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Standard-Setting by Non-Governmental Agencies in the Field of Sports Safety Equipment: Promoting the Interests of Consumers or Manufacturers?

INTRODUCTION

GROWING PUBLIC CONCERN OVER SPORTS CONCUSSIONS' health consequences has spawned a burgeoning safety-equipment industry.¹ In recent years, innovators have developed "intelligent" chinstraps and mouth guards, high-tech helmets, "neuro-protective" sports drinks, and head impact sensors.² Unfortunately, the government has not actively regulated many of these products.³ Instead, non-governmental organizations ("NGOs"), such as the National Operating Committee on Standards for Athletic Equipment ("NOCSAE"), set performance safety standards with which manufacturers of football helmets and other sports safety equipment voluntarily

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1. Bob Hohler, *Conflicts Arise in Sports-Related Concussions Fight*, BOS. GLOBE, Aug. 10, 2014, available at <http://www.bostonglobe.com/sports/2014/08/10/concerns-arise-over-group-certifying-head-impact-sensors/gh5mJDYV8jCS8Ik7DiF6kN/story.html> ("[M]ounting concern over head injuries has spawned a financial boom in the concussion-prevention industry.").

2. Julie Deardorff, *FTC Cracks Down on Anti-Concussion Claims*, CHI. TRIB. (Sept. 6, 2012), http://articles.chicagotribune.com/2012-09-06/health/ct-met-mouthguard-concussions-20120906_1_ftc-cracks-brain-pad-brain-protection; see, e.g., *The Technology*, BATTLE SPORTS SCI., <http://www.battlesportsscience.com/products/impact-indicator/the-technology/> (last visited Oct. 11, 2014).

3. The Consumer Product Safety Commission ("CPSC") sets bicycle helmet minimum performance standards, but not football helmet standards. See 15 U.S.C. §§ 2056, 2058, 6001–6006 (2012); 16 C.F.R. § 1203 (2014). The Youth Sports Concussion Act, S. 1014, 113th Cong. (2013) would have authorized the CPSC to make recommendations to manufacturers and promulgate new consumer rules for protective equipment based on research findings. See Press Release, Senator Tom Udall, Udall, Rockefeller Introduce Bill to Help Protect Young Athletes from Sports-Related Traumatic Brain Injuries (May 22, 2013), http://www.tomudall.senate.gov/?p=press_release&id=1305.

certify compliance.⁴ However, decisions made by these NGOs must be thoroughly reviewed since manufacturers pay licensing fees, which provide organizations like NOCSAE with nearly all of their funding.⁵

In July 2013, NOCSAE published a press release on its website stating that football helmets equipped with add-on products that were not originally affixed to the helmet during lab testing “void[] . . . [helmet manufacturers’] certification of compliance with the NOCSAE standard.”⁶ It is not known what triggered NOCSAE to issue its statement, or whether it was requested by a helmet manufacturer.⁷ In any event, NOCSAE provided no warning to stakeholders, and afforded the public no opportunity to comment, as would have occurred if a government agency had proposed such a rule.⁸ Nor, apparently, did it invite add-on manufacturers to submit test data to show that their products, when added to helmets, still met its helmet standards. Instead, NOCSAE announced that its Board of Directors had decided—to protect the integrity of its existing standards—that “[t]he addition of after-market items by anyone that changes or alters the protective system by adding or

4. FAQs, NAT’L OPERATING COMM. ON STANDARDS FOR ATHLETIC EQUIP., <http://nocsa.org/about-nocsa/faqs/> (last visited Oct. 2, 2014). Another NGO that sets sports-safety equipment standards is ASTM International. See, e.g., *Committee F08 on Sports Equipment, Playing Surfaces, and Facilities*, ASTM INT’L, <http://www.astm.org/COMMIT/SUBCOMMIT/F08.htm> (last visited Oct. 2, 2014).

5. See *NOCSAE Overview*, NAT’L OPERATING COMM. ON STANDARDS FOR ATHLETIC EQUIP. (June 2014), <http://nocsa.org/wp-content/uploads/2011/10/NOCSAE-Overview-Updated-June-2014-FINAL.pdf> [hereinafter *NOCSAE Overview*] (“NOCSAE is . . . funded primarily through licensing fees it charges to equipment manufacturers that want to certify or recertify equipment to the NOCSAE standards.”); see also Bob Hohler, *The Concussion Doctor’s Tangled Interest*, BOS. GLOBE (Dec. 29, 2013), <http://www.bostonglobe.com/sports/2013/12/29/america-concussion-doctor-navigates-tangled-web-connections/SKKOnbhJvw0kx1VEnk1ZNP/story.html> (explaining that NOCSAE receives “nearly 100 percent of [their] money” from helmet manufacturers).

6. Statement, Nat’l Operating Comm. on Standards for Athletic Equip., *NOCSAE Statement on Third Party Helmet Add-on Products and Certification* (July 16, 2013), <http://nocsa.org/wp-content/uploads/2013/07/T hird-party-add-on-statement-with-letterhead.pdf> [hereinafter *NOCSAE July 2013 Statement*].

7. A request from a helmet manufacturer would not be without precedent. See Lorraine Mirabella, *Lacrosse Brand STX Flagged Competitor Flaws, Launches new Helmet*, BALTIMORE SUN (Dec. 9, 2014, 11:29 AM), <http://www.baltimoresun.com/business/bs-bz-stx-lacrosse-helmet-controversy-20141208-story.html#page=1> (“Just days after lacrosse brand STX unveiled its first helmets for the fast-growing sport, the helmets of two bigger rivals in the category were deemed unsafe. The turn of events for STX wasn’t a fluke. The Baltimore company tipped off the organization that sets safety standards for the equipment. STX, maker of lacrosse sticks and other equipment, was testing its Stallion helmet last summer when it found that two competitors’ models failed to meet performance standards. The response has been swift. The National Operating Committee on Standards for Athletic Equipment voided certifications for those helmets last month . . . NOCSAE, which posted responses to questions on its website, said it based its decision on its own independent investigation, but said that was prompted by the third-party laboratory test results obtained by Schutt and STX.”); *NOCSAE Decision to Void Certification of Warrior Regulator and Cascade R Lacrosse Helmets: Frequently Asked Questions*, NAT’L OPERATING COMM. ON STANDARDS FOR ATHLETIC EQUIP (Dec. 2014), <http://nocsa.org/wp-content/uploads/2014/12/Lax-QA-12-8-2014-Copy.pdf> [hereinafter *NOCSAE Lacrosse Helmet FAQs*] (“NOCSAE’s decision to void certification of [two lacrosse helmet] models was based solely on data developed from its own independent investigation and included confidential data that was not available to any competitor . . . [but t]he decision to begin an investigation into these two models was prompted by third-party laboratory test results obtained by Schutt/STX and sent simultaneously to NOCSAE and the national governing bodies. . .”).

8. See 5 U.S.C. § 553 (2012) (requiring government agencies to publish proposed rules in the Federal Register and allow interested persons an opportunity to comment).

deleting protective padding . . . or which changes or alters the geometry of the shell or adds mass to the helmet . . . voids the certification of compliance with the NOCSAE standard.”⁹ NOCSAE’s July statement appears to have prompted some teams, coaches, and at least one state high school athletic association (Colorado) to bar use of some third-party add-on products.¹⁰

On August 7, 2013, amid growing inquiries from coaches, parents, and school boards about how third-party helmet add-ons affected helmet certification,¹¹ NOCSAE clarified its July 2013 statement (hereinafter “Add-On Statement”).¹² Instead of deciding that an addition to a helmet automatically rendered the manufacturers’ certification void, NOCSAE said it would now leave it up to the helmet manufacturers themselves to decide whether a particular third-party add-on affixed to the helmet, such as an impact sensor, voided its own certification.¹³ NOCSAE also said that helmet manufacturers could decide to engage in additional certification testing of the new model and certify the new model with the add-on product, but was not required to do so.¹⁴ Finally, NOCSAE said it would allow manufacturers of add-on products for football helmets to make their own certification of compliance with its standard, as long as the certification testing was done according to NOCSAE standards and the add-on manufacturer assumed responsibility (in other words, potential legal liability) for the helmet/add-on combination.¹⁵ It also exempted from coverage products such as skull caps (i.e. MC10/Reebok’s Checklight), headbands, mouth guards, ear inserts, and other items that are not attached or incorporated in some way into the helmet.¹⁶

Three weeks after NOCSAE issued the Add-On Statement, and after it had previously introduced its own football helmet with a built-in impact sensor,¹⁷ one hel-

9. See NOCSAE July 2013 Statement, *supra* note 6.

10. See Lindsey Sablan, *Colorado High Schools Banned from Using Football Helmets Cover That Claims to Reduce Concussion Risk*, 7NEWS DENVER (Aug. 26, 2013, 6:30 PM), <http://www.thedenverchannel.com/news/local-news/high-schools-banned-from-using-football-helmet-cover-that-claims-to-reduce-risk-of-concussions>; see also John Sadler, *Add-on Helmet Products: Should they be Permitted in Youth Football Leagues?*, SADLER SPORTS & RECREATION INSURANCE, <http://www.sadlersports.com/blog/youth-football-leagues-add-helmet-products/> (last visited Dec. 21, 2014) [hereinafter Sadler Blog] (noting that the July 16 NOCSAE press release “likely prompted the Colorado High School Activities Association (CHSAA) to prohibit the use of add-on products during games.”).

11. See Report: *FTC Investigating NOCSAE’s Football Helmet Certification Process*, NAT’L SPORTING GOODS ASS’N, http://www.sportsonesource.com/news/article_home.asp?Prod=3§ion=8&id=52737 (last visited Oct. 16, 2014) [hereinafter Report: FTC Investigation].

12. Statement, Nat’l Operating Comm. on Standards for Athletic Equip., Certification to NOCSAE Standards and Add-on Helmet Products (Aug. 7, 2013), <http://nocsa.org/wp-content/uploads/2013/08/NOCSAE-Add-on-Fact-Statement-8-7.pdf> [hereinafter NOCSAE Add-On Statement].

13. *Id.*

14. *Id.*

15. *Id.*

16. *Id.*

17. See, Katie Linendoll, *Riddell Unveils new Wireless Helmet Tech*, ESPN.COM (Jan. 8, 2013, 11:00 AM), http://espn.go.com/blog/playbook/tech/post/_id/3595/riddell-unveils-new-wireless-helmet-tech.

met company original equipment manufacturer (“OEM”), Riddell, issued a blanket statement that modifying any of its helmets or face masks in any way would be viewed by Riddell as voiding its certification of compliance with NOCSAE standards.¹⁸ The company’s statement went on to recommend against the use of any third party aftermarket accessories altering the fit, form or function of Riddell helmets or face masks, not just because such modifications voided its certification, but because, in its view, it “render[ed] the helmet or face mask *illegal* for most organized play.”¹⁹ The other helmet company OEMs, none of which have brought to market helmets equipped with sensors,²⁰ have not followed suit (at least in terms of issuing formal announcements), leaving the status of their helmets equipped with such add-ons in certification limbo.²¹

This Article advances three arguments. First, it maintains that by allowing helmet manufacturers to “veto” the use of third-party safety equipment with their helmets absent re-certification, NOCSAE, in effect, is conferring on them the power to control third-party sensor companies who lack the financial resources necessary to bear the enormous cost of testing helmets with sensors,²² potentially clearing the way for the helmet companies themselves to possibly capture the market for such products.²³ Second, it argues that the NOCSAE Add-On Statement is an unnecessarily restrictive certification standard which, in its current form, prevents even extremely light sensors from being added to helmets without triggering an expensive, helmet-by-helmet re-certification process, or requiring helmet manufacturer approval.²⁴ Third, this Article suggests that NOCSAE’s Add-On Statement struck a

18. *Riddell Response to Address Aftermarket Accessories and NOCSAE Certification*, RIDDELL NEWSROOM (Aug. 28, 2013), <http://news.riddell.com/info/releases/riddell-response-to-address-aftermarket-accessories-and-nocsae-certification> [hereinafter Riddell Response].

19. *Id.* (emphasis added).

20. Schutt announced in 2008 that it was testing a helmet sensor, but never brought it to market, *See* Brett Zarda, *On the Field, Fewer Blows to the Head: A New, Cheap, Helmet Retrofit May be the Key to Averting Concussions*, POPULAR SCI. (Apr. 2, 2008), <http://www.popsoci.com/score/article/2008-04/field-fewer-blows-head>.

21. The authors have been unable to find any evidence that helmet companies, other than Riddell, have taken steps to correct the impression left by the July 2013 NOCSAE statement, or, like Riddell, exercised their right under the NOCSAE update to declare their certifications void. Such silence thus creates a legal risk to any school or club, which allows an add-on device on a helmet in a youth football program, that, in the event of an injury and lawsuit, the helmet manufacturer will take the position that its certification of compliance with the NOCSAE standard was void. *See* Sadler Blog, *supra* note 10.

22. *See* Bob Roble, *Making an Impact on Head Injuries: The Tech Behind Football Helmets*, IQ SPORTS (Nov. 25, 2013), <http://iq.intel.com/making-an-impact-on-head-injuries-the-tech-behind-football-helmets/> (reporting that Glen Beckman, Director of Marketing Communications, Schutt Sports, estimated that, “[w]ith all the different sized helmets needing to be tested at different impact force and angles,” the cost would be at least \$1 million); Report: FTC Investigation, *supra* note 11 (reporting that Guardian Cap representatives estimated that the NOCSAE update would require the company to test 40,000 helmets to meet NOCSAE standards at \$750-\$1,000 per helmet, and that the Co-Founder and CEO of Brain Sentry, which manufactures sensors which are attached to the outside of football helmets, asserted that there was “no practical way for a third-party add-on company to certify their product”).

23. *See infra* Part I.

24. *See infra* Part II.

balance between protecting the integrity of its standards and its “mission to promote safety,” which tipped heavily in favor of protecting the standards.²⁵ Following this discussion, this Article evaluates helmet manufacturers’ response and proposes a path forward.²⁶

I. NOCSAE’S ADD-ON STATEMENT, IN EFFECT, EMPOWERS HELMET MANUFACTURERS TO CONTROL THE THIRD-PARTY ADD-ON MARKET

Although NOCSAE has emphasized that helmet manufacturers adhere to its standards voluntarily,²⁷ some governing bodies have required these standards at all levels of play.²⁸ Unsurprisingly, NOCSAE’s statements have appeared to make schools and youth football programs extremely reluctant, if not entirely unwilling or unable, to allow sensors and other safety equipment to be added to players’ helmets.²⁹

In just the first two weeks after NOCSAE released its July statement, after-market safety equipment manufacturers felt its profound impact. In August 2013, just days after a local newspaper reported that more than a dozen Colorado high-schools had decided to use Guardian Cap, a supplemental padding which goes on the outside of a helmet, the Colorado High School Athletic Association banned the cap from games and strongly encouraged schools not to use it during practices.³⁰

NOCSAE’s statements have continued to adversely affect sensor companies into the 2014 football season. While the Arena Football League equips its helmets with Brain Sentry sensors,³¹ high schools have been extremely reluctant or completely unwilling to follow suit. When Brain Sentry offered sensors to football and lacrosse players at a Virginia high-school, county officials declined.³² They said the sensors lacked sufficient testing and could void the manufacturers’ certification of compli-

25. See *infra* Part III.

26. See *infra* Parts IV–V.

27. See FAQs, *supra* note 4.

28. See Corey McLaughlin, *Update: NOCSAE Voids Certification of Cascade R, Warrior Regulator Helmets*, LACROSSE MAG. (Dec. 5, 2014), http://laxmagazine.com/genrel/112414_nocsae_says_cascade_r_and_warrior_regulator_helmets_dont_meet_standard (“Under NCAA, NFHS (National Federation of State High School Associations) and US Lacrosse rules, helmets are required to meet the NOCSAE standard . . .”).

29. See Bill Bradley, *Guardian Cap Caught in Catch-22 After NOCSAE Statement*, NFL.COM (Aug. 2, 2013, 10:44 PM), <http://www.nfl.com/news/story/0ap100000223873/article/guardian-cap-caught-in-catch22-after-nocsae-statement>. See also Tom Jackman, *Loudoun Valley Football Parents Fight for Helmet Sensors, But Administrators Decline*, WASH. POST (Aug. 7, 2014), http://www.washingtonpost.com/local/loudoun-valley-football-parents-fight-for-helmet-sensors-but-administrators-decline/2014/08/07/7bb32bec-1d8d-11e4-ae540cfe1f974f8a_story.html (referencing a Virginia high school’s decision to decline free helmet sensors because the device could “void th[eir school] helmets’ safety certifications”). In light of Riddell’s announcement in August 2013 that adding sensors to its helmets not only voided its certification with NOCSAE standard but rendered the helmets illegal, such concerns were clearly warranted. See Riddell Response, *supra* note 18.

30. Bradley, *supra* note 29.

31. Press Release, Arena Football League, AFL Becomes First Professional Sports League to Require Helmet Sensors (June 26, 2014), available at <http://www.arenafootball.com/sports/a-footbl/spec-rel/062614aaa.html> [hereinafter Press Release, Arena Football League].

32. See Jackman, *supra* note 29.

ance with NOCSAE's standards.³³ The decision set off a battle with parents, who defied school system orders and affixed sensors to their children's helmets.³⁴ In response, administrators instructed coaches to suspend athletes until they removed the sensors.³⁵

In effect, NOCSAE's decision empowers helmet manufacturers to act as third-party technology gatekeepers. Because amateur sports leagues risk voiding the helmet manufacturer's certification that it complies with NOCSAE standards if they add sensors to the helmets,³⁶ sensor manufacturers are left to choose with three unpalatable choices in order to sell their product to schools and youth football clubs: (1) obtain certification through testing and certification by the helmet manufacturers,³⁷ (2) make their own certification of compliance with the NOCSAE standard,³⁸ or (3) sell their products without any certification. Since NOCSAE requires a separate certification process for each helmet model,³⁹ sensor companies face a Hobson's choice: shoulder the million dollar expense to obtain certification, or forgo that expense and hope to persuade schools and clubs to buy their products without such certification, thereby eliminating any claim against helmet manufacturers in the event that a catastrophic head or neck injury occurs in the program.⁴⁰ Helmet companies have little, if any, reason to cooperate with sensor companies: sensor data might indicate that helmets are unable to properly protect athletes against the forces that cause concussions.⁴¹

Indeed, one sensor-manufacturer's CEO even went so far as to suggest that anti-competitive motives, not technical concerns, may have prompted the Add-On Statement.⁴² One could reasonably infer that NOCSAE's Add-On Statement impos-

33. *Id.*

34. *Id.*

35. *Id.*

36. See NOCSAE Add-On Statement, *supra* note 12 (acknowledging that "the manufacturer which made the original certification has the right, under NOCSAE standards, to declare its certification void" if an item is added to the helmet); Jackman, *supra* note 29 (explaining that high-school officials declined to put sensors on football players' helmets because it could void the helmets NOCSAE certification).

37. See *Certification/Recertification and Alteration*, NAERA, http://www.naera.net/what_cert.html (last visited Oct. 11, 2014) (noting that "the NOCSAE helmet standard is not a warranty, but simply a statement that a particular helmet model met the requirements of performance test when it was manufactured or recertified").

38. NOCSAE Add-On Statement, *supra* note 12.

39. *Id.*

40. According to one sports insurance expert, "major helmet manufacturers likely carry a combined General Liability/Excess Liability insurance limit in the range of \$10M to \$25M[.]" while the add-on product manufacturers likely carry much lower limits of liability insurance due to their "restricted start-up budgets." Sadler Blog, *supra* note 10. As a result, the expert recommends following the helmet manufacturers' position regarding the use of add-on products. *Id.*

41. *But see Schutt Sports to Offer Brain Sentry Impact Sensors on Football Helmets*, PRWEB (Jan. 8, 2015), <http://www.prweb.com/releases/2015/01/prweb12431581.htm> (discussing that Schutt Sports agreed to allow impact sensors on their helmets).

42. See E-mail from Danny Crossman, Chief Executive Officer, Impakt Protective Inc., to Brooke de Lench, Executive Director, MomsTEAM Institute (July 21, 2013, 9:07 PM) (on file with author).

es cumbersome, time-consuming, and expensive certification requirements on third-party manufacturers, which limits sensor companies' ability to compete and discourages competition in a burgeoning industry. Some may say that such a suggestion goes too far. Nevertheless, according to one report, the Add-On Statement has drawn the attention of the Federal Trade Commission ("FTC"), which has asked NOCSAE to produce documents pertaining to the certification process for third-party add-on products.⁴³

Though the FTC would not confirm the investigation, NOCSAE's Executive Director acknowledged that the organization was working with outside counsel to respond to an FTC document request.⁴⁴ Anonymous sources who had been contacted by the FTC told *Sports Executive Weekly* that the probe appeared to focus at least in part on what role certificates of compliance with NOCSAE standards by helmet manufacturers play in determining what equipment football leagues, coaches, athletic directors, and parents purchase, with one anonymous industry source characterizing it "as a restraint of trade investigation focused on whether NOCSAE and football helmet manufacturers have engaged in anti-competitive behavior."⁴⁵ As one scholar said, "[b]ecause standard-setting at its core poses a risk of improper collusion, antitrust law has a long history of application in the context of standard-setting organizations."⁴⁶

Helmet manufacturers deny that NOCSAE has given them the ability to act as gatekeepers to aftermarket technology certification. A Rawlings spokesperson said, "[w]e the manufacturers are not certifying any after-market accessory *carte blanche* If any manufacturer works in partnership with an after-market accessory [company], then they can secure 3rd party NOCSAE approval."⁴⁷ He compared sensors to NFL helmet communication systems: "[e]very year, we have sent the NFL 3rd-party NOCSAE approval with installation instructions so the equipment managers can install the communication systems in Rawlings-specific models correctly."⁴⁸ He suggested Rawlings might consider similar arrangements with other third-party add-on manufacturers.⁴⁹

The fact remains that the licensing fees paid by helmet manufacturers to NOCSAE for the right to display the NOCSAE sticker on their helmets have long provided NOCSAE with most of the funds it needs to operate.⁵⁰ Manufacturers' rep-

43. Report: FTC Investigation, *supra* note 11.

44. *Id.*

45. *Id.*

46. George S. Carey, *Antitrust Implications of Abuse of Standard-Setting*, 15 GEO. MASON L. REV. 1241, 1242 (2008).

47. E-mail from Kurt Hunzeker, Rawlings Sports Goods, to Brooke de Lench, Executive Director, Mom-sTEAM Institute (July 30, 2013, 9:08 AM) (on file with author).

48. E-mail from Kurt Hunzeker, Rawlings Sports Goods, to Brooke de Lench, Executive Director, Mom-sTEAM Institute (July 29, 2013, 6:52 PM) (on file with author).

49. *Id.*

50. See Hohler, *supra* note 5.

representatives serve on NOCSAE's board of directors and control four of its 16 votes.⁵¹ As one NOCSAE critic told the *Boston Globe*, the fact that NOCSAE gets nearly all its funding from the stickers that helmet manufacturers can only put on their helmets if they pay NOCSAE a fee and comply with its standards is "the definition of a conflict of interest If nearly 100 percent of your money comes from the manufacturers, then it's difficult to say you're independent of them."⁵²

NOCSAE has not disclosed the extent of, or even whether, the helmet manufacturers influenced its decision to issue the Add-On Statement. However, the Statement's broad reach raises questions. While NOCSAE says it is open to suggestions on how to improve the certification process for third-party add-on products,⁵³ it has failed in the 16 months since the Add-On Statement was issued to propose any changes to the certification process as it relates to add-on products.

II. NOCSAE'S STATEMENT REGARDING CERTIFICATION OF THIRD-PARTY ADD-ONS IS UNNECESSARILY RESTRICTIVE

Of course, not every competitive restraint rises to the level of an antitrust violation.⁵⁴ At the very least, however, NOCSAE's position seems inadequate. NOCSAE's current standard tests only football helmets' ability to protect athletes from skull fractures, not concussions.⁵⁵ NOCSAE readily acknowledges that its current standard does not test a helmets' ability to mitigate concussion risks.⁵⁶ NOCSAE also says its helmet performance standards are based "on years of scientific research."⁵⁷ Yet, labs under the direction of NOCSAE's Technical Director have tested after-market helmet attachments, including the Brain Sentry Impact Sensor, and have found no adverse effect on helmet performance.⁵⁸ NOCSAE's statement also fails to distin-

51. *Id.*

52. *Id.* (quoting Stefan Duma, head of the Virginia Tech-Wake Forest University School of Biomedical Engineering and Sciences).

53. Report: FTC Investigation, *supra* note 11.

54. See generally Carey, *supra* note 46.

55. NAT'L OPERATING COMM. ON STANDARDS FOR ATHLETIC EQUIP., STANDARD PERFORMANCE SPECIFICATION FOR NEWLY MANUFACTURED FOOTBALL HELMETS (Dec. 2013), available at http://nocsae.org/wp-content/files_mf/1396898424ND00213m13MfrdFBHelmetsStandardPerformance.pdf. In June 2014, NOCSAE's Board of Directors authorized a revision to its football helmet standard which would establish minimum standards for a helmet's ability to attenuate some of the forces—both linear and rotational—that cause sports-related concussions, and open up the proposed standards for public comment until June 2015, at which time, provided there were no revisions, the board is expected to vote to finalize the standard and require implementation by manufacturers by June 2016. Press Release, Nat'l Operating Comm. on Standards for Athletic Equip., NOCSAE Board Approves First Helmet Standard to Address Concussion Forces (June 20, 2014), available at <http://nocsae.org/wp-content/uploads/2011/10/NOCSAE-June-Board-Meeting-release-FINAL-6-20-14.pdf>.

56. See CHSSA, *NOCSAE Warns Football Helmet Rating System Cannot Predict Ability to Prevent Concussions*, CHSSANOW (June 9, 2014, 8:16 AM), <http://chsaanow.com/2014-06-09/nocsae-warns-football-helmet-rating-system-predict-ability-prevent-concussions/>.

57. NOCSAE Overview, *supra* note 5.

58. See Jackman, *supra* note 29; see also Flyer, Brain Sentry, The Most Valuable Accessory You Can Buy, available at <https://www.sportsmanager.us/%5CDocuments%5CDacula%5C21007.pdf>.

guish between aftermarket products intended to measure impact forces and products specifically designed to mitigate concussion risks, which seemingly are more likely to alter the performance characteristics of a helmet.

In response to NOCSAE's announcements, sensor manufacturers emphasized that their products have undergone extensive lab tests, which confirm that sensors do not affect helmets' ability to prevent skull fractures.⁵⁹ One sensor manufacturer CEO distinguished between concussion sensors and aftermarket padding—while “removing padding or modifying the structure of the helmet could be extremely detrimental[,]” lightweight helmet sensors are fundamentally different because they are much lighter than padding and “do[] not alter the geometry of the shell.”⁶⁰ Impakt Protective's CEO said his company, which makes a sensor that is inserted between the padding inside a helmet's shell, has “data galore” to show that helmet sensors are safe and meet NOCSAE standards.⁶¹

As a leading sports doctor has opined, “[t]he best thing we can do for the player with a potential head injury is to provide immediate evaluation . . .”⁶² Sensors do just that. In response to a question as to whether a helmet sensor attachment might degrade a football's ability to prevent skull fractures, a biomechanical engineer, Dr. Albert King, said, “unless you need to drill into the helmet, it should be okay. I think this is more of a legal issue than a biomechanical issue.”⁶³

In 2012, the Newcastle High School football team in Newcastle, Oklahoma beta-tested Shockbox impact sensors.⁶⁴ Shortly before the season began, the school's attorney raised liability and warranty concerns.⁶⁵ Shockbox moved swiftly to address these concerns by arranging to drop-test a Shockbox-equipped Schutt football helmet.⁶⁶ The test confirmed that the sensor did not affect the helmet's performance, Schutt assured the school that the sensors did not void its warranty, and the beta test proceeded.⁶⁷

59. Crossman claimed that Shockbox had been tested in the labs of helmet manufacturers as recently as April 2013 and that the sensor did not affect the performance of the helmet: “There have been over 45,000 impact tests with Shockbox in and on helmets by Impakt Protective in our test labs with over 500 youth athletes using Shockbox in clinical research trials. No helmets cracked, no-one was injured, no warranties were voided.” E-mail from Danny Crossman, Chief Executive Officer, Impakt Protective Inc., to Brooke de Lench, Executive Director, MomsTEAM Institute (July 24, 2013, 9:27 AM) (on file with author).

60. E-mail from Scott Jacko, VP of Business Development, SafeBrain, to Brooke de Lench, Executive Director, MomsTEAM Institute (July 28, 2013, 5:09 PM) (on file with author).

61. E-mail from Danny Crossman, *supra* note 42.

62. E-mail from Scott Jacko, *supra* note 60 (quoting Dr. Martin Mrazik, Clinical Neuropsychologist and NHL/CFL concussion consultant).

63. Telephone Interview by Brooke de Lench with Albert King, Chair of Biomedical Eng'g Dep't, Wayne State Univ. (July 29, 2013).

64. See THE SMARTEST TEAM: MAKING HIGH SCHOOL FOOTBALL SAFER (PBS broadcast Aug. 14, 2013).

65. *Id.*

66. *Id.*

67. *Id.*

Although the beta test involved only a limited number of helmets and sensors, its results encouraged sensor manufacturers, players, and coaches. Newcastle's athletic trainer called the sensors "the next best thing to being inside a [player's] brain."⁶⁸ Further, a Newcastle player admitted, "[a] lot of the guys, they don't want to come out when they get a concussion, . . . [but] when that sensor goes off, you got hit hard and the coaches are gonna [sic] pull you out no matter what."⁶⁹ Many players acknowledged that they did not want to have the responsibility of reporting their concussions any longer, and instead wanted the sensors to alert coaches.⁷⁰

Such anecdotes beg the question: on what reasonable basis did NOCSAE make its decision? Mike Oliver, NOCSAE's Executive Director and General Counsel, noted, "Manufacturers regularly make football helmets that exceed the performance requirements . . . so that even with 3 standard deviations applied, a helmet's performance would still meet the NOCSAE standard."⁷¹ NOCSAE only explained that the addition of add-ons (including sensors) "to a certified helmet changes the model, by definition, under NOCSAE standards" and creates a new untested model.⁷² Still, given the ability of current helmets to comfortably meet existing certification standards, NOCSAE's position makes little sense. NOCSAE should have recognized the sensors' potential to improve player safety, and should have distinguished between sensors intended to alert the sideline to impacts that might cause concussive injury and aftermarket add-ons which claim to attenuate concussive forces and hence, by definition, change the ability of the helmet-add-on combination to protect against such forces.

III. NOCSAE'S THIRD-PARTY ADD-ON STATEMENT MAY HAVE PUT LIABILITY CONCERNS OF HELMET MANUFACTURERS AHEAD OF PROMOTING PLAYER SAFETY

There is also a concern that NOCSAE's public re-statement may have been driven more by a desire to protect helmet manufacturers from potential legal liability in the event a player suffers a head injury than its "mission to enhance athletic safety."⁷³

NOCSAE's statements did not mention liability concerns; they merely cited NOCSAE's intent to protect the integrity of the NOCSAE standards.⁷⁴ Nonetheless,

68. Interview with Damon Glass, Athletic Trainer, Newcastle High School (Oklahoma), in Newcastle, Okla. (July 20, 2012).

69. Interview with Collin Black, Football Player, Newcastle High School (Oklahoma), in Newcastle, Okla. (Aug. 12, 2013).

70. See THE SMARTEST TEAM, *supra* note 64.

71. Telephone Interview with Mike Oliver, Executive Director and General Counsel, Nat'l Operating Comm. on Standards for Athletic Equip. (July 22, 2013).

72. See NOCSAE Add-On Statement, *supra* note 12.

73. See NOCSAE Overview, *supra* note 5.

74. See NOCSAE July 2013 Statement, *supra* note 6; NOCSAE Add-On Statement, *supra* note 12.

several commentators have opined that liability concerns have motivated NOCSAE in the past.⁷⁵ When a player sustains a head injury and then sues a school district or helmet manufacturer, the defendants can emphasize that the helmet met NOCSAE safety standards. Dr. Bob Cantu, a leading concussion expert and NOCSAE Vice President, admitted that NOCSAE has become concerned with legal liability.⁷⁶ Alan Schwarz of the *New York Times* also noted “[i]f Nocsae were to supplement its helmet standard in an attempt to address concussions, it could open itself to lawsuits brought by players saying that their helmet did not prevent injury.”⁷⁷

Helmet manufacturers and schools share the same view on this issue.⁷⁸ As one commentator has suggested, when an injured player sues, they can say “Hey, see, the product met the set standards.”⁷⁹ Defendants could claim that, but for aftermarket add-ons, helmets would have performed as designed. Indeed, in one critic’s opinion, “NOCSAE exists for two reasons—to avoid skull fractures, and to avoid liability.”⁸⁰

Under current standards, helmet manufacturers may have little economic incentive to invest in new technologies if doing so might increase their liability.⁸¹ “Simplistic certification standards provide convenient legal cover for the manufacturers[,]”⁸² while manufacturers that develop new helmet technology that is safer than the NOCSAE standards could expose themselves to liability.⁸³ NOCSAE’s critics view the situation as harmful and backward.⁸⁴ One aftermarket product CEO said, “If something is available that makes your helmet more safe [sic], you should be held liable for *not* using it.”⁸⁵

To the extent helmet manufacturers are reluctant to push for, or support, more rigorous safety standards, there is precedent in American business history. In the 1960s, auto manufacturers resisted safety advocates’ efforts to require seatbelts in

75. See Alan Schwarz, *As Injuries Rise, Scant Oversight of Helmet Safety*, N.Y. TIMES (Oct. 21, 2010), http://www.nytimes.com/2010/10/21/sports/football/21helmets.html?emc=eta1&_r=3&8; Tom Foster, *The Helmet that Can Save Football*, POPULAR SCI. (Dec. 18, 2012, 12:07 PM), <http://www.popsci.com/science/article/2012-12/helmet-wars-and-new-helmet-could-protect-us-all?nopaging=1>.

76. See Schwarz, *supra* note 75.

77. *Id.*

78. *Id.* (“Manufacturers and schools, equipment managers and the coaches—the whole football industry—don’t want to go after or even criticize the security blanket of Nocsae.”) (quoting Sander Reynolds, Vice President for Product Development of Xenith football helmet manufacturer).

79. *Id.* (quoting Sander Reynolds, Vice President for Product Development of Xenith football helmet manufacturer).

80. *Id.* (quoting Sander Reynolds, Vice President for Product Development of Xenith football helmet manufacturer).

81. See Foster, *supra* note 75 (noting that current safety standards do not require companies to do anything more than they already do).

82. *Id.*

83. See *id.* (explaining that a company that goes “above and beyond standards” could put itself at risk of getting sued).

84. *Id.*

85. *Id.* (quoting Niklas Steenberg, CEO of MIPS Helmet).

cars.⁸⁶ As one commentator has noted, “[a]ll too often implementation hangs on the grim calculus of whether the cost to industry of adopting a safety measure is more or less than the cost to the public of going without it.”⁸⁷

The impact sensor market has not yet reached the tipping point. One expert explained, “because football helmets have already prevented deaths so effectively for decades, and because football’s faster and more violent environment leaves biomechanists unsure of how to prevent concussion in the sport, Nocsae has[, until recently,] not asked helmet makers to even try” to adopt safer alternatives.⁸⁸ Even Executive Director, Mike Oliver, said, “[w]hen you have something that has worked well for a lot of years, you have to be pretty cautious.”⁸⁹

Considering all positions of the parties involved, in our opinion, NOCSAE’s Add-On Statement may set back concussion safety innovation. Importantly, it may inhibit helmet-safety research and product development by causing potential investors to question sensor technology’s commercial viability.⁹⁰ We also believe that the decision may negatively impact concussion biomarker research, which could improve sideline diagnosis methods and reveal sub-concussive hits’ long-term effects.

IV. HELMET MANUFACTURERS’ RESPONSE

Helmet manufacturers reacted to NOCSAE’s Add-On Statement in a variety of ways. Schutt’s CEO said:

*We work with a number of inventors and outside companies to help them understand helmet impact dynamics. We do not certify or approve the use of third party products in our helmets. We make the best protective gear and prefer that nothing be added or subtracted from the manufactured product. When it leaves our facility, it is fully compliant with NOCSAE and other regulatory bodies, and it is fully insured and warranted. A company that seeks to alter the helmet in any way, needs to do its own certification under NOCSAE standards and needs to fund its own insurance. This is no different than after market automotive or electronic enhancements.*⁹¹

86. See Clyde Haberman, *Lessons from the Past for a Future in Smart Cars*, N.Y. TIMES (Sept. 14, 2014), <http://www.nytimes.com/2014/09/15/us/lessons-from-the-past-for-a-future-in-smart-cars.html>.

87. Foster, *supra* note 75.

88. Schwarz, *supra* note 75.

89. *Id.* (quoting Mike Oliver, Executive Director and General Counsel, NOCSAE).

90. See John Mangels, *Technology May Help Detect a Concussion, but the Methods Are Still Evolving*, CLEVELAND.COM (Jan. 15, 2012, 9:00 AM), http://www.cleveland.com/science/index.ssf/2012/01/technology_may_help_detect_a_c.html (noting that the NFL still questions the accuracy of impact sensors).

91. E-mail from Glenn Beckmann, Director of Marketing Communications, Schutt Sports, to Brooke de Lench, Executive Director, MomsTEAM Institute (July 24, 2013) [hereinafter Erb Statement] (on file with author) (quoting Robert Erb, Chief Executive Officer, Schutt Sports).

Erb noted that Schutt specifically advises consumers that “alterations, additions or component deletions or removals you make to the helmet may void [its] warranty and could adversely affect the protective capabilities of the helmet.”⁹² As far as helmet sensors, Erb said, while Schutt was “not currently contemplating getting into the electronic sensor business[,] . . . we are always open to working with third party electronic companies and universities.”⁹³

Erb raised several questions about helmet sensors’ efficacy. He suggested that sensors do not yet produce data that “can be relied upon to create a predictive model.”⁹⁴ Erb also said, “a concussive injury—at least at this stage of scientific inquiry—has far too many variables. . . .”⁹⁵ Another helmet manufacturer, on the other hand, distinguished sensors from other aftermarket safety products.⁹⁶ She suggested that her company would work with sensor manufacturers “to verify performance through the appropriate process of internal testing and then NOCSAE certification.”⁹⁷ She explained that the requirement of additional testing is the best way to protect athletes and their families from what she characterized as “snake-oil” sales claims.⁹⁸

V. A PATH FORWARD

Although impact sensors are a new technology, scientists and doctors have identified several ways they can immediately improve player safety. First, they help identify players who have suffered impacts that may have caused concussions and whom coaches should remove from play for further evaluation on the sports sideline.⁹⁹ Second, sensors provide data that advances concussion research.¹⁰⁰ Third, they alert coaches to players who frequently sustain high impacts hits, so coaches can teach them to position their bodies safely.¹⁰¹

92. *Id.* Notwithstanding such statement, it should be noted that, in order to assuage concerns by the Newcastle, Oklahoma school system that equipping the helmets of players on its high school football team with Shockbox sensors for the beta-testing featured in the authors’ documentary, “The Smartest Team: Making High School Football Safer,” would void the manufacturer’s warranty, Schutt assured the school, after drop-testing of its helmet with the Shockbox sensor disclosed no change in its performance characteristics, that its warranty would remain in place. See THE SMARTEST TEAM, *supra* note 64.

93. Erb Statement, *supra* note 91.

94. *Id.*

95. *Id.*

96. E-mail from Ashlee Quintero, National Sales Director, SG Helmets, to Brooke de Lench, Executive Director, MomsTEAM Institute (July 29, 2013, 1:52 PM).

97. *Id.*

98. *Id.*

99. See Mangels, *supra* note 90.

100. See Gary Mihoces, *NFL Offering Millions for Helmet Innovations*, USA TODAY (Sept. 4, 2013, 7:52 PM), <http://www.usatoday.com/story/sports/nfl/2013/09/04/helmets-concussions-roger-goodell/2768237/>.

101. See Richard M. Greenwald et al., *A Proposed Method to Reduce Underreporting of Brain Injury in Sports*, 22 CLINICAL J. SPORT MED. 83, 83–85 (Mar. 2012); Jeffrey Kutcher et al., *What Evidence Exists for New Strategies*

STANDARD-SETTING BY NON-GOVERNMENTAL AGENCIES

NOCSAE says it is open to suggestions on how to improve the certification process for third-party add-on products, but has yet to propose any changes to its third-party add-on statement. Sensor companies suggest that NOCSAE should: (1) establish standards for helmets that bear aftermarket safety products “where evidence of compliance with the NOCSAE standard can be demonstrated;” (2) allow sensor manufacturers to “test at independent labs and obtain proof that their product does not affect the helmet impact absorption as per the NOCSAE standard;” and (3) permit sensor manufacturers to provide NOCSAE “proof that any adhesives or attachment methods do not affect the material characteristics of the helmet shell.”¹⁰²

In the final analysis, while NOCSAE has every right to protect its standards’ integrity, consumers should determine winners and losers in the sports-safety market with minimal interference from standard-setting groups. In NOCSAE’s place, a government agency, such as the Consumer Product Safety Commission (“CPSC”), should take responsibility for setting standards for sensor certification. The CPSC has much experience in standard setting. Unlike NOCSAE, it is not funded by the companies that comply with its standards.¹⁰³ Even an independent equipment certification NGO with greater transparency, such as ASTM International, would arguably be better suited for the job.

Notwithstanding the negative consequences that appear to have resulted from NOCSAE’s Add-On Statement, it likely will not screech concussion technology development to a halt.¹⁰⁴ Hopefully, a government agency will soon step in to set safety standards. In the meantime, schools, coaches, parents, athletic trainers, team doctors, and athletes should weigh helmet sensors’ risks and benefits for themselves. As one leading concussion neurosurgeon says, “the era of ‘dumb helmets’, in which you have no clue how many impacts that [the] brain inside that helmet has sustained, is quickly coming to an end.”¹⁰⁵ In other words, with or without compliance with NOCSAE certification standards, impact sensors are here to stay.

for Technologies in the Diagnosis of Sports Concussion Assessment of Recovery?, 47 BR. J. SPORTS MED. 299, 299–303 (2013).

102. See Joint E-mail from Greg Merrill, Chief Executive Officer, Brain Sentry Inc., Danny Crossman, Chief Executive Officer, Impakt Protective Inc., and Paul Walker, Chief Executive Officer, gForce Tracker Inc., to NOCSAE (July 25, 2013) (on file with author).

103. See Hohler, *supra* note 5 (“Several members of Congress, citing the apparent conflict and other concerns, have advocated shifting authority over helmet standards to the US Consumer Product Safety Commission if the current system does not soon produce substantial improvements.”); see also Hohler, *supra* note 1 (noting that the “Sports Legacy Institute’s foray into licensing products is particularly unusual because [Dr.] Cantu recommended last year that impact sensors be certified by an independent, third-party agency” such as the American Society for Testing and Materials).

104. See Hohler, *supra* note 1 (noting that “[a]t least 10 sensors are currently on the market, and as many as 20 others are in development”).

105. See Press Release, Arena Football League, *supra* note 31 (quoting Julian Bailes, neurological consultant to the NCAA and NFL Players’ Association).