Excellence in Prevention – descriptions of the programs and strategies with the greatest evidence of success

Name of Program/Strategy: **ATLAS (Athletes Training and Learning To Avoid Steroids)**

Report Contents

1. Overview and description
2. Implementation considerations (if available)
3. Descriptive information
4. Outcomes
6. Washington State results (from Performance Based Prevention System (PBPS) – if available)
7. Who is using this program/strategy (if available)
8. Study populations
9. Quality of studies
10. Readiness for Dissemination
11. Costs
12. Contacts for more information

---

1. **Overview and description**

Athletes Training and Learning To Avoid Steroids (ATLAS) is a school-based drug prevention program. ATLAS was designed for male high school athletes to deter drug use and promote healthy nutrition and exercise as alternatives to drugs. The curriculum consists of 10 45-minute interactive classroom sessions and 3 exercise training sessions facilitated by peer educators, coaches, and strength trainers. Program content includes (1) discussion of sports nutrition; (2) exercise alternatives to anabolic steroids and sports supplements; and (3) the effects of substance abuse in sports, drug refusal role-playing, and the creation of health promotion messages.

2. **Implementation considerations (if available)**

3. **Descriptive Information**

<table>
<thead>
<tr>
<th>Areas of Interest</th>
<th>Substance abuse prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes</td>
<td>1: Intent to use anabolic steroids</td>
</tr>
</tbody>
</table>

*Excellence in Prevention* is a project of Oregon Addiction and Mental Health Services and Washington Division of Behavioral Health and Recovery. Information is drawn from many sources, including the National Registry for Effective Prevention Programs (NREPP), sponsored by the Center for Substance Abuse Prevention.
### Excellence in Prevention – descriptions of the programs and strategies with the greatest evidence of success

<table>
<thead>
<tr>
<th>Outcome Categories</th>
<th>Alcohol</th>
<th>Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages</td>
<td>13-17 (Adolescent)</td>
<td></td>
</tr>
<tr>
<td>Genders</td>
<td>Male</td>
<td></td>
</tr>
<tr>
<td>Races/Ethnicities</td>
<td>American Indian or Alaska Native Asian Black or African American Hispanic or Latino White Race/ethnicity unspecified</td>
<td></td>
</tr>
<tr>
<td>Settings</td>
<td>School</td>
<td></td>
</tr>
<tr>
<td>Geographic Locations</td>
<td>Urban Suburban Rural and/or frontier</td>
<td></td>
</tr>
<tr>
<td>Implementation History</td>
<td>ATLAS has been implemented in more than 275 sites in 43 States, Washington, DC, and Puerto Rico and has reached approximately 35,000 students.</td>
<td></td>
</tr>
<tr>
<td>NIH Funding/CER Studies</td>
<td>Partially/fully funded by National Institutes of Health: Yes Evaluated in comparative effectiveness research studies: Yes</td>
<td></td>
</tr>
<tr>
<td>Adaptations</td>
<td>ATLAS materials have been translated into Spanish.</td>
<td></td>
</tr>
<tr>
<td>Adverse Effects</td>
<td>No adverse effects, concerns, or unintended consequences were identified by the applicant.</td>
<td></td>
</tr>
<tr>
<td>IOM Prevention Categories</td>
<td>Selective</td>
<td></td>
</tr>
</tbody>
</table>

### 4. Outcomes

#### Outcome 1: Intent to use anabolic steroids

<table>
<thead>
<tr>
<th>Description of Measures</th>
<th>Intent to use anabolic steroids was measured by a self-report instrument using primarily 5- to 7-point agreement scales.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Findings</td>
<td>Athletes participating in ATLAS were compared with athletes who were given commercially produced materials that emphasized the adverse effects of anabolic steroids and the benefits of a sports nutrition diet. Athletes in the ATLAS group were less likely than those in the comparison group to say they</td>
</tr>
</tbody>
</table>

*Excellence in Prevention* is a project of Oregon Addiction and Mental Health Services and Washington Division of Behavioral Health and Recovery. Information is drawn from many sources, including the National Registry for Effective Prevention Programs (NREPP), sponsored by the Center for Substance Abuse Prevention.
**Excellence in Prevention** – descriptions of the programs and strategies with the greatest evidence of success

<table>
<thead>
<tr>
<th>Study 1</th>
<th>Outcome 2: Normative Anabolic steroid use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of Measures</td>
<td>Anabolic steroid use was measured by a self-report instrument primarily using 5- to 7-point agreement scales.</td>
</tr>
<tr>
<td>Key Findings</td>
<td>Athletes participating in ATLAS were compared with athletes who were given commercially produced materials that emphasized the adverse effects of anabolic steroids and the benefits of a sports nutrition diet. At the end of the football season, 7 new anabolic steroid users were reported in the ATLAS group, while 18 were reported in the comparison group (p &lt; .04).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study 1</th>
<th>Outcome 3: Alcohol and other illicit drug use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of Measures</td>
<td>Alcohol and other illicit drug use (marijuana, amphetamines, and narcotics) were measured by a self-report instrument primarily using 5- to 7-point agreement scales.</td>
</tr>
<tr>
<td>Key Findings</td>
<td>Athletes participating in ATLAS were compared with athletes who were given commercially produced materials that emphasized the adverse effects of anabolic steroids and the benefits of a sports nutrition diet. Compared with athletes in the comparison group, athletes in the ATLAS group typically reported lower use of alcohol and illicit drugs, both at the end of the football season (p = .009) and at 1-year follow-up (p &lt; .04).</td>
</tr>
</tbody>
</table>

5. **Cost effectiveness report** (Washington State Institute of Public Policy – if available)

6. **Washington State results** (from Performance Based Prevention System (PBPS) – if available)

---

*Excellence in Prevention* is a project of Oregon Addiction and Mental Health Services and Washington Division of Behavioral Health and Recovery. Information is drawn from many sources, including the National Registry for Effective Prevention Programs (NREPP), sponsored by the Center for Substance Abuse Prevention.
**Excellence in Prevention** – descriptions of the programs and strategies with the greatest evidence of success

7. Where is this program/strategy being used (if available)?

<table>
<thead>
<tr>
<th>Washington Counties</th>
<th>Oregon Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Study Populations

The studies reviewed for this intervention included the following populations, as reported by the study authors.

<table>
<thead>
<tr>
<th>Study</th>
<th>Age</th>
<th>Gender</th>
<th>Race/Ethnicity</th>
</tr>
</thead>
</table>
| Study 1  | 13-17 (Adolescent)   | 100% Male | 79% White  
3.7% Asian 
5.4% Black or African American 
3.7% Hispanic or Latino 
7.4% Race/ethnicity unspecified 
0.8% American Indian or Alaska Native |

9. Quality of Research

The documents below were reviewed for Quality of Research. Other materials may be available. For more information, contact the developer(s).

**Study 1**


**Supplementary Materials**

Athlete Pack, including sports menu, training guide, and 10-session curriculum workbook

Coach/Instructor Package, including background information, squad leader guide, 10-session curriculum guide, and overheads

Fidelity Rating Form

---

*Excellence in Prevention* is a project of Oregon Addiction and Mental Health Services and Washington Division of Behavioral Health and Recovery. Information is drawn from many sources, including the National Registry for Effective Prevention Programs (NREPP), sponsored by the Center for Substance Abuse Prevention.
Excellence in Prevention – descriptions of the programs and strategies with the greatest evidence of success


Quality of Research Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the Quality of Research for an intervention's reported results using six criteria:

1. Reliability of measures
2. Validity of measures
3. Intervention fidelity
4. Missing data and attrition
5. Potential confounding variables
6. Appropriateness of analysis

For more information about these criteria and the meaning of the ratings, see Quality of Research.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Reliability of Measures</th>
<th>Validity of Measures</th>
<th>Fidelity</th>
<th>Missing Data/Attrition</th>
<th>Confounding Variables</th>
<th>Data Analysis</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Intent to use anabolic steroids</td>
<td>2.7</td>
<td>2.5</td>
<td>3.3</td>
<td>3.0</td>
<td>2.6</td>
<td>3.2</td>
<td>2.9</td>
</tr>
<tr>
<td>2: Anabolic steroid use</td>
<td>3.0</td>
<td>3.0</td>
<td>3.3</td>
<td>3.0</td>
<td>2.0</td>
<td>3.2</td>
<td>2.9</td>
</tr>
<tr>
<td>3: Alcohol and other illicit drug use</td>
<td>3.0</td>
<td>3.2</td>
<td>3.3</td>
<td>3.0</td>
<td>2.6</td>
<td>3.2</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Excellence in Prevention is a project of Oregon Addiction and Mental Health Services and Washington Division of Behavioral Health and Recovery. Information is drawn from many sources, including the National Registry for Effective Prevention Programs (NREPP), sponsored by the Center for Substance Abuse Prevention.
**Excellence in Prevention** – descriptions of the programs and strategies with the greatest evidence of success

**Study Strengths**

The psychometric properties of the alcohol and drug use outcome measures, which were based on the Monitoring the Future survey, have been established by independent investigators. Intervention fidelity is clearly a strength of ATLAS. The investigators endeavored to assure fidelity by providing highly scripted materials and observing classroom sessions to confirm coach and peer-leader adherence to the protocol. Attrition among students was not unreasonably high given the relatively high student turnover (78.9% from preseason to postseason). Follow-up rates were impressive (68.7% for cohorts 1 and 2 at 1-year follow-up). There was no attrition among schools. Everyone who completed the program appears to have provided complete data. The longitudinal evaluation used a quasi-experimental design in which the schools were matched in dyads based on salient demographics, including school size, family socioeconomics, and the football team’s prior win-loss record. The convergence of findings across studies and cohorts strongly supports the conclusion that ATLAS led to positive changes in participants’ intentions to use anabolic steroids and reductions in their use of anabolic steroids, alcohol, and drugs. There was some evidence that the analyses may be appropriate to support outcomes seen in the short-term and 1-year follow-ups.

**Study Weaknesses**

More details could have been presented on questionnaire development and psychometric properties regarding anabolic steroid use. Because research staff could identify respondents through codes, students may have responded to the survey based on their awareness of what the experimenter expected to find. The authors noted that “some students who used or were considering using anabolic steroids may have been reluctant to enroll. Alternatively, these students may have enrolled in the study but not admitted to drug use.” The methods used to analyze the effects of attrition, and most especially the effects of differential attrition, are unclear.

One potential threat to internal validity was the significant baseline differences between the experimental and control groups. There were concerns about the selection of one-tailed rather than two-tailed significance tests, regardless of how promising the pilot data were, and the absence of alpha correction, given the number of separate regressions.

**10. Readiness for Dissemination**

The documents below were reviewed for Readiness for Dissemination. Other materials may be available. For more information, contact the developer(s).

**Dissemination Materials**

ATLAS CD-ROMs (training and implementation) ATLAS informational DVD

---

**Excellence in Prevention** is a project of Oregon Addiction and Mental Health Services and Washington Division of Behavioral Health and Recovery. Information is drawn from many sources, including the National Registry for Effective Prevention Programs (NREPP), sponsored by the Center for Substance Abuse Prevention.
**Excellence in Prevention** – descriptions of the programs and strategies with the greatest evidence of success


**Readiness for Dissemination Ratings by Criteria (0.0-4.0 scale)**

External reviewers independently evaluate the intervention’s Readiness for Dissemination using three criteria:

1. Availability of implementation materials
2. Availability of training and support resources
3. Availability of quality assurance procedures

For more information about these criteria and the meaning of the ratings, see Readiness for Dissemination.

<table>
<thead>
<tr>
<th>Implementation Materials</th>
<th>Training and Support Resources</th>
<th>Quality Assurance Procedures</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.8</td>
<td>3.3</td>
<td>3.0</td>
<td>3.3</td>
</tr>
</tbody>
</table>

**Dissemination Strengths**

Implementation materials include everything a coach might need to put this program into practice, with supplemental materials for teams and athletes that reinforce lessons. Training materials are well organized. Pre- and post-intervention tests are included to assess both coaches’ and athletes’ knowledge gain.

**Dissemination Weaknesses**

No guidance is provided for interpreting pre/post-intervention test data. The materials provide an implementation checklist but do not specify what tools should be used to monitor fidelity.

**11. Costs**

The information below was provided by the developer and may have changed since the time of review. For detailed information on implementation costs (e.g., staffing, space, equipment, materials shipping and handling), contact the developer.

---

**Excellence in Prevention** is a project of Oregon Addiction and Mental Health Services and Washington Division of Behavioral Health and Recovery. Information is drawn from many sources, including the National Registry for Effective Prevention Programs (NREPP), sponsored by the Center for Substance Abuse Prevention.
**Excellence in Prevention** – descriptions of the programs and strategies with the greatest evidence of success

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Cost</th>
<th>Required by Program Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coach/Instructor Package (includes Leader Training videos)</td>
<td>$280 each</td>
<td>Yes</td>
</tr>
<tr>
<td>Squad Leader Package</td>
<td>$11 each</td>
<td>Yes</td>
</tr>
<tr>
<td>Athlete Package</td>
<td>$11 each</td>
<td>Yes</td>
</tr>
<tr>
<td>Coach/Instructor Training</td>
<td>Varies depending on site needs</td>
<td>No</td>
</tr>
</tbody>
</table>

### 12. Contacts

**For information on implementation:**

Michelle Otis  
(503) 418-4166  
steinerm@ohsu.edu

**For information on research:**

Linn Goldberg, M.D.  
(503) 494-8051  
goldberl@ohsu.edu

**Learn More by Visiting:** [http://www.ohsu.edu/hpsm/](http://www.ohsu.edu/hpsm/)