Reducing Substance Abuse
A Shared Responsibility

Mary Wilfert, MEd
Associate Director
NCAA Sport Science Institute

David Wyrick, PhD
Associate Professor and FAR
University of North Carolina, Greensboro

Drug-Use Deterrence

• Strong written policy with significant sanctions
• Comprehensive effective education
• Drug testing for detection, deterrence

Most Student-Athletes Don’t Use/Abuse

NCAA 2013 Substance Use Survey
Percent of Student-Athletes Reporting “Never Used”

- Ephedrine – 99.1%
- Anabolic Steroids – 99.0%
- Cocaine – 96.8%
- Synthetic Marijuana – 94.3%
- Amphetamines – 93.9%
- Spit Tobacco – 79.6%
- Cigarettes – 83.5%
- Marijuana – 67.1%
- Alcohol – 14.8%
Emerging and Re-emerging Drug Issues

- Alcohol
- Marijuana and synthetic cannabis
- Prescription drugs
  - Narcotics
  - Stimulants

Alcohol

Use Within the Last 12 Months

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2009</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>77.5%</td>
<td>83.2%</td>
<td>80.4%</td>
<td></td>
</tr>
</tbody>
</table>

When you drink alcohol, typically how many drinks do you have in one sitting?

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Division I</td>
<td>Division II</td>
<td>Division III</td>
<td>Males</td>
</tr>
<tr>
<td>More than 4 drinks</td>
<td>31.9%</td>
<td>32.6%</td>
<td>37.8%</td>
<td></td>
</tr>
<tr>
<td>10+ drinks</td>
<td>2.4%</td>
<td>3.2%</td>
<td>3.3%</td>
<td></td>
</tr>
<tr>
<td>More than 5 drinks</td>
<td>39.6%</td>
<td>39.6%</td>
<td>50.4%</td>
<td></td>
</tr>
<tr>
<td>10+ drinks</td>
<td>15.5%</td>
<td>16.8%</td>
<td>20.4%</td>
<td></td>
</tr>
<tr>
<td><strong>Alcohol</strong></td>
<td>Drinking Behavior – during last 12 months</td>
<td>Never</td>
<td>Once</td>
<td>Twice</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>had a hangover</td>
<td>36.7%</td>
<td>34.3%</td>
<td>13.9%</td>
<td>14.8%</td>
</tr>
<tr>
<td>performed poorly on a test or important project</td>
<td>83.3%</td>
<td>6.9%</td>
<td>4.3%</td>
<td>3.3%</td>
</tr>
<tr>
<td>been in trouble with police or other college authorities</td>
<td>91.0%</td>
<td>6.7%</td>
<td>1.5%</td>
<td>0.6%</td>
</tr>
<tr>
<td>damaged property, pulled fire alarm, etc.</td>
<td>92.9%</td>
<td>3.2%</td>
<td>1.8%</td>
<td>1.2%</td>
</tr>
<tr>
<td>gotten into an argument/fight</td>
<td>77.0%</td>
<td>9.8%</td>
<td>6.2%</td>
<td>4.5%</td>
</tr>
<tr>
<td>gotten nauseated or vomited</td>
<td>48.5%</td>
<td>19.8%</td>
<td>13.0%</td>
<td>11.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Alcohol</strong></th>
<th>Drinking Behavior – during last 12 months</th>
<th>Never</th>
<th>Once</th>
<th>Twice</th>
<th>3–5 times</th>
<th>6–9 times</th>
<th>10+ times</th>
</tr>
</thead>
<tbody>
<tr>
<td>driven a car while under the influence</td>
<td>86.3%</td>
<td>15.5%</td>
<td>3.5%</td>
<td>2.4%</td>
<td>0.8%</td>
<td>1.5%</td>
<td></td>
</tr>
<tr>
<td>missed a class</td>
<td>73.9%</td>
<td>7.9%</td>
<td>6.7%</td>
<td>6.7%</td>
<td>2.9%</td>
<td>2.7%</td>
<td></td>
</tr>
<tr>
<td>performed poorly in practice or game</td>
<td>84.0%</td>
<td>6.6%</td>
<td>4.3%</td>
<td>3.2%</td>
<td>0.9%</td>
<td>1.0%</td>
<td></td>
</tr>
<tr>
<td>have showed up late or missed practice or game</td>
<td>94.3%</td>
<td>3.0%</td>
<td>1.4%</td>
<td>0.8%</td>
<td>0.2%</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td>been criticized by someone you know</td>
<td>74.6%</td>
<td>9.8%</td>
<td>6.6%</td>
<td>5.1%</td>
<td>1.5%</td>
<td>2.4%</td>
<td></td>
</tr>
<tr>
<td>thought you might have a drinking or drug problem</td>
<td>94.4%</td>
<td>2.5%</td>
<td>1.2%</td>
<td>0.8%</td>
<td>0.4%</td>
<td>0.7%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Drinking Behavior – during last 12 months</th>
<th>Never</th>
<th>Once</th>
<th>Twice</th>
<th>3–5 times</th>
<th>6–9 times</th>
<th>10+ times</th>
</tr>
</thead>
<tbody>
<tr>
<td>had a memory loss</td>
<td>70.0%</td>
<td>10.4%</td>
<td>7.0%</td>
<td>6.4%</td>
<td>2.9%</td>
<td>3.3%</td>
<td></td>
</tr>
<tr>
<td>done something you later regretted</td>
<td>68.0%</td>
<td>12.0%</td>
<td>8.0%</td>
<td>6.6%</td>
<td>2.3%</td>
<td>3.1%</td>
<td></td>
</tr>
<tr>
<td>been arrested for DW/DUI</td>
<td>99.0%</td>
<td>0.7%</td>
<td>1%</td>
<td>0.1%</td>
<td>0.0%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>tried unsuccessfully to stop using</td>
<td>96.7%</td>
<td>3.6%</td>
<td>7%</td>
<td>5%</td>
<td>3%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>had feelings of depression, feeling sad for two weeks or longer</td>
<td>92.9%</td>
<td>3.7%</td>
<td>1.6%</td>
<td>0.9%</td>
<td>0.3%</td>
<td>0.6%</td>
<td></td>
</tr>
<tr>
<td>been hurt or injured</td>
<td>87.7%</td>
<td>6.0%</td>
<td>3.5%</td>
<td>1.9%</td>
<td>3%</td>
<td>5%</td>
<td></td>
</tr>
</tbody>
</table>
### Alcohol and GPA

<table>
<thead>
<tr>
<th>GPA Range</th>
<th>Female (More than 4 drinks)</th>
<th>Male (More than 4 drinks)</th>
<th>Female (10+ Drinks)</th>
<th>Male (10+ Drinks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3.84 - 4.00)</td>
<td>24.5% 1.6%</td>
<td>34.3% 12.5%</td>
<td>31.4% 2.0%</td>
<td>40.6% 13.6%</td>
</tr>
<tr>
<td>(3.50 - 3.83)</td>
<td>33.4% 2.0%</td>
<td>40.6% 16.9%</td>
<td>34.6% 2.6%</td>
<td>44.1% 16.9%</td>
</tr>
<tr>
<td>(3.17 - 3.49)</td>
<td>35.8% 3.8%</td>
<td>43.9% 18.9%</td>
<td>38.5% 4.1%</td>
<td>41.9% 18.7%</td>
</tr>
<tr>
<td>(2.84 - 3.16)</td>
<td>39.9% 2.6%</td>
<td>43.7% 20.6%</td>
<td>38.0% 7.6%</td>
<td>44.2% 19.6%</td>
</tr>
<tr>
<td>(2.50 - 2.83)</td>
<td>39.9% 3.7%</td>
<td>43.7% 20.6%</td>
<td>38.0% 7.6%</td>
<td>44.2% 19.6%</td>
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<td>35.4% 3.7%</td>
<td>44.2% 20.6%</td>
<td>38.0% 7.6%</td>
<td>44.2% 19.6%</td>
</tr>
<tr>
<td>(1.84 - 2.16)</td>
<td>38.6% 7.6%</td>
<td>43.7% 20.6%</td>
<td>38.0% 7.6%</td>
<td>44.2% 19.6%</td>
</tr>
<tr>
<td>(1.50 - 1.83)</td>
<td>35.4% 16.0%</td>
<td>51.9% 30.3%</td>
<td>38.0% 7.6%</td>
<td>44.2% 19.6%</td>
</tr>
<tr>
<td>or below (&lt; 1.50)</td>
<td>46.3% 26.3%</td>
<td>54.6% 29.1%</td>
<td>38.0% 7.6%</td>
<td>44.2% 19.6%</td>
</tr>
</tbody>
</table>

### The Hangover Effect

The day after, effects can include...
- Increased heart rate
- Decreased left ventricular performance
- Increased blood pressure
- Decreased endurance performance
- Dehydration

### Lingering Effects of Alcohol

- Alcohol use 24 hours before athletic activity significantly reduces aerobic performance
- Weekly alcohol consumption doubles the rate of injury

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Marijuana

Use Within the Last 12 Months

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2009</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21.2%</td>
<td>22.6%</td>
<td>21.9%</td>
</tr>
</tbody>
</table>

Marijuana Effects/NIDA

- euphoria and relaxation
- slowed reaction time
- distorted sensory perception
- impaired balance and coordination
- increased heart rate and appetite
- impaired learning and memory
- anxiety, panic attacks, psychosis
- cough, frequent respiratory infections
- possible mental health decline
- addiction

Marijuana

<table>
<thead>
<tr>
<th>GPA (4.0 point scale)</th>
<th>Never used</th>
<th>Used in last 30 days</th>
<th>Used in last 12 months</th>
<th>Used, but not in last 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (4.00 - 4.00)</td>
<td>78.3%</td>
<td>5.8%</td>
<td>7.6%</td>
<td>8.3%</td>
</tr>
<tr>
<td>A- (3.50 - 3.83)</td>
<td>71.6%</td>
<td>8.0%</td>
<td>10.3%</td>
<td>10.1%</td>
</tr>
<tr>
<td>B+ (3.17 - 3.49)</td>
<td>67.3%</td>
<td>9.0%</td>
<td>12.7%</td>
<td>10.9%</td>
</tr>
<tr>
<td>B (2.84 - 3.16)</td>
<td>64.3%</td>
<td>10.8%</td>
<td>12.4%</td>
<td>12.5%</td>
</tr>
<tr>
<td>B- (2.50 - 2.83)</td>
<td>63.7%</td>
<td>12.0%</td>
<td>12.8%</td>
<td>11.5%</td>
</tr>
<tr>
<td>C+ (2.17 - 2.49)</td>
<td>60.4%</td>
<td>13.9%</td>
<td>14.0%</td>
<td>11.7%</td>
</tr>
<tr>
<td>C (1.84 - 2.16)</td>
<td>61.8%</td>
<td>14.0%</td>
<td>13.3%</td>
<td>10.9%</td>
</tr>
<tr>
<td>C- (1.50 - 1.83)</td>
<td>55.9%</td>
<td>19.7%</td>
<td>11.7%</td>
<td>12.7%</td>
</tr>
<tr>
<td>D or below (&lt; 1.50)</td>
<td>52.4%</td>
<td>29.6%</td>
<td>8.6%</td>
<td>9.4%</td>
</tr>
</tbody>
</table>
UMD College Life Study 2013

• The study followed 1,200 college freshmen over a 10-year period.

• Found that substance use, "especially marijuana use," contributed to "college students skipping more classes, spending less time studying, earning lower grades, dropping out of college, and being unemployed after college."

• Early chronic use can lower IQ as many as eight points.

Prescription Medication use within last year

<table>
<thead>
<tr>
<th></th>
<th>Year</th>
<th>With Prescription</th>
<th>Without Prescription</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD Medication</td>
<td>2009</td>
<td>4.5%</td>
<td>6.7%</td>
</tr>
<tr>
<td></td>
<td>2013</td>
<td>5.8%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Pain Medication</td>
<td>2009</td>
<td>13.7%</td>
<td>5.1%</td>
</tr>
<tr>
<td></td>
<td>2013</td>
<td>18.0%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Narcotics

• Narcotic analgesics (pain killers) block pain and cause sleepiness, and at higher doses affect breathing, heart rate and blood pressure.

• Narcotics are not banned by the NCAA, but are controlled substances and should be obtained only from qualified medical personnel through a prescription.
Stimulants

• This group of drugs includes a wide variety of chemicals, ranging from caffeine and ephedrine to Ritalin and Adderall (amphetamine).

• Stimulant abuse can cause anxiety, panic, paranoia and delusions.

• Stimulant use during exercise can contribute to increased body temperature and dehydration.

• Stimulants are BANNED by the NCAA – a medical exception procedure is available for demonstrated medical need.

Co-occurring Mental Health Concerns

• Excessive drinking, drug use and mental health problems tend to cluster together among the same students.

• The presence of psychiatric disorder makes a student significantly less likely to complete college.

• Research shows a strong association between early and chronic marijuana use and mental health problems such as depression, anxiety.

• The academic consequence of drinking can be more pronounced when the drinker also had mental health problems.

Cascade of Effects on Academic Outcomes

Center on Yong Adult Health and Development, University of Maryland 2013
Institutional Drug Testing Program-2013

• At least three-quarters of Division I and II institutions report having an institutional drug testing program; approximately 30% of Division III institutions report such a program.

Institutions with Drug/Alcohol Education Programs-2013

• Overall, 71% of institutions report having an education program currently in place for their student-athletes. There were divisional differences:

EFFECTIVE PREVENTION

DAVID L. WYRICK, PHD

Associate Professor
Director of the Institute to Promote Athlete Health & Wellness
Faculty Athletics Representative
GOALS OF PREVENTION SCIENCE

• Understand the development of maladaptive behaviors/disorders.
• Identify predictors/sources of influence.
• Develop programs designed to prevent the maladaptive behaviors/disorders.
• Evaluate the effectiveness of prevention efforts.
• Disseminate the research findings of effective programs.

LAW OF INDIRECT EFFECT

PREVENTION SCIENCE REVIEW

• Theories guide selection of mediators
  – Theory of Reasoned Action
  – Social Learning Theory
  – Social Cognitive Theory
  – Problem Behavior Theory
• Study the relationship of those mediators to outcomes
• Apply mediators to interventions in attempts to produce positive change in mediators
The importance of the impact of behavioral factors on student-athlete health and well-being.

WHAT IS THE INHERENT GAP?

The effectiveness of today's behavioral programs (interventions) at modifying these behavioral factors.

BEHAVIORAL INTERVENTIONS

MOTIVATIONAL ENHANCEMENT

knowledge MOTIVATION importance
DEVELOPING EFFECTIVE BEHAVIORAL INTERVENTIONS

IDENTIFY LEVELS OF INFLUENCE

STUDENT-ATHLETE RISK & PROTECTIVE FACTORS

- SOCIAL NORMS
- EXPECTANCIES
- SELF-EFFICACY
- VALUES CLARIFICATION
- MOTIVES
- BELIEFS ABOUT CONSEQUENCES

- COMMUNICATION SKILLS
- GOAL SETTING SKILLS
- DECISION MAKING SKILLS
- STRESS MANAGEMENT SKILLS
- ASSISTANCE SKILLS
SOCIAL NORMS

Focuses on students’ perceptions of acceptability and rates of drug and alcohol use. Adolescents tend to overestimate prevalence and acceptability of use and availability of drugs within their peer groups.

DESCRIPTIVE NORMS
- Perceptions of prevalence

INJUNCTIVE NORMS
- Perceptions of acceptability/approval

EXPECTANCIES

Outcome expectancies are beliefs about the effects of alcohol and other drugs.

POSITIVE EXPECTANCIES
Beliefs in the positive effects of alcohol and other drugs (encourages alcohol or other drug use)
- i.e., Tension reduction, Liquid courage

NEGATIVE EXPECTANCIES
Beliefs that drinking produces undesirable or negative effects (discourages alcohol or other drug use)
- i.e., Cognitive impairment, risk and aggression

SELF-EFFICACY

Belief in one's ability to complete tasks and reach goals

- Does the student-athlete believe they have the power to affect alcohol and other drug situations?
- Often applied in harm prevention programs

- Prevent harm for self
- Prevent harm for culture
- Important for all skills
VALUES CLARIFICATION

Individuals make decisions based on their idealized future and see that alcohol and drug abuse is incompatible with their values/goals they hope to achieve.

- Demonstrates to student-athletes that their ideal future is incongruent with alcohol and drug abuse.

POSTIVE MOTIVES

- ENHANCEMENT
  - Drinking or using drugs to enhance positive mood
  - Internally generated

- SOCIAL
  - Drinking or using drugs to obtain social rewards
  - Externally generated

Indirect association with alcohol problems via heavy consumption

NEGATIVE MOTIVES

- COPING
  - Drinking or using drugs to reduce negative emotions
  - Internally generated

- CONFORMITY
  - Drinking or using drugs to avoid social rejection
  - Externally generated

Direct association with alcohol problems
BELIEFS ABOUT CONSEQUENCES

Focuses on the consequences of using or abusing drugs and the likelihood of experiencing social and/or physical harm from drug use.

- LONG-TERM
  - Physical
  - Psychological
  - Social

- SHORT-TERM
  - Physical
  - Psychological
  - Social

*Personal susceptibility is the key!*

EFFECTIVE PREVENTION

The NCAA recommends the following elements of promising prevention:

- LEADERSHIP
- CONSISTENT AND COMPREHENSIVE POLICIES
  - Student-athlete involvement
- INCLUSIVE PRACTICES
- COMPREHENSIVE AND TARGETED
- SUPPORTIVE ENVIRONMENT
- COOPERATION WITH BROADER COMMUNITY

CORRECTING SOCIAL NORMS

DYNAMIC EXAMPLE:
The Institute to Promote Athlete Health & Wellness (IPAHW) at the University of North Carolina at Greensboro supports the

1. Adoption
2. Quality implementation
3. Evaluation

of evidence-based programs, practices, and policies by providing valuable technical assistance for organizations that serve student-athletes.

Examples of Current Work

- myPlaybook DI Pilot
  - ACC
  - Atlantic 10
  - Big Ten
  - Big East
  - Big West
  - Horizon
  - MAC
  - Northeastern
  - SoCon
  - Southland
  - SWAC
  - Sun Belt
  - WAC

- myPlaybook NIH study
Take-Home Strategies

- **Represent** in Campus Task Forces
- **Conduct** testing for detection and intervention
- **Provide** evidence-based education – student-athletes, coaches, administrators
- **Join in** campus screening programs or conducts within department and have referral protocols in place
- **Engage with** Campus Prevention Programs