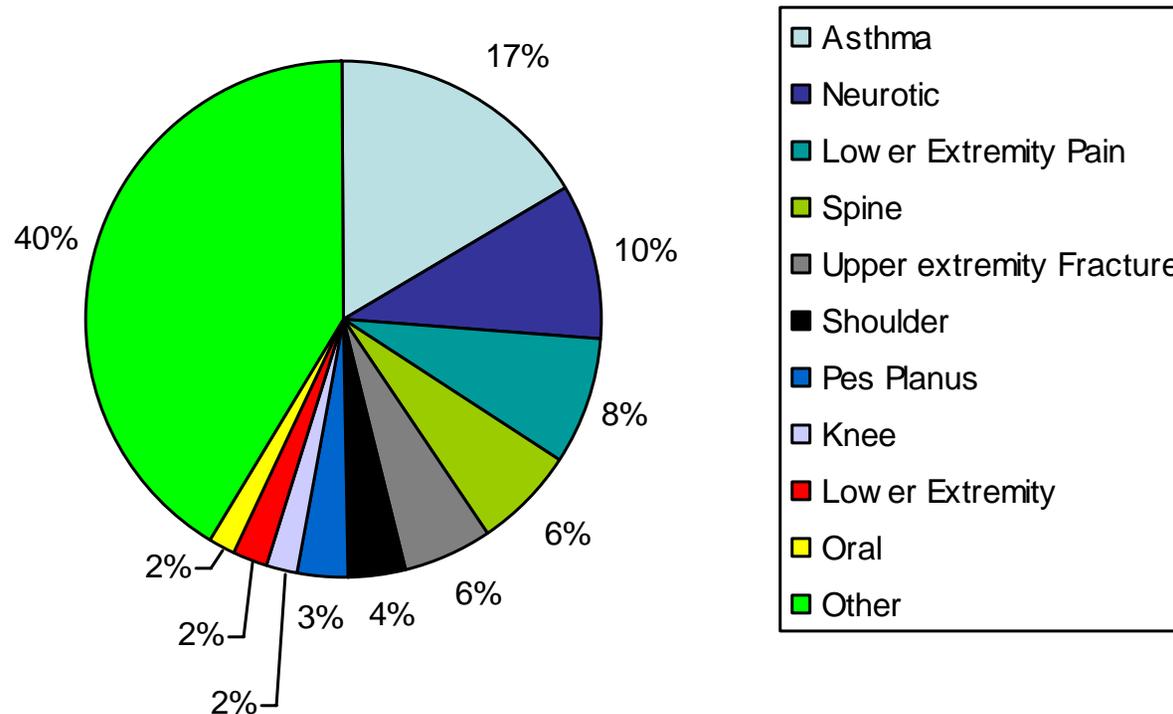


*Mean=15,353 hospitalizations per year

Hospitalization Studies

- Risk factors for early hospitalization
 - Age, Gender, Education, AFQT, Service
- Attrition after injury hospitalization
 - Similar relative to selected all other causes
- Attrition after psychiatric hospitalization
 - Increased relative to all other causes

EPTS Discharges by Diagnostic Category among First Year Active Duty Enlistees 5-Year Average, 1998-2002*: All Services



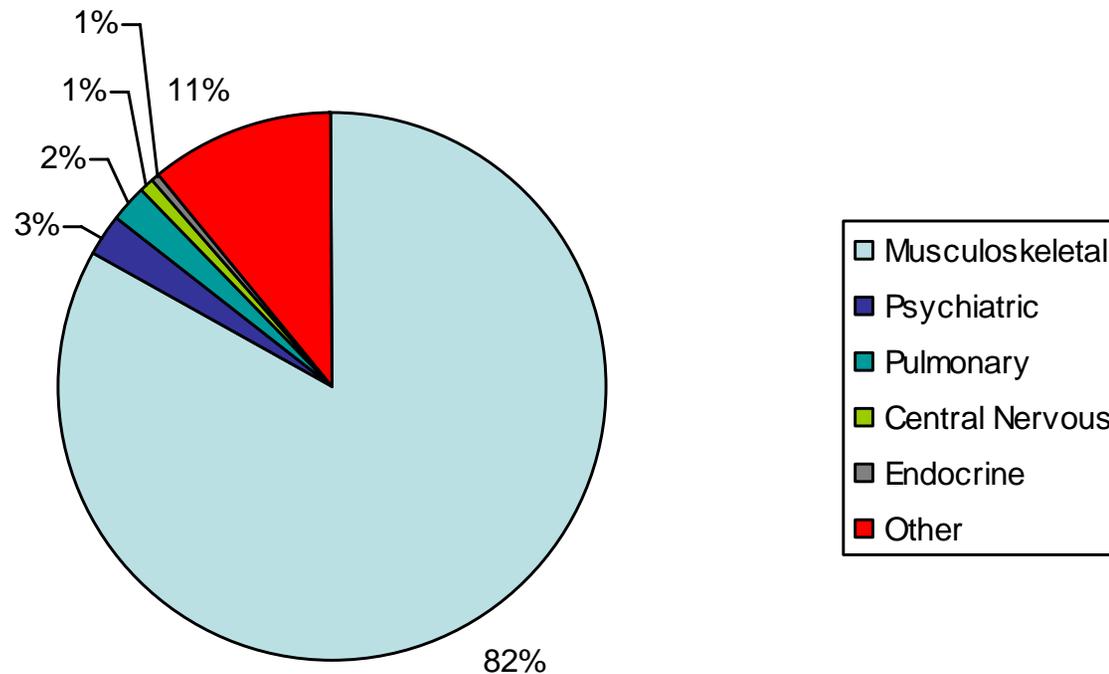
***Mean=approximately 2,660 per year**

Source: *Accession Medical Standards Analysis and Research Activity Annual Report 2003.*

Existed Prior to Service Discharges Case Series Reviews

Year of Report	Medical Condition	Study Period	Records Reviewed
2001*	Hernia	1997-1999	139
	Hepatitis	1997-1999	115
	TMJ	1997-1999	103
	Thyroid	1997-1999	75
	Diabetes Mellitus	1997-1999	39
	Abnormal Pap Smear	1997-1999	98
	Varicocele	1997-1999	91
	Enuresis	1997-1999	332
2002*	Hear Loss	1998-2000	240
	Attention Deficit	1999	137
	Scoliosis	1999-2000	258
	Low Back Pain	2001	265
2003**	Depression	2001	210
	Pes Planus	2001	202
	Hypertension	199-2001	164
	Headache	2001	117
	Retropatellar Pain	2001	108
2004***	Myopia	200-2002	143

Diagnostic Disability Discharges by Diagnostic Category amongst First Year Active Duty Enlistees 1996-2001: Army



*6-Year Average = 2,179 per year

Source: *Accession Medical Standards Analysis and Research Activity Annual Report 2003.*

AMSARA

Accomplishments

- 1) Recommended discontinuation of syphilis screening
 - Implemented in 2000
 - >\$2 M per yr savings realized for DHP
- 2) Recommended discontinuation of Panographs, EKG, Hematocrit & Hemoglobin
 - Implemented in 2003
 - >\$0.5 M per yr savings realized for DHP
- 3) Recommended change in standards for asthma & attention deficit with hyperactivity disorder
 - Implemented April 2004 DoDI 6130.4
 - ~3,000 more applicants qualified at MEPS
 - ~\$15M per yr savings in recruiting costs

AMSARA

Accomplishments

- 4) Obtained \$2.5M for accession-related research from FY04 to FY06 (ARMS)

- 5) Recommended deletion of over 50 medical standards not supported by scientific evidence implemented in Jan 2005 DoDI 6130.4
 - This resulted in expansion of the accession market by over 1,000 unnecessary medical disqualifications avoided per year
 - A savings of over \$5 million in recruiting costs

AMSARA

Accomplishments

- 7) Authored five chapters for the Textbook of Military Medicine on Recruit Medicine, a tri-service effort involving 76 authors writing 25 chapters and is the definitive work on military recruit medicine published by the Borden Institute in 2006:
 - a. The Enlisted Accession Medical Process
 - b. Morbidity and Attrition Related to Medical Conditions in Recruits
 - c. Sexually Transmitted Infections in Military Recruits,
 - d. Asthma and Its Implications for Military Recruits
 - e. Gynecological and Reproductive Health for the Female Recruit

National Academies of Science Committee on Youth Population and Military Recruitment 2006 Recommendations

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 - (5) conduct cost-benefit analysis regarding the effects of increasing the stringency of the current marijuana waiver policy
 - (6) conduct further research on the relationship between smoking and attrition, with particular attention to the behavioral factors driving the observed relationship.

National Academies of Science Committee on Youth Population and Military Recruitment 2006 Recommendations

■ PHYSICAL FITNESS AND MUSCULOSKELETAL INJURY

- Recommendation 4-1: A standardized physical fitness test should be selected and routinely implemented at some point prior to the initiation of basic military training

■ MEDICAL STANDARDS, Body Composition and Body Fat

- Recommendation 5-1: As BMI is less predictive of injury and attrition than aerobic fitness, we recommend that it not be used as a proxy measure for fitness in the military population

National Academies of Science Committee on Youth Population and Military Recruitment 2006 Recommendations

■ Mental Health Enlistment Standards

- Recommendation 6-1: **We recommend that disqualification for mood and anxiety disorders should occur only if disorders occur after the applicant's 13th birthday.** We recognize that the imprecision with which age cutoffs can accurately predict the likelihood of performance problems due to mental illness suggests that waivers may be commonly requested, and frequently granted, for illness occurring after age 13. However, using the 13th birthday as a cutoff allows sufficient time for clinical follow-up of a diagnosed mood or anxiety disorder to identify potential recruits with a risk of recurrence.

National Academies of Science Committee on Youth Population and Military Recruitment 2006 Recommendations

■ Mental Health Screening

- Recommendation 6-2: **Specific mental health disorders should be included on the medical prescreen report form.** Recommended items include depression after the age of 13, bipolar disorder (manic depressive illness) after the age of 13, anxiety disorders after the age of 13, exposure to trauma, attention deficit hyperactivity disorder with medication treatment in the past year, schizophrenia and psychotic disorders, and hospitalization for mental illness care. A positive response to this screening question would require open-ended amplification regarding the specific diagnosis.

National Academies of Science Committee on Youth Population and Military Recruitment 2006 Recommendations

■ Mental Health Screening

- Recommendation 6-3: **A brief self-report questionnaire regarding current symptoms of mental health conditions should be administered at the military entrance processing station.**
- Recommendation 6-4: **A brief mental status examination should be conducted by the medical officer at the MEPS.**

AMSARA Current Research Initiatives

- Assessment of Recruit Motivation and Strength Study (ARMS)
- Psychiatric Screening of Military Applicants

A New Accessions Paradigm: Screen-In Potential Successes (ARMS)

- AMSARA proposed and implemented the Assessment of Recruit Motivation and Strength (ARMS) study to pilot a performance based tool to screen in applicants who may have been otherwise disqualified
- ARMS test composed of:
 - 5-minute modified Harvard step test
 - Push-ups
 - Incremental dynamic lift (IDL)
- ARMS Phase III was conducted from Feb 2005 to Sep 2006 at 6 MEPS with waiver eligibility for over body fat applicants who pass the test*

*Primarily based on performance data obtained from >7,000 applicants tested during Phase II

Potential Benefits of Adding a Performance Test

- Emphasis on physical fitness prior to entry
- Recruiters provide information to applicants on how to train
 - Increase potential recruiting pool by at least 33 million
 - **> 11,000 more annual accessions to BCT**
- A measure of applicant motivation
- Losses will be moved “far to the left” based on measurable criteria likely to be related to future attrition
- Decreased injuries during BCT with higher level of physical fitness prior to entry

ARMS Testing Parameters and Passing Criteria*

- Maximum body fat for eligibility
 - 30% male, 36% female
- Modified Harvard 5-minute step test
 - 16 inch step for males & 12 inch step for females
 - Ability to keep set pace, one minute resting pulse of <180
- Push-Ups
 - male= 15, female= 4
- Incremental Dynamic Lift (deleted in 2006)
 - male= 50 lbs, female= 40 lbs

ARMS Phase III Results

- ARMS testing has been successfully implemented at 6 MEPS resulting in roughly 26,000 tests on 22,000 individuals from 8 Feb – 30 Sep 2006
- 3,900 over body fat individuals tested with a 72% passing rate from Feb-Sep 06
- 2,000 over body fat granted waivers as of 30 Sep 06, and shipped to IET
- Slightly increased attrition and musculoskeletal injury rates among males with waiver for over body fat compared to fully qualified
- Limited event size and follow-up time prevent firm conclusions for particular categories of attrition (weight and body fat retention) and injuries (sever heat injuries)

ARMS Market Expansion Initiatives

- USAAC (LTG Van Antwerp):
 - Implemented ARMS testing and waiver eligibility for Army over body fat applicants at all 65 MEPS
 - Report results periodically to MEDPERS
- AMSARA's role
 - Continue longitudinal follow-up from 6 MEPS research sites
 - Provide program longitudinal follow-up, in particular morbidity for operational testing at all 65 MEPS in cooperation with USAAC (attrition) & RAND (cost-benefit analysis)

Psychiatric Screening Research Objectives

- To develop a rapid, inexpensive method to screen military recruits for major psychiatric disorders or other behavioral factors that strongly predict occupational dysfunction in the military
- Results should be standardized and interpretable by physicians without specialty training in psychiatry
- The screening test should be reliable, and valid without significant health risk to persons tested

Psychiatric Disorders: Burden of Disease

- **Medical Failures:**

- 13.5% of all medical failures with over 9,000 diagnoses per year from 2002 to 2005 in approx 210,000 applicants per year
- Top 5 Causes:
 - Drug Abuse (71%), Attention Deficit (8%), Anxiety (7%), Depression (3%), Personality (2%)

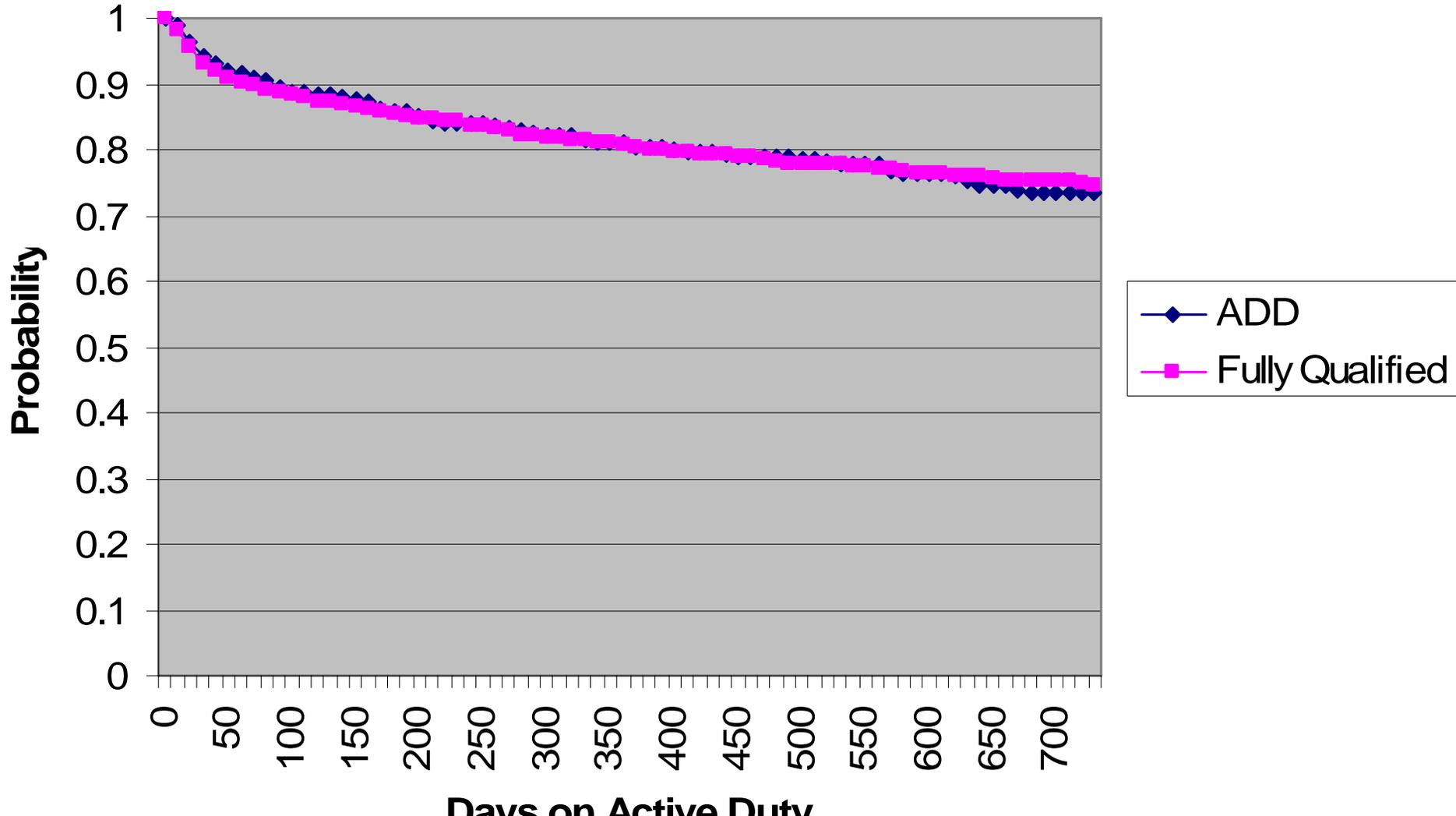
- **Medical Waivers:**

- 5.9% of all AD waivers with over 1,400 per year from 2000 to 2005 in approximately 150,000 accessions per year
- Top 5 Causes:
 - Attention Deficit (35%), Psychogenic (13%), Drug Abuse (6%), Depression (6%), Behavior (5%)

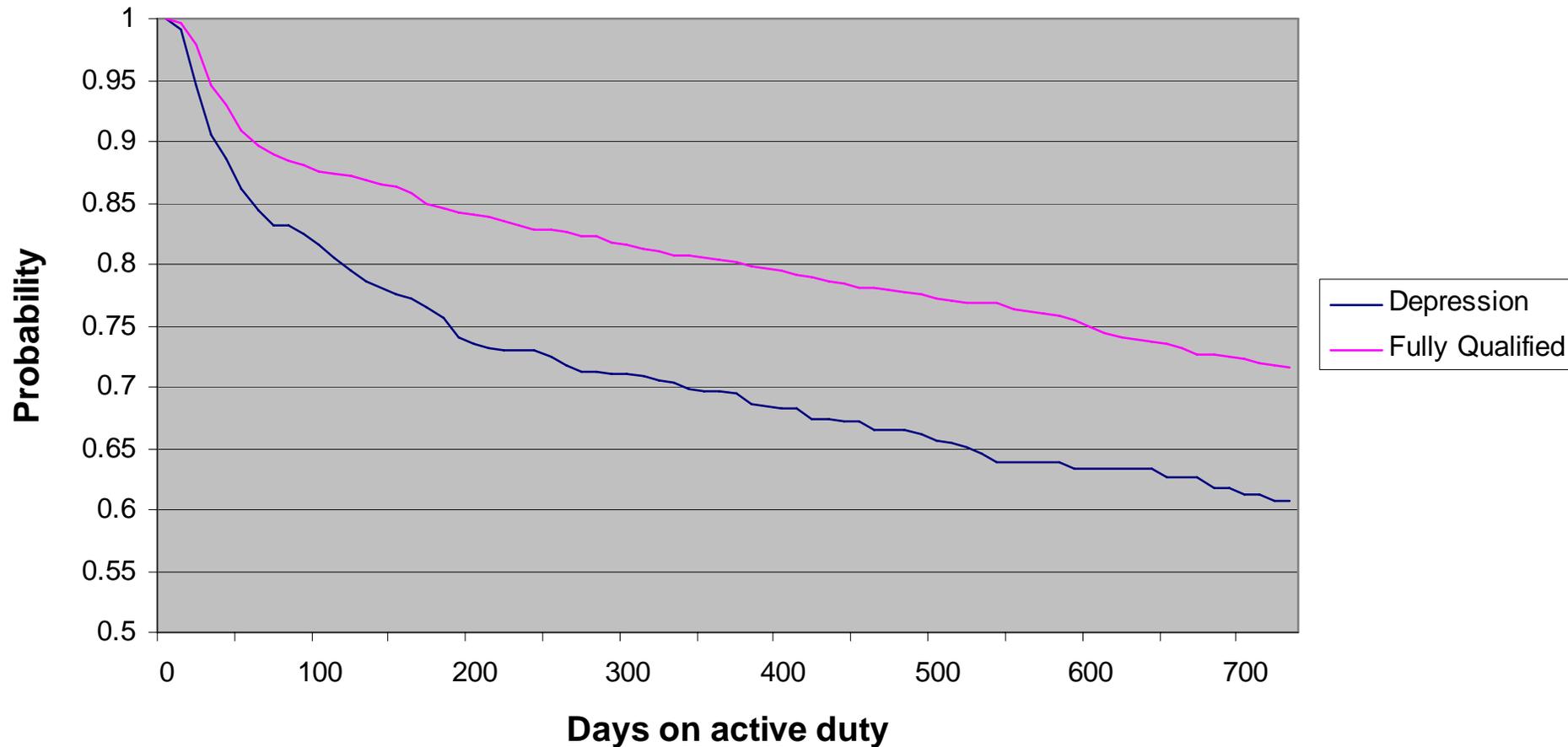
- **EPTS Discharges**

- 41.5% of all AD EPTS discharges with over 2,100 diagnoses per year from 2000 to 2005
- Top 5 Causes:
 - Anxiety (39%), Personality (16%), Attention Deficit (9%) Conduct (8%) Drug Abuse (6%)

Survival Curve of DoD Recruits Waived for Attention Deficit Hyperactivity Disorder (ADHD) Compared to Fully Qualified: 1995-1999



Survival Curve for DoD Recruits Waived for Depression And Related Disorders Compared to Fully Qualified: 1995-1999



Small Business Initiative Research (SBIR)

- OSD has awarded two contracts to develop a psychiatric screen for use at the MEPS
- Phase I (completed in 2002)
 - Lasted for 6 months at a cost of \$100,000 per contract
 - Resulted in the development of two questionnaire prototypes
 - Focused on depression, anxiety, psychiatric medication, alcohol, personality, adverse childhood events, psychoticism, function, motivation, self-esteem, social desirability, and executive function

SBIR: Phase II

- Two year (2003 to 2005) contract awarded to both contractors for \$750,000 each
 - Both contractors have conditional Human Subjects Research Review Board approval
 - US MEPCOM approved validation studies in selected MEPS (a total of 8 sites)
 - Informed consent is obtained by research assistant
 - A cash incentive for participation will be offered
 - The two electronic questionnaires are 187 and 317 items and are designed to be completed in 40 and 90 minutes respectively
 - Projected study sample size is over 5,000 participants for each contract

SBIR: Phase II

- Questionnaires include items to detect malingering and “faking good”
- Study participants will be followed for at least 6 months on active duty for psychiatric disorders as well medical and administrative discharges
- Objective is to develop a predictive model for psychiatric disorders in military applicants
- Goal is to reduce attrition in Initial Entry Training attrition due to psychiatric disorders by at least 10%
- Approximately 200 EPTS avoided per year

Psychiatric Screening

Future Research Proposal

- Propose, seek approval and funding for a tri-service, multi-site MEPS efficacy trial:
 - Phase I:
 - Follow all psychiatric screen responders who assess for all-cause and psychiatric morbidity and attrition thru IET and 1st term of duty
 - Phase II:
 - Screen-in applicants who reveal a history of selected disqualifying psychiatric conditions such as mood and anxiety disorders prior to the 13th birthday under defined set of clinical criteria
 - Refer selected applicants with pre-defined questionnaire responses for further mental health evaluation/consultation