



ARMY STRONG™

# Presentation to the North Carolina Task Force on Childhood Obesity

**15 February 2010**

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1

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# Purpose

**Purpose:** To review obesity topics that lead to improvement of military accessions in the future.

*"The harsh fact of the matter is that there is an increasingly large number of young Americans who are neglecting their bodies -- whose physical fitness is not what it should be -- who are getting soft. And such softness on the part of individual citizens can help to strip and destroy the vitality of a nation. For the physical vigor of our citizens is one of America's most precious resources. If we waste and neglect this resource, if we allow it to dwindle and grow soft, then we will destroy much of our ability to meet the great and vital challenges which confront our people. We will be unable to realize our full potential as a nation."*

*(President J.F. Kennedy, Sports Illustrated, 26 December, 1960).*

## Bottom Line

1. The number of overweight and obese children and adults in the United States continues to rise at an exponential rate.
2. The lack of fitness and rising overweight/obesity rates among the U.S. population is a barrier to military service because it shrinks the pool of qualified individuals.
3. The implications of overweight/obesity on military service include:
  - Reduction in ability to perform required tasks
  - Increased health care costs
  - More injuries
  - Higher risk of attaining a related disease
  - Increased attrition

# The Environment

## Health & Medical:

- Over half (63%) of 20-44 year olds are overweight or obese. Additionally, obesity presents comorbidity most often with the following diseases:

- Increased risk and occurrence of Diabetes
- Increased risk and occurrence of Cardiovascular Diseases

1 The most concentrated areas of obesity are in the mid-west and south-central regions of the U.S... ...areas that the Army typically depends on heavily for support.

2 Obesity trends indicate a reduction in overweight individuals with that population shifting to the obese category.

- The prevalence of childhood obesity and overweight is also on the rise with approximately one in five children between the ages of 6 and 19 are overweight.

Source: CDC, NCHS Obesity Brief Yankelovich Monitor 2008/2009

## 1 Obesity\* Among Adults, 2007

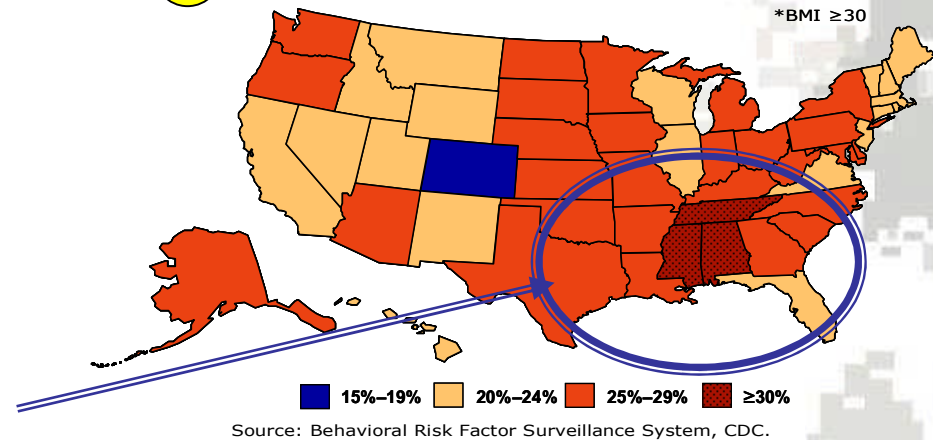
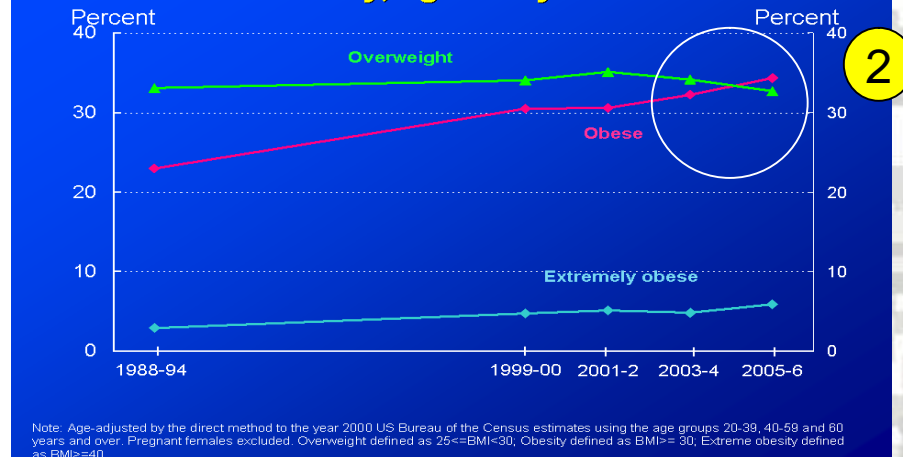


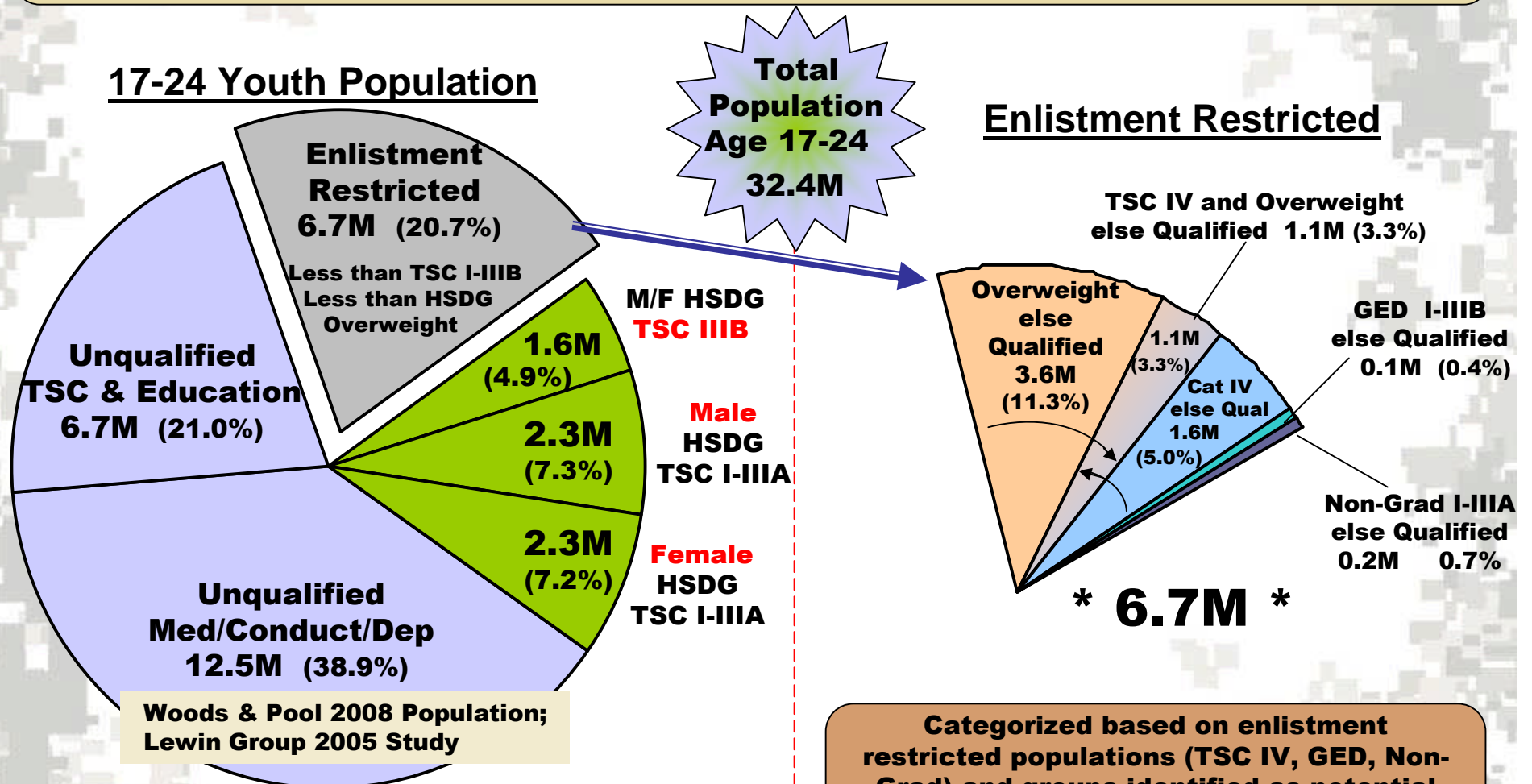
Figure 1. Trends in adult overweight, obesity and extreme obesity, ages 20 years and over





# Enlistment Restricted Market

The overweight enlistment restricted population is responsible for nearly half of the individuals in this group; however, Army programs addressing each restricted group are not tailored based on population size.

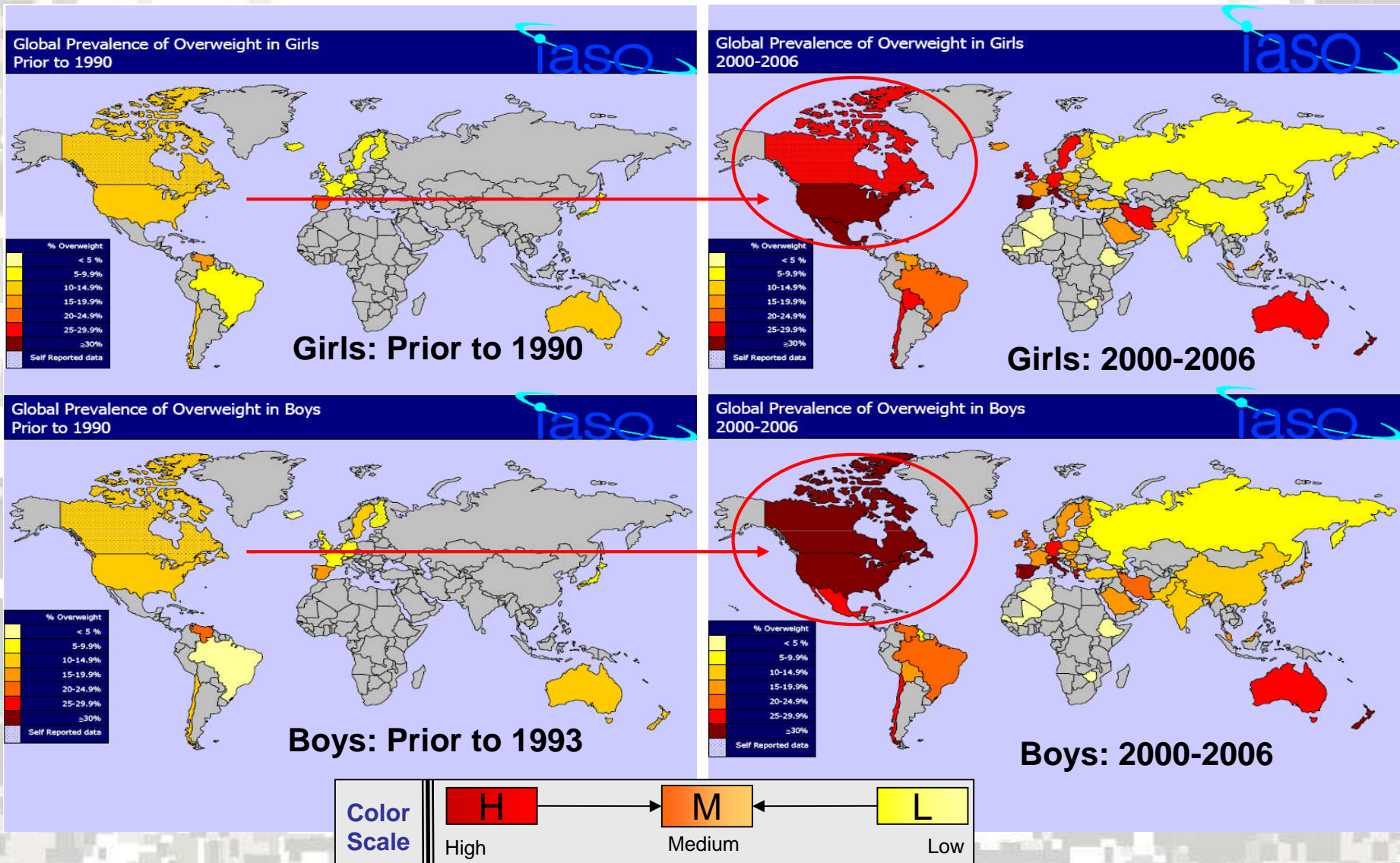


Categorized based on enlistment restricted populations (TSC IV, GED, Non-Grad) and groups identified as potential market expanders. (ARMS program, TTAS, etc)

ARMS: Assessment of Recruit Motivation  
TSC: Test Score Category  
TTAS: Two Tier Attrition Screen

# International Comparison

The United States continues to lead the way in the growing obesity epidemic, although it is spreading significantly on an international level.  
(International Association for the Study of Obesity, IASO)

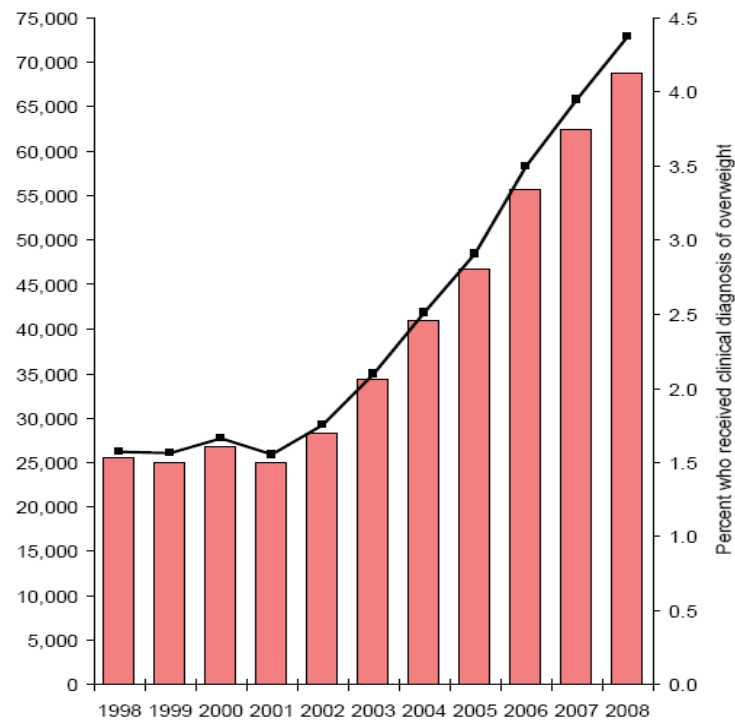


# In-Service Implications

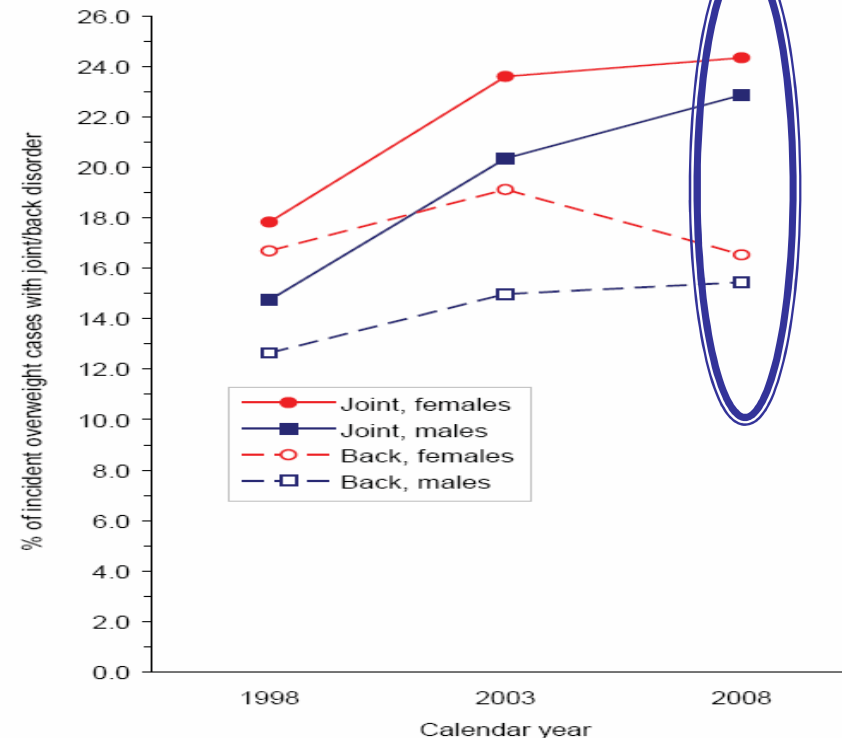
- In recent years, the Army has started to mirror the overweight/obesity growth rate of the general public.
- Since 2003, the number of Soldiers diagnosed by a medical professional as overweight have nearly doubled.
- Not surprisingly, the Army has also seen a significant increase in back and joint injuries during the same time period in three out of four categories.

{More sugar, sodas → Less bone mass}

**Figure 1.** Crude overall number and percentage of service members who received outpatient diagnoses of overweight, by calendar year, active component, U.S. Armed Forces, January 1998-December 2008



**Figure 4b.** Percent of service members with at least one medical encounter for "disorder of back" or "disorder of joint" within one year prior to incident diagnosis of overweight or obesity, by gender, active component, U.S. Armed Forces, 1998, 2003, 2008

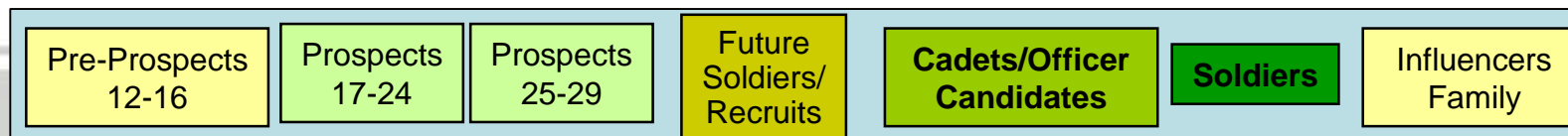


Source: Medical Surveillance Monthly Report, Vol. 16, No. 1, Jan '09



# Army Outreach Strategy

|  |   |   |   |   |  |
|--|---|---|---|---|--|
| <b><u>Pre-Prospect Outreach:</u></b><br>* Planning for Life<br>* Hooah4Health website<br>* JROTC | <b><u>Prospects:</u></b><br>• <b>ARMS Program:</b><br>Overweight individuals must pass the ARMS test once before contracting & once before shipping. 5.6% of recruits with an ARMS waiver are recycled at BCT compared to 3.1% for fully weight qualified recruits.<br><br><div> <div>Target Overlap</div> <div>←</div> <div>→</div> </div> | <b><u>Future Soldiers:</u></b><br>• <b>FSTP:</b><br>Future Soldiers engage in some sort of unregulated physical activity before basic training.<br>• <b>ARMS Program:</b><br>Overweight individuals also pass the ARMS test before shipping.<br>** 5.6% of recruits with an ARMS waiver are recycled at BCT compared to 3.1% for fully weight qualified recruits. | <b><u>Cadets/ OCS</u></b><br>• PT<br>• Army Nutrition<br><br>** <b>Difficulty tracking and quantifying success or failure of the program.</b> | <b><u>Soldiers:</u></b><br><b><u>ARMY PT Program:</u></b><br>While fitness is the standard in the Army, deployments, special assignments and the mission often dictate opportunities for exercise, especially for senior leaders.<br><br><b><u>Army Nutrition:</u></b><br>Dining Facilities offer healthy options, as well as information about the nutritional value of the food available to Soldiers. However, aside from basic training, fast food options are also available in every facility. MRE's, field chow and home cooked meals do little to enhance this initiative. Additionally, a large portion of Soldiers receive separate rations, allowing for a wide variety of bad eating choices. | <b><u>Influencers/ Family:</u></b><br>* Hooah4Health website<br><br>* MWR's Fit for Life Program |
|--|---|---|---|---|--|



1. While the Army holds a requirement for Soldiers to maintain fitness standards, there is also great concern for individuals considering the Army, Army family members, and the general public.
2. Despite some gaps in health education and healthy eating directives, the Army as a whole along with localized leadership support continues to address the growing problem of obesity in the United States. **LEADERSHIP is KEY before, during and after service.**
3. There is a gap in the Army's ability to track the success or failure of fitness and diet initiatives created to assist Soldiers.



# ARMS Instrument & Results

## **ARMS Instrument:**

The Assessment of Recruit Motivation and Strength (ARMS) is a performance-based tool to screen in applicants who were otherwise disqualified for service. It is a three part assessment tailored to accurately assess individuals despite gender differences.



| MEN   | WOMEN   |
|---|---|
| <ul style="list-style-type: none"> <li>• 5-minute step test:                             <ul style="list-style-type: none"> <li>– 16 inch step</li> <li>– 120 steps per minute</li> <li>– 1-minute resting pulse &lt;180</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• 5-minute step test:                             <ul style="list-style-type: none"> <li>– 12 inch step</li> <li>– 120 steps per minute</li> <li>– 1-minute resting pulse &lt;180</li> </ul> </li> </ul> |
| • Push-ups: 15 reps/1 minute  | • Push-ups: 4 reps/1 minute   |
| • Maximum body fat (Army Body Fat Test): 30%  | • Maximum body fat (Army Body Fat Test): 36%  |

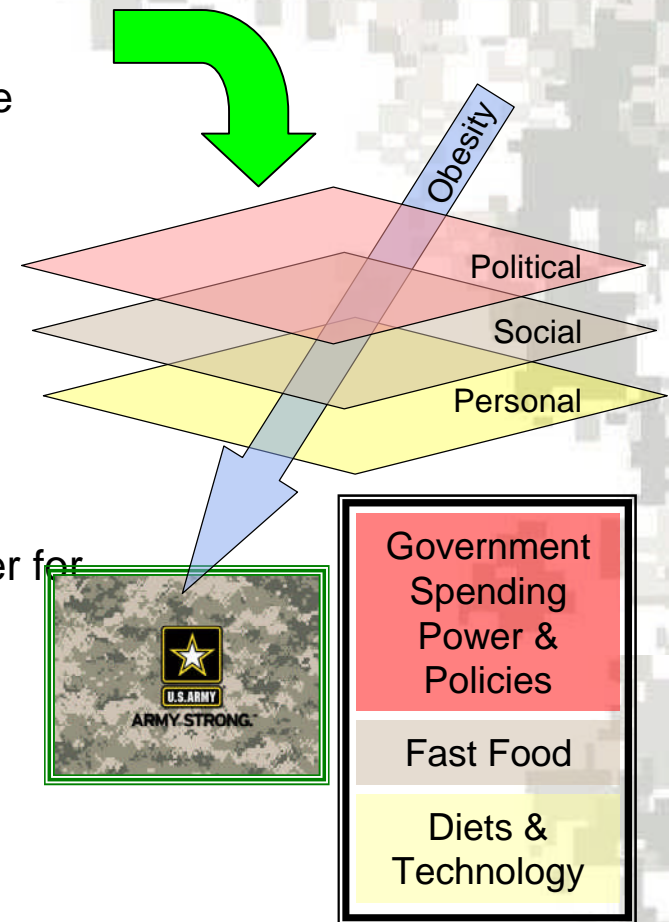
## **RESULTS:**

1. After a successful pilot study, the ARMS Program was implemented in FY07 for all three components of the Army.
2. No significant attrition differences between recruits with an ARMS waiver and weight qualified recruits have been identified to date.
3. Less than one percent (<1%) of ARMS accessions are discharged due to weight control failure.
4. Men with an ARMS waiver have been more likely to suffer heat and musculoskeletal injuries in basic training than weight qualified men.

| <b>Army Accessions with ARMS Waiver (FY07-FY08)</b> |                     |             |              |                     |             |              |                       |             |              |
|---|---------------------|-------------|--------------|---------------------|-------------|--------------|-----------------------|-------------|--------------|
|   | <b>Regular Army</b> |             |              | <b>Army Reserve</b> |             |              | <b>National Guard</b> |             |              |
|   | <b>2007</b>         | <b>2008</b> | <b>Total</b> | <b>2007</b>         | <b>2008</b> | <b>Total</b> | <b>2007</b>           | <b>2008</b> | <b>Total</b> |
| <b>Men</b>  | 784                 | 658         | 1,442        | 173                 | 173         | 346          | 537                   | 566         | 1,103        |
| <b>Women</b>  | 432                 | 339         | 771          | 174                 | 193         | 367          | 385                   | 341         | 726          |
| <b>Total</b>  | 1,216               | 997         | 2,213        | 347                 | 366         | 713          | 922                   | 907         | 1,829        |

# Summary

- Obesity crosses multiple planes, hence complicating possible solutions.
- The obesity epidemic effects Army Accessions by:
  - Reducing the number of fully qualified individuals available to access.
  - Increasing the amount of resources expended to help individuals become qualified.
  - Increasing the risk of accession disqualification for other medical reasons (i.e. diabetes, asthma etc.).
- Snapshot of Individuals accessing into the Army with a waiver for weight disqualification:
  - Less likely to graduate IET the first time through
  - Had higher 36 month attrition rates
  - Were less likely to receive good conduct medal
  - Were more likely to have a bar to reenlistment
  - Were more likely to lose favorable personnel status
  - Were less likely to make E5 by 48 months
- Overweight/obesity in the military is associated with several different factors and existing Army programs are not sufficient to address the growing obesity problem in both the civilian and the Army population. The number of overweight Soldiers on active duty has nearly doubled in the past decade with relatable injuries on the rise.



# Recommendations

- Increase outreach efforts to the total population to ensure both prospects and pre-prospects understand the value of fitness as a lifetime activity.
  - Engage influencers and local communities to set the example.
  - Be consistent in providing Soldiers with opportunities to engage in physical fitness and healthy eating options.
- Create new, flexible opportunities for deployed or special duty Soldiers (i.e., recruiters) to ensure they have the same opportunities as their peers.
- Continue the ARMS Pilot Program to provide an opportunity to future Soldiers allowed to access into the Army with substandard body fat conditions.
- Continue collaboration with federal programs (both local and national) in existence that if partnered with could potentially increase awareness and address the growing epidemic of **OBESITY**.

# Army Preparatory School Strategy

- GED (APS-G)
- High School Diploma Charter (APS-D)
- *Fitness Training Company (APS FiT-C)*





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# Health Issues

- Overweight/Obesity

- As of 2002 47.4% of adults age 18-34 had a BMI of 25% or more
- CDC projections indicate the 47.4% rate will likely increase to 53.6% by **2008**

- Physical Fitness

- 2001, 31.8% of 18-44 year olds report being physically inactive during their leisure time
- 2005, 51.8% of 18-44 year olds report being physically inactive during their leisure time

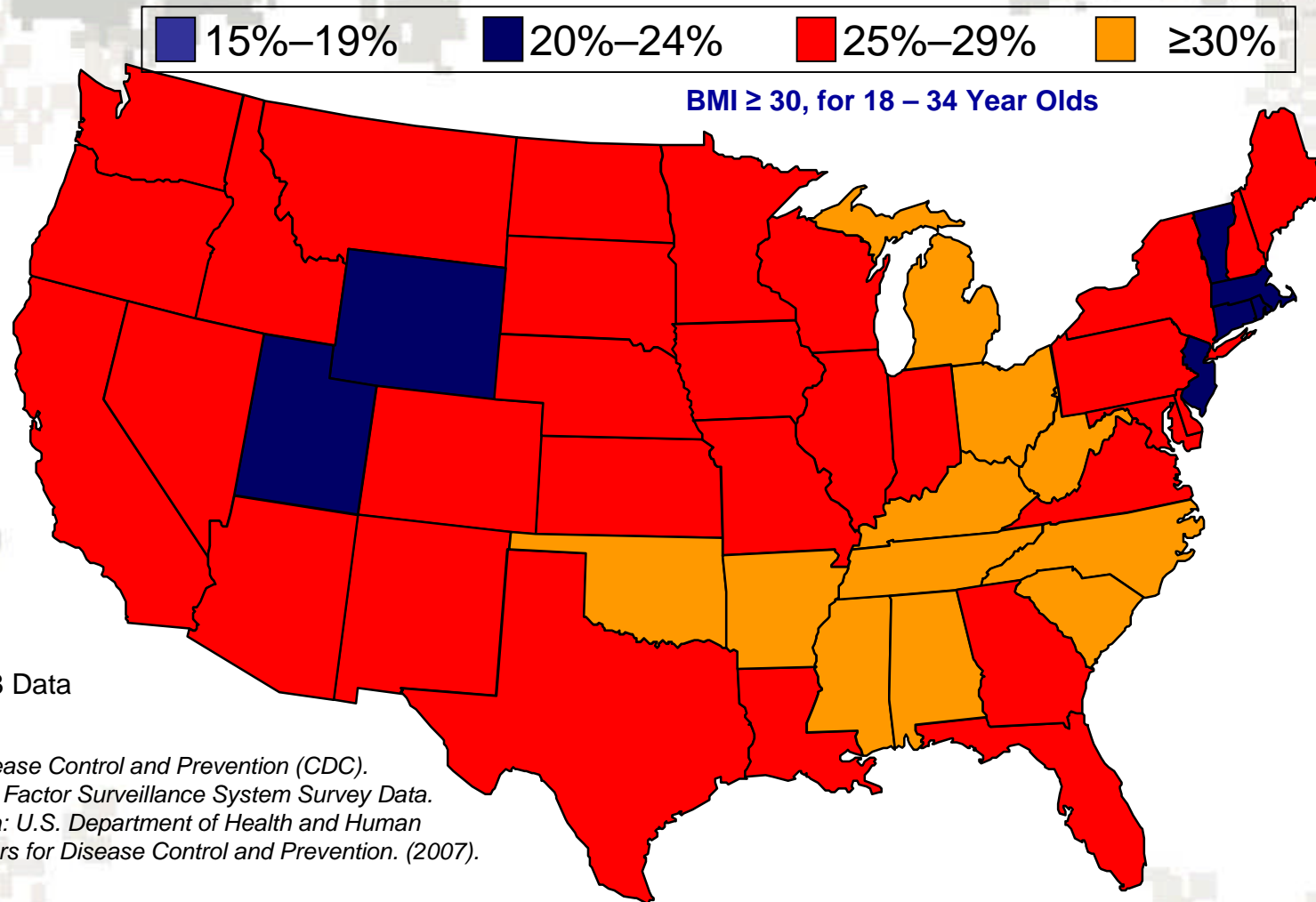
- Medication Use

- 2002, prescription medication usage at 27.1% for age 18-44; **up from 21.5% in early 90's**
- 2003, 18.9% of high school students had been diagnosed with asthma; **up over 2% from 02'**
- 2006, 16% of youths age 12-17 have a health condition requiring routine prescription meds

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Source: Center for Disease Control (CDC)  
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## Obesity Trend Continues: 2008



### TRENDS

- The proportion of obese Americans continues to increase.
- RAND estimates that by 2015, available population (for military service) could decline significantly.

# Emerging FIT-C Strategy

## **Establish a metabolic weight loss and formal fitness program**

- a. TRADOC Surgeon has lead to establish concept
- b. USAREC to establish minimum AFQT & educational requirements to obtain appropriate Return on Investment (ROI)
- c. Expanded Market = overweight Soldiers with no additional waivers & high AFQT/GT scores or college diplomas?
- d. Time required in class expected to be 4 weeks
- e. Endstate may be successful completion of ARMS test

# **An Emerging FIT-C Strategy**

## **Success Story -- 20/20 Lifestyles**

**An established program in use by Microsoft Executives**

**Medically Supervised metabolic weight loss and formal fitness program**

**Only about 1% of people who lose weight can keep it off after 33 years**

**Proposed FIT-C strategy currently has 48% success rate after 3 years – experts suggest that rate will climb to 60%(+) based upon our population**



# Background

## 20/20 Lifestyles – Microsoft Testimony

- Employees eligible IF body mass index of 30 or above
- Microsoft covers 80% of the cost of the program
- Microsoft Results:
  - 192% return on investment within 5 years
  - 800 participants lost a total of 26,000 pounds in one year
  - Average weight loss that year was 30 pounds per person
    - High cholesterol fell by 50%; high blood pressure by 30%
    - Significantly lower health care costs

# Obesity Treatment Programs

## Programs in the World verses 20/20 Lifestyles

|                                    | 20/20 Lifestyles | Other Programs |
|------------------------------------|------------------|----------------|
| Initial Week                       | 4-6 lbs          | 1-2 lbs        |
| Weekly Weight Loss                 | 2 lbs            | <1 lbs         |
| Weight Loss Maintained for 3 Years | 48%              | 5-8%           |

**Of all the people who lose weight only 1-2% keep their weight off.**

# **The Right Program**

**Treating obesity often corrects:**

- Headaches
- Allergies
- GERD
- Stomach Ulcers
- Fatty Liver
- Sleep Disorder
- Stress Incontinence
- Osteoarthritis
- Gout
- Restless Leg Syndrome
- Pulmonary Hypertension
- Certain types of Diabetes

# Integrated Care Model for Success



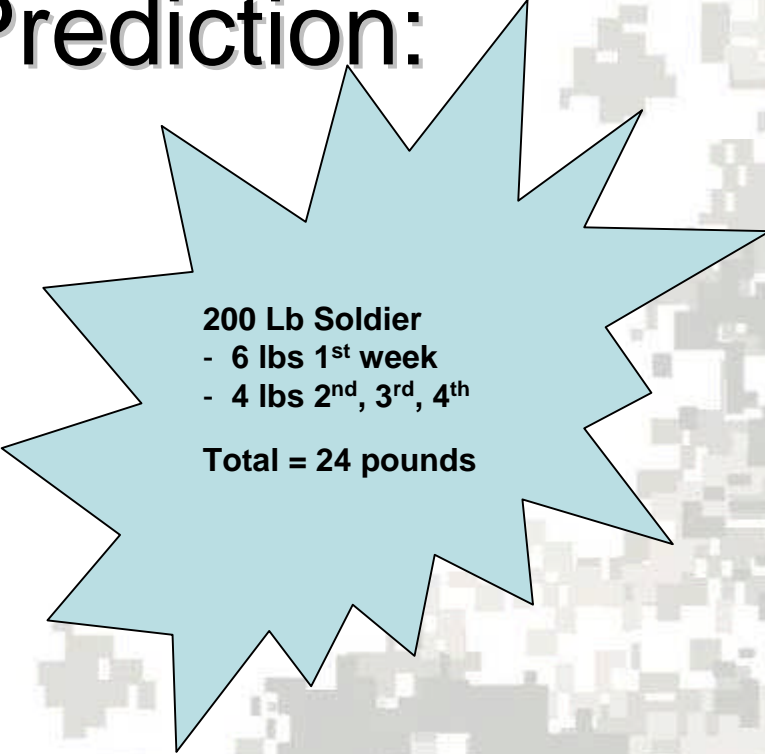


# **U.S. ARMY**

## **Weight Loss Program**

### **Weekly Weight Loss Prediction:**

- Initial: 2-3% body weight
- Weekly: 1-2% body weight



**200 Lb Soldier**  
- 6 lbs 1<sup>st</sup> week  
- 4 lbs 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>  
**Total = 24 pounds**

# **Proposed 4 week program**

- 1. Initial information on the diet and how to get started will be given to the total group (50 or 60 recruits) on day number one. Review and discuss a video we have called, "Getting Started."**
  - 2. After the initial info is reviewed the dietitians will meet with workshops consisting on 10-12 people for one hour to teach and discuss the nutrition plan for advancement. These will be the same groups/workshops of 10-12 people who will spend one hour with the psychologist in workshop.**
  - 3. There will be individuals who will need one-on-one time with the dietitian and/or psychologist. This could be done in the evenings (after the evening meal) or several other times during the day. We believe this will be minimal but our desire is for 100% long term success.**
  - 4. Psychologists and dietitian sessions can flip flop. We would like to see each group three times per week. This will give them the education normally passed on in the 12 week program.**
  - 5. Psychologists and dietitians would still have one hour lectures during the day to the full group.**
  - 6. Dietitians (if possible) would like to be available in the mess hall when the recruits are eating.**
- For a program that is starting 50-60 people every week we will need to work with five dietitians and five psychologists.**

# Suggested Next Steps

## 20/20 Lifestyles Fully Funded Beta Study:

- 1) Personnel for Beta
  - 12 Men
  - 12 Women
- 2) Interview 40-50 people to find 24 for program
  - Your staff
  - Physician
  - Psychologist
  - Dietitian
  - Exercise Physiologist
- 3) We will also need:
  - Medical history (online)
  - Physical exam for their M.D.
  - Lab work (done by 20/20)
  - Sleep evaluation (done by 20/20)
- 4) Final selection will be done by the people who do the interviews



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## Questions?

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