Horseracing is a very popular sport in the United States. People never tire of watching the exciting sport of horseracing. The revenue generated through gambling allows increased purses, which in turn fosters the breeding, training and ownership of race horses. However, the popular sport of horseracing has come under scrutiny over the use of certain drugs or substances given to the horses. These substances fall into two categories: substances called “doping agents” that are used to alter the performance of the horse and therapeutic substances that are used to mask or cover potential injuries that would prevent a horse from competing (Wong and Wan, 2014). This paper will explain different aspects of the concerns over use of these substances, including the procedures and tests already in place to attempt to reduce and stop the use of these substances, controversies surrounding certain authorized substances and some major incidents that have occurred due to the use of these types of substances.

There are quite a few procedures and protocols already in place for horseracing. In fact, the International Federation of Horseracing Authority (IFHA) provides guidelines or recommended best practices for horseracing and many racing authorities have adopted the principle that no prohibited substances may be present in official samples collected from a horse after it has raced (Wong and Wan, 2014). This is good for the sport as many believe that using prohibited substances in any sport takes away from the competition and integrity of the sport. As I stated earlier, there are two different groups of prohibited substances used and they are looked upon differently. The first type of substances is banned substances that should not be in the body of the animal at any time, and the second type is therapeutic substances that are required for the care of the horse, but should not be present during racing (Wong and Wan, 2014). The IFHA also publishes and updates a guidance document for horseracing activities called the International Agreement on Breeding, Racing and Wagering (IABRW) that can be voluntarily agreed to in part or fully by racing jurisdictions. Article (6A) that deals with prohibited substances is currently agreed to fully by thirty-eight countries and partially by eight (Wong and Wan, 2014).

There are many factors that go into the control and monitoring of prohibited substances. These include laboratory accreditation, handling of the samples, screening tests, confirmation tests, retrospective tests, detection time, and withdrawal time among others. According to Wong and Wan (2014), laboratory accreditation is a crucial element in the testing of prohibited substances. This is appropriate because the laboratory that does the tests must be a reliable and trustworthy source; if it is not, then how can one know if the test was done properly or if samples were mixed up, etc. Article 6A of the IABRW recommends that the laboratories should be accredited according to the requirements of ISO/IEC 17025, “General Requirements for the Competence of Testing and Calibration Laboratories” as well by ILAC-G7, “Accreditation Requirements and Operating Criteria for Horseracing Laboratories” (Wong and Wan, 2014). These recommendations are to assure that the laboratories testing race horse samples are qualified for such important tests. The testing for these prohibited substances begins with collecting samples from the horse. Wong and Wan (2014) state that these samples go through a chain of custody to make sure that samples go through proper handling, identification, and preservation methods in order to prevent the samples from being contaminated or mixed up. The samples then go through screening tests and confirmation tests should something be found. Samples are also kept for retrospective tests. These retrospective tests can be performed years after competition and Wong and Wan (2014) indicate that with advancements in technology these tests can be more accurate. The detection time and withdrawal time are both elements to consider when testing for prohibited substances. The detection time is the amount of time the substance can be detected in a biological sample collected after administration of the substance. The withdrawal time is the time before racing that a prohibited substance is recommended to be withdrawn from a treatment regime in order to avoid a positive detection in the race-day sample. Unfortunately, as Wong and Wan (2014) point out, more and more substances are being used at a rate faster than the growth of effective test methods. Because of this accelerated use of such substances, it has become important to set up additional programs to help control the use of these new substances, such as pre-competition (pre-race), out-of-competition (in-training), and retrospective tests (Wong and Wan, 2014). All of these are key components that go into the control of prohibited substances in horseracing.

Some substances, such as furosemide, are and have been legally approved for horses. Furosemide is a rapidly, high acting diuretic, which causes an increase of urine passage. Furosemide is used in the horseracing industry for the control of exercise-induced pulmonary hemorrhage (EIPH). However, the use of furosemide in horses for this purpose has been somewhat controversial. An article by Soma and Uboh (1998) analyzed the results of tests on horses that were given furosemide. According
to their article, existing literature suggests that furosemide has the potential of increasing performance without significantly changing the bleeding status, and also that using furosemide on horses with EIPH may reduce hemorrhage, but not completely stop it. Figure 1 shows an example of a horse suffering from a severe case of EIPH. The article looked into the effects furosemide had on resting horses and exercising horses. In the resting horse, furosemide resulted in a significant decrease in right atrial, pulmonary arterial pressure, cardiac output and pulmonary arterial wedge pressure (Soma and Uboh, 1998). These reductions in pressure appeared within 10-15 minutes after the injection of furosemide. The cardiac output and stroke volume decreased significantly after the injection and remained low throughout the study (Soma and Uboh, 1998). The measurements for the study were taken over a 105 minute time period. As for exercising horses, there were different ways furosemide was applied such as intramuscular injections and in doses. It was found that the furosemide reduced the pulmonary pressures for exercising horses as it did in the resting horses. However, the high estimated pressure created in an exercising horse may be so high that the change in pressure caused by the application of furosemide might not be enough to reduce the pressure in the capillaries so as to prevent a hemorrhage of the capillaries. As I stated earlier, the primary use of furosemide is to reduce EIPH, but the above study calls into question whether furosemide is really effective to reduce EIPH. Couple this with other findings that show improvements in racing times for horses dosed with furosemide and there is question as to whether furosemide is more a performance enhancer and less a remedial drug for EIPH. Clearly Soma and Uboh (1998) raise a legitimate question as to whether the improvement in racing times is due to the reduction in bleeding or due to other performance enhancing actions of furosemide.

Furosemide is still a widely debated topic within today's racing community. In a comprehensive article, Daniel Ross identifies the current studies and arguments people are debating. Ross (2014) states that anti-medication proposals have been supported by prominent trainers including Todd Pletcher and Richard Mandella as well as Breeders' Cup officials Bill Farish and Craig Fravel. However, Ross’ article also quotes Rick Violette, the president of the New York Thoroughbred Horsemen's Association in saying that “the vast majority of horses bleed” and that “Lasix (furosemide) is the safest and most effective treatment we have available to treat the condition”. More research is needed to resolve the debate conclusively. This is an example of a substance that is currently approved for use in horse racing, but needs further regulatory consideration to evaluate its full effects on the race horse physiology; is it addressing pulmonary hemorrhaging or instead is it more a performance enhancing substance that requires closer controls.

There have been many cases in which the use of substances risks the safety of the racing horses and the jockeys. The safety of the horse is placed at risk because many owners are providing therapeutic substances to mask injuries in order for the horses to be in as many races as possible. The New York Times came out with several reports in 2012 that were related to horseracing and the prevalence of doping and animal injuries and breakdowns in the sport. Denham (2014) cites three main articles that the New York Times published. One of these reports released on April 30, 2012, offers reasons why owners are pushing their horses so hard. One reason is that many racetracks have added casinos to their facilities. These “racinos” generate more profits and have increased the purses of races to a level that exceeds the value of any of the horses in the race (Denham, 2014). The potential high winnings have provided owners and trainers with a reason to run horses when they are sore or tired, when, absent the financial incentive, they would not. Denham (2014) cites another report from the New York Times that was released on September 22, 2012; this one talks about veterinarians and their relationship with trainers. Trainers often serve as intermediaries for owners. The New York Times reported that veterinarians, who were more resistant to prescribe painkillers or performance-enhancing substances recommended by trainers, often found themselves with fewer clients because trainers would influence owners to find veterinarians who were more lenient with prescriptions (Denham, 2014). The third report published by the New York Times on March 25, 2012, examined data from more than 150,000 races. The most telling number from the report was that on average, 24 horses die each week on United States
racetracks and even more encounter injuries in practice sessions. It is surprising how many owners and trainers of the sport are doing all they can to push the horses without much consideration for their health.

The sport of horseracing has become tainted by controversy and criticism because of the use of prohibited substances and the resultant increase in injuries. The control systems in place do an adequate job, but more substances are being used faster than tests for their detection can be approved. Until there is a more effective way to control these substances and to reduce injuries, horseracing will continue to be burdened by negative associations from the public.
Bibliography


