

The Holistic Athletic Healthcare Model: Addressing the Developmental, Social, and Cultural Needs of Collegiate Athletes

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Abstract: Many adolescent and young adult athletes only access the healthcare system through involvement in sports. Yet, many opportunities are missed in the sports medicine environment to provide holistic, quality care for these athletes that assist them in navigating toward healthy adulthood and that also address inequities that impair good health. Since most causes of morbidity and mortality in this age group are related to poor health behaviors, and comprehensive health care services are fragmented, it is imperative that sports medicine healthcare be reimagined to incorporate a social-ecological perspective that holistically addresses the unique medical, social, cultural, and behavioral needs of athletes. We propose a social-ecological perspective that enhances developmental assets as the basis for sports medicine services. This innovative approach - the Holistic Athletic Healthcare Model - involves (a) addressing adolescent developmental needs and the social determinants of health at the individual level, (b) using strength-based approaches and demonstrating cultural competency in healthcare provider relationships, (c) integrating medical care with campus community services, and (d) promoting health equity in the campus environment. Engagement in sports has many benefits beyond winning in the game and health is more than being injury-free. Sports medicine practitioners and healthcare systems must be proactive in supporting athletes from all backgrounds to become healthy adults.

Keywords: care delivery, adolescent development, cultural competency, social-ecological perspective

Introduction

Collegiate athletes in the United States comprise an increasingly diverse population of mainly adolescents and young adults who have unique healthcare needs. In the past, health professionals defined adolescence from ages 13 to 18. However, due to earlier onset of puberty and advances in neurobiology suggesting extended time of brain development, adolescence and young adulthood now represent the ages between 10 to 25 years (Steinberg, 2011). In this article, we present an innovative framework that incorporates a socioecological model and team-based care delivery to provide holistic, culturally-competent care to adolescent and young adult athletes - the Holistic Athletic Healthcare Model. From a social-ecological perspective, overall health and health behaviors reflect an interaction among myriad personal, interpersonal, and socio-cultural factors that impact young people (Ayyash-Abdo, 2002). The framework of the Holistic Athletic Healthcare Model incorporates components that have been demonstrated in prior literature to promote adolescent and young adult well-being: (a) addressing adolescent developmental needs and the social determinants of health at the individual level, (b) using strength-based approaches and demonstrating cultural competency in healthcare provider-athlete relationships, (c) integrating medical care with campus community services, and (d) promoting health equity in the campus environment. By incorporating these evidence-based concepts into a system of care within a sports medicine environment, collegiate sports medicine care can be reimagined to help ensure youth athletes from all backgrounds receive quality healthcare that can help them become healthy adults.

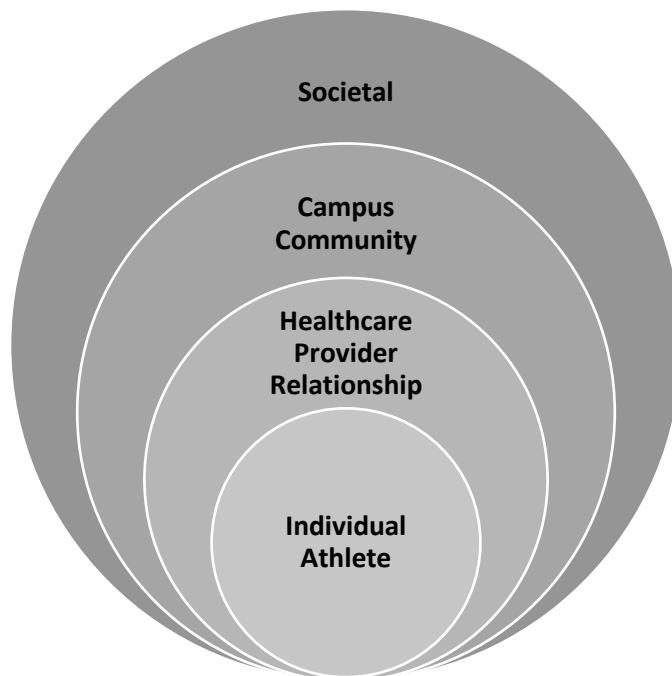


Figure 1. The Holistic Athletic Healthcare Model - Application of the Social-Ecological Model to collegiate sports medicine care delivery

As outlined in Figure 1, this framework applies the social-ecological model to collegiate sports medicine care delivery, which represents an innovative perspective for sports medicine clinicians who typically focus on injuries. By addressing the micro and macro influencers on health in the sports medicine system, the care athletes receive will become more integrated in order to holistically address the multiple factors that drive positive health outcomes.

The traditional approach to sports medicine care has been to address the individual athlete's medical- and injury-related needs by team physicians, athletic trainers, and other healthcare professionals. However, this model only partially addresses the healthcare needs that are the leading causes of morbidity and mortality among adolescents and young adults. These needs could be conditions and behaviors such as substance use, high-risk sexual behaviors, mental health problems, injury, and violence (Eaton et al., 2008). Since the majority of collegiate athletes only receive healthcare within the sports medicine system, comprehensive care that includes social and behavioral factors must be included and addressed in the collegiate health care delivery system.

Adolescents and young adults have unique needs related to their developmental stage in life that should be incorporated into the way they receive quality healthcare. One way these needs can be effectively addressed is by focusing on the promotion of positive behaviors rather than solely reducing risky behaviors. To promote such positive youth development, youth must experience long-term, reciprocal, prosocial relationships with others (Bronfenbrenner, 1992). Such a perspective emphasizes the potential of all young people, including those from disadvantaged backgrounds or with troubled histories (Damon, 2004). The role of adults in adolescents' sport experiences represents a factor consistently associated with young people's positive and negative outcomes through sports (Fraser-Thomas, Cote, & Deakin, 2005). This evidence highlights the potential of clinicians and others involved in the care of athletes to meaningfully impact the health and well-being of their patients/clients by applying a positive youth development perspective to all encounters with collegiate athletes. Figure 1 illustrates the types of connections that adolescents and young adults need to facilitate positive development - interactions with caring adults who can guide them in navigating their social interactions at the individual, community, and societal levels.

Investigators from the University of Wisconsin Population Health Institute measured the impact of health factors on overall health outcomes in the general population (Berkman, Kawachi, & Glymour, 2014). They found that health behaviors (i.e., tobacco use, diet and exercise, alcohol use, and sexual activity) accounted for 30% of the total factors that impacted overall health, while social and economic factors (i.e., education, employment, income, family and social support, and community safety) accounted for 40%, and physical environment (environmental quality, built environment) accounted for 10%. Thus, 80% of the factors that drive good health outcomes remain outside of individual clinical care delivery issues such as access to and quality of care. Yet, the current collegiate sports medicine model that prevails only focuses on clinical care delivery at the individual level.

A separate, unexplored issue in collegiate settings involves cultural competency among clinicians who work with collegiate athletes (Marra, Covassin, Shingles, Canady, & Machowiak, 2010). In response to the increasing diversity of our global society, it is imperative that sport medicine providers have skills in cross-cultural communication and display cultural competency,

which is defined as understanding and integrating differences of different cultures and incorporating them into daily care (Cross, Bazron, Dennis, & Isaacs, 1989). The demographic composition of National Collegiate Athletic Association (NCAA) athletes since the 2010-2011 academic year demonstrates this growing diversity, with an increasing percentage of Black, Hispanic/Latino, American Indian/Alaskan Native, two or more races, and Nonresident Immigrant athletes, and a 10% decrease in White athletes (Lapchick, Hoff, & Kaiser, 2010). In addition, certain sports such as football and basketball have a disproportionate number of Black and African American athletes. Unfortunately, skills to manage these rising levels of diversity, culturally relevant interventions, and increases in inclusion have received little attention in the sports medicine literature, and evidence indicates that sports medicine professionals, such as athletic trainers and team physicians, have limited knowledge about effectively delivering culturally competent care (Marra et al., 2010). Health disparities among racial and ethnic groups persist, with racial/ethnic minorities in the U.S. receiving lower-quality healthcare services and demonstrating worse health indicators than White Americans (Dykes & White, 2011; Elster, Jarosik, VanGeest, & Fleming, 2003). Thus, healthcare professionals who work with collegiate athletes need additional knowledge, skills, and abilities in cultural competency and promoting health equity.

To effectively deliver this holistic healthcare approach to adolescent and young adult athletes, a collaboration between a multitude of disciplines, including sports medicine physicians and athletic trainers, must be utilized. A multi-disciplinary team comprised of healthcare practitioners, career counselors, nutritionists, and mental and spiritual health workers is ideal for effectively caring for collegiate athletes. Furthermore, this approach integrates the sports management and campus student development professionals that care for the athletes outside of the medical care delivery system. An increasing number of universities are adopting the practice of holistic care, also known as collaborative care. Collaborative care involves a joint effort among all healthcare resources offered across a campus and community to aid and empower athletes (Waller, Huffman, & Hardin, 2016). This collaborative effort among resources has demonstrated success in enhancing both athletic and academic performance, aiding in recovery from injury, improving mental health, and supporting career development efforts among student-athletes (Davidson, Wingate, Rasmussen, & Slish, 2009; Glick, Stillman, Reardon, & Ritvo, 2012; Koenig, King, & Carson, 2012). According to Waller et al. (2016), the components of collaborative care for collegiate athletes should promote empowerment, compassion and empathy, respect and holism, and choice and autonomy. This type of holistic care focuses primarily on overall well-being rather than solely athletic performance.

Conceptual Framework for Holistic Athletic Healthcare Model

Although a high level of athletic performance is crucial for coaches and student-athletes, optimal athletic performance may not be achievable without optimal overall well-being. This paper proposes a social-ecological perspective to the holistic care of student-athletes. This perspective incorporates the complex developmental, social, emotional, and physical needs of adolescents and young adults. The Holistic Athletic Healthcare Model provides an excellent point of reference for the social-ecological model. The social-ecological model examines how the social environment, including interpersonal, organizational, community, and public policy

factors, supports and maintains health and health behaviors (Bronfenbrenner, 1992). This perspective includes four levels of influence on health-related behaviors and conditions:

1. Intrapersonal factors: knowledge, attitudes, and skills of the individual
2. Interpersonal relationships: family, friends, social networks
3. Institutional settings and larger community: organizations, schools, workplaces, design, access, connectedness, spaces
4. Societal/public policy: laws and policies

The four key components identified in Figure 1 are connected with the social-ecological model affecting the continuum from the individual athlete to the relationship with the healthcare provider to the campus and social environment aimed at promoting health equity. With this perspective, the intersection of the social-ecological model with these four components provides fertile ground for examination of how the social environment, including interpersonal, organizational, community, and public policy factors, supports and maintains health and health behaviors.

Promoting healthy development requires an acknowledgement of how factors across young peoples' social ecologies affect their health, behavior, and well-being. Health, ill-health, and health inequities constitute consequences of a wide range of factors that operate at many different levels of individuals' social ecologies (Sawyer et al., 2012). The social-ecological model can serve as a foundation for assessing risks and strengths within the continuum beyond the individual patient. During psychosocial interviews, clinicians should inquire about issues across all levels of athletes' social ecologies that may affect their health and well-being. This innovative Holistic Athletic Healthcare Model can be adopted and adapted to address some of the current gaps in the literature on comprehensive care for collegiate athletes.

Current Gaps in Comprehensive Quality Care for Collegiate Athletes

Important gaps still exist in the literature that need to be addressed to ensure student-athletes receive high-quality, holistic care. Such gaps include the delivery of culturally competent care, delivery of coordinated substance abuse treatment, reducing stigma associated with treatment of mental health problems, and addressing the concept of spiritual health. The need for mental health services has increased in university settings, and student-athletes may be more susceptible to certain behaviors and influences than non-athletes. Evidence suggests that student-athletes, compared with non-student-athletes, report higher rates of heavy alcohol consumption and may be more susceptible to depression (Wolanin, Gross, & Hong, 2015). An enhanced understanding of the interplay between drug and alcohol abuse and mental health is necessary for the collaboration between prevention and treatment specialists to create more evidence-based approaches to address this issue (Martens, Dams-O'Connor, & Beck, 2006). Further, although mental health counselors are often available to collegiate athletes, mental illness and mental health treatment remain stigmatized in college settings, and therefore, athletes may not obtain treatment for fear of being ostracized or appearing "weak" (Gulliver, Griffiths, & Christensen, 2012; Martin, 2005). In addition, this reluctance of student-athletes to seek treatment for mental health problems, such as depression or anxiety, may be a driving factor for the high rates of heavy alcohol consumption seen in college athletes, as a means of self-

medication or as a negative coping mechanism (Nattiv & Puffer, 1991). Coaches and trainers should encourage student-athletes to seek treatment to promote overall well-being, address stigma connected to mental health problems and treatment, and promote healthful coping strategies (Gulliver et al., 2012; Watson, 2005).

Model Levels

In the Holistic Athletic Healthcare Model, the following areas are added to the traditional sports medicine care delivery and the social-ecological models to comprehensively address the unique needs of adolescent and young adult athletes. At the individual athlete level, providers should address the developmental life course needs of the athlete and screen for social determinants of health. Clinicians are encouraged to assess factors across athletes' social ecologies from past and current perspectives. For example, some athletes may have experienced family violence or gang violence during early adolescence that continues to impact their current well-being, physical health, and capacity to perform at an optimal level. The interpersonal level focuses on medical care providers in the sports medicine environment such as physicians and athletic trainers. These providers should build professional relationships with athletes that promote positive youth development and are culturally sensitive. At the institutional level, the healthcare team should collaborate more with a variety of academic, wellness, and sports management professionals on campus to reduce siloes in care that isolate the athlete from college/university support services. Collegiate sports are a major industry in the U.S. and a significant part of the culture. At the societal level, social norms, policies, and expectations affect collegiate sports, and campus professionals should consider mechanisms to promote health equity for all athletes and students.

Individual Athlete Level

Collegiate athletes face many unique challenges. They experience the same psychosocial and environmental issues associated with the leading causes of morbidity and mortality as non-athlete adolescents such as academic pressure, negative peer influences, navigating romantic relationships, balancing issues at home, and experiencing limited adult support. In addition, collegiate athletes may face risk factors that can exacerbate stress and emotional distress such as the time dedicated to sport obligations, the emotional and physical toll of sports-related medical conditions and injuries, as well as stereotypes and expectations related to their roles as student-athletes (Wolanin et al., 2015). Given the potential for athletes to avoid seeking needed care, particularly mental health treatment (Watson, 2005), health professionals comprising sports medicine teams remain in an optimal position to identify and address issues that may impact the health of student-athletes (Wolanin, et al., 2015).

There are several benefits of sports participation for the individual athlete, such as greater frequency of physical activity, fewer depressive symptoms, less suicidality, less tobacco and illicit drug use, and greater self-efficacy (Spruit, Assink, van Vugt, van der Put, & Stams, 2016; Taliaferro, Rienzo, & Donovan, 2010). Sports participation is also associated with greater involvement in certain health-risk behaviors such as disordered eating, aggressive behavior, and interpersonal violence (de Oliveira Coelho, de Silva Gomes, Ribeiro, & de Abreu Soares, 2014; S nderlund et al., 2014). Minority athletes often face unique challenges, such as harassment and discrimination, that might increase their involvement in certain risk behaviors (NCAA, 2014).

Healthcare providers caring for athletes are in ideal positions to ask about positive and negative behaviors and influences in the athlete's life. This will help ensure that social problems are identified and areas of strength are supported at the individual level.

Adolescent and young adult development. A life-course perspective remains essential to understanding adolescents' current health and potential health trajectory (Blum, Bastos, Kabiru, & Le, 2012). This perspective focuses on understanding the influence of early-life experiences on one's health across the lifespan by systematically considering effects of the psychosocial and physical environment on youth development and adult health over time (Braveman & Barclay, 2009). In addition, providers working with adolescents and young adults need to fully understand adolescent development, including important developmental tasks and processes of brain development. Late adolescence (ages 18-21) often involves the critical transition period from high school to college that can contribute to distress and engagement in health-risk behaviors among young people. Although college students often live independently, they still have the tasks of adolescence to complete. These young people remain in the process of forming their identities, values, and morals (Steinberg, 2011).

Many psychosocial and contextual factors across young peoples' social ecologies affect their behaviors. Still, to fully understand adolescents' engagement in health-risk behaviors, providers must consider adolescent brain development (Weinberger, Elvevag, & Giedd, 2005). Other than during the first three years of life, adolescence represents the period during which the brain changes most dramatically (Steinberg, 2011). Risk-taking behavior often escalates during adolescence because of changes in the brain's socio-emotional system that increases reward-seeking chemicals, especially in the presence of peers; it decreases after adolescence as the brain's cognitive-control system thickens (Steinberg, 2007). Specifically, at the conclusion of adolescence, one's capacity to make complex decisions, weigh competing alternatives, calculate risks and rewards, control impulses, and construct specific plans significantly improves (Steinberg, 2008). Key areas of the brain responsible for these higher-order skills, especially the prefrontal cortex, do not fully mature until the third decade of life (Weinberger et al., 2005). The changes occurring in these brain networks can result in heightened vulnerability to risk-taking, recklessness, and sensation-seeking during adolescence, as well as make adolescence a time in which navigating complex social situations and mastering strong emotions particularly challenging (Dahl, 2004; Steinberg, 2008). During this time of significant changes in brain circuitry associated with decision-making, adolescents benefit from sufficient support, guidance, and monitoring from prosocial adults (Weinberger et al., 2005). Too often, adults withdraw from adolescents' lives prematurely, leaving young people to navigate difficult situations alone or solely with peers (Dahl, 2004). Rather, prosocial adults, including influential healthcare providers, need to remind adolescents to regularly engage their cognitive-control system or even serve as the adolescents' control system by limiting their opportunities to engage in risky behavior (Steinberg, 2011).

An understanding of adolescent development and application of a life-course perspective will help healthcare providers develop a personalized clinical action plan tailored to the needs of individual athletes. The Guidelines for Adolescent Preventive Services (GAPS) includes recommendations by the American Medical Association that clinicians could use to help organize, structure, and define healthcare delivery for all young people (Montalto, 1998). For example, the GAPS assessment includes questions about home, education, activities, eating

behaviors, drug use, sexual activity, and violence in a two page questionnaire that the athlete can complete before the visit and be reviewed during the visit.

Screening for individual social determinants of health. Social determinants of health represent conditions in the environments in which people live, learn, work, and play that affect health outcomes and risks (Marmot, Friel, Bell, Houweling, & Taylor, 2008). These differences in health are not only unnecessary and avoidable, but also unfair and unjust (Viner et al., 2012). An example of unnecessary and avoidable social determinants is housing discrimination in the U.S. Black and other minority groups have been systematically denied mortgages at higher rates than Whites and not approved for leasing housing in certain neighborhoods for decades. This difference has led to poorer school systems and built environments in majority Black and minority neighborhoods. Over the years, Black students have had increasing educational gaps influenced by these social factors that contribute to being inadequately prepared academically for college. Negative social determinants preclude development of positive health over time and lead to health disparities.

Sports medicine physicians may represent the only clinicians with whom athletes engage for health care. Thus, they have the potential to positively impact multiple dimensions of adolescents' lives by addressing social determinants of health across all levels of their social ecologies. Addressing social issues that impact health can potentially decrease health disparities. However, within the field of sports medicine, little attention has focused on social determinants that promote inequity in the delivery of sports medicine care. Particularly for adolescents, safe and supportive families, schools, and prosocial peers represent critical factors within their social environments that affect health behaviors and attainment of their full potential (Viner et al., 2012). African Americans and Black athletes are particularly vulnerable to inequities, as they are disproportionately represented in sports and more often rely, or have families who rely, on their participation in sports for financial stability.

A best clinical practice for engaging with youth, particularly minority and underserved athletes, involves assessing social determinants of health that affect their well-being, academic success, athletic performance and, ultimately, health disparities across the lifespan (Rasanathan, Montesinos, Matheson, Etienne, & Evans, 2011; Viner et al., 2012). This can be done simply by asking athletes about their lives as they receive sports medicine services. Questions such as "How are you doing?" "Are you stressed out?" and "How do you handle it when you are stressed out?" can provide a great deal of insight into the well-being of athletes. Often, when young people feel that the healthcare provider cares about their well-being, they are more willing to talk about the issues that concern them. Care encompassing the entire well-being of an individual will translate into success on and off the playing field (NCAA, 2014).

Healthcare Provider-Athlete Relationship Level

While many collegiate sports medicine teams include sports psychologists who provide mental health therapeutic services, the team physician needs to have the knowledge, skills, and ability to screen for and address the basic social, emotional, and behavioral needs of the athlete. Unfortunately, many sports medicine physicians do not feel competent in this area. Mann, Grana, Indelicato, O'Neill and George (2007) found that many sports medicine physicians often believe they represent the only people aware of emotional problems among athletes, yet they do not always address these issues with their patients. Sports medicine physicians report feeling less

comfortable and competent discussing non-injury-related psychological issues, compared to injury- and rehabilitation-related issues (Mann et al., 2007). Physicians in this study wanted additional training in handling psychological issues among adolescent and young adult athletes.

The healthcare provider, especially the physician who has a leadership role in student-athlete healthcare, represents a central figure in this conceptual model of holistic sports medicine care delivery. The usual point of entry into the medical environment is through a physician, particularly a pre-participation physical examination. Therefore, this physical examination represents a prime opportunity to establish a good rapport with student-athletes and set the stage for the culture of healthcare encounters that will follow at an institution. Unfortunately, physicians often miss opportunities to establish supportive relationships to address issues targeted by the proposed model during a pre-participation physical examination, as the only things they discuss involve medical conditions and injuries. While time constraints often remain an issue during the pre-participation examination, the Preparticipation Examination consensus monograph recommends screening for psychosocial factors, and clinicians do not require much time to convey to an athlete that the healthcare team cares about all aspects of the athlete's life and well-being (Bernhardt & Roberts, 2010). This message remains especially important in the collegiate setting, as the physician and other sports medicine providers may stop athletes from participating in their sport for medical reasons. Such power can create a barrier between the healthcare team and athlete, resulting in the athlete withholding pertinent health information to ensure he/she can continue to play. When student-athletes are aware that their institution prioritizes athlete well-being, long-term health, and confidentiality, athletes are more likely to engage in a therapeutic relationship (Galli & Reel, 2014). To maximize the impact of this relationship, healthcare providers must possess the knowledge, skills, and abilities to address the developmental and social needs of adolescents and young adults.

Promoting positive youth development. The Institute of Medicine defines child/adolescent health as the extent to which youth are able to: (a) develop and realize their potential; (b) satisfy their needs; and (c) develop capacities that allow them to interact successfully with their biological, physical, and social environments (National Research Council, 2004). Positive youth development approaches help ensure young people thrive through the mundane and extraordinary events of adolescence (defined as ages 10-25) (McManus, 2002). Preventing disease or health-risk behaviors does not represent the attainment of health or actualization of positive development (Lerner, Fisher, & Weinberg, 2000); therefore, youth-development approaches focus on building positive strengths and maximizing potential rather than solely extinguishing maladaptive behaviors (Damon, 2004). Ultimately, this approach assesses people on the basis of potential, not the presence or absence of problems (Pittman, Irby, Tolman, Yohalem, & Ferber, 2003). As Dr. Karen Pittman states: "Problem-free is not fully prepared, and fully prepared is not fully engaged" (Pittman et al., 2003). To act on this perspective requires a shift in Western medicine's focus from problems and deficit reduction to strengths and asset-building (Taliaferro & Borowsky, 2012). In addition, sports medicine clinicians need to consider the *whole* athlete, i.e., social determinants of health across young peoples' social ecologies, rather than maintain a narrow and myopic focus on physical and mental health effects of injuries.

The National Research Council and Institute of Medicine have outlined four main areas of youth development: physical, intellectual, psychological/emotional, and social (Eccles &

Gootman, 2002). Promoting positive youth development involves deliberate actions to provide all young people with the support, relationships, and opportunities they need to become successful, competent adults (Youth.gov, 2017). Healthcare providers who seek to promote positive youth development approach their care of adolescents and young adults from a strength-based perspective (Green & Palfrey, 2000; Taliaferro & Borowsky, 2012) that goes beyond an assessment of risk identification. Healthcare providers are encouraged to intentionally elicit and reinforce a young person's assets, strengths, and protective factors through a HEEADSSS psychosocial interview, which stands for Home environment, Education and employment, Eating, Activities, Drugs, Sexuality, Suicide/depression, and Safety (Goldenring & Rosen, 2004). This perspective attempts to provide balance and hope by focusing on strengths without negating risks (Monasterio, 2002) and perceiving young people as resources rather than problems (Damon, 2004). An assessment of a young person's assets recognizes and fosters innate strengths to promote resilience and improve health.

Three powerful roles of developmental assets include protection, enhancement, and resiliency (Mannes, 2006). Protection relates to the relationship between more developmental assets and reduced engagement in health-risk behaviors. Assets play an enhancement role by helping youth *thrive* or succeed in their different roles, in interpersonal relationships, and through intrapersonal well-being. Finally, increasing the amount of developmental assets youth possess helps promote resilience when confronted with challenging situations (Saewyc & Tonkin, 2008). Research documents several benefits of focusing on biological, psychological, and social factors among adolescents. Screening for assets and psychosocial risks within adolescents and their environments using standardized approaches represents best practices associated with promoting positive youth development and reducing health disparities (Frankowski, Leader, & Duncan, 2009). Groups vulnerable to poor health may prefer the solution-oriented positive youth development approach due to the emphasis on assets rather than on pathology, indicating that a youth development approach represents a promising strategy to address health disparities and create health equity among young people (Resnick, 2005)

Cultural competency. Cultural competency was defined by Cross et al. (1989) as “an interrelated set of behaviors, attitudes, and skills that come together in a system, agency, or among individual professionals to enable them to work effectively in cross-cultural situations”. Cultural competence is a strategy that includes a series of stages of development rather than a specific achievement. (Cross et al., 1989) To reduce health disparities and promote health equity, providers require a range of cultural competency knowledge, skills, and abilities to foster relationships with adolescents that promote good health. The key components of cultural competency as defined by the Joint Commission are: (a) Valuing diversity- this means that the provider displays a sense of curiosity about the lived experiences and perspectives of the patient, (b) Access internally- this critical factor asks healthcare providers to self-assess their own cultural beliefs, values and biases, (c) Managing Differences- this skill allows healthcare providers to recognize when their personal beliefs and the patient's beliefs are in conflict and to manage these differences in the clinical setting to reach a level of mutual understanding and promote a therapeutic relationship, (d) Acquire and use cultural knowledge- this skill asks healthcare providers to ask patients about their cultural beliefs and implications for the clinical care delivered, and (e) Adapting to individual and communities- this skill allows for the healthcare provider to partner with the patient to determine a treatment plan that incorporates the

patient's needs (Joint Commission, 2010). The underpinning of cultural competency is that diversity as an asset instead of a problem. For example, if an athlete practices Islam and is fasting during a religious holiday, the sports medicine team can work with the athlete to optimize hydration, nutrition and other needs during this time so that the impact on sports performance is minimized.

In general, physicians are not likely to receive adequate training in culturally competent health care, despite some evidence that this should help reduce health disparities in youth (Ambrose, Lin, & Chun, 2013; Dykes & White, 2011; Like, 2011). Currently, medical school and residency education is putting more emphasis on training in cultural competency. To our knowledge, no research exists examining sports medicine physicians' levels of cultural competence in the delivery of care to diverse athletes. Therefore, a focus on providing culturally competent care within the proposed framework represents an innovative approach in sports medicine care.

Campus Community Level

While coordination of care within the sports medicine team is necessary, utilizing all university and community resources remains key to optimizing the health and wellness of collegiate athletes. Health is more than being injury free and includes social and mental wellbeing. Academic achievement is a key social determinant that affects health across the lifecycle, thus supporting athletes to graduate from college is a health issue. Universities and college institutions need to develop effective partnerships between athletes who need care and those who provide care across multiple disciplines. Assessment of an athlete's needs may encompass physical, psychological, and spiritual domains, and therefore, services should be available to meet all of those needs. The best way to achieve this collaborative approach between services, professionals, and community groups is to coordinate regular multidisciplinary team meetings to discuss and evaluate the progress of individual athletes. When coordinating these multidisciplinary teams, each campus must decide which professionals, services, and organizations should be included within this network of collaborative care, identify their framework for collaboration, and then determine how the university's infrastructure will synchronize efforts to serve student-athletes (Hayden, Kornspan, Bruback, Parent, & Rodgers, 2013; Zakrajsek, Steinfeldt, Bodey, Martin, & Zizzi, 2013).

Those involved in the care of student-athletes also must determine the role of surrounding communities within the network accessibility of community resources to the athlete, and how to connect athletes to resources that are beyond the scope of the university. This collaboration among disciplines is becoming more common in universities across the U.S. as the connection between overall well-being and resiliency, and enhanced academic and athletic performance, has been established (Davidson et al., 2009; Hufford, Fritts, & Rhodes, 2010; Waller et al., 2016).

Societal and Campus Health Equity Level

At the societal level, multiple factors drive health inequities for racial/ethnic minority athletes and across genders and sexual orientation (Bimper, Harrison, & Clark, 2013; Lee et al., 2011; Roper & Halloran, 2007; Sellers et al., 1997). Sports have become a visible and lucrative business globally. In current and past sporting events and competitions, issues related to social constructs, such as race and gender, have become national and international topics of discussion

and debate. As a result, diversity and inclusion issues in sports have relevance to all of society. Healthcare and college professionals who interact with student-athletes have a large influence on how these adolescents and young adults view and interact with their world.

The manner in which collegiate athletes respond to social and political issues can have significant societal impact. An example of this impact occurred at the University of Missouri in 2015. The football team initiated a boycott of games that precipitated the resignation of the university president. This boycott was in response to increasing racial tensions and discrimination on campus that included episodes where White students made racial slurs against Black students and a swastika made from smeared feces on a bathroom wall in a residence hall. These events incited such actions as protests and a hunger strike by non-athlete students, but the concerns were largely unaddressed until the football team boycotted. The actions of the student athletes provided increased local and national attention that fostered action on the social issue (Altman, 2015). By acknowledging and discussing social issues with athletes and their impacts, sports medicine teams can help prepare athletes for the often high profile position they have on campus and in the community and help them develop skills to navigate racialized settings.

Health disparities and health equity. Health equity refers to the absence of disparities in *modifiable* aspects of health among groups of people defined socially, economically, demographically, or geographically (World Health Organization, 2017), i.e., some type of injustice. Such controllable and remediable aspects of health could relate to different social determinants across levels of an individual's social ecology. Structural determinants of health and conditions of daily life cause much of the health inequity between groups (Marmot et al., 2008). Social determinants of health that may represent particular challenges for racial/ethnic minority and underserved adolescent athletes include institutionalized racism that negatively influences economic opportunities, the built environment in which they live and attend school, quality education, zoning and land use, housing, and exposure to trauma (Price, McKinney, & Braun, 2011). Due, in part, to poor quality primary and secondary education, some racial/ethnic minority athletes rely on sports as a mechanism for future employment and financial security. Yet, depending on the sport, only between 2.8% and 12.3% of high school male and 3.9% to 24.1% of high school female athletes play collegiate sports (NCAA, 2017a), and 0.9% to 9.1% of college athletes become professional athletes (NCAA, 2017b). All youth athletes deserve the opportunity to achieve their full potential to become fully prepared and engaged through a quality education but currently, one's zip code has a strong influence on the availability of quality of educational experiences (Wells, 2015). Thus, sports medicine providers must be aware of the persistent inequities and injustices that different racial and ethnic groups face in the U.S., and be proactive in discussing these factors and their impact on well-being with athletes.

Limitations of the Conceptual Framework

Some factors will limit the ability of institutions to adopt this Holistic Athletic Healthcare Model. NCAA institutions vary greatly in size, resources, and institutional structures. Many institutions will have limited sports medicine staff and will depend on professionals from their community to meet the needs of their programs. Having providers who are contracted to provide care and not available on a daily basis on campus may limit the ability to develop well-performing teams of professionals to deliver the holistic care we propose.

In addition, the process of integrating multiple units or departments on a campus who have not previously worked together will have challenges in group dynamics and leadership to

make the collaborative, holistic approach happen. Institutions will need to remain mindful of creating structures and processes that will foster these interactions. Such efforts are best adopted as new policies and connected to current institutional policy and leadership to increase the likelihood of sustainability beyond individual providers and relationships. For example, on many campuses, student athletes are under the care of the Student Affairs unit or the Athletic Department. Yet, their academic issues are in the Academic Affairs unit that most often has very little connection to these other departments. By creating processes that allow for more interaction between the units and enhanced systems in place to connect student athletes to needed services, this conceptual framework can be operationalized systematically and not reliant on individuals in these units who may have made cross institutional connections on their own.

Summary and Future Directions

Engagement in sports has many benefits beyond winning in the game, and health is more than being injury-free. Collegiate athletes make up a special population that need a holistic approach to achieve optimal health and wellness. A wide variety of athletic healthcare services exist across NCAA divisions and institutions. Still, a common thread involves consistent access to healthcare professionals. However, too often healthcare services for athletes focus on pre-participation physical examinations to assess and address medical issues and clearance for return to play after injury. This Holistic Athletic Healthcare Model framework may facilitate a greater investment by sports medicine professionals in preparing student-athletes to become physically, mentally, and socially healthy, and establish healthful behavioral patterns that persist throughout the lifecycle. We encourage individuals involved in the sports medicine system at the collegiate level to not only continue capitalizing on the physical wellness promoted by sports involvement, but also extend beyond a focus on an individual athlete's physical well-being and consider the environmental factors that impact his/her overall health and wellness, while providing culturally competent care.

The following case is an example from practice on how this model can be operationalized. LC is a 21- year- old football player who is a valuable asset to the defensive line. His coaches note that he has been distracted lately, has not been performing up to his usual levels of performance, has been having academic difficulty, and has been suggesting that he may not continue to play on the team. The coaching staff consult the team physician who has taken care of this athlete over the years with other injuries. The team physician has developed a supportive relationship with this athlete and makes a point during sports physicals to ask the athletes about their social lives and to normalize that the team is available to discuss all aspects of the athlete's lives. During the interview, the team physician conducts a psychosocial interview and the athlete reveals that he is concerned about his girlfriend, young daughter, and parent's safety at home in another state. He was involved with some people in his past and there have been recent conflicts that have concerned him and he wants to be back home. The team physician strategizes with the athlete on a plan of action that he feels will meet his unique cultural and social needs. She refers him to student counseling services, making a personal connection between the athlete and a counselor there. She involves the student athlete academic support professional and makes connections to the appropriate dean's office for the athlete's academic major. With the athlete's permission, they discuss the plans with the coach who allows for some time off to address some of the immediate issues. Close follow-up is planned via continued individual and team meetings with the athlete, team physician, and the appropriate campus

professionals until the situation is resolved. The athlete is able to return to his high level of athletic performance.

The innovative Holistic Athletic Healthcare Model recommends that clinicians use a framework for working with student-athletes that involves healthcare professionals collaborating with other campus, academic, social, health, and sports management professionals to create an athletic healthcare system that is more connected and efficient. Institutions can maximize their available resources by connecting and linking professionals from across disciplines so everyone has a role in addressing a particular aspect of student-athlete wellness. It defines wellness to support youth development as a whole person by promoting empowerment, compassion, empathy, respect, choice and autonomy.

In the future, researchers should test the application of this model in different types of collegiate sports medicine settings to determine the impact on student-athletes' health and well-being, as well as the effect on health disparities. Researchers need to collaborate with practitioners to develop and test a training intervention for sports medicine physicians that teaches them how to (a) use a strength-based approach, (b) address social determinants of health, and (c) demonstrate cultural competency during clinical interactions with student-athletes. In addition, institutions need to develop and test organizational models that create collaborative work environments for the multiple professionals who contribute to the well-being of student-athletes.

Adolescence and young adulthood are critical phases of the life cycle that determine many factors that will positively or negatively impact adult health across the rest of the life span. Collegiate athletes are a special population that receives the majority, if not all, of its health care in the sports medicine system during this critical phase of development. The Holistic Athletic Healthcare Model provides clinicians with a framework that can be adapted to create a campus system of care that positively develops athletes for healthy life experiences and effectively utilizes campus and community resources.

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