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Adrian Wilairat

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Recommended Citation

Adrian Wilairat, *Faster, Higher, Stronger? Federal Efforts to Criminalize Anabolic Steroids and Steroid Precursors*, 8 J. Health Care L. & Pol'y 377 (2005).

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FASTER, HIGHER, STRONGER? FEDERAL EFFORTS TO CRIMINALIZE ANABOLIC STEROIDS AND STEROID PRECURSORS

ADRIAN WILAIRAT^{*}

Oh, somewhere in this favored land the sun is shining bright;
The band is playing somewhere, and somewhere hearts are light;
And somewhere men are laughing, and somewhere children shout;
But there is no joy in Mudville – until the truth comes out.

– Rep. Tom Davis, Chairman, House
Committee on Government Reform,
paraphrasing Ernest Lawrence Thayer’s
“Casey at the Bat,” Mar. 17, 2005

I. INTRODUCTION

In his 2004 State of the Union Address, President Bush discussed the burgeoning use of performance enhancing drugs and turned them into an issue of national importance.¹ With Presidential support, the United States Congress embarked on a nine-month mission to turn stagnant federal anti-steroid legislation into law. On October 22, the President signed the Anabolic Steroid Control Act of 2004 (“Act”), which amended the existing federal anti-steroid statute by adding

^{*} J.D. Candidate, 2006, University of Maryland School of Law (Baltimore, MD); B.A., History, 2001, Tufts University (Medford, MA). Thanks all around to the diligent and dedicated staff of the Journal of Health Care Law & Policy, especially J. Gregory Lennon and Melanie Santiago, for their hard work editing this Comment. I also would like to thank my parents, Edie Kramer and Kawin Wilairat, sister, Marisa Wilairat, Luming Castro, Alice Cheong, Trish Cochran, and Jim Heinen, Jr. for their encouragement and support during the writing of this piece.

1. President George W. Bush, State of the Union Address (Jan. 20, 2004) [hereinafter State of the Union Address], <http://www.whitehouse.gov/news/releases/2004/01/20040120-7.html> (last visited July 9, 2005). President Bush stated:

To help children make right choices, they need good examples. Athletics play such an important role in our society, but, unfortunately, some in professional sports are not setting much of an example. The use of performance-enhancing drugs like steroids in baseball, football, and other sports is dangerous, and it sends the wrong message—that there are shortcuts to accomplishment, and that performance is more important than character. So tonight I call on team owners, union representatives, coaches, and players to take the lead, to send the right signal, to get tough, and to get rid of steroids now.

Id.

eighteen drugs to the controlled substances list.² By including several steroid “precursors,” or derivatives of testosterone that metabolize into anabolic steroids once ingested,³ the law significantly increased the scope of the federal government’s regulation of steroids. However, deficiencies in the Act highlight Congress’s failure to pass sweeping legislation to address the serious health risks posed by anabolic steroids. Some question whether legislation criminalizing steroids is necessary, while others argue that the dangers posed by steroid precursors are unsubstantiated.⁴ Nonetheless, adolescents’ increased use of anabolic steroids, which pose serious health concerns, and the increased use of anabolic steroids by people other than elite athletes, warrant enhanced federal efforts to limit access and availability of performance enhancing drugs. Although the Act signals that the federal government finally has recognized steroids’ serious health threat, the exclusion of dehydroepiandrosterone (DHEA) shows an alarming hesitancy to enact legislation that would fully restrict the use and sale of steroids and similar substances.

In this Comment, I first discuss steroids’ harmful effects on the human body. Next, in Part III, I explain the media’s scrutiny of various steroid scandals that plagued the early and mid-1990’s. Then, in Part IV, I show how the scandals correlate with an increase in steroid use, especially among adolescents, and discuss the intense coverage over the last two years. In Part V, I discuss the fourteen year effort to enact federal anti-steroid legislation, which culminated in the passage of the Anabolic Steroid Control Act of 2004. Furthermore, in Part VI, I describe congressional debate concerning these substances, discuss how certain interest groups opposed the Act and any inclusion of DHEA, and demonstrate why Congress should not have exempted DHEA. In Part VII, I analyze arguments against the Act and show why its passage was necessary. Finally, in Part VIII, I argue that Congress should have been more aggressive in protecting the public from precursors. While the Act rightfully criminalizes the possession and distribution of dangerous steroid precursors, its explicit exclusion of DHEA demonstrates the government’s failure to fully recognize their public health risks.

2. 21 U.S.C.A. §§ 801-966 (West Supp. 2004).

3. H.R. 207, 108th Cong., § 1(a)(4) (2003); DRUG ENFORCEMENT ADMIN. (DEA), U.S. DEP’T OF JUSTICE (DOJ), STEROID ABUSE IN TODAY’S SOCIETY: A GUIDE FOR UNDERSTANDING STEROIDS AND RELATED SUBSTANCES (Mar. 2004) [hereinafter STEROID ABUSE IN TODAY’S SOCIETY], <http://www.deadiversion.usdoj.gov/pubs/brochures/steroids/professionals/> (last visited July 9, 2005).

4. Telephone Interview with Richard D. Collins, Partner, Collins, McDonald & Gann, P.C. (Jan. 4, 2005).

II. STEROIDS CAUSE IRREVERSIBLE DAMAGE.

Steroids are natural or synthetic compounds containing seventeen carbon molecules arranged in four-rings.⁵ The body produces steroid hormones with this structure from cholesterol.⁶ Anabolic steroids⁷ are synthetic forms of androgens, the male sex hormone produced in the testicles, which increase the metabolism, stimulate protein production, and contribute to the growth of skeletal muscle and male sexual characteristics.⁸ Until recently, the public believed that primarily body builders used “anabolic steroids.”⁹ However, technological advances spurred the development of steroid precursors, and between one and three million Americans have used anabolic steroids in the form of liquids, pills, and creams for their anabolic effects.¹⁰

Although prescription steroids can have positive effects, anabolic steroids can cause permanent damage to the body.¹¹ Steroids can cause severe physiological and psychological damage in men, women, and children.¹² Physiological consequences include oligospermia (decreased sperm production); gynecomastia (enlargement of breast tissue); over-retention of fluid, which can lead to hypertension or heart disease; and biochemical effects on the liver.¹³ Steroids also have paradoxical effects specific to the two sexes, causing “feminization” in men and “masculinization” in women.¹⁴ In men, steroid use can result in shrunken testicles¹⁵ and enlargement of the breasts.¹⁶ In women, steroid use can cause elongation of the clitoris, shrunken breasts, growth of body hair, and

5. MILLER-KEANE ENCYCLOPEDIA & DICTIONARY OF MEDICINE, NURSING, & ALLIED HEALTH 1413 (5th ed. 1992).

6. *Id.*

7. In this Comment, the term “steroids” will refer to “anabolic steroids,” unless otherwise noted.

8. NAT'L INST. ON DRUG ABUSE (NIDA), RESEARCH REPORT SERIES – ANABOLIC STEROID ABUSE I [hereinafter ANABOLIC STEROID ABUSE], <http://www.nida.nih.gov/PDF/RRSteroi.pdf> (last visited July 9, 2005); MERRIAM-WEBSTER MEDICAL DICTIONARY, at <http://www2.merriam-webster.com/cgi-bin/mwmednlm?book=Medical&va=steroid%20hormone> (last visited July 9, 2005).

9. See ANABOLIC STEROID ABUSE, *supra* note 8, at 2.

10. Richard D. Collins, *Drugs and the Body Beautiful: A Guide to Defending Anabolic Steroid Cases*, CHAMPION, Mar. 2002, at 13.; George Fan, *Anabolic Steroid and Human Growth Hormone Abuse: Creating an Effective and Equitable Ergogenic Drug Policy*, 1994 U. CHI. LEGAL F. 439, 458 n.158 (1994).

11. ANABOLIC STEROID ABUSE, *supra* note 8, at 4.

12. Press Release, U.S. Dep't of Health & Human Servs. (DHHS), Food & Drug Admin. (FDA), FDA Statement on THG (Oct. 28, 2003) [hereinafter FDA Statement on THG], <http://www.fda.gov/bbs/topics/NEWS/2003/NEW00967.html> (last visited July 9, 2005).

13. Diane Heckman, *The Evolution of Drug Testing of Interscholastic Athletes*, 9 VILL. SPORTS & ENT. L.J. 209, 227-28 (2002).

14. Jerry Adler, *Toxic Strength*, NEWSWEEK, Dec. 20, 2004, <http://msnbc.msn.com/id/6712731/site/newsweek/> (last visited July 9, 2005).

15. In response to an excess of testosterone, the pituitary gland, which secretes the hormone, signals the testes to shut down, causing shrinkage. *Id.*

16. The body may convert excess testosterone into estrogen, leading to larger breasts. *Id.*

a deeper voice.¹⁷ Steroids have an even more damaging effect in pre- and early adolescents. The structure of steroid compounds fuses growth plates in bones, which leads to stunted height.¹⁸ Less severe side effects include male-pattern baldness and clinical acne.¹⁹

In addition to physiological damage, steroids can cause lasting psychological damage. The most well-known mental effect is aggression, also known as “roid rage.”²⁰ Roid rage consists of symptoms of over-confidence, paranoia, and violence.²¹ Ending a course of steroids can also be difficult because cessation can cause depression, especially among teenagers.²² Rather than temporary mental and emotional effects, steroid use can result in long-term psychological changes.²³

Since the early 1990’s, the federal government has recognized that the severe side effects of overusing steroids pose serious health risks. Throughout the last decade, representatives from the National Institute on Drug Abuse (NIDA) have testified before Congress and implemented several programs that focus exclusively on preventing the use of these drugs.²⁴ The medical community recognizes steroids’ health risks; however, until late 2004 the federal government did not regulate many substances that were functionally equivalent to steroids.

III. THE MEDIA HAS COVERED EXTENSIVELY PROFESSIONAL ATHLETES’ USE OF NEW DESIGNER STEROIDS AND STEROID PRECURSORS.

Although steroids clearly cause long-term physiological and psychological damage,²⁵ many people commonly inject, take orally, or rub synthetic forms of these substances into or onto their bodies. Media coverage has focused on professional athletes’ use of these drugs, even though amateur athletes and children use them, as well. Additionally, a significant portion of steroid use is for cosmetic purposes.

17. *Id.*

18. Heckman, *supra* note 13, at 228.

19. Adler, *supra* note 14.

20. Heckman, *supra* note 13, at 228.

21. Jonathan M. Ettman, Comment, *Vernonia Case Comment: High School Students Lose Their Rights When They Don Their Uniforms*, 13 N.Y.L. SCH. J. HUM. RTS. 625, 657 (1997).

22. See Duff Wilson, *After a Young Athlete’s Suicide, Steroids Are Called the Culprit*, N.Y. TIMES, Mar. 10, 2005, at A1 (reporting that medical experts suspect many instances of teen suicide to be linked to steroid use).

23. See ANABOLIC STEROID ABUSE, *supra* note 8, at 6 (stating that cessation of steroid-use may cause symptoms of withdrawal); Gen Kanayama et al., *Study Links Behavioral Risks Factors, Steroid Use*, BROWN U. CHILD & ADOLESCENT BEHAVIOR LETTER, Aug., 2003, <http://www.childresearch.net/RESOURCE/NEWS/2003/200308.HTM> (last visited July 9, 2005).

24. NIDA, CONGRESSIONAL AND LEGISLATIVE ACTIVITIES, at <http://www.drugabuse.gov/about/legislation/legislation.html> (last visited July 9, 2005).

25. ANABOLIC STEROID ABUSE, *supra* note 8, at 4.

First manufactured in the 1930's,²⁶ athletes began using steroids in the 1950's to gain a competitive advantage.²⁷ However, it was not until the early 1980's when steroids began to evoke images of body builders – people who lift weights in gymnasiums to perfect their physique.²⁸ But, when Canadian sprinter Ben Johnson was stripped of his 100-meter dash gold medal in the 1988 Summer Olympic Games after testing positive for the anabolic steroid stanazolol,²⁹ the media began intense scrutiny of anabolic steroid use.

The media lost interest until August 1998, when a curious reporter asked Major League Baseball (MLB) star Mark McGwire about an unfamiliar container sitting atop his locker.³⁰ The substance was androstenedione, commonly known as “andro.”³¹ Although federal law and MLB did not prohibit the use of andro, the United States Olympic Committee (USOC), National Collegiate Athletic Association (NCAA), and World Anti-Doping Association (WADA) already forbade competitors from using it. Six years later, MLB finally prohibited its players from using this precursor.³²

IV. INTENSIFIED MEDIA COVERAGE OF STEROIDS IN 2004 CORRELATES WITH AN INCREASE IN STEROID USE AMONG THE GENERAL POPULATION, ESPECIALLY ADOLESCENTS.

A. Teen Use

After news of Mark McGwire's regular use of andro, sales of performance-enhancing drugs increased five-fold.³³ Increased availability of steroid precursors

26. *Anabolic Steroid Control Act of 2004: Hearing on H.R. 3866 Before the Subcomm. on Crime, Terrorism, and Homeland Security of the House Comm. on Judiciary*, 108th Cong. 8 (2004) (statement of Joseph T. Rannazzisi, Deputy Director, Office of Diversion Control, Drug Enforcement Administration).

27. ANABOLIC STEROID ABUSE, *supra* note 8, at 1.

28. Tanya Schevitz, *High School Students Debate Steroid Ethics*, SAN FRAN. CHRON., Dec. 7, 2004, at B1 (describing how California Governor Arnold Schwarzenegger, subject of the 1977 acclaimed documentary *Pumping Iron*, has admitted to using steroids when he was a bodybuilder).

29. John Goodbody, *Stanozolol or Sabotage? IOC's Medical Experts Begin Race to Get to the Truth*, TIMESONLINE (London), Sept. 23, 2003, at <http://www.timesonline.co.uk/article/0,,9080-827125,00.html> (last visited July 9, 2005). Johnson used this substance under a brand version, Winstrol. George Dohrmann, *At the Finish Line?* SPORTS ILLUSTRATED, July 5, 2004 (Mark Bechtel ed.).

30. Frank Ahrens, *Power Pill; Can the Muscle-Building Supplement That Mark McGwire Takes Help a Common Player? One Reporter's Experiment*, WASH. POST, Oct. 20, 1998, at Z12.

31. ANABOLIC STEROID ABUSE, *supra* note 8, at 2.

32. Barry M. Bloom, *MLB Bans Use of Androstenedione*, MLB.com, June 29, 2004, at http://mlb.mlb.com/NASApp/mlb/mlb/news/mlb_news.jsp?ymd=20040629&content_id=783595&vkey=news_mlb&fext=.jsp (last visited July 9, 2005).

33. *Steroid Use in Professional and Amateur Sports: Hearing Before the Sen. Comm. on Commerce, Science, and Transportation*, 108th Cong. (2004) (statement of Sen. John McCain,

and media attention to these drugs has resulted in increased steroid use among high school students. Adolescents are the most vulnerable demographic to the harms of steroid precursors.³⁴ Teens are more likely to take drugs as a result of pressure to perform well athletically, be more confident, and look more desirable.³⁵

Today, more teenagers take steroids than they did one decade ago. A NIDA study showed that steroid use among eighth- to twelfth-graders had increased from 1991-1999.³⁶ According to NIDA, while in 1991 only 2.1% of twelfth-graders had used steroids, a 2002 study showed that 4% had used them.³⁷ A 1999-2000 study indicated steroid use in adolescents had risen,³⁸ with teenage girls the subset experiencing the most rapid rise in use.³⁹ Charles Yesalis, a Penn State professor who has conducted numerous studies on teen steroid use, said that 2% of high school girls currently use steroids, a percentage that doubled during the 1990's.⁴⁰ A University of Michigan study showed that from 2002-2004, steroid use among twelfth graders rose from 2.5% to 4%.⁴¹ Even more alarming, a 2004 Centers for Disease Control and Prevention (CDC) study indicated that 6.1% of students across all grades had taken steroids, including 6.4% of high school seniors.⁴² One million adolescents have taken steroids.⁴³

Chairman, Sen. Comm. on Commerce, Science, and Transportation); Associated Press, *Non-Athletes Abusing Steroids Too*, Mar. 25, 2004, <http://www.cbsnews.com/stories/2004/03/25/health/main608758.shtml> (last visited July 9, 2004).

34. See AM. ACAD. OF PEDIATRICS, COMM. ON SPORTS MED. AND FITNESS, ADOLESCENTS AND ANABOLIC STEROIDS: A SUBJECT REVIEW, 99 PEDIATRICS 904, 906 (1997) (calling on pediatricians to recognize that adolescents are an at-risk population for steroid abuse).

35. *Anabolic Steroid Control Act of 2004: Hearing on H.R. 3866 Before the Subcomm. on Crime, Terrorism, and Homeland Security of the House Comm. on Judiciary*, 108th Cong. 8 (2004) (statement of Joseph T. Rannazzisi, Deputy Director, Office of Diversion Control, Drug Enforcement Administration). Jere Longman, *Drugs in Sports: An Athlete's Dangerous Experiment*, N.Y. TIMES, Nov. 26, 2003, at D1. For a fascinating description of the increasing phenomenon of teenage male body image obsession, see Stephen S. Hall, *The Troubled Life of Boys: The Bully in the Mirror*, N.Y. TIMES, Aug. 22, 1999, at 6:31. A study by Oregon Health Sciences University Professor Dr. Linn Goldberg indicates that half of high school boys participate in sports, and 78% of high school athletes in Oregon and Washington use "nutritional supplements." *Id.* According to Goldberg, "Our studies show that supplements are gateway substances to steroid use, and kids who use them are at greater risk for using anabolic steroids." *Id.*

36. ANABOLIC STEROID ABUSE *supra* note 8, at 2.

37. *Hearing on H.R. 3866, supra* note 35 (statement of Joseph T. Rannazzisi); STEROID ABUSE IN TODAY'S SOCIETY, *supra* note 3.

38. Michelle R. Burke, *School-Based Substance Abuse Prevention: Political Finger-Pointing Does Not Work*, 66 FED. PROBATION 66, 67 (citing Mimi D. Johnson et al., *Anabolic Steroid Use by Male Adolescents*, 83 PEDIATRICS 921 (1989)).

39. ANABOLIC STEROID ABUSE, *supra* note 8, at 3.

40. *THG Ramifications*, ST. PETERSBURG TIMES ONLINE, Nov. 30, 2003, at http://www.sptimes.com/2003/11/30/news_pf/Sports/THG_Ramifications.shtml (last visited July 9, 2005).

41. *Id.*

42. DHHS, CTRS. FOR DISEASE CONTROL & PREVENTION (CDC), YOUTH RISK BEHAVIOR SURVEILLANCE – UNITED STATES, 2003, 53 MORBIDITY AND MORTALITY WEEKLY REPORT 15 (2004), <http://www.cdc.gov/mmwr/PDF/SS/SS5302.pdf> (last visited July 9, 2005).

Statistics also illustrate that some states should be especially alarmed by their adolescents' use of steroids. A CDC study showed that 11.2% of high school males in Louisiana and 5.7% of high school girls in Tennessee had taken steroids.⁴⁴

Clearly, adolescents are using steroids more than ever before because of their effects on physique and the news that their heroes do as well. Famous athletes' use of steroid precursors influences adolescents,⁴⁵ and teens want to emulate their idols.⁴⁶ Taking steroid precursors, or 'juicing,' makes one stronger and more physically powerful. In sports, this effect is especially desirable because increased power allows athletes to, for example, run faster, hit balls farther, and tackle with more force. Yet, increased athletic ability is not the only reason why adolescents use steroids.

Although steroids enable adolescents to perform better in athletic competition, many teens use steroids for cosmetic purposes.⁴⁷ The media has covered countless stories of teenagers who want to mold their physique into a certain image of beauty.⁴⁸ The desire to look like models in magazines has resulted in a new psychological disorder, muscle dysmorphia, or reverse anorexia, in which people believe that they are not strong enough.⁴⁹ By helping build muscle, anabolic substances facilitate the creation of chiseled bodies. Compounding the risks to the adolescent demographic, the lasting and long-term dangers that come from prolonged use of steroids are not readily apparent to

43. Ettman, *supra* note 21 (citing Fan, *supra* note 10, at 439 n.3 (1994)).

44. Associated Press, *supra* note 33.

45. "You take 18-year-old kids [who want to bulk up], they're going to go to the steroids . . . you're not going to avoid it," said William Llewellyn, founder of the supplement manufacturer Molecular Nutrition. Amy Shipley, *New Steroids Sold Over Counter; Law from 1990 Doesn't Bar Then-Unknown Substances*, WASH. POST, Dec. 6, 2002, at A01. Furthermore, in an editorial, the *San Francisco Chronicle* wrote that it published parts of leaked grand jury from the BALCO case because:

Our concern is for the untold number of athletes who are suffering under the illusion that an illegal drug - with potentially serious long-term side effects - can elevate them to the top of the game.

If a player as accomplished as Giambi saw a need to seek out Barry's elixir, one can only imagine how many marginal young players with major-league fantasies will take the risk. The overwhelming majority will never even see a minor-league paycheck.

Editorial, *Don't Cry for Barry*, SAN FRAN. CHRON., Dec. 5, 2004, at B4.

46. Senator Joseph Biden said, "To be honest, I would be less concerned about what professional athletes are doing to their bodies if their actions did not have such a profound effect on kids." Marguerite Higgins, *Legal Steroids Targeted on Hill*, WASH. TIMES, Oct. 31, 2003, at C10.

47. Telephone Interview with Richard D. Collins, *supra* note 4.

48. Adler, *supra* note 14.

49. *Id.*; Jon C. Cole et al., *A Preliminary Investigation into the Relationship Between Anabolic-Androgenic Steroid Use and the Symptoms of Reverse Anorexia in Both Current and Ex-Users*, 166 PSYCHOPHARMACOLOGY 424 (2003).

teenagers.⁵⁰ Widely visible to them, however, are the pronounced physical changes they desire.

Regardless of the threat that steroid precursors pose to adults, overwhelming evidence of harm to adolescents warrants the criminalization of the distribution or possession of these substances. The rising rate of teenage use of anabolic steroids and steroid precursors poses a potentially serious health threat. As adolescents seek out these drugs⁵¹ in higher proportions, the government should respond. Teens have successfully purchased steroids on the illegal market and will continue to do so. As new pharmaceuticals are produced, sellers will undoubtedly target this young demographic. Legislation should address the heightened physiological damage steroids inflict, as well as teens' psychological susceptibility.

B. 2003-2004: Explosion of Steroids and Media Coverage

In 2004, the media covered news of professional athletes' use of new designer steroids and steroid precursors more extensively than ever before. The death of former baseball star Ken Caminiti, who had admitted to using steroids before the World Series,⁵² pushed what might have been a back-page story to the forefront. ABC's "20/20" aired a segment on Victor Conte, CEO of Bay Area Laboratory Co-operative (BALCO), which allegedly supplied several elite athletes with performance enhancing substances.⁵³ Star sprinter and magazine cover-girl Marion Jones threatened a lawsuit after the United States Anti-Doping Agency (USADA) suggested it might consider prohibiting an athlete from competing without an analytical positive test for steroids.⁵⁴ Much of the media coverage of the 2004 Summer Olympic Games in Athens concerned athletes' testing positive for banned substances.⁵⁵ Over the last few years, with a culmination in the fall of 2004, the media has scrutinized athletes' use of steroids and precursors⁵⁶ and the

50. Associated Press, *supra* note 33.

51. Teenagers seeking steroids probably seek out related substances with non-anabolic properties too. See Adler, *supra* note 14. Supplements bought outside of stores can be spiked with harmful substances. See *id.*

52. Associated Press, *1996 NL MVP Caminiti Dies at Age 41 After a Heart Attack*, WASH. POST, Oct. 11, 2004, at D09.

53. Lance Williams & Mark Fainaru-Wada, *The BALCO Case: Conte Changes Tune, Names BALCO*, SAN. FRAN. CHRON., Dec. 4, 2004, at D1.

54. Michael Steinberger, *Jones Takes Fight to Drug Agency*, FIN. TIMES (London), June 18, 2004, at 15.

55. The number of competitors who used steroids in Athens probably is less than those who did at the 1988 Olympics, where studies indicate that potentially half of the athletes used steroids. Jeffrey Hedges, Note, *The Anabolic Steroids Act: Bad Medicine for the Elderly*, 5 Elder L.J. 293, 298 (1997).

56. In his first interview since publication of grand jury testimony that he had used steroid precursors, baseball star Barry Bonds chastised the media for excessively covering the steroids scandal. Henry Schulman, *"It's Time to Move On": Bonds Brushes off Steroid Questions, Praises Baseball's*

risks that they pose for the population as a whole. This intensified focus on steroids has revealed the new steroid precursors on the market and may cause a rise in steroid use, especially among adolescents.

The BALCO scandal, which had originated during the previous year, became a major story. On September 3, 2003, federal and local agents raided BALCO's offices.⁵⁷ In October 2003, an anonymous person, later identified as track and field coach Trevor Graham,⁵⁸ delivered to the USADA a syringe containing a substance allegedly manufactured by BALCO.⁵⁹ By the middle of the month, USADA had identified the substance as tetrahydrogestrinone (THG); the existence of this "new chemical entity" had not been known.⁶⁰ Don Catlin, director of the UCLA Olympic Analytical Laboratory, said, "In the 25 years I've been doing this kind of work, it's the biggest and most complicated case I've ever been involved in."⁶¹ Terry Madden, USADA CEO, commented, "This is a very sophisticated designer steroid created by very sophisticated chemists."⁶² He added, "We're not dealing with supplements here, we are dealing with hard-core, anabolic steroids."⁶³

Two days after raiding BALCO, federal agents appeared at the home of Greg Anderson, trainer of baseball star Barry Bonds.⁶⁴ On February 12, 2004, a grand jury indicted BALCO of 42 criminal counts, including distribution of illegal anabolic steroids,⁶⁵ and alleged that the laboratory produced THG.⁶⁶

New Drug Rules, SAN. FRAN. CHRON., Feb. 23, 2005, at A1, <http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2005/02/23/MNGQJBFKUS1.DTL> (last visited July 9, 2005).

57. Dick Patrick, *Bonds, Jones Called Before Grand Jury*, USA TODAY, Oct. 20, 2003, at 14C; Amy Shipley, *USADA: Elite Athletes Using 'Designer' Steroid*, WASH. POST, Oct. 17, 2003, at D01.

58. Tom Weir, *Drug-Free Sports Might Be Thing of the Past*, USA TODAY, Dec. 8, 2004, at 01A.

59. *Id.* Shipley, *supra* note 57.

60. Shipley, *supra* note 57; CNN.com, *Track and Field Body Faulted Over Doping Charges*, Oct. 17, 2003, at <http://www.cnn.com/2003/US/10/17/athletes.steroids/> (last visited July 9, 2005).

61. Shipley, *supra* note 57.

62. *Id.*

63. *Id.*

64. *Id.*

65. Press Release, DOJ, *Four Individuals Charged in Bay Area with Money Laundering and Distribution of Illegal Steroids* (Feb. 12, 2004), http://www.usdoj.gov/opa/pr/2004/February/04_ag_083.htm (last visited July 9, 2005).

66. *Id.* United States v. Conte et al., No. 04-0044, § 25 (N.D. Cal. filed Feb. 12, 2004); Michael F. Taxin, Note, *The Changing Evolution of Sports: Why Performance Enhancing Drug Use Should Be Considered in Determining Tort Liability of Professional Athletes*, 14 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 817, 833 (2004). Taxin notes, "Congress may have the ability to create a uniform law to deal with these cases pursuant to the interstate commerce clause." *Id.* at 838. See also Michael Sokolove, *In Pursuit of Doped Excellence*, N.Y. TIMES, Jan. 18, 2004, at 628. Although the BALCO scandal appeared on the front pages of newspaper sports sections for the next year, it was not until the *San Francisco Chronicle* published a story alleging that former Major League Baseball Most Valuable Player (MVP) Jason Giambi had used steroids that the entire country became embroiled in the steroid frenzy that remains in full force today. *Steroid Bill on Bush's Agenda*, DRUG DETECTION REP., Oct. 14, 2004, at 20; Jeff Gordon, *Tipsheet: Looking at Who's In and Who's Out in the World of Sports*, ST.

In March 2005, in response to incessant news coverage of steroids in sports, Congress subpoenaed baseball stars to testify before the House Committee on Government Reform.⁶⁷ Testimony of use of steroids and steroid precursors took center stage.⁶⁸ The nation's attention to the committee hearings solidified the idea that the problem of steroids was not limited to the world of elite athletes, but that their use had ramifications for Americans as a whole.

Although the resurgence of media coverage of steroids did not occur until 2004, powerful people had known about the dangers for years. Lost amid the frenzied media coverage of the Bonds-BALCO scandal was Major League Baseball's prior encouragement of Congress to ban steroid precursors like andro and DHEA.⁶⁹ The harm posed by steroid precursors has been known for the last decade. However, it is not solely athletes who are at fault. Drug companies are turning steroids first created in the 1960's and 1970's into new drugs.⁷⁰ Don Catlin said, "Athletes are serving as guinea pigs."⁷¹ According to Victor Conte, "the world of track and field is a very dirty business, and this goes far beyond just the coaches and athletes."⁷² Thus, the pharmaceutical industry and sellers of illegal banned substances share partial responsibility for the current steroid frenzy.

The media's attention to the 2003-2004 steroid scandals indicates the importance of this issue to society. In an editorial explaining why it devoted so many pages, personnel, effort, and energy to the BALCO investigation, the *San Francisco Chronicle* wrote:

A little more than a week ago, *The Chronicle's* publication of federal grand-jury testimony by baseball stars Jason Giambi and Barry Bonds caused the issue of steroid use and abuse to explode into public sensibility and deliberation around the world. From Washington to Lausanne, Switzerland, from schools to bars to breakfast tables, the action and reaction continues. Although our coverage of steroid use and

LOUIS POST-DISPATCH, May 3, 2004, at D2, 2004; Mark Fainaru-Wada & Lance Adams, *Giambi Admitted Taking Steroids*, SAN FRAN. CHRON., Dec. 2, 2004, <http://sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2004/12/02/MNG80A523H1.DTL> (last visited July 9, 2005).

67. Anne E. Korblut, *The Steroids Hearings: The Politicians; Two Parties in Congress Are at Odds Only Against Witnesses*, N.Y. TIMES, Mar. 18, 2005, at D6.

68. The number of reporters present in Congress during the hearings had not been as high since the impeachment of President Clinton. *Id.*

69. During a July 18, 2002 Senate Consumer Affairs Subcommittee hearing on steroids, Robert Manfred, Major League Baseball's Executive Vice President of Labor and Human Resources, urged Congress to pass legislation regulating andro and DHEA. *Steroids in Baseball and Amateur Sports: Hearing Before the Subcomm. on Consumer Affairs, Foreign Commerce, and Tourism of the Senate Comm. on Commerce, Science, and Transportation*, 107th Cong. (2002).

70. Associated Press, *Officials Warn of New Designer Steroids*, July 29, 2004, <http://msnbc.msn.com/id/5550647> (last visited July 9, 2005).

71. *Id.*

72. CNN.com, *supra* note 60.

related investigations has been ongoing, readers flooded us with response to these latest pieces.⁷³

The paper and the public felt that this was a compelling story. Although legal issues concerning leakage of grand jury testimony and the nation's obsession with sports surely contributed to interest in BALCO and steroids, what made it even more important were the serious threats that steroids and steroid precursors pose to the public. As the *Chronicle* wrote, "We do believe that it is our responsibility to provide as much information as possible to help people make decisions on issues of importance to them, often referred to as 'the public's right to know.'"⁷⁴

V. THE ANABOLIC STEROID CONTROL ACT OF 2004 – FOURTEEN YEARS IN THE MAKING

Although increased media coverage of steroids and steroid precursors during the last two years could result in another surge in steroid use, especially among adolescents, it has had the positive effect of stimulating congressional support for more comprehensive anti-steroid legislation. Although a few Representatives and Senators had been trying to push amendments to existing law through the House and Senate throughout the 1990's, it was the intensified media coverage that produced support from their colleagues and the public. The stories of doping and death legitimized the fight for widening the scope of legislation and appropriating more money for preventative educational programs. The federal government has prohibited the distribution of anabolic steroids since 1938, when the Food, Drug, and Cosmetic Act (FDCA) was enacted to impose penalties for distributing the drugs without a doctor's prescription.⁷⁵ In 1998, to curb the increasing illegal trafficking of these substances, Congress amended the FDCA to criminalize their distribution, except with a physician's prescription for their use to treat a disease.⁷⁶ However, the FDCA did not provide a comprehensive statutory scheme to fully regulate the market for steroids.

A. The Anabolic Steroid Control Act of 1990

In response to the high profile death of football star Lyle Alzado and the scandal involving Ben Johnson, Congress perceived public pressure to take

73. Phil Bronstein, *Why We Brought You the BALCO Story*, SAN FRAN. CHRON., Dec. 12, 2004, <http://sfgate.com/cgi-bin/article.cgi?f=/c/a/2004/12/12/EDGDIA9QNS1.DTL> (last visited July 9, 2005).

74. *Id.*

75. U.S. DOJ, CIVIL RESOURCE MANUAL § 19 (1998), http://www.usdoj.gov/usao/eousa/foia_reading_room/usam/title4/civ00019.htm (last visited July 9, 2005).

76. *Id.*

action.⁷⁷ In 1990, initial investigation into the illegal steroid transaction revealed a \$200 million annual market.⁷⁸

During that same year, Congress passed the Anabolic Steroids Control Act (ASCA).⁷⁹ This act designated twenty-seven anabolic steroids as controlled substances under Schedule III⁸⁰ and subjected a violator to criminal penalties:

The term 'anabolic steroid' means any drug or hormonal substance, chemically and pharmacologically related to testosterone (other than estrogens, progestins, and corticosteroids) that promotes muscle growth, and includes-- (i) boldenone, (ii) chlorotestosterone, (iii) clostebol, (iv) dehydrochloromethyltestosterone, (v) dihydrotestosterone, (vi) drostanolone, (vii) ethylestrenol, (viii) fluoxymesterone, (ix) formebolone, (x) mesterolone, (xi) methandienone, (xii) methandranone, (xiii) methandriol, (xiv) methandrostenolone, (xv) methenolone, (xvi) methyltestosterone, (xvii) mibolerone, (xviii) nandrolone, (xix) norethandrolone, (xx) oxandrolone, (xxi) oxymesterone, (xxii) oxymetholone, (xxiii) stanolone, (xxiv) stanozolol, (xxv) testolactone, (xxvi) testosterone, (xxvii) trenbolone, and (xxviii) any salt, ester, or isomer of a drug or substance described or listed in this paragraph, if that salt, ester, or isomer promotes muscle growth.⁸¹

One of ASCA's purposes was to "develop and support innovative demonstration programs designed to identify and deter the improper use or abuse of anabolic steroids by students, especially students in secondary schools."⁸² Thus, Congress recognized that teenagers were a group vulnerable to steroid use and its effects. Despite this purpose and congressional acknowledgement of the unique risks to teenagers, ASCA left steroid precursors untouched.⁸³

Asserting congressional hypocrisy, the nutritional supplement industry criticized the anti-steroid law. Richard D. Collins, a leading advocate of the

77. Telephone Interview with Richard D. Collins, *supra* note 4.

78. Edward Iwata, *Sales Up as Andro Ban Nears*, USA TODAY, Dec. 21, 2004, http://www.usatoday.com/news/health/2004-12-21-andro-law-sales_x.htm (last visited July 9, 2005).

79. Anabolic Steroids Control Act of 1990, Pub. L. No. 101-647, 104 Stat. 4851, 4851-54 (1990) (codified as amended at 21 U.S.C. §§ 333, 333a, 801 nt., 802, 802 nt., 829 nt., 844 and 42 U.S.C. § 290aa-6 (2000)).

80. DEA uses a five-tier classification to categorize all federally regulated substances by degree of medicinal value, harmfulness, and likelihood for addiction. DRUG ENFORCEMENT AGENCY (DEA), CONTROLLED SUBSTANCES ACT, <http://www.usdoj.gov/dea/agency/csa.htm> (last visited July 9, 2005).

DEA did not believe that steroids were addictive enough to schedule. Telephone Interview with Richard D. Collins, *supra* note 4. After the passage of ASCA, steroid use significantly rose. Iwata, *supra* note 78. However, the House Committee on Energy and Commerce believes that ASCA was successful in stopping steroid use. H.R. REP. No. 108-461, pt 2, at 2 (2004).

81. *Id.* § 1902(b)(4)(A) (codified at 21 U.S.C. § 812(c) (2000)).

82. *Id.* § 1906 (codified at 42 U.S.C. § 290aa-6 (2000)).

83. Press Release, U.S. House of Representatives, House Panel Passes Ban of Steroid Precursors Barton: Steroid Precursors Are Dangerous Drugs (Apr. 22, 2004), http://energycommerce.house.gov/108/News/04222004_1257print.htm (last visited July 9, 2004).

community that has fought federal anti-steroid legislation, believes that the bill was an overreaction to public anxiety.⁸⁴ In response to the media frenzy fueled by the stripping of Ben Johnson's 1988 Olympic gold medal in the 100-meter dash and the death of Lyle Alzado, "career politicians" believed that they must take action.⁸⁵ Paramount to Congress's decision to pursue legislation, was promoting fairness on the basis that cheating in sports was morally wrong.⁸⁶ Some argued that ASCA was flawed because its criminalization of the possession and distribution of steroids restricted their use in treatment and further research.⁸⁷

B. The Dietary Supplement Health and Education Act of 1994

Regardless of the benefits or deficiencies of ASCA, three years after its passage, in 1994, the antidoping community suffered a setback by the enactment of the Dietary Supplement Health and Education Act (DSHEA), which exempted nutritional supplements from the rigorous testing required for prescription medicines.⁸⁸ Spurred by their internet availability, supplements are a lucrative national industry that reap over \$19 billion in annual sales.⁸⁹

Under DSHEA, a dietary supplement:

(1) means a product (other than tobacco) intended to supplement the diet that bears or contains one or more of the following dietary ingredients: (A) a vitamin; (B) a mineral; (C) an herb or other botanical; (D) an amino acid; (E) a dietary supplement used by man to supplement the diet by increasing the total dietary intake; or (F) a concentrate, metabolite, constituent, extract, or combination of any ingredient described in clause (A), (B), (C), (D), or (E).⁹⁰

DSHEA requires FDA to undertake an extensive review process before prohibiting the sale of dietary supplements due to significant and unreasonable health risks.⁹¹ The totality of the evidence, which includes reports, publications,

84. Telephone Interview with Richard D. Collins, *supra* note 4.

85. *Id.*

86. *Id.*

87. Hedges, *supra* note 55, at 302-03.

88. Dietary Supplement Health and Education Act of 1994, Pub. L. No. 103-417, 108 Stat. 4325 (1994) (codified as amended at 21 U.S.C. §§ 301 nt, 321(g)(1), 321(ff), 321(s)(4)-(6), 331(u), 342(f), 342(g), 343, 343-2, 343(r)(6), 343(s), 343(q)(5), 343(r)(2), 343 nt., 350(b)(2), 350(c)(1), and 42 U.S.C. §§ 287c-11 and 281(b)(2) (2000). Michael O'Keeffe, *The Straight Dope: DSHEA Opened Door to Scandals*, N.Y. DAILY NEWS, Dec. 13, 2003, at 68, <http://pqasb.pqarchiver.com/nydailynews> (last visited July 9, 2005).

89. Iwata, *supra* note 78.

90. 21 U.S.C.A. § 321(ff)(1) (West 1999 & Supp. 2004).

91. Press Release, FDA, Consumer Alert: FDA Plans Regulation Prohibiting Sale of Ephedra-Containing Dietary Supplements and Advises Consumers to Stop Using These Products (Dec. 30, 2003), <http://www.fda.gov/oc/initiatives/ephedra/december2003/advisory.html> (last visited July 9, 2005).

and public comments, must indicate serious harm in order for the sale to be controlled.⁹² Although DSHEA does not reference steroid precursors, manufacturers understood that it applied to them.⁹³ DSHEA opened the floodgates for the manufacture, distribution, and exchange of steroid precursors.

C. The Anabolic Steroid Control Act of 2004

The health care community's dissatisfaction with DSHEA⁹⁴ again piqued the interest of Congress. In 2000, Senator John McCain introduced in the Senate the Amateur Sports Integrity Act (AISA).⁹⁵ Its purpose was to "direct the National Institute of Standards and Technology to establish a program to support research and training in methods of detecting the use of performance-enhancing drugs by athletes."⁹⁶ To accomplish this, AISA would "fund research on the detection of naturally-occurring steroids, such as testosterone, and other testosterone precursors (e.g., androstenedione), and other substances, such as human growth hormone and erythropoietin for which no tests are available but for which there is evidence of abuse or abuse potential."⁹⁷ Although the Senate Commerce Committee passed the bill,⁹⁸ it never reached the Senate floor for a vote. On May 6, 2003, Senator McCain reintroduced AISA, but Congress never passed the bill.

Finally, in October 2003, in an effort to pass legislation prohibiting steroid precursors, Senators Joe Biden and Orrin Hatch introduced in the Senate an amendment to the CSA to clarify the definition of steroids and fund research and education on steroids and "steroid precursors," substances that metabolize into anabolic steroids after ingestion.⁹⁹ The Bill would apply to tetrahydrogestrinone (THG), the "designer steroid" that first appeared in the BALCO scandal in 2003.¹⁰⁰

92. *See id.*

93. *See Iwata, supra* note 78.

94. Dr. Alan Grollman testified before Congress that, "Under DSHEA, the FDA must carry the burden of proving 'significant or unreasonable risk' before it can remove a dangerous product . . ." *Dangers of Dietary Supplements: Hearing Before the Senate Comm. on Commerce, Science and Transportation*, 108th Cong. (2003).

95. S. 2340, 106th Cong. (2000) (enacted). The bill also prohibited gambling on the Olympics and competition involving high school and college athletes. *Id.* § 201.

96. *Id.*

97. *Id.* § 102(b)(3).

98. Press Release, Senator Sam Brownback, McCain-Brownback Amateur Sports Integrity Act Passes Commerce Committee Today (June 13, 2000), <http://brownback.senate.gov/pressapp/record.cfm?id=175736&> (last visited July 9, 2005).

99. S. 1780, 108th Cong. (2003); Alan H. "Bud" Selig & Robert D. Manfred, Jr., *The Regulation of Nutritional Supplements in Professional Sports*, 15 STAN. L. & POL'Y REV. 35, 43 (2004) (postulating that the bill would make over-the-counter nutritional supplements safer).

100. Selig & Manfred, *supra* note 99; Shipley, *supra* note 57; S. 1780, 108th Cong. § 2(a)(1)(B) (2003).

In October 2004, Senator Biden remarked, "Steroid use by young people is a serious health issue."¹⁰¹ He added, "Products like andro and other pro-steroids are marketed to kids and young athletes as an effective way to increase muscle mass. However, I have serious concerns about the safety of these substances The manufacturers of these products are violating the spirit of the Controlled Substances Act and putting young people at risk."¹⁰² With overwhelming support from Republicans and Democrats, the Senate voted to enact the Anabolic Steroid Control Act of 2004.

On October 22, 2004, President Bush signed the Anabolic Steroid Control Act of 2004,¹⁰³ which amended ASCA. The 2004 amendments equated androstenedione to anabolic steroids and added sixty substances, including THG, to the list of Schedule III drugs.¹⁰⁴

In addition to criminalizing the possession and distribution of sixty new steroid precursors, the amended ASCA authorized \$15 million per year from 2005-2010 for preventative educational programs in high schools.¹⁰⁵ The Act specifically allocated funds to existing NIDA's "Athletes Training and Learning to Avoid Steroids" and "Athletes Targeting Healthy Exercise and Nutrition Alternatives" programs, as well as other NIDA initiatives.¹⁰⁶ Additionally, the Act specifically exempted estrogens, progestins, corticosteroids, and DHEA, a steroid precursor.¹⁰⁷ The first three substances, which are not anabolic steroids,¹⁰⁸ were

101. Press Release, Senator Joseph R. Biden, Jr., Congress Cracks Down on Steroid Use, Biden-Hatch Bill That Bans Designer Steroids Goes to President (Oct. 10, 2004), <http://biden.senate.gov/newsroom/details.cfm?id=227490&&> (last visited July 9, 2005).

102. Press Release, Senator Orrin Hatch, Hatch, Biden Seek to Ban Designer Steroids (Oct. 24, 2003), http://hatch.senate.gov/index.cfm?FuseAction=PressReleases.View&PressRelease_id=923 (last visited July 9, 2005).

103. U.S. ANTI-DOPING AGENCY (USADA) (Jan. 2005), http://www.usantidoping.org/files/active/resources/press_kits/USADA%20Press%20Kit,%20May%202005.pdf (last visited July 9, 2005); Anabolic Steroid Control Act of 2004, Pub. L. No. 108-358, 118 Stat. 1661 (codified at 21 U.S.C. §§ 802 nt., 994 nt. 45 U.S.C. §§ 290bb-25f, 290aa-4nt. (West Supp. 2004)).

104. 21 U.S.C.A. § 802(41)(A) (West Supp. 2004). Biden said, "It's not only a health issue but also a values issue If kids think that all of the best athletes are 'on the juice,' what does that teach them? I think it teaches them that they should use steroids or steroid precursors to get ahead and win the game; that cheating is OK." T.J. Quinn, *Bush Inks Bill to Ban Steroids*, N.Y. DAILY NEWS, Oct. 23, 2004, at 78. 21 U.S.C. § 801 classifies illegal drugs into five schedules. DEA, *supra* note 80. Schedule I is the most restrictive, while Schedule V is the least restrictive. *Id.*

105. Anabolic Steroid Control Act of 2004 § 4(c), (d), 118 Stat. at 1664 (codified as amended at 42 U.S.C.A. §§ 290bb-25f (West Supp. 2004)).

106. *Id.* § 4(b).

107. "The term 'anabolic' steroid' means any drug or hormonal substance, chemically and pharmacologically related to testosterone (other than estrogens, progestins, corticosteroids, and dehydroepiandrosterone)." 21 U.S.C.A. § 802(41)(A) (West Supp. 2004).

108. The exemptions of estrogens, progestins, and corticosteroids from the definition of anabolic steroids was appropriate because they do not produce muscle mass and have different side effects from those associated with anabolic steroids. Adler, *supra* note 14.

specifically exempted in ASCA;¹⁰⁹ the addition of DHEA to the list of exempted substances was new.¹¹⁰

VI. THE ACT: COMPREHENSIVE ENOUGH?

A. Steroid Precursors Function as Anabolic Steroids

Almost all of the substances defined as anabolic steroids are compounds very similar in structure. By slightly modifying the molecular composition, a new substance with anabolic properties can be formed. A skilled chemist can include or remove an extra molecule or shift its position. The structure of steroid precursors fall somewhere between cholesterol, with the least anabolic effects, and testosterone, with the most anabolic effects.¹¹¹ By including all of these substances, even those that are virtually identical, Congress recognized that technology developed during the last two years has allowed sophisticated scientists to manipulate the structure of steroid precursors. Drug manufacturers can easily bypass the proscribed material under ASCA, which was enacted long before many of the compounds prohibited by the Act existed. The Act's addition of sixty new substances to the definition of anabolic steroids, and the consequent criminalization of their possession and distribution, demonstrates that Congress has finally realized that steroid precursors' effects are virtually the same as steroids'.

Most notably, the Act appropriately added the harmful precursors andro and THG to the list of Schedule III controlled substances,¹¹² which athletes had begun using commonly. Andro has the same effect as anabolic steroids, although it requires a higher dosage to build muscle.¹¹³ After news surfaced that Mark McGwire, who at one point held the record for most home runs in a season, used andro, sales skyrocketed.¹¹⁴ According to Lloyd Johnson, a University of Michigan researcher, "There was a big increase when Mark McGwire broke the home run record. Of course he was using andro, but that may have been a distinction lost on a lot of the kids. If you're looking at a classroom of 30 boys,

109. Estrogen is a hormone produced in the ovaries that help regulates the menstrual cycle and pregnancy. Progesterin is a synthetic form of progesterone, similar to estrogen, which is contained in oral contraceptives and taken by women after menopause. THE MERCK MANUAL OF GERIATRICS 838-39 (William B. Abrams & Robert Berkow eds., 1990); STEDMAN'S MEDICAL DICTIONARY 1265 (25th ed. 1990). Corticosteroids treat asthma and inflammation, and do not increase muscle mass. Adler, *supra* note 14.

110. Anabolic Steroid Control Act of 2004, 118 Stat. 1661 § 2(a)(1) (codified as amended at 21 U.S.C.A. § 802 (West Supp. 2004)).

111. Telephone Interview with Richard D. Collins, *supra* note 4.

112. 21 U.S.C.A. § 802(41)(A) (West Supp. 2004).

113. Adler, *supra* note 14.

114. Associated Press, *supra* note 33.

one of them is using steroids.”¹¹⁵ In the weeks leading up to the prohibition of andro, nutrition stores were inundated for requests. The Act’s criminalization of the distribution and possession of this steroid precursor was necessary to protect the public from effects similar to those of traditional steroids.

In addition to andro, the new designer drug THG has sparked controversy and a call for more comprehensive regulation.¹¹⁶ FDA’s Associate Commissioner for Regulatory Affairs John Taylor said, “Our mission is to protect the American public from this potentially harmful product.”¹¹⁷ Although the Act adds to Schedule III THG and the related compound trenbolone,¹¹⁸ it does not include gestrinone, a nearly identical substance.¹¹⁹

B. Dehydroepiandrosterone (DHEA)

1. Congress’s Fight Over DHEA.

During this climate of fear,¹²⁰ in which the media has inundated the general public with horror stories of steroid abuse, Congress, supported by President Bush,¹²¹ had the opportunity to pass sweeping legislation to criminalize all anabolic steroid precursors. Despite the health care and anti-doping community’s general support of the Act,¹²² Congress, by exempting DHEA from the legislation, failed to take advantage of an opportunity to halt the continued distribution and use of steroid precursors.

DHEA is a steroid precursor.¹²³ Unlike testosterone, which is secreted by the pituitary gland, DHEA comes from the adrenal glands, above the kidneys.¹²⁴ The body uses DHEA in synthesizing estrogen and testosterone, and prevents damage from long-term secretion of cortisol.¹²⁵ DHEA levels peak between ages

115. *Id.*

116. FDA Statement on THG, *supra* note 12.

117. *Id.*

118. 21 U.S.C.A. § 802(41)(A)(xxvii) (West 1999).

119. WORLD ANTI-DOPING AGENCY, PROJECT REVIEW, DETENTION OF DESIGNER DRUGS (2004), http://www.wada-ama.org/rtecontent/document/Steroid_Pr_Catlin_C3_2004.pdf (last visited July 9, 2005).

120. Telephone Interview with Richard D. Collins, *supra* note 4.

121. *See* State of the Union Address, *supra* note 1.

122. The ADA stated that the Act was “important legislation.” Email from Nirva L. Milord, Communications & Public Affairs Director, U.S. Anti-Doping Agency, to author (Jan. 6, 2005, 16:19 EST) (on file with JHCLP).

123. L. Givalois et al., *Effects of Ageing and Dehydroepiandrosterone Administration on Pro-Opiomelanocortin mRNA Expression in the Anterior and Intermediate Lobes of the Rat Pituitary*, 11 J. NEUROENDOCRINOLOGY 737, 737 (1999).

124. *DHEA Makes the Fat Go Away*, HARV. HEALTH LETTER (Harv. Med. Sch., Boston, Mass.), Feb., 2005, at 5.

125. *Id.*

20-25.¹²⁶ In its pure form, DHEA is not as close as andro to the chemical structure of testosterone.¹²⁷ However, the body converts DHEA into androstenedione¹²⁸ and then into testosterone.¹²⁹ The Act's exemption of DHEA was flawed because once ingested, DHEA functions as an anabolic steroid.

One of the reasons why DHEA may have been exempted from the current definition of anabolic steroids is its enormous popularity among the general public. DHEA has many benefits beyond increasing muscle mass. DHEA, worth \$47 million in sales each year,¹³⁰ has been touted as the new "wonder drug" and "fountain of youth" drug.¹³¹ It is associated with decreased fat deposits,¹³² which lead to weight loss,¹³³ better memory, stronger immune system, and increased libido.¹³⁴ During the 1990's, Americans' use of the drug soared.¹³⁵ Such purported benefits have led to its burgeoning popularity among the baby boomer¹³⁶ and elderly populations.

The bill's specific exemption of DHEA may prove problematic because DHEA may be harmful. Dr. Joyce C. Lashof, the former Dean of the University of California-Berkeley School of Public Health, said, "In its natural state the effects of this hormone on the body are not well understood and as a supplement it is potentially very dangerous. DHEA is not a 'natural medicine' and most certainly not a dietary supplement and should never have been classified as such."¹³⁷ In a 2003 test, scientists in Australia determined that DHEA clogs arteries.¹³⁸ Other studies suggest that women with cancer have unusually high levels of DHEA. A 2002 meta-analysis of nine studies indicated that post-menopausal women with higher levels of sex hormones, including testosterone and DHEA, had greater risks

126. *Id.*

127. Telephone Interview with Richard D. Collins, *supra* note 4.

128. Adler, *supra* note 14.

129. Dembner, *supra* note 129.

130. Alice Dembner, *Herbal Industry Seen Fending Off FDA*, BOSTON GLOBE, Mar. 26, 2004, at A1.

131. Jane E. Brody, *Personal Health; Behind the Hoopla Over a Hormone*, N.Y. TIMES, Feb. 3, 1998, at F8.

132. *When Diets Turn Deadly: Consumer Safety and Weight Loss Supplements: Hearing Before the Subcomm. on Oversight of Government Management, Restructuring, and the District of Columbia of the Senate Comm. on Governmental Affairs*, 107th Cong. 5 (2002) (statement of Janet Heinrich, Director of Health Care-Public Health Issues, General Accounting Office).

133. *Bullies Rule the School*, CHI. TRIB., Dec. 14, 2003, at 9.

134. *Id.*

135. Martin K. C. Ng et al., *Dehydroepiandrosterone, an Adrenal Androgen, Increases Human Foam Cell Formation: A Potentially Pro-Atherogenic Effect*, 42 J. AM. COLL. CARDIOLOGY 1967, 1967 (2003).

136. Telephone Interview with Richard D. Collins, *supra* note 4.

137. *Fraudulent Anti-Aging Products: Hearing Before the Sen. Special Comm. on Aging*, 107th Cong. (2001) (statement of Joyce C. Lashof, M.D., Professor Emerita and former Dean, Sch. of Pub. Health, Univ. of Cal., Berkeley).

138. *Bullies Rule the School*, *supra* note 134 (citing Ng et al., *supra* note 133).

of breast cancer.¹³⁹ Other studies indicate that too much of the steroid precursor could lead to prostate cancer.¹⁴⁰ The cancerous effect comes from the body's use of DHEA to synthesize other steroidal hormones.¹⁴¹

The legislative history of the bill indicates that some senators were concerned about exempting DHEA from the statute.¹⁴² The House of Representatives and the Senate were fully aware of the potential dangers posed by DHEA; Congress engaged in months of hearings and testimony, much of which was delivered by people in the medical and scientific fields. Yet, Congress decided to exempt DHEA from the Act's definition of anabolic steroids, thereby allowing freedom for its sale and distribution.

Representative Henry Waxman led the fight to include DHEA under the new definition of anabolic steroids but ultimately was not able to convince his colleagues of the importance of its inclusion. In April 2004, Rep. Waxman first publicly voiced his opposition to DHEA's exemption.¹⁴³ He attempted to include DHEA in the bill. Earlier, WADA member Dr. Gary Wadler had remarked, "This is part of the political horse trading. They want to leave (supplement makers) with something on the shelf. DHEA is marketed to the older, aging population to make up for natural decline. Andro is marketed toward the younger, more athletic population."¹⁴⁴ After receiving negative reactions from the other Representatives on the House Energy and Commerce Subcommittee, Rep. Waxman proposed to

139. *Hormone Replacement Therapy: Hearing Before the Subcomm. on Human Rights and Wellness of the House Comm. on Government Reform*, 108th Cong. (2004) (statement of Adriane Fugh-Berman, M.D., Associate Professor, Department of Physiology and Biophysics, Georgetown Medical Center).

140. Chelsea Phillips, Dehydroepiandrosterone: By Any Other Name Would Be Just as Confusing (2002), <http://serendip.brynmawr.edu/biology/b103/f02/web2/cphillips.html> (last visited July 9, 2005).

141. *Id.*

142. In an April 27, 2004 Committee on Energy and Commerce report, Congressmen Waxman and Dingell stated, "[W]e are very concerned that [the Act] explicitly exempts a specific steroid precursor, DHEA. The effect of this exemption is to prevent the Drug Enforcement Agency (DEA) from taking action against DHEA as an anabolic steroid, no matter what evidence accumulates about its risks By specifically exempting DHEA we are sending a signal to the American public that DHEA is safe. This would be the wrong message. Once this legislation becomes law, we could see an increase in DHEA use, including among younger athletes, as the other products become less accessible." H.R. REP. NO. 108-461, pt. 2 (2004). Rep. Davis of California said, "I am concerned about what is not in this legislation, namely, the steroid hormone DHEA. Like my colleagues in the Committee on Energy and Commerce, I am disappointed to see DHEA exempted from H.R. 3866." 150 CONG. REC. H3663 (daily ed. June 2, 2004). Senator Hatch addressed concerns of non-regulation of DHEA by stating, "[T]he legislation does provide that, if the Drug Enforcement Administration should find that DHEA is being abused by athletes, by youngsters, or by teenagers, DEA can schedule it as a controlled substance." 150 CONG. REC. S10,608 (daily ed. Oct. 6, 2004).

143. Susan Heavey, *U.S. Congress Seeks to Control Steroid Precursors*, FORBES.COM, Apr. 22, 2004, at <http://www.forbes.com/reuters/newswire/2004/04/22/rtr1343486.html> (last visited July 9, 2005).

144. Dick Patrick, *Recent Steroid Furor Prompts Two Senators to Propose Crackdown*, USA TODAY, Oct. 27, 2003, at 12C.

limit the amount of time DHEA was restricted.¹⁴⁵ The time limit also was rejected.¹⁴⁶

In preparation for the House Energy and Commerce Committee's vote on passing the Act, the Minority members issued the following statement:

While we generally support the Anabolic Steroid Act, we are very concerned that it explicitly exempts a specific steroid precursor, DHEA. The effect of this exemption is to prevent the Drug Enforcement Agency (DEA) from taking action against DHEA as an anabolic steroid, no matter what evidence accumulates about its risks.

The purpose of this legislation is to make it easier for DEA to restrict access to anabolic steroids, like Androstendione (Andro), that boost testosterone and estrogen levels in the body. This is important because these products can have serious health risks, including potentially toxic effects on the liver and cardiovascular system, damage to fertility, and psychiatric side-effects, according to the American Medical Association. Because of their effects on hormone levels, anabolic steroids can be particularly damaging to growing children and adolescents. These products are widely marketed as performance enhancers and are increasingly used, especially by young people.

However, this act specifically excludes DHEA, another steroid hormone that is sold as a dietary supplement for performance enhancement as well as for rejuvenation. By specifically exempting DHEA we are sending a signal to the American public that DHEA is safe. This would be the wrong message. Once this legislation becomes law, we could see an increase in DHEA use, including among younger athletes, as the other products become less accessible.

DHEA is a hormone precursor. It converts to Andro and then to testosterone and estrogen in the body. The National Institutes of Health has expressed its concern about dangerous side effects and the possibility of undiscovered health risks associated with DHEA. Even the dietary supplement industry itself recognizes the health concerns associated with this product. The Council for Responsible Nutrition (CRN) puts Andro, which this legislation makes a controlled substance, and DHEA in the same category. CRN says that young people "may be more susceptible than adults to adverse effects of steroid hormone precursors such as 'andro' and DHEA." Because of those safety concerns, CRN says that these products are inappropriate for use by athletes younger than 18.

145. Lisa Everitt, *News Beat: Legislation Would Remove Food Pyramid From USDA*, NATURAL FOODS MERCHANDISER, June, 2004, at 9, <http://www.naturalfoodsmerchandiser.com/ASP/1020/Display-Article> (last visited July 9, 2005).

146. *Id.*

According to Gary Wadler, a member of the World Anti-Doping Agency panel and an NYU professor of medicine, medically, “there is no reason to ban andro and not DHEA.” The National Collegiate Athletic Association bans Andro and DHEA. The World Anti-Doping Agency bans Andro and DHEA. Only this legislation bans andro but protects DHEA. This exclusion has no scientific basis, and does not belong in this legislation.¹⁴⁷

Despite concerns about teenagers’ potential abuse of DHEA, the Council for Responsible Nutrition (CRN) supported the Act’s exemption of the precursor.¹⁴⁸

In the Senate, similar discussions about DHEA occurred. As the following selection from an October 2004 floor debate demonstrates, Senator Hatch convinced his colleagues that the DEA had the authority to schedule DHEA as a controlled substance:

Mr. HATCH.

I would also like to clarify, however, that the legislation does provide that, if the Drug Enforcement Administration should find that DHEA is being abused by athletes, by youngsters, or by teenagers, DEA can schedule it as a controlled substance.

....

Mr. KENNEDY.

Could the Senator explain to me how the Drug Enforcement Administration would go about scheduling DHEA?

Mr. HATCH.

Certainly. The legislation clarifies that DEA may schedule DHEA by applying the standards in section 201 of the Controlled Substances Act, including the standard eight factors listed in section 201(c) of that Act.

....

Mr. DURBIN.

Will the Senator please explain whether the Drug Enforcement Administration will need to consider that DHEA meets each of the eight factors in section 201(c) to schedule it?

Mr. HATCH.

147. H.R. REP. NO. 108-461, pt. 2, at 7-8 (2004).

148. Press Release, Trade Ass’ns of the Dietary Supplement Industry (including CRN), Industry Associations Support Biden/Hatch Legislation: Bill Places “Andro” Under Controlled Substances Act (Oct. 24, 2003), <http://www.crnusa.org/shellnr102703.html> (last visited July 9, 2005).

The DEA need not find that DHEA meets each of the eight factors before it can be scheduled. For example, if DEA considers that DHEA has no or minimal psychic or physiological dependence liability, DEA may nonetheless schedule DHEA if DEA concludes, after consideration of the facts and relative importance of other of the factors such as the actual or relative potential for abuse; the history and current pattern of abuse; or the scope, duration, and significance of abuse, that it should be scheduled. Karen P. Tandy, the administrator of the DEA, has written me a letter stating that the presence of each of the eight factors is not a mandatory prerequisite to scheduling.¹⁴⁹

Congressional testimony highlighted the purported benefits of DHEA:

The benefits of taking DHEA include preventing and treating: Alzheimer's, asthma and allergies, bacterial and viral infections, cancer, cardiovascular disease, diabetes, hypertension, high cholesterol, obesity, osteoporosis and immune system diseases including AIDS. I have also found DHEA particularly effective for treating autoimmune disorders such as fibromyalgia, rheumatoid arthritis, lupus, Crohn's, and others.¹⁵⁰

The Act did not include DHEA because of a lack of evidence of harm. However, some might argue that congressmen's ties to the pharmaceutical industry influenced their decision to exempt DHEA.¹⁵¹ Representative Waxman said the exemption of DHEA could have come from "pressure from the dietary supplement industry to protect a highly profitable product."¹⁵² An aide to Senator Biden stated, "There was quite a lobby for DHEA that stalled the House version of the bill introduced in the last Congress" and that, "Dropping it was an important factor in getting the support of the industry."¹⁵³ During discussion of possible exemption, the Coalition to Preserve DSHEA, a lobbying organization, touted the purported benefits of DHEA.¹⁵⁴ Furthermore, the American Association of Retired Persons (AARP), the country's most influential lobby, urged Congress to exempt DHEA from the Anabolic Steroid Act of 2004.¹⁵⁵

149. 150 CONG. REC. S10,608-09 (daily ed. Oct. 6, 2004).

150. *Hormone Replacement Therapy: Hearing Before the Subcomm. on Human Rights and Wellness of the House Comm. on Gov't Reform*, 108th Cong. (2004) (statement of David Brownstein, M.D., Director, Center for Holistic Medicine).

151. Dembner, *supra* note 129.

152. Heavey, *supra* note 143.

153. Dembner, *supra* note 129; see also Marguerite Higgins, *Legal Steroids Targeted on Hill*, WASH. TIMES, Oct. 31, 2003, at C10 (discussing the supplement industry's opposition to scheduling DHEA).

154. Sarah Fritz, *Steroid Bill Would Exempt Popular Product*, CONGRESSDAILY, May 14, 2004.

155. Heavey, *supra* note 143.

2. The Act Should Not Have Exempted DHEA From the Definition of Anabolic Steroids

There is enough evidence of DHEA's potential harm that it should have been scheduled under the Act. In deciding whether to classify a drug as a controlled substance, the United States Attorney General considers the following eight factors:

- (1) Its actual or relative potential for abuse.
- (2) Scientific evidence of its pharmacological effect, if known.
- (3) The state of current scientific knowledge regarding the drug or other substance.
- (4) Its history and current pattern of abuse.
- (5) The scope, duration, and significance of abuse.
- (6) What, if any, risk there is to the public health.
- (7) Its psychic or physiological dependence liability.
- (8) Whether the substance is an immediate precursor of a substance already controlled under this subchapter.¹⁵⁶

Factors one, two, three, and eight support scheduling DHEA. First, although scientists continue to look for a definitive explanation for the effects of DHEA, the health care community seems to agree that DHEA has anabolic properties and can cause a wide range of negative health consequences. Although there is not yet a consensus on all of DHEA's properties, there is enough information about how it functions in the body,¹⁵⁷ and thus in considering the third factor the Attorney General should acknowledge the considerable amount of scientific understanding of the prohormone.

Additionally, although the scientific community has not yet come to consensus on DHEA's potential harm, there is much evidence that it causes a wide range of physiological damage.¹⁵⁸ There is no reason to believe that the DHEA studies that have been conducted should not be taken seriously, and thus factor two supports scheduling DHEA.

Furthermore, scientific studies of and the criminalization of well-known steroid precursors demonstrate DHEA's "actual or relative potential for abuse."¹⁵⁹ Tests show the variety of harmful effects of the prohormone.¹⁶⁰ By explicitly exempting DHEA, Congress sends a message to the public that DHEA is different from precursors like andro and therefore safe.¹⁶¹ Now that andro and other

156. 21 U.S.C.S. § 811(c) (Law. Co-op. 2002).

157. *See supra* Part VI.B.1.

158. *See supra* notes 137–41 and accompanying text.

159. 21 U.S.C.S. § 811(c)(1) (Law. Co-op. 2002).

160. *See supra* notes 138-41 and accompanying text.

161. H.R. REP. NO. 108-461, pt. 2, at 7 (2004).

precursors are classified as controlled substances, there is a significant possibility that Americans, including teenagers, will begin using DHEA for its anabolic properties. With athletes' use of steroids in the news daily, and without any indication of a diminished desire for muscle, DHEA will provide the public with a new way to achieve its fantasies. An explicit exemption from regulation opens the floodgates for the potential for abuse. Factor one supports the classification of DHEA as a controlled substance; therefore the Justice Department should consider whether to make DHEA a controlled substance.

The eighth factor also supports DHEA's inclusion as a dangerous prohormone. The structural differences between DHEA and andro are minimal, and after ingestion DHEA converts into testosterone.¹⁶²

However, DHEA has not been a successful product long enough to determine the weight the government should allot to factors four, five, six, and seven. Although DHEA was first manufactured in the early 1980's, consumers have not known about it until the last few years. Therefore, DHEA is too new a product to have a "history and current pattern of abuse," a "significance" or "duration" of abuse, or "psychic or physiological dependency." The DEA should not wait until use becomes widespread to criminalize the possession and distribution of DHEA. The government should act now to prevent a public health risk, before the public replaces precursors like andro with DHEA. Because the government can decide which factors on which to place the most emphasis when deciding which substances to schedule, the Attorney General and the DEA should use its authority to schedule DHEA as a controlled drug.¹⁶³

Although the American public can never know the definitive reasons for the Act's final language, it appears that political compromise produced the exemption of DHEA. Senator Hatch, for example, received \$41,750 in donations from the nutritional supplement industry during his 2000 reelection campaign.¹⁶⁴ Senator Hatch and other sponsors of the Act must have realized that a complete criminalization of steroid precursors would not garner political backing and instead would alienate major supporters. DHEA's value to the elderly community resulted in heavy lobbying. Lack of evidence that people were using DHEA for its anabolic properties must have allowed the proponents of its scheduling to relent.

Strangely, the bill passed with almost unanimous support from anti-doping advocates.¹⁶⁵ Is this bill enough? The United States Olympic Committee (USOC)'s, National Collegiate Athletic Association (NCAA)'s, and World Anti-

162. Marnell Jameson, *Natural Balance: Depression, Insomnia, Fatigue, Weight Gain, Acne – Many Women Can Chalk These Symptoms Up to Hormone Imbalance. If You're One of Them, Try This 8-Point Plan to Restore Hormonal Harmony*, NATURAL HEALTH, May 1, 2005, at 62; see also *supra* notes 125-36 and accompanying text.

163. 150 CONG. REC. S10,608-09 (daily ed. Oct. 6, 2004) (statement of Sen. Hatch).

164. Dembner, *supra* note 129.

165. 150 CONG. REC. H3663 (daily ed. Jun. 2, 2004) (statement of Rep. John Sweeney).

Doping Agency (WADA)'s ban on DHEA indicates that this substance poses a problem. Although these organizations' focus is to promote fair competition in sport, they all recognize that prolonged use of such steroid precursors can lead to serious physical damage.

Some argue that this type of sweeping legislation will *increase* drug use among teens.¹⁶⁶ For example, one writer maintains:

By forbidding trained physicians from administering steroids in a controlled manner, the Legislature has forced athletes to either buy steroids off the black-market or seek out un-ethical and possibly incompetent physicians to supply them steroids [I]t still appears that Congress' attempt at preventing steroid prescription has at best been futile and at worst harmful.¹⁶⁷

Additionally, any steroid precursor now bought illegally will not be subject to any kind of labeling requirement. Labels inform the user of the ingredients and possible side effects.

Increased use of DHEA will follow the criminalization of the possession and sale of andro and THG, and particularly the exemption of DHEA. Nutritional supplement stores will see a higher demand for the steroid precursor.¹⁶⁸ Although DHEA purportedly is most commonly used by senior citizens, it will supplant andro and THG as the steroid precursor of choice of the body-building community and those who want to improve their physical appearance.

Although DHEA is closer in structure to cholesterol than andro and THG and scientists have not yet determined its long-term vascular effects,¹⁶⁹ there is sufficient evidence of harm to support an amendment to the Anabolic Steroid Control Act of 2004 that would criminalize the distribution and possession of this substance. Although there are purported benefits of DHEA, there are substances with less severe side effects that can provide the same. Furthermore, the potential for serious physiological and psychological harm outweigh any possible benefits. Congress should criminalize possession and distribution of DHEA.

166. Richard D. Collins, *The Anabolic Steroid Control Act: The Wrong Prescription?*, 9 N.Y. ST. B.A. CRIM. JUST. J. 2 (2001), <http://www.mesomorphosis.com/articles/collins/wrong-prescription.htm> (last visited July 9, 2005).

167. Jeffrey A. Black, Comment, *The Anabolic Steroids Control Act of 1990: A Need for Change*, 97 DICK. L. REV. 131, 140 (1992).

168. Ryan Deluca, CEO of bodybuilding.com, stated, "We expect DHEA to become more popular after the ban." E-mail from Ryan Deluca to author (Jan. 6, 2005, 19:00 EST) (on file with author).

169. Ng et al., *supra* note 133.

VII. IT WAS NECESSARY FOR CONGRESS TO CRIMINALIZE THE POSSESSION AND DISTRIBUTION OF STEROID PRECURSORS

A minority of the health care community believes that the danger posed by steroids and steroid precursors has been exaggerated due to lack of hard evidence of the danger posed by steroid precursors. According to attorney Richard D. Collins, a leader of the community advocating federal anti-steroid legislation, there has been no medical evidence that suggests that steroid precursors are addictive or create chemical or physiological dependencies.¹⁷⁰ Surprisingly, steroid precursors have not been associated with any deaths.¹⁷¹

In addition to lack of evidence of the danger of steroid precursors, physicians will no longer be able to regulate their use.¹⁷² Furthermore, the AIDS community has opposed banning steroid precursors¹⁷³ because AIDS patients often suffer muscle atrophy and anabolic steroids help build back their wasted bodies.

However, it seems that the similarity in chemical structure between steroids and their precursors would result in comparable psychological dependencies. Although the argument of the pro-supplement community that no deaths have been attributed to steroid precursors is legitimate, potential for precursor abuse and harm,¹⁷⁴ especially to adolescents, justifies the Act and even more comprehensive legislation.

Others opposed to the legislation (and in favor of DHEA's exemption) argue that all the existing tools for regulation of steroid precursors were already in place. The FDA is charged with the mission of requiring food and drug products to comply with an appropriate level of safety, prohibiting dangerous substances from reaching the general public. Nutritional supplement advocates argue that if steroid precursors were truly dangerous, the FDA could have removed them from the market.¹⁷⁵ Through its testing and fact-finding processes, it is this regulatory body that can make the most valid and knowledgeable decision about the real threat that steroid precursors pose to health. By bypassing the FDA and making the possession and distribution of steroid precursors criminal, Congress has

170. Telephone Interview with Richard D. Collins, *supra* note 4.

171. *Id.*

172. *Id.*

173. *Id.* The National Institutes of Health is researching DHEA as a viable therapy for HIV/AIDS. Heavey, *supra* note 143.

174. In February 2005, the WADA discovered another designer steroid, dehydrochloromethyltestosterone (DMT). Duncan Mackay, *Scientists Find New Designer Steroid*, THE GUARDIAN, Feb. 2, 2005, at 31. The sample examined contained flammable substances that would have damaged the liver. *Id.* WADA announced in April that it was close to discovering yet another synthetic precursor. Duncan Mackay, *Drugs in Sport: Fears Over New Designer Steroid*, THE GUARDIAN, Apr. 22, 2005, at 33.

175. Telephone Interview with Richard D. Collins, *supra* note 4.

forfeited rigorous investigation about their addictiveness or ability to cause dependency.¹⁷⁶ It has simply equated the substances to narcotics.¹⁷⁷

An example of a substance prohibited under DSHEA is ephedra. Although ephedra was a popular weight-loss product, during a two-year span several people taking ephedra suddenly died due to heart failure. These deaths sent shockwaves throughout nation and especially the Baltimore region, as Oriole Pitcher Steve Bechler died from using the substance. Groups and organizations believing ephedra was a dangerous product that could lead to heart failure presented evidence of its dangers – as did the supplement industry, which presented evidence indicating that the supplement was a harmless weight-loss product.¹⁷⁸ After weighing the evidence, the FDA concluded that ephedra posed enough of a threat that it should be prohibited. Rather than passing new legislation, ephedra was banned successfully through the regulatory process.

However, the argument that FDA rather than Congress should have regulated steroid precursors is problematic. Under DSHEA, it is much more difficult for the Administration to make a determination that a substance poses a great enough threat to the health and safety of the general public.¹⁷⁹ DSHEA requires a heavy fact-finding process, which could take years.¹⁸⁰ If the FDA were to regulate steroid precursors, dangerous substances would remain on the market during this lengthy process.

Although the potential harm of steroid precursors is not yet fully determined, the Act exemplified the benefits of using legislation rather than agency regulation to criminalize the possession and distribution of dangerous substances. Responding to the scandals of 2003-2004, Congress acted quickly, just as it did in 1990. Furthermore, the Act's criminalization of the distribution and possession of certain steroid precursors provides a benefit that FDA regulation could not. The Act renewed the criminal penalties established in ASCA:

The United States Sentencing Commission shall–

(1) review the Federal sentencing guidelines with respect to offenses involving anabolic steroids;

(2) consider amending the Federal sentencing guidelines to provide for increased penalties with respect to offenses involving anabolic steroids in a manner that reflects the seriousness of such offenses and the need to deter anabolic steroid trafficking and use; and

176. *Id.*

177. *Id.*

178. *Id.*

179. See *supra* notes 91-93 and accompanying text (outlining the requirements for a ban under DSHEA).

180. *Id.*

(3) take such other action that the Commission considers necessary to carry out this section.¹⁸¹

Such criminal penalties serve as a necessary deterrent to the distribution or possession of steroid precursors. The illegal steroid market is a \$400 million per year industry.¹⁸² With laboratories such as BALCO catering to multi-millionaires, the incentives and rewards for violating the law are high. Therefore, it was appropriate for Congress to pass legislation that criminalized the distribution and possession of certain steroid precursors.

Nutritional supplement advocates have also argued that amending ASCA was not necessary because of existing state anti-drug laws that criminalize the distribution and possession of steroids and steroid precursors.¹⁸³ However, states do not have the resources to deal with newly developing substances and their increasing distribution and use. States also cannot fund the massive anti-drug programs that the federal government promotes. Although states can prosecute the trafficking of traditional steroids, they are not equipped to deal with the emerging market of high-tech synthetic products.

VIII. ALTHOUGH THE ANABOLIC STEROID CONTROL ACT OF 2004 IS A GOOD START, CONGRESS NEEDS TO DO MORE TO CURB THE INCREASING USE OF STEROID PRECURSORS.

It is too early to determine just how successful Congress will be in its attempt to deter people from using these substances. Nonetheless, the Act's criminalization of possessing and distributing certain dangerous substances, and its allocation of generous funding for preventative educational programs, is a good start.

Before the recent BALCO scandal and investigation, the government had lagged behind WADA, USADA, and the NCAA in banning drugs similar to THG.¹⁸⁴ However, once disturbing reports in newspapers, television, radio, and the Internet emerged, the Bush Administration aggressively pursued legislation against steroids and turned it into an issue of national importance.

The resurgence of publicity of the BALCO investigation and lawsuit in the fall of 2004 has led Congress's main proponents of federal anti-steroid legislation

181. Anabolic Steroid Control Act of 2004, Pub. L. No. 108-358, § 3, 118 Stat. 1661, 1664 (2004) (codified as amended at 28 U.S.C.A. § 994 nt. (West Supp. 2004).

182. CHARLES E. YESALIS & VIRGINIA S. COWART, *THE STEROIDS GAME* 108 (1998).

183. For example, Virginia's Substance Abuse Reduction Effort (SABRE), is a program designed to strengthen drug enforcement, treatment, and prevention programs. NAT'L DRUG INTELLIGENCE CTR., DOJ, VIRGINIA DRUG THREAT ASSESSMENT (Mar., 2002), <http://www.usdoj.gov/ndic/pubs07/797/overview.htm> (last visited July 9, 2005).

184. The NBA prohibited its players from using andro as early as March of 2000. Selig & Manfred, *supra* note 99, at 51 (citing *NBA Adds Androstenedione, Seven Other Drugs To Banned List*, ASSOC. PRESS WORLDSTREAM SERV., Mar. 30, 2000).

to push for even more federal legislation.¹⁸⁵ Senator McCain believes that inaction or failure by private parties to address increased steroid use warrants legislative measures.¹⁸⁶

It would be unreasonable for the media to stop coverage of steroid abuse; the public has a right to know the truth, and it is important for the public to receive information about existing substances that pose threats to their physiological and psychological well-being. And, without the spotlight on scandals like Ben Johnson and BALCO, almost surely there would not have been an inkling of desire in Congress to pass any kind of anti-steroid legislation.

The use of performance enhancing drugs is not limited to the locker rooms of professional athletes; its presence in mainstream society is increasing. Although athletes use the expensive designer steroid precursors, a significant proportion of the population using steroids does so for non-athletic purposes.¹⁸⁷ As demand rises, so will supply.

The recent legislation helps to prevent steroid precursors from reaching the market. By adding sixty substances to the definition of anabolic steroids and thereby criminalizing the possession and distribution of these steroid precursors, Congress has addressed the need to stop the flow of these harmful drugs. Furthermore, by allocating millions of dollars to preventative educational programs, adolescents will learn of the serious health risks associated with the use of steroid precursors.

Although scientific studies of DHEA are not yet conclusive, the concerns raised by Representative Waxman are valid enough for Congress to proceed with caution. In addition to its potential biological harms, DHEA is uniquely dangerous because not only will professional athletes use it, but it will be used increasingly by the elderly. The exposure of DHEA thus probably will exceed that of other high profile steroid precursors like andro. By excluding DHEA from the new law, we will be faced with an explosion of demand for DHEA, which might potentially

185. After the *San Francisco Chronicle* published BALCO grand jury testimony of baseball stars Giambi and Bonds in November 2004, Senator McCain threatened to pass legislation requiring mandatory drug testing for Major League Baseball players. Erin Hallissy, *Lawmakers Enter Fray on Drug Use in Baseball McCain Says Bush Would Back Threat to Toughen Testing*, SAN FRAN. CHRON., Dec. 6, 2004, at A1, <http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2004/12/06/MNGNIA76HR1.DTL> (last visited July 9, 2005). House Minority Leader Nancy Pelosi said that Major League Baseball has "a responsibility, not only to the sport, but to the children of America who look up to these players." *Id.*

186. "Your failure to commit to addressing this issue straight on and immediately will motivate this committee to search for legislative remedies." *More Drug Tests for Baseball?*, CBSNEWS.com, Mar. 10, 2004 (Statement by Sen. McCain in a Commerce Committee hearing), <http://www.cbsnews.com/stories/2003/12/04/national/main586739.shtml> (last visited July 9, 2005).

187. Telephone interview with Richard D. Collins, *supra* note 4. Mr. Collins estimates that two thirds of Americans who use steroids do so for cosmetic reasons. *Id.*

supplant andro as the most popular steroid precursor. There was no legitimate health reason for DHEA's exemption.

If DHEA's popularity continues to rise, the Act's flawed exemption of the wonder drug may prove fatal. The government must not sacrifice comprehensive legislation in favor of appeasing special interest groups. Although the holes in the current law may be small, as time passes, they will widen.

Although possession and distribution of most of the known steroid precursors has been criminalized, the effectiveness of the Anabolic Steroid Control Act of 2004 in stopping the flow of these harmful substances is unclear.¹⁸⁸ ADA's ignorance of THG until given a sample by an anonymous person wanting revenge on its manufacturer is alarming. There are probably other laboratories producing similar substances that the federal government does not know exist.¹⁸⁹ It could be difficult to prevent the flow of these unknown substances and enforcement of the Act.¹⁹⁰ In the weeks leading up to the enforcement of the Act on January 20, 2005, demand for andro at nutritional stores skyrocketed.¹⁹¹ Furthermore, criminalization of steroid precursors could shift the source of the drugs trafficked in the illegal market to Europe.¹⁹²

Although the renewal of criminal penalties for the distribution and possession of certain steroid precursors is desirable,¹⁹³ the Act should have increased the penalties for distributing such substances. The Act does not specify any fines or sentences, let alone any kind of increased fines or sentences. Although the steroid market was lucrative at the passage of ASCA, it has grown

188. Although the Act schedules the steroid boldenone, it leaves boldione, one of its precursors, a legal substance. 21 U.S.C. 802, l(a)(vi) (2000).

189. In response to the discovery of THG, Dr. Caroline Hatton, a chemist at UCLA's Olympic Laboratory said, "This might be the tip of the iceberg We're a little afraid of what we don't know and may never learn." Kristina Nwazota, *New Designer Steroid Detected Among Top Athletes*, NEWSHOUR EXTRA, Nov. 5, 2003, at http://www.pbs.org/newshour/extra/features/july-dec03/steroid_11_05_printout.html (last visited July 9, 2005). Michael DiMaggio, United Supplement Freedom Association Executive Director, believes that new compounds will emerge but that "only time will tell if they will live up to the hype." Iwata, *supra* note 78.

190. Henry T. Greely, *Disabilities, Enhancements, and the Meanings of Sports*, 15 STAN. LAW & POL'Y REV. 99, 130 (2004) (noting the obstacles to enforcement of federal law posed by the creation of THG).

191. Iwata, *supra* note 78. Although bodybuilding.com, which sells prohormones over the Internet, did not run out of supply, it still received overwhelming demand for many of its products in the weeks leading up to the implementation of the Act. Telephone Interview with Leah Elizabeth Sailors, Customer Service Representative, bodybuilding.com, (July 6, 2005). "Sales are still going crazy as the ban gets closer." E-mail from Ryan DeLuca, CEO of bodybuilding.com, to author (Jan. 6, 2005, 19:00 EST) (on file with JHCLP).

192. Telephone Interview with Richard D. Collins, *supra* note 4. For example, steroid users frequently purchase stanazolol, the drug for which Ben Johnson tested positive, as the Spanish-made Zambon. AJC's Anabolic Reference, Most Popular, at www.elitefitness.com/members/profiles/most-popular.html (last visited July 9, 2005).

193. See *supra* note 179 and accompanying text.

substantially.¹⁹⁴ Even the number of people using steroids since 1990 has risen.¹⁹⁵ With more money being exchanged, and more harm occurring, Congress should have increased the penalties for distribution. Instead, it used the same sentencing language as ASCA's. To respond to a more potent problem, the Act should have provided specific and higher criminal penalties.

Moreover, the Act was flawed because it did not account for the increase in adolescent use of steroids and steroid precursors. During the 1990's, teenagers used steroids more than ever before.¹⁹⁶ Despite the development of sophisticated and high-tech laboratories that target wealthy clientele, steroid precursors find their way into the hands of teenagers. Rather than responding to increased adolescent use by including an increased penalty for distributing steroid precursors to teenagers, the Act does not mention teens at all with regard to sentencing. The Act's only reference to teenagers is the section allocating funding for National Institute on Drug Abuse programs¹⁹⁷ and does nothing to marginally deter distributors from seeking out adolescents. The Act should have recognized the

194. *See supra* note 36-45 and accompanying text.

195. *See supra* notes 36-45 and accompanying text.

196. *See supra* notes 36-45 and accompanying text.

197. Anabolic Steroid Control Act of 2004, Pub. L. No. 108-358, § 4, 118 Stat. 1661, 1664 (2004) (codified at 42 U.S.C.A. § 290bb-25f (West Supp. 2004).

(a) IN GENERAL.—The Secretary of Health and Human Services (referred to in this Act as the “Secretary”) shall award grants to public and nonprofit private entities to enable such entities to carry out science-based education programs in elementary and secondary schools to highlight the harmful effects of anabolic steroids.

(b) ELIGIBILITY.—

(1) APPLICATION.—To be eligible for grants under subsection (a), an entity shall prepare and submit to the Secretary an application at such time, in such manner, and containing such information as the Secretary may require.

(2) PREFERENCE.—In awarding grants under subsection (a), the Secretary shall give preference to applicants that intend to use grant funds to carry out programs based on—

(A) the Athletes Training and Learning to Avoid Steroids program;

(B) The Athletes Targeting Healthy Exercise and Nutrition Alternatives program; and

(C) other programs determined to be effective by the National Institute on Drug Abuse.

(c) USE OF FUNDS.—Amounts received under a grant under subsection (a) shall be used for education programs that will directly communicate with teachers, principals, coaches, as well as elementary and secondary school children concerning the harmful effects of anabolic steroids.

(d) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section, \$15,000,000 for each of fiscal years 2005 through 2010.

necessity of doing so, in a changing environment in which new drugs are appearing, and have mandated increased penalties for targeting teenagers.

IX. CONCLUSION

The Anabolic Steroid Control Act of 2004 appropriately criminalized the distribution and possession of steroid precursors like andro and THG. These substances will most likely have the same harmful effects on the body as traditional anabolic steroids. Although the passage of the Act signaled Congress's willingness to address new dangerous substances, the Act should have been more comprehensive. The Act's success in stopping the use of steroid precursors depends upon the federal government's willingness to prosecute violators. Future legislation must be able to cover synthetic steroid precursors that do not yet exist. If substances like DHEA are not included under the CSA, we could see a high increase in teen use. Through amending the Act to include DHEA as an anabolic steroid and any newly created precursors, the government may truly fulfill its stated goal of protecting citizens from dangerous substances.