INTRODUCTION

This Report, the principal component of the Law and Ethics Initiative of The Football Players Health Study at Harvard University, aims to answer these fundamental questions: *Who* is responsible for the health of NFL players, why, and what can be done to promote player health? To date, there has been no comprehensive analysis of the universe of stakeholders that may influence player health, nor any systematic analysis of their existing or appropriate legal and/or ethical obligations. However, this sort of undertaking is essential to uncovering areas in need of improvement and making clear that the responsibility for player health falls on many interconnected groups that must work together to protect and support these individuals who give so much of themselves—not without personal benefit, but sometimes with serious personal consequences—to one of America's favorite sports. Without addressing and resolving these structural and organizational issues, and acknowledging a variety of potentiality relevant background conditions, any clinical approach to improving player health will necessarily fall short.

(A) The Public Debate Surrounding the Health of NFL Players

Before getting into the substance of the Report, it is important to describe our role in the public debate surrounding football. In line with the entirety of The Football Players Health Study, our goal in this Report is to be forward-looking. In seeking answers to our driving questions, we have reviewed the NFLPA, NFL, and every other stakeholder objectively and through an independent, academic lens with the exclusive goal of making the best recommendations possible to protect and promote the health of NFL players going forward. While we do sometimes provide relevant history, this is for the sole purpose of framing what is intended to be a set of prospective analyses and recommendations. In order to fully understand the current responsibilities of various stakeholders to protect and promote player health, it is essential to understand their historical relationships with players and one another, as well as their actions, omissions, controversies, and changes over time. Without this context, our recommendations would lack credibility and likely be too disconnected to influence change; they might also otherwise be simply wrong, impracticable, or ineffective. We necessarily took history into account in making our recommendations, and felt it essential to ensure that the reader can fully grasp the rationale for our suggested approaches. Thus, in the chapters that follow, we have provided substantial factual background. Our goal, however, is not to provide a comprehensive historical account, grapple with various allegations and defenses, judge past behavior, or allocate praise and blame. Instead, our focus is on *promoting positive change* where needed moving forward, through identification of critical gaps, opportunities for improvement, recognition of power and responsibility, and the like.

With that said, we understand and acknowledge that many people believe some of the stakeholders discussed in this Report, in particular the NFL, have failed to satisfy their obligations to player health.[4] More specifically, due to a number of acknowledged and alleged shortcomings, there is an ongoing public debate about the quality of the NFL's research efforts regarding the long-term neurological effects of playing in the NFL, as well as the League's response to emerging data over time.

A series of events in spring 2016 provide a good window into the nature of public debate about professional football and neurological disease, in particular chronic traumatic encephalopathy (CTE). CTE has been defined as a "progressive neurodegenerative disease."[5] As a preliminary matter, it is essential to understand the current state of the science related to the causes, diagnosis, symptoms, and treatment of CTE. At present, diagnosis of CTE is exclusively based on a pathology diagnosis, meaning that it determined through laboratory examination of bodily tissue, in this context, from the brain. Efforts are underway to link pathological findings to a clinical phenotype, or manifestation of discrete cognitive and behavioral symptoms. However, further research is needed, as described below.

Who is responsible for the health of NFL players, why, and what can be done to promote player health?

Christopher R. Deubert, I. Glenn Cohen, and Holly Fernandez Lynch
Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics at Harvard Law School

Retrospective case reports have found CTE pathology in the brains of former athletes—including former professional football players—who manifested mood disorders, headaches, cognitive difficulties, suicidal ideation, difficulties with speech, and aggressive behavior.[6] The vast majority of cases in these studies were associated with repetitive head trauma.[7] However, a mechanistic connection between head trauma and CTE has not yet been demonstrated.[8] Similarly, whether CTE is distinct from other neurodegenerative diseases[9] or whether repetitive head traumas are necessary and sufficient to cause CTE has not been definitively established.[10]

Of note, Jeff Miller, the NFL's Executive Vice President for Health and Safety Policy, participated in a March 14, 2016 roundtable discussion before the U.S. House of Representatives Energy and Commerce Committee on concussion research and treatment. During the roundtable, Miller answered questions from Representative Anna Eshoo (D-CA) following comments from Dr. Ann McKee from Boston University, recognized as one of the foremost experts in CTE research.

> ***McKee:*** *I unequivocally think there's a link between playing football and CTE. We've seen it in 90 out of 94 NFL players whose brains we've examined. We've found in 45 out of 55 college players, and 6 out of 26 high school players. Now I don't think this represents how common this disease is in the living population. But the fact that over 5 years I've been able to accumulate this number of cases in football players—it cannot be rare. In fact, I think we are going to be surprised at how common it is.*
>
> [McKee's comments about youth athletes omitted]
>
> ***Eshoo:*** *Mr. Miller, do you think there is a link between football and degenerative brain disorders like CTE?*
>
> ***Miller:*** *Well certainly Dr. McKee's research shows that a number of retired NFL players are diagnosed with CTE, so there . . . the answer to that question is certainly yes. But there are also a number of questions that come with that. What's the—*
>
> ***Eshoo:*** *So, I guess . . . Is there a link—*
>
> ***Miller:*** *Yes—*
>
> ***Eshoo:*** *'Cause we feel, or I feel, that, you know, that was not the unequivocal answer three days before the Super Bowl by Dr. Mitchell Berger.*
>
> ***Miller:*** *Well, I'm not going to speak for Dr. Berger, he's—*
>
> ***Eshoo:*** *Well you're speaking for the NFL, right?*
>
> ***Miller:*** *I . . . You asked the question about whether I thought there was a link, and I think certainly based on Dr. McKee's research there is a link because she's found CTE in a number of retired football players. My . . . I think that the broader point, and the one that your question gets to, is what that necessarily means and where do we go from here with that information. And so when we talk about a link, or you talk about the incidence or the prevalence, I think that some of the medical experts around the table—just for the record, I'm not a medical physician, so I feel limited here, or a scientist, so I feel limited in answering much more than that, other than the direct answer to your question—I would defer to number of people around the table to, you know, what the science means around the question that you're asking. And I'm happy to answer this specific question.*[11]

Miller's comments came about six weeks after Dr. Mitch Berger, a member of the NFL's Head, Neck, and Spine Committee made comments concerning a possible a link between football and CTE.[12] In fact, Berger's comments on the issue were more nuanced:

> *Well, what I would say is we know from the former players who have been evaluated, who have CTE, they've played football. So the question is, is there an association? We're concerned of course that there could be an association. Because we recognize the fact that there are long-term effects. But now we have to really understand to what degree those long-term effects occur.*
>
> * * *
>
> *There's an association between football, we think, or any traumatic brain injury, and possible long-term effects in terms of neurodegeneration. We do know, I would say unequivocally there are former players who have developed CTE. So there can be association. I would be the first one to say that.*[13]

In addition to the statistics cited by Dr. McKee in her comments, Boston University researchers have diagnosed CTE in 131 of 165 (79.4 percent) brains of individuals who, before their deaths, played football professionally, semi-professionally, in college, or in high school.[14] In one peer-reviewed study, Mayo Clinic and Boston University

researchers found that the brains of 21 of 66 former contact sport athletes demonstrated CTE, while CTE pathology was not detected in any of 198 individuals without exposure to contact sports.[15]

Many claimed that Miller's comments were the first time the NFL had stated there was a connection between playing football and CTE;[16] while the NFL subsequently insisted Miller's statement was consistent with its position,[17] although the NFL had not previously expressed such a position publicly.[e] In contrast, several club owners later made comments questioning a link between CTE and NFL play.[18] The owners' comments may have been based in part on a March 17, 2016 memorandum from NFL general counsel Jeff Pash. Pash's memorandum cited the District Court's opinion in the Concussion Litigation settlement decision (discussed in Chapter 7: The NFL and NFLPA),[19] which explained that the study of CTE is in its early stages and much is still unknown, including its symptoms.[20] Pash's memorandum also cited the most recent Consensus Statement on Concussion in Sport from the world's leading concussion researchers,[21] which explained that while CTE "represents a distinct tauopathy . . . speculation that repeated concussion or sub-concussive impacts causes CTE remains unproven."[22] On the part of the NFLPA, when asked about Miller's comments, NFLPA President Eric Winston said that the NFLPA "think[s] there's a link," but, like Miller, questioned "what does that link mean?"[23] Winston further explained that the NFLPA's position will follow "[w]here the science is telling us to go."[24]

Around the same time, *The New York Times* further questioned the NFL's past research efforts[25] and ESPN questioned the NFL's current research efforts,[26] with both reports receiving immediate counter-responses from the NFL.[27] As this played out, in a March 28, 2016 *New York Times* article, Dr. McKee herself cautioned against over-interpreting her group's research findings, stating that she has "no idea" what percent of former NFL players have CTE due to the fact that her laboratory's collection of brains is not representative of the former NFL player population. She went on to note, however, that her research at the very least suggests that the condition is not rare among former NFL players.[28]

As the *New York Times* acknowledged, there "remains a quieter debate among scientists about how much risk each football player has of developing [CTE]" and unanswered questions as to why "some players seem far more vulnerable to it than others."[29] CTE can, at present, only be diagnosed after death, upon physical examination of the brain itself—again, it is exclusively a pathological diagnosis.[30] As of the date of the Court's decision (April 22, 2015), only 200 brains with CTE had ever been examined (only some of which were from former NFL players), a figure that experts testified was "well short of the sample size needed to understand CTE's symptoms with scientific certainty."[31] The Court also explained that the studies that have examined CTE have a number of important limitations, including small sample sizes, selection bias in the populations studied, lack of control groups, reliance on family members to retrospectively report subjects' behavior, and lack of controls for other risk factors such as higher body mass index (BMI), lifestyle changes, age, chronic pain, or substance abuse.[32] The National Institute of Neurological Disorders and Stroke is now funding research seeking to clarify the link between CTE pathology and specific symptoms.[33]

Clearly, this is a complicated issue. At present, there is reason to believe there is a link between CTE and professional football, which even the NFL acknowledges, but there remain significant open questions about the significance of that link.

While other components of The Football Players Health Study are working to address various clinical issues and respond to important gaps in available scientific evidence regarding player health, in part through the largest cohort study of former NFL players ever conducted, the Law and Ethics Initiative is specifically focused on the current *structural* issues influencing player health. Thus, we do not seek here to resolve debates regarding the rapidly evolving science, nor do we seek to conduct an in-depth historical analysis of the NFL or NFLPA's previous efforts, research, and reporting concerning player health. Such issues have been covered at length in news articles, books, documentaries, and movies, and we do not recapitulate that work here. This choice is guided entirely by our focus on what is needed to protect and promote player health now, rather than any desire or pressure to protect either the NFL or NFLPA; we dissect the past insofar as it is relevant to the future, and in that regard, we do not hesitate in pointing out the failures of any stakeholder to adequately address player health.

Beyond these clarifications regarding scope, it is important to note that we also have not endeavored in this Report to evaluate football as a sport or to radically change its basic nature, instead taking the current game largely as a given Critics of this approach, many of whom view the NFL as a violent gladiator spectacle, may be unsatisfied with this

e In reviewing draft of this Report, the NFL stressed that "as early as 2008, the NFL acknowledged a potential link between concussions and long term problems." NFL Comments and Corrections (June 24, 2016), *citing* Alan Schwarz, *N.F.L. Acknowledges Long-Term Concussion Effects*, N.Y. Times, Dec. 20, 2009, http://www.nytimes.com/2009/12/21/sports/football/21concussions.html, *archived at* https://perma.cc/83AH-ENLP.

starting point, demanding to know why, as ethicists, we have not simply recommended that professional football cease to exist, at least in its present form. There are a number of reasons for this approach that are worth addressing explicitly here.

(B) Risks and Autonomy

As a preliminary matter, we recognize that the level of attention NFL player health is receiving at present—from Congressional hearings to daily media coverage—is such that current and future professional-level players are at least aware of the possibility of significant health risks, even if this has not always been the case in the past and even if the currently available data remain somewhat unclear. Given the range of risks we as a society allow competent adults to accept for themselves in a variety of contexts for a variety of reasons, we do not believe that it is presently appropriate or necessary to suggest that the opportunity to play professional football ought to be withheld as an ethical matter. Of course, reasonable disagreement on this score is expected, and some may prefer a precautionary approach,[34] suggesting that we ought to be convinced of the safety of professional football before allowing it to proceed. While we understand from where such a sentiment comes, our own view is that it is more appropriate to leave it to individual players to make their own decisions about whether or not to play, while empowering them with as much information and assistance to understand what is currently known and not known about the health effects of playing football and requiring all stakeholders to do their part to reduce risks of the game.

In this regard, it is helpful to consider whether there is some threshold level of risk associated with professional football that could, if eventually demonstrated through conclusive scientific evidence, alter this analysis such that simple reliance on the autonomous decisions of competent, adult professionals would no longer be ethically sufficient. In other words, when would we say that the risks of professional football are simply too high for players to be given the choice to accept them? To answer that question, it is important to contemplate when, if ever, interference with individual liberty of competent adults is acceptable, recognizing that this is a heavily contested area of political philosophy often without a clear consensus as to a "right" answer. What level of intervention is appropriate under what circumstances?

At the threshold, it is never problematic to support the exercise of individual autonomy by simply providing education and warnings based on the best available data; indeed, this ought not be considered interference with individual liberty at all, but rather is a liberty-*supporting* intervention. Thus, as discussed in more detail below, the NFL and NFLPA must, at the very least, continue to provide players with the accurate, timely, objective information likely to be material to their decisions to play and for how long.

It is also generally acceptable to interfere with individual decisions when an individual is not truly an autonomous decisionmaker, *i.e.*, if he is coerced, unduly influenced, or incapacitated in some way.[35] In some sense, this too is not true interference with individual liberty as there is some other feature inhibiting liberty itself. Below, we acknowledge the potential pressures that players may face when deciding whether to proceed in the NFL, and argue for substantial efforts to protect and support their autonomy. However, we do not maintain that these pressures ultimately render players' decisions coerced, "quasi-coerced,"[36] or impaired to such an extent that the decisions themselves ought to be ignored. Moreover, while it is certainly true that a player may become cognitively impaired, for example, after experiencing a concussion, and in that limited instance his decisions are not appropriately deemed autonomous, this is the exceptional player state—it does not justify a general disregard for player decision making, or withholding the option to play writ large.

Next, we come to the classic justification for true interference with individual liberty, which is that one individual's exercise of his liberty is interfering with the ability of others to do the same.[37] Thus, in paradigmatic public health examples, we might require vaccination to protect others from becoming sick, or even mandate the use of seatbelts or helmets to spare society from the costs associated with automobile and motorcycle accidents that extend beyond those borne by individuals directly.[38] In the context of preventing an adult from accepting the risks of playing professional football, then, we would need to ask what the externalities of accepting such risks might be—who might the cost of such risks accrue to other than the player himself? And then we must ask whether those externalities are greater than those that occur in the context of other activities that we allow competent adults to pursue.

First, society in general may have to pick up the tab for player healthcare to the extent that the benefits offered by the NFL and NFLPA are insufficient (*see* Appendix C: Summary of Collectively Bargained Health-Related Programs and Benefits). However, we do not typically

require individual decisions to accept risks or incur costs to be fully self-contained; if we did, we would not allow people to smoke, drink alcohol, eat poorly, or engage in a variety of other behaviors that a free society generally permits. Beyond monetary costs, we might also consider the harm experienced by a player's family and friends if he is seriously harmed by a professional football career. In that context, however, note that we do not prevent husbands or fathers from skydiving, BASE jumping, or any number of other activities that may be seriously risky over the short or long term, the consequences of which may be borne by others beyond the individual directly taking the risks.[39] Thus, it is difficult to see here what justification there might be for treating professional football differently, especially given the substantial benefits, financial and otherwise.

Finally, there is the possibility that the existence of professional football paves the way for the existence of the game at lower levels for college and youth athletes, such that we should be wary of allowing professionals to take risks that may also then be expected or experienced by amateurs, including children. Limiting the freedom of adult professionals, however, would be an indirect and likely unnecessary approach to ensure the protection of others; instead, the risks of youth and college football could be directly regulated and restricted, if those were the externalities at issue.

In sum, it seems that costs of various kinds that may occur as a result of letting competent adults play professional football are not so much more substantial than those that may occur in other socially permissible activities to justify a prohibition on the practice. Thus, the externalities rationale appears to us to be an inadequate reason to suggest that professional football players should not be permitted to accept even substantial risks to themselves, should that be what the scientific evidence ultimately shows. Of course, we recognize that others may prefer a more paternalistic approach, one that would actually protect players from even their own autonomous decisions that may cause them harm or regret. In that case, however, it would be necessary to identify some feature of professional football that renders players in *greater* need of protection than other competent adults. We have not been able to identify any such feature, or at least no such feature that would call for an absolute bar on the opportunity to play in the NFL as it currently exists.[f]

Ultimately, we as a society have determined that it is preferable to allow people to make decisions that may cause them harm than to live in a society in which others are allowed to decide what is best for us,[40] and we believe this concept holds with regard to professional football players as well. This certainly does not mean, however, that we advocate a principle of "every man for himself." To the contrary, we noted above that efforts to educate and support player autonomy are both justified and essential. Indeed, as will be discussed in this Report, the NFL and NFLPA have made important progress in these areas, but even more is needed.

> We have not endeavored in this Report to evaluate football as a sport or to radically change its basic nature.

Accordingly, we note that it is surely not the case that the NFL can satisfy its obligations by simple acknowledgment or disclosure of risks to players, any more than a company that offers bungee jumping services can simply disclaim the risk of death—it must also take steps to provide safe bungee cords, jump training, environments, and the like. Indeed, occupational safety and health laws in the United States preclude individuals from simply consenting to any workplace risk they may be willing to accept.[41] Instead, employers are required to take various steps to protect against such workplace risks, as we discuss extensively in our forthcoming paper, *The NFL as a Workplace: The Prospect of Applying Occupational Health and Safety Laws to Protect NFL Workers*. Precisely which steps are required depends on feasibility and the nature of the industry in question, but it is clear from both legal and ethical perspectives that respect for individual autonomy in the face of even substantial risks must be paired with reasonable efforts to abate risk exposure. Again, the NFL has made changes on these issues, including providing "among other things, training on proper tackling (including youth football initiatives), helmets, and protective gear," as well as implementing "rule changes for the purpose of protecting the players."[42]

f The strongest such argument would stem from the lack of relevant information regarding the risks and benefits of playing. Throughout this Report we urge the continued production of that kind of information, including through the funding of medical research on playing football. We harken back to the need for such information in our discussion of the ethical principle of Empowered Autonomy below.

Those efforts may occur through a variety of channels, but here we restrict ourselves to off-the-field interventions, rather than addressing on-the-field rules of play. As lawyers and ethicists, we believe it is beyond our legitimate expertise to recommend such specific changes. This is not to deny, of course, that the rules of play can have an important impact on player health; indeed, rule changes have historically been implemented to increase the safety of the game, and that trend continues today.[g] However, the effects of these changes are not always clear at the outset: some injury-reducing rule changes may inadvertently induce other types of risk-taking behavior, or reduce certain injuries while exacerbating others.

The costs of letting competent adults play professional football are not so much more substantial than those that may occur in other socially permissible activities to justify a prohibition.

As in any contact sport, a certain number of injuries in football are unavoidable. To produce a truly "safe" (*i.e.*, injury-free) game would require radical reconfiguration from the current status quo, and again, we suggest that this is beyond what is ethically required for a voluntary endeavor between consenting adults (even as we recognize that those consenting adults may be faced with competing priorities between their health and other goals, and may also be constrained by a variety of background conditions addressed below). Which on-the-field changes would be desirable depends on a multifactorial analysis of the benefits and drawbacks of the current version of the game (in regards to health and otherwise), the benefits and drawbacks of moving to a radically different game, and a method of weighing those benefits and drawbacks against the consequences of injuries to players and players' own desires and goals as they define them. In this regard, we note that The Football Players Health Study is a strong example of the participatory research model: the study is funded by NFL contributions to research as well as the players themselves (through CBA funds that can otherwise be allocated to player salaries)[43] and by the NFLPA specifically, which is tasked with representing player interests, and our study is guided by more than 30 Player Advisors. One message that we have heard loud and clear from the players is that while they hope the study will make important strides toward protecting and promoting player health, they have implored us not to make recommendations that could threaten the continued existence of the game. Thus, while we welcome recommendations for rule changes to improve player safety made by appropriate experts, evaluated in light of what players themselves want, we are not in a position to make these determinations as a definitive matter. Ultimately, we conclude that we are likely to be far more effective in protecting and promoting player health via off-the-field intervention than by suggesting that the game itself fundamentally change.

Before moving on, it is important to note that we have addressed here only the question of whether it is necessary or justifiable to eliminate the very opportunity for competent adults to play professional football, with all its attendant physical risks. As to that question, we believe the answer is "no." A distinct question exists as to whether it is ethical to watch or support professional football in various capacities as a non-player; a question we do not take on in this Report beyond addressing the roles of various stakeholders to support player health within existing parameters of the game.

* * *

With this critical background in mind, the remainder of this chapter further introduces the Report by describing its audience, articulating the process we used to develop our ultimate recommendations, and clarifying important points about scope and how the recommendations might be considered against the backdrop of the NFL's and NFLPA's historical approaches to player health. In the chapter that follows, we articulate a set of guiding ethical principles, before moving on to analysis of the wide range of stakeholders responsible for player health.

(C) Audience

This Report has several key audiences. First, there are the major change agents: current players; club owners; the NFL; the NFLPA; club medical staff; and, various player advisors. If change is to occur, these are the key individuals and entities that will need to effectuate it. However, we live in an era where discussions about protecting and promoting player health extend far beyond these change agents. Fans, the media, the NFL's business partners, and others all have a stake in, and more importantly, some power to shape,

g *See* Appendix I: History of Health-Related NFL Playing Rules Changes.

how the policies and practices of the NFL might evolve to best protect and promote player health.

Writing for such divergent audiences is a significant challenge. Ultimately, we decided to err in favor of providing a more comprehensive analysis, with all the complexity and length that entails. Although the entire context of the Report is important, the chapters are intended to be read relatively independently, except where there is significant overlap between material. Knowing that some readers will only be interested in reading selected chapters, we made the editorial decision to repeat important text in more than one chapter in order to enable chapters to better stand alone. As further assistance to readers, we have created brief summaries for each of the chapters, which also include our recommendations for moving forward.

It is also important to clarify the nature of our Report, as different audiences may be more accustomed to different research designs and formats depending on their field of practice or academic discipline. Unlike other components of The Football Players Health Study, this Report is not designed or intended to be an empirical analysis, although like much legal and ethical scholarship it relies on quantitative and qualitative data where available. The Report analyzes existing literature, case law, statutes, codes of ethics, policies and practices where available, supplemented with additional information from sources with direct knowledge where possible.

(D) Goals and Process

This Report has four functions. First, to **identify** the various stakeholders who influence, or could influence, the health of NFL players. Second, to **describe** the existing legal and ethical obligations of these stakeholders in both protecting and promoting player health. Third, to **evaluate** the sufficiency of these existing obligations, including enforcement and current practices. And fourth, to **recommend** changes grounded in that evaluation and ethical principles for each of the identified stakeholders.

It is worth describing the Report's functions in greater depth.

1) IDENTIFICATION: UNDERSTANDING THE MICROENVIRONMENT AFFECTING PLAYER HEALTH

Over several months, we conducted a comprehensive review of the sports law and ethics literature, and had in-depth conversations with a number of former players and representatives of the many stakeholders we identified as crucial to our analysis. This allowed us to supplement our existing expertise and understanding to generate a list of 20 stakeholders to focus on. The stakeholders are: players; club doctors; athletic trainers; second opinion doctors; neutral doctors; personal doctors; the NFL; NFLPA; NFL clubs; coaches; club employees;

Figure Introduction-A: The Report's Goals and Process

1	Identify	the various stakeholders who do or could influence the health of NFL players.
2	Describe	the existing legal and ethical obligations of these stakeholders in both protecting and promoting player health.
3	Evaluate	the sufficiency of these existing obligations, including enforcement and current practices.
4	Recommend	changes grounded in that evaluation and ethical principles for each of the identified stakeholders.

equipment managers; contract advisors; financial advisors; family members; officials; equipment manufacturers; the media; fans; and, NFL business partners. Each stakeholder is discussed in its own chapter, except the NFL and NFLPA, which are discussed together in light of their interdependence.

This comprehensive list of stakeholders is essential because one cannot understand, let alone improve, health outcomes for a population without understanding the larger context that created those health outcomes. What is instead needed is, in the words of the Institute of Medicine (now known as the National Academy of Medicine),[h] "a model of health that emphasizes the linkages and relationships among multiple factors (or determinants) affecting health."[44] When building such a model, it is essential to look at individual, interpersonal, institutional, and community domains to truly understand the terrain.

Players are, of course, the center of the universe for the purposes of this Report. After all, it is their health with which we are concerned, and it is they who make many of the key decisions that can protect and promote their health, or fail to do so. But it is essential to recognize that although they are competent adults, players make choices against a constrained set of background conditions, including limited information; it is often not as simple as saying "if you're hurt, don't play" or "if you're worried about the risks, find something else to do." These constraints include not only the kinds of limitations we all face as imperfect decision makers—for example, biases that lead us to believe that statistical predictions about scary or unpleasant outcomes will not apply to us (optimism bias), or to give more weight to our current needs and desires than to those of our future selves (present bias)[45]—but also financial, legal, and social structures that may constrain or shape available decisions.

For at least some players, football provided an opportunity to go to college that might not otherwise have been available or affordable, and at the professional level, the game can offer an avenue to pull players and their families out of generations of poverty, dangerous neighborhoods, and social strife in a way that likely would not be possible via an alternative career path. Of course, these are extremely attractive rewards, and even for players from more affluent backgrounds, the possibility of fame and lucrative contracts can be very compelling. However, these rewards are available only to a relatively select few, competition is fierce for every roster spot, and pressures are intense.

A decision not to play through injury or not to accept certain risks could make the difference between getting a contract or a contract extension and being cut. Moreover, although some players have million dollar contracts, many players make substantially less; even if their salaries are in the range of hundreds of thousands of dollars, they only have that earning potential for a relatively short period of time—they are generally not "set for life." In this context, players may feel the need to push themselves as hard as possible for as long as possible (and may also feel pressure from coaches, teammates, fans, and others), and face the consequences later. On top of all this, most players love the game. They love to play, they love the physicality, and they love the team mentality. Regardless of their physical limitations, they often *want* to play and do not want to let their teammates down.

Again, none of this is to suggest that players are not competent moral agents, making voluntary decisions to play football. They certainly are, but the background circumstances that influence their decisions, and that differ for each player, cannot be ignored. Thus, while we recognize that players bear responsibility for their own health, in many cases they simply cannot protect and promote their health entirely on their own, nor may they treat health as their unyielding primary goal. Although the competitive nature of the game and the limited available roster spots are inherent features that will not change, players need a structure that helps them make decisions that will advance their own interests, as they define those interests in the short- and long-term. This requires accurate information, unconflicted practitioners and advisors, social support and safety nets in place when they make choices that turn out poorly, easily accessible opportunities to prepare for life after football, and a culture shift toward greater respect and understanding for players who take steps to protect their health. Without changes in this support structure and other features beyond player control, meaningfully improving player health is impossible.

Thus, while recognizing a critically important role for players, this Report also views a variety of additional stakeholders as key influences, for good or for bad, on player health. It is helpful to understand these stakeholders as falling into several groupings, which mirror the Parts of this Report.

Part 1 begins with the players, the focal point of our analysis.

Part 2 is devoted to the player's medical team, those stakeholders that provide medical diagnosis and treatment, as well as athletic training, focusing directly on player health. Parts of this team (club doctors, athletic trainers) are largely

h The National Academy of Medicine is a nonprofit, nongovernmental organization that conducts research and provides advice concerning medical and health issues.

within the club, or at the League level (neutral doctors). Others (the player's personal doctor and second opinion doctors) are available to the player outside the ambit of the club or the League.[i]

The second grouping, contained in Part 3, includes the chief policymakers for all matters related to promoting and protecting players' health: the NFL; the NFLPA; and, the individual clubs. These stakeholders represent the club owners and the players respectively, and their policies are primarily codified in the various CBAs. Because so many of our recommendations are ones that we envision being enacted through the CBA process, we spend considerable time in this Report discussing the NFL's and NFLPA's past efforts concerning player health to ground our recommendations for the future.

While there are a number of critical League-wide policies, when it comes to player health there can also be heterogeneity among the practices of individual clubs. Our third grouping, discussed in Part 4, examines the stakeholders that, apart from the medical team, influence player health at the club level: club employees; and, equipment managers.

Of course, players often look outside the club or the League for advice related to their health and for social support. The fourth grouping looks at who they turn to: contract advisors; financial advisors; and, family members. Part 5 examines these stakeholders.

More on the periphery is a somewhat miscellaneous set of stakeholders we discuss in Part 6: officials; equipment manufacturers; the media; fans; and, NFL business partners. In keeping with our assessment that their effects on players' health and ethical duties are more attenuated, we spend less time analyzing and making recommendations for this group. Nonetheless, they are an important part of understanding the full range of stakeholder influences on player health.

Finally, Part 7 briefly discusses several groups that are "interested parties" but do not quite rise to the level of a true stakeholder in the microenvironment that has the health of professional players at the center: the National Collegiate Athletic Association (NCAA); youth leagues; governments; worker's compensation attorneys; and, health-related companies. Understanding these parties may be helpful for understanding the broader context in which player health issues arise and are addressed, but we make no recommendations relating to these groups, for reasons discussed in Part 7.

Figure Introduction-B on the next page shows the intersections of these stakeholders in the microenvironment of player health.

i At the beginning of Part 2, we acknowledge that there are other medical professionals who work with NFL players, including but not limited to physical therapists, massage therapists, chiropractors, dentists, nutritionists, and psychologists. While a health care professional from any one of these groups might play an important role in a player's health, it is our understanding that their roles are not so systematic and continuous to require in-depth personalized discussion, *i.e.,* they are typically not as enmeshed within the culture of a given NFL club to generate some of the concerns that are discussed in Part 2. Moreover, the obligations of and recommendations towards these professionals are substantially covered by other chapters in this Report. To the extent any of these healthcare professionals are employed or retained by the Club, Chapter 2: Club Doctors and Chapter 3: Athletic Trainers are of particular relevance. To the extent any of these healthcare professionals are retained and consulted with by players themselves, then Chapter 6: Personal Doctors is relevant.

It is essential to recognize that although they are competent adults, players make choices against a constrained set of background conditions.

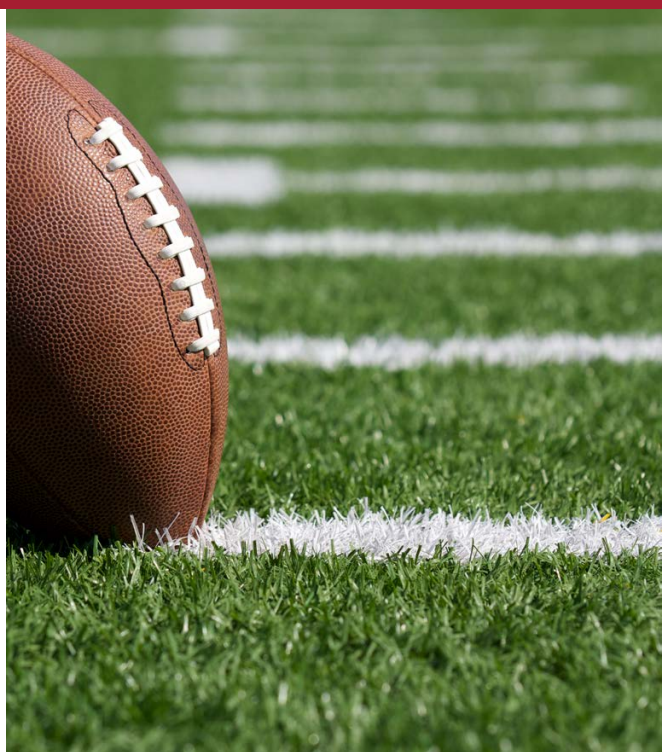
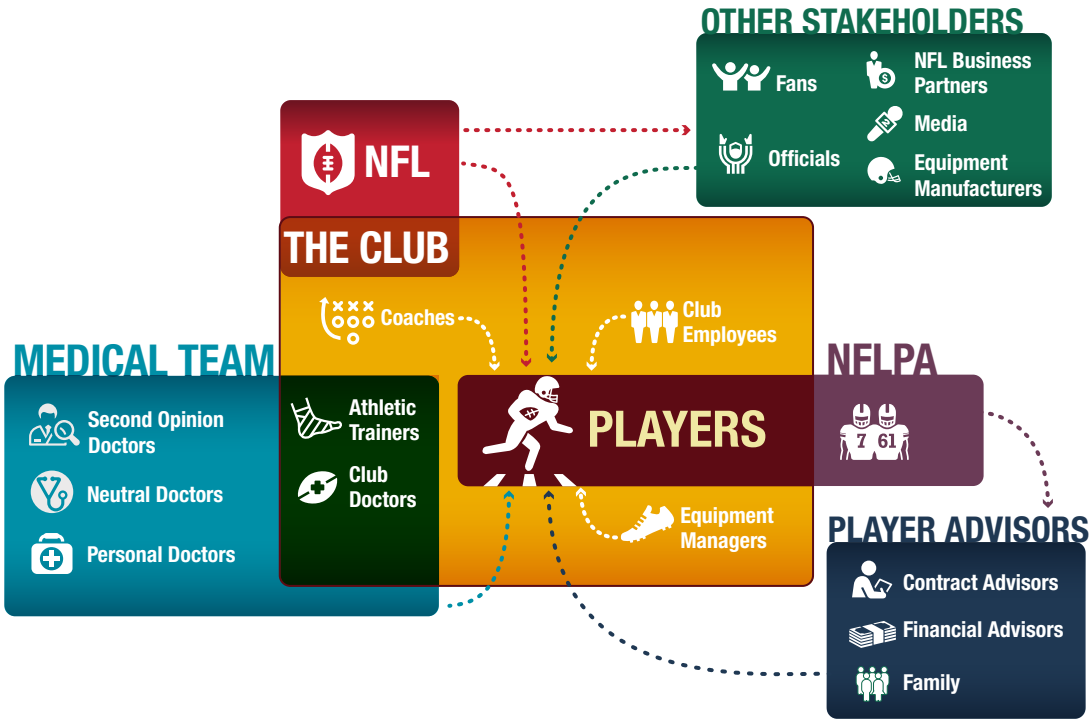


Figure Introduction-B: Player Health Microenvironment



How did we arrive at this list of stakeholders? The key criterion for inclusion was simple: who (for better or worse) does—or should—play a role in NFL player health? The answer to that question came in three parts, as there are individuals, groups, and organizations who *directly impact* player health, for example, as employers or caregivers; those who *reap substantial financial benefits* from players' work; and, those who have some *capacity to influence* player health. Stakeholders may fall under more than one of these headings, but satisfaction of at least one criterion was necessary for inclusion. The result is an extensive mapping of a complex web of parties.

2) DESCRIPTION OF LEGAL AND ETHICAL OBLIGATIONS

Once our stakeholders were identified and appropriately organized in line with the microenvironment discussed above, we undertook a comprehensive analysis of their existing legal obligations and the ethical codes applicable to each (if any) through legal research, review of academic and professional literature, and interviews with key experts. We conducted formal and informal interviews with a number of current and former players, NFL and NFLPA representatives,[j] sports medicine professionals, contract advisors, financial advisors, player family members, members of professional organizations representing coaches, athletic trainers, officials, and equipment managers, the media, and others working in and around the NFL. In the hope of encouraging full and candid disclosure, we offered these individuals the opportunity to have their comments be used confidentially and we have honored their preferences in this Report. The interviews were not intended to be representative of the different stakeholder populations or to draw scientifically valid inferences and they should not be used for that purpose. Instead, they were meant to be informative of general practices in the NFL.

Additionally, in the Section: Ensuring Independence and Disclosure of Conflicts, we discuss our methodology for obtaining relevant information from both the NFLPA and NFL. During the course of our research we had multiple telephone and email communications with both NFLPA and NFL representatives to gain factual information. As will be indicated where relevant in the Report, sometimes the parties provided the requested information and

j During the course of reviewing this Report for confidential information, the NFLPA requested information obtained from the NFLPA be attributed to the NFLPA generally, rather than specific NFLPA employees. For our purposes, the specific individual that provided the information was irrelevant, so long as the NFLPA provided the information. Thus, we agreed not to identify specific NFLPA employees.

sometimes they did not. These communications were not about the progress, scope, or structure of the Report.

As is typical with sponsored research, we provided periodic updates to the sponsor in several formats: Pursuant to the terms of Harvard-NFLPA agreement, the NFLPA receives an annual report on the progress of The Football Players Health Study as well as one Quad Chart progress report each year. Additionally, on two occasions (August 22, 2014, and January 23, 2015), we presented a summary of the expected scope and content of the Report to The Football Players Health Study Executive Committee, comprised of both Harvard and NFLPA personnel. Those meetings did not alter our approach in constructing this Report, the conclusions reached, or the recommendations made. Indeed, the only comment from the Executive Committee meetings that resulted in a change to the content of the Report was the suggestion at the very beginning of the writing process to include business partners as a stakeholder, which we agreed to be important.

More specific information about our player interviews is also important. To better inform our understanding of players and all of the stakeholders and issues discussed in this Report, we conducted approximately 30-minute interviews with 10 players active during the 2015 season and 3 players who recently left the NFL (the players' last seasons were 2010, 2012, and 2012 respectively).[k] The players interviewed were part of a convenience sample identified through a variety of methods; some were interested in The Football Players Health Study more generally, some we engaged through the Law and Ethics Advisory Panel (LEAP) and Football Players Health Study Player Advisors, and some interviews were facilitated by a former player now working for the NFLPA. The players interviewed had played a mean of 7.5 seasons, with a range of 2 to 15 seasons, and for a mean of between 3 and 4 different clubs (3.4 clubs), with a range of 1 to 10 clubs. In addition, we interviewed players from multiple positions: one quarterback; two fullbacks; one tight end; three offensive linemen; two linebackers; one defensive end; two safeties; and, a special teams player (not a kicker, punter, or long snapper). We aimed for a racially diverse set of players to be interviewed: seven were white and six were African American. Finally, the players also represented a range of skill levels, with both backups and starters, including four players who had been named to at least one Pro Bowl team.

In addition to these more formal interviews, we engaged in informal discussions and interviews with many other current and former players to understand their perspectives. As stated above, these interviews were not intended to be representative of the entire NFL player population or to draw scientifically valid inferences, and should not be read as such, but were instead meant to be generally informative of the issues discussed in this Report.[l] We provide anonymous quotes from these interviews throughout the Report, and urge the reader to keep that caveat in mind throughout.

The key criterion for inclusion was simple: who (for better or worse) does — or should — play a role in NFL player health?

We were not always able to achieve as much access to interview subjects or documents as would have been ideal. In November 2014, we notified the NFL that we intended to seek interviews with club personnel, including general managers, coaches, doctors, and athletic trainers. The NFL subsequently advised us that it was "unable to consent to the interviews" on the grounds that the "information sought could directly impact several lawsuits currently pending against the league." Without the consent of the NFL (the joint association for NFL clubs, *i.e.*, the employers of these individuals), we did not believe that the interviews would be successful and thus did not pursue them at that time; instead, we provided those stakeholders the opportunity to review a draft of the Report. We again requested to interview club personnel in July 2016 but the NFL did not respond to that request. The NFL was otherwise cooperative; it reviewed our Report and facilitated its review by club doctors and athletic trainers. The NFL also provided information relevant to this Report, including but not limited to copies of the NFL's Medical Sponsorship Policy (discussed in Chapter 2: Club Doctors) and other information about the relationships between clubs and doctors.

k The protocol for these interviews was reviewed and approved by a Harvard University Institutional Review Board.

l We have also undertaken a "Listening Tour" of former players, current players, and their family members — a qualitative study design — to better understand their perspectives and the issues affecting them, but the results of that research are not yet available.

In April 2016, we engaged the NFL Physicians Society (NFLPS), the professional organization for club doctors, about reviewing relevant portions of a draft of the Report and related work. The NFLPS at that time questioned how many club doctors we had interviewed in developing the Report, apparently unaware of the NFL's prior response to our planned interviews. We were surprised to find that the NFL had not previously discussed the matter with the NFLPS and immediately invited the NFLPS to have individual club doctors interviewed, an offer the NFLPS ultimately declined. Instead, it chose to proceed with reviewing our work and providing feedback in that manner.

The absence of individual interview data from club personnel is an important limitation to our work. The result is that we instead rely largely on the perspectives of players concerning these individuals. Nevertheless, we believe this gap is mitigated by our extensive research and the NFL's and club doctors' review of this Report.

3) EVALUATION OF LEGAL AND ETHICAL OBLIGATIONS

Once we had a better sense of the existing obligations, or lack thereof, and how those obligations were or were not complied with or enforced, we were able to begin normative analysis, evaluating the current successes as well as gaps and opportunities for each stakeholder in protecting and promoting player health.

4) RECOMMENDATIONS

Finally, we applied a series of legal and ethical principles, discussed in the next chapter, to the current state of affairs for each stakeholder in order to arrive at recommendations for positive change where needed. For every recommendation we describe both the *reason* for the change and, where applicable, potential *mechanisms* by which it may be implemented. However, we avoided being overly specific or prescriptive when multiple options for implementation may exist, and where we lacked sufficient information to determine which mechanism might be best.

While we consider and discuss all changes that could improve player health, we purposefully chose to focus on *actionable recommendations* that could be realistically achieved between the publication of this Report and execution of the next CBA (discussed in detail below).[m] This pragmatic approach does not mean that we are giving stakeholders a pass to simply accept the many current barriers to change that may exist, but it does recognize that change may be difficult in this complex web of relationships and in a culture that has developed over the course of many decades and is deeply entrenched. Furthermore, certain changes might require further information, research, or discussion than we were able to achieve in this Report. When we concluded that was the case, we so indicated by recommending only that a change be "considered" or that additional information be sought. Our recommendations may not be easy to achieve, but we have taken into account various realities.

Finally, it is important to recognize that we do not view our recommendations as the exclusive changes that the various stakeholders should consider. We do, however, view these as minimum next steps forward—a floor, but not a ceiling.

Each chapter largely follows the goals and process outlined above. The sections of each chapter include: (A) Background; (B) Current Legal Obligations; (C) Current Ethical Codes; (D) Current Practices; (E) Enforcement of Legal and Ethical Obligations; and, (F) Recommendations.

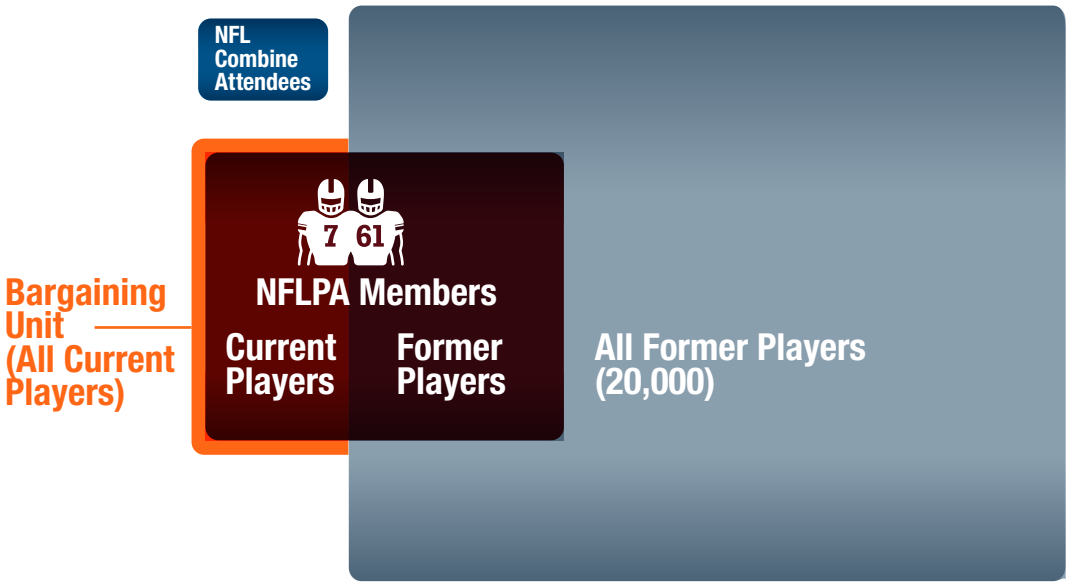
(E) The Collective Bargaining Agreement (CBA)

As discussed above, it is important that our recommendations be actionable. Moreover, we recognize that the most realistic way in which change will be effectuated is through the CBA. Thus, we provide a primer on the CBA.

Pursuant to the National Labor Relations Act (NLRA), the NFLPA is "the exclusive representative" of current and rookie NFL players "for the purposes of collective bargaining in respect to rates of pay, wages, hours of employment, or other conditions of employment."[46] Also pursuant to the NLRA, NFL clubs, acting collectively as the NFL, are obligated to bargain collectively with the NFLPA concerning the "wages, hours, and other terms and conditions of employment" for NFL players.[47] Since 1968, the NFL and NFLPA have negotiated 10 CBAs. The most recent CBA (executed in 2011) is 301 pages long and governs nearly every aspect of the NFL. Generally speaking, most important changes in NFL policies and practices are the result of the CBA process. Consequently, CBAs are of paramount importance to understanding how the business of the NFL functions and making recommendations for improvement. Appendix B shows the health-related changes in the CBAs over time.

m The 2011 CBA expires in March 2021. 2011 CBA, Art. 69.

Figure Introduction-C: NFLPA Membership and Bargaining Unit



Throughout this Report, we refer to the CBAs by years, such as the 1968 CBA, 1993 CBA, or 2011 CBA. The years reference the dates the CBAs became effective, which is usually, but not always, the year in which the CBA was agreed to, *i.e.*, some CBAs had retroactive application.

Why discuss the past CBAs and the CBA process so heavily in this Report? The CBA represents the key covenant between players (via the NFLPA) and club owners (via the NFL), on all matters pertaining to player health (alongside many other important issues that matter to these parties). The most straightforward way to implement many of the changes we recommend to protect and promote player health will be to include them in the next CBA. That said, however, whenever change is possible outside of the CBA negotiating process, it should not wait—the sooner, the better. Moreover, although the CBA will often be the most appropriate mechanism for implementing our recommendations, we do not want to be understood as suggesting that player health should be treated like just another issue for collective bargaining, subject to usual labor-management dynamics. This is to say that as an ethical matter, players should not be expected to make concessions in other domains in order to achieve gains in the health domain. To the contrary, we believe firmly the opposite: player health should be a joint priority and not be up for negotiation.

(F) A Brief History of the NFL's and NFLPA's Approaches to Player Health

Now that we have explained the significance of the collective bargaining relationship between the NFL and NFLPA, we provide a short historical summary of the parties' approach to player health. In Chapter 7: The NFL and NFLPA, we provide a more detailed discussion (including relevant citations) of the issues summarized here.

The 1960s and 1970s were marked by the League's growth into the modern enterprise that it is today. Under the leadership of Commissioner Pete Rozelle, the NFL achieved stability by merging with its competitor league, the American Football League (AFL), and important new revenue as a result of the broadcasting of NFL games on television, aided by the passage of the federal Sports Broadcasting Act. The increased revenues coincided with an emerging NFLPA, led by its first Executive Director, Ed Garvey. Although progress was made on basic medical issues (such as medical insurance and disability benefits) during this time, the principal items of negotiation were compensation issues and free agency.

The 1980s were characterized by labor strife. The players engaged in unsuccessful strikes during the 1982 and 1987 seasons as part of their efforts to obtain a system of free agency, which by that point existed in all the other major professional sports leagues. While the players did not gain on this issue, the 1982 CBA did make progress on several health initiatives, including required certifications for club doctors and athletic trainers, the players' right to a second medical opinion paid for by their club, and the players'

right to choose their own surgeon at their club's expense. In this decade, former NFL player Gene Upshaw took over for Garvey at the NFLPA, and former outside counsel Paul Tagliabue replaced Rozelle as Commissioner. The 1980s ended with a series of ongoing antitrust lawsuits concerning the NFL's compensation rules.

As an ethical matter, players should not be expected to make concessions in other domains in order to achieve gains in the health domain.

In 1993, the NFL and NFLPA reached a settlement on the outstanding litigation and created a new, comprehensive CBA that set the framework for every CBA since. The players gained the right to unrestricted free agency for the first time in exchange for a hard Salary Cap. Nevertheless, the 1993, 1996, and 1998 CBAs made almost no substantive changes to player health provisions, other than mild increases in the benefit amounts. At the same time, concussions were starting to become an issue of concern to players and were gaining media attention. In 1994, the NFL formed the Mild Traumatic Brain Injury Committee (MTBI Committee) to study concussions, led by New York Jets club doctor Elliot Pellman.

The CBA was extended in 2002 with minimal conflict and again minimal gains on player health provisions. Of note, offseason workout programs were reduced from 16 to 14 weeks and the NFL established a Tuition Assistance Plan. Beginning in 2003, the MTBI Committee published research that became controversial, as discussed in more detail in Chapter 7: The NFL and NFLPA.

A new CBA was reached in 2006 that made some changes concerning player health, including a Health Reimbursement Account, and the "88 Benefit" to compensate retired players suffering from dementia. After completing the 2006 CBA, Roger Goodell replaced Tagliabue as NFL Commissioner.

Concerns about concussions and player health accelerated during the late 2000s. Both the NFL and NFLPA faced criticism on these issues, including at multiple Congressional hearings. At a 2009 hearing, NFLPA Executive Director DeMaurice Smith, who replaced the recently deceased Upshaw, emphasized that the NFLPA considered player health its top priority and would increase its attention to these issues. For his part, Goodell deferred to the scientific debate about the extent to which football caused brain injuries, while he also emphasized progress the NFL had made concerning its concussion protocols and research it was funding. After the hearing, the NFL effectively overhauled the MTBI Committee, renaming it the Head, Neck and Spine Committee and replacing its members with independent experts. Nevertheless, further progress on these issues was complicated by the NFL's decision, in 2008, to opt out of the 2006 CBA after the 2010 season over economic issues.

The 2011 CBA negotiations ultimately resembled a condensed version of what took place between 1987 and 1993. After extensive litigation and public politicking, the NFLPA and NFL reached a new CBA in July 2011. The 2011 CBA substantially amended and supplemented player health and safety provisions. In short, the 2011 CBA created new health-related benefits and programs, increased existing benefit amounts, reduced on-field exposure, improved the number and type of doctors clubs must retain, and set aside funds for further research. Those funds are used to fund The Football Players Health Study at Harvard University and other research initiatives.

(G) Dispute Resolution

With a brief understanding of the CBA and the NFL's and NFLPA's approaches to player health, it is important to understand how players and other stakeholders resolve disputes about the CBA or parties' policies and practices. In this Report we discuss ways in which players have enforced and can enforce stakeholder obligations, *i.e.*, ways in which players can seek to either have the stakeholder punished for failing to abide by the stakeholder's obligations, and/or for the player to be compensated for that failure. The two principal methods by which players seek to enforce stakeholder obligations are through civil lawsuits or in arbitrations, typically through procedures outlined in the CBA. Arbitrations are a private alternative to litigation in public courthouses. As is discussed in this Report, there are often legal disputes about the forum in which a player is required bring his claim.

Nevertheless, we do not strongly advocate for one dispute resolution system over another. There are benefits and drawbacks to each, as detailed in Appendix K: Players' Options to Enforce Stakeholders' Legal and Ethical Obligations. What is important for our purposes is that players have meaningful mechanisms through which to address their claims. In places where we think players' ability to enforce stakeholder obligations is unclear or inefficient, we have made recommendations designed to improve players' rights.

Finally, it is our hope that player health will become a shared issue of concern, and less of one subject to dispute. For this reason, mediation can also be an effective form of alternative dispute resolution. Mediation involves a trained third party working with both sides to reach a mutually acceptable agreement. Through mediation, players and the various stakeholders discussed herein might be able to reach fair outcomes without resorting to more adversarial proceedings such as lawsuits and arbitrations.

(H) Scope of the Report

As already alluded to, the scope of this project is to generate legal and ethical recommendations that will improve the health of professional football players, current, future, and former. To fully grasp what is to come, it is essential to clarify these parameters.

1) DEFINING HEALTH

First, it is necessary to understand what we mean by "health" and to explain the rationale for our definition, which extends beyond the sort of clinical measurements that might immediately be evoked by the phrase. Indeed, our mantra "The Whole Player, The Whole Life" motivates definition used in this Report. "Health" clearly covers the conventional and uncontroversial reference to freedom from physical and mental illness and impairment. But health is much more than the mere absence of a malady. As a prominent medical dictionary notes, the

> . . . state of health implies much more than freedom from disease, and good health may be defined as the attainment and maintenance of the highest state of mental and bodily vigour [sic] of which any given individual is capable. Environment, including living and working conditions, plays an important part in determining a person's health, as do factors affecting access to health such as finance, ideology, and education.[n]

Other groups take the definition of "health" even further. For example, rather than recognizing environment, living and working conditions, finance, ideology, and education as factors that determine a person's health or access to health, the World Health Organization (WHO) treats them as part of health itself, which it defines as "a state of complete physical, mental and *social well-being* and not merely the absence of disease or infirmity"[48] (emphasis added). Because the WHO definition is so broad as to make nearly any question a health question, we do not directly adopt it here.

However, we do maintain the importance of considering the full range of nonmedical inputs that can influence health, also known as the social determinants of health. These social determinants extend beyond the sorts of things for which one would seek out a doctor's care, and include broadly "the conditions in which people are born, grow, live, work, and age," as affected by the "distribution of money, power, and resources at global, national and local levels."[49] Indeed, the NFL's Player Engagement Department itself includes "physical strength," "emotional strength," "personal strength," and "financial strength" within its concept of "total wellness."[50]

In Chapter 13: Financial Advisors, we discuss several reports and studies with conflicting information about the financial health of NFL players. Nevertheless, it is clear that there are serious concerns about former players' financial challenges. The relationship between physical and financial health goes in both directions. Without adequate savings and benefits during and after NFL play, players may find themselves insufficiently prepared to meet their physical and mental health needs, especially in the event of crisis.[51] On the flip side, crises in physical and mental health are closely tied to bankruptcy, home foreclosure, and other serious financial setbacks.[52] At its worst, these two outcomes can lead to a vicious cycle—poor health outcomes lead to financial losses, which worsen the ability to combat physical and mental health impairments, which in turn further deplete financial resources. Additionally, financial health is also in and of itself an important component of a person's health. Financial difficulties can cause stress that contributes to or exacerbates psychological and physical ailments.

Acknowledging these social determinants of health allows us to recognize that a set of recommendations limited exclusively to medical care, medical relationships, and medical information would not suffice to achieve our goal of maximizing player health. Acknowledging the social determinants of health recognizes that a set of recommendations limited exclusively to medical care, medical relationships,

n Black's Medical Dictionary (42 ed. 2010). *See also* Black's Law Dictionary (9th ed. 2009) (defining "health" as "(1) the state of being sound or whole in body, mind, or soul. (2) Freedom from pain or sickness"); Attorney's Illustrated Medical Dictionary (American Jurisprudence Proof of Facts 3d Series 2002) (defining "health" as "[a] state of physical, mental and social well-being, characterized by optical functioning without disorders of any nature."); Stedman's Medical Dictionary (28th ed. 2006) (defining "health as "(1) The state of the organism when it functions optimally without evidence of disease or abnormality. (2) A state of dynamic balance in which an individual's or a group's capacity to cope with all the circumstances of living is at an optimal level. (3) A state characterized by anatomic, physiologic, and psychological integrity, ability to perform personally valued family, work and community roles; ability to deal with physical, biologic, psychological, and social stress; a feeling of well-being, and freedom from the risk of disease and untimely death.").

and medical information would not suffice to achieve our goal of maximizing player health. We cannot focus solely on avoiding brain injury, protecting joints, and promoting cardiovascular health, for example, but we must also address well-being more generally, which depends on other factors, such as the existence of family and social support, the ability to meet economic needs, and life satisfaction.

Acknowledging the social determinants of health recognizes that a set of recommendations limited exclusively to medical care, medical relationships, and medical information would not suffice to achieve our goal of maximizing player health.

We define health for purposes of this Report as "a state of overall wellbeing in fundamental aspects of a person's life, including physical, mental, emotional, social, familial, and financial components." While our expansive definition of health might be more applicable to some stakeholders than others, we believe it is important to provide one definition that applies to all stakeholders.[o]

Accordingly, this Report makes recommendations not only about ways to influence players' medical outcomes, but also ways to positively influence the role of social determinants in their health. This translates to recommendations about financial management, retirement planning, the contract advisor and financial advisor industries, education and training for careers after the NFL, and others—ultimately factors that can become significant stressors if not handled appropriately, with serious consequences for physical, social, and financial health in the short and long term.[53]

Although reference to "health and well-being" is more descriptive of the breadth we have in mind, going forward, we will simply refer to "health" as shorthand to refer to both medical issues (physical and psychological) and social determinants of health.

A second clarification about our understanding of health is also worth making explicit. This is to draw a distinction, as has become common in public health, bioethics, human rights, and political philosophy, between "capabilities" and "functionings." Capabilities are central, essential entitlements needed to live a life that is a truly good life for a human being; they are what is needed to allow for human flourishing.[54] On one particularly influential list from the philosopher Martha Nussbaum these include, among other things, living a normal life span, bodily health, bodily integrity, being able to use the senses, the imagination, and thought, and experiencing normal human emotions.[55] But these capabilities are really possibilities, not mandates. They refer to the capability to do X, rather than a mandate that a person do X (a functioning). To define what makes a life good in terms of functioning instead of capability would threaten to push "citizens into functioning in a single determinate manner, [and] the liberal pluralist would rightly judge that we were precluding many choices that citizens may make in accordance with their own conceptions of the good."[56]

For this reason, whenever we discuss promoting player health in this Report we are discussing promoting players' *capabilities* related to health. As we recognize and discuss in greater depth below in our principle of "empowered autonomy," whether and how players decide to exercise those capabilities for health is something that is left up to them. We will have satisfied our duties to players if we can support their capabilities for health, whatever they decide to do with those capabilities. That said, however, we recognize, as explained above, that players face a wide variety of constraints and pressures that may influence their ability and willingness to exercise their capabilities for health. As such, we endeavor in this Report to minimize those constraints and pressures to the extent possible.

Finally, it is important to understand the temporal dimension of health we aim to improve. A driving theme for the entire Football Players Health Study is the idea that we are focused on the whole player, over his whole life. When we discuss promoting player health we have in mind the "long game," and the goal is not only to keep players healthy during their playing years or immediately afterwards, but throughout their (hopefully long) lifetimes.

o For example, some might believe our definition of health is too broad to be imposed on employers such as the NFL and NFL clubs. However, as is explained in this Report, the NFL and clubs have voluntarily taken on responsibilities and facilitated many programs that address the components of our broader definition of health, including but not limited to programs concerning mental and financial health. Additionally, we note that employers are increasingly adopting initiatives, such as wellness programs, to advance employee health rather than to simply prevent injuries on the job. *See* Kristin Madison, *Employer Wellness Incentives, the ACA, and the ADA: Reconciling Policy Objectives*, 51 Willamette L. Rev. 407, 411–14 (2015).

2) A FOCUS ON PROFESSIONAL FOOTBALL PLAYERS

In identifying the universe of appropriate stakeholders and making recommendations regarding player health, we have taken as our threshold the moment that a player has exhausted or foregone his remaining college eligibility and has taken steps to pursue an NFL career. From that point on what needs to happen to maximize his health, even after he leaves the NFL? The reason we have selected this frame is not because the health of amateur players—those in college, high school, and youth leagues—is secure or unimportant. Instead, the reason is largely pragmatic: there is only so much any one report can cover, and adding analysis of additional stakeholders such as the NCAA, youth leagues, and parents would confuse an already complicated picture. We recognize that what happens at the professional level can have a trickle-down effect on the culture of football across the board, and also that some amateur players may be taking health risks in hopes of eventually reaching the NFL, even when that may be highly unlikely. Moreover, we acknowledge that the legal and ethical issues that arise regarding individuals who are not competent to make their own decisions (*e.g.*, children) are substantially more difficult. Nonetheless, our goal with this Report is to address the already complicated set of factors influencing the health of NFL players, current, future, and former.

That said, many of our recommendations will be most relevant to current and future players, simply because former players may not continue to be engaged with or affected by many of the stakeholders that we have covered, or may be past the point at which implementation of particular recommendations could help them. For example, no matter what improvements we recommend related to club doctors, these could not affect players who are no longer affiliated with any club.

We nonetheless acknowledge that concerns about the health of former NFL players have been an important contributing motivation for research on NFL player health issues, including The Football Players Health Study. Although we focus on current players, the health benefits available to players after their career are an important component of player health. We have summarized these benefits in Appendix C. In addition, in our forthcoming Report, *Comparing the Health-Related Policies and Practices of the NFL to Other Professional Sports Leagues*, we provide an in-depth analysis of these benefits and compare them to those available in other professional sports leagues. Comparing the benefits raises difficult questions of what players are entitled to and when they are entitled to it. We address these issues in our forthcoming Report.

With this Introduction to our work at hand, we next outline our governing ethical principles before moving on to discussions of the stakeholders comprising the microenvironment of player health.

Endnotes

1 CBA, Art. 12, § 5.

2 Nat'l Football League Players Ass'n, *Request for Proposals Advancing the Frontiers of Research in Professional Football* (2012), § 1(a).

3 Alvaro Pascual-Leone and Lee M. Nadler, *Let's not kill football yet,* Pitt. Post. Gazette, May 10, 2015, http://www.post-gazette.com/opinion/Op-Ed/2015/05/10/Let-s-not-kill-football-yet-Yes-players-get-injured-but-the-scope-of-the-problem-is-far-from-clear/stories/201505100034, *archived at* http://perma.cc/V3DN-Z2F3.

4 *See generally* Mark Fainaru-Wada & Steve Fainaru, League of Denial: The NFL, Concussions and the Battle for Truth (2013).

5 *See* Michelle Saulle M & Brian D. Greenwald, *Chronic Traumatic Encephalopathy: A Review*, 2012 Rehabil. Res. Pract. 1 (2012) (defining CTE as "a progressive neurodegenerative disease that is a long-term consequence of single or repetitive closed head injuries for which there is no treatment and no definitive pre-mortem diagnosis."); Bennet Omalu et al., *Emerging Histophormorphic Phenotypes of Chronic Traumatic Encephalopathy in American Athletes,* 69 Neurosurgery 173 (2011) (defining CTE as "a progressive neurodegenerative syndrome caused by single, episodic or repetitive blunt force impacts to the head and transfer of acceleration–deceleration forces to the brain."); Ann McKee et al., *Chronic Traumatic Encephalopathy in Athletes: Progressive Tauopathy After Repetitive Head Injury*, 68 J. Neuropathology & Experimental Neurology 709 (2009) (describing CTE as "shar[ing] many features of other neurodegenerative disorders").

6 *See* Joseph C. Maroon et al. *Chronic Traumatic Encephalopathy in Contact Sports: A Systematic Review of All Reported Pathological Cases*, PLOS ONE (2015) (summarizing CTE case studies to date); Ann C. McKee et al., *The spectrum of disease in chronic traumatic encephalopathy*, 136 Brain 43 (2013); Bennet I. Omalu, *Chronic Traumatic Encephalopathy, Suicides and Parasuicides in Professional American Athletes*, 31 Am. J. Forensic Med. Pathol. 130 (2010); *What is CTE?,* BU CTE Center, http://www.bu.edu/cte/about/what-is-cte/ (last visited Mar. 31, 2016), *archived at* https://perma.cc/W86H-886C (CTE is associated with "athletes (and others) with a history of repetitive brain trauma," and "is associated with memory loss, confusion, impaired judgment, impulse control problems, aggression, depression, and, eventually, progressive dementia.")

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34 *See, e.g.,* Nicole Gelinas, *Say No to Fight Club, New York*, N.Y. Times, Apr. 6, 2016, http://www.nytimes.com/2016/04/06/opinion/say-no-to-fight-club-new-york.html?emc=edit_th_20160406&nl=todaysheadlines&nlid=58216797, *archived at* https://perma.cc/EX8B-VY4Q ("Since we are still learning about the dangers of football, for example, it is neither prudent nor moral to expose more athletes to an unknown degree of risk.").

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37 *See* John Stuart Mill, On Liberty (1859).

38 Ronald Bayer, *The continuing tensions between individual rights and public health*, 8 EMBO Report 1099 (2007); James Colgrove and Ronald Bayer, *Manifold Restraints: Liberty, Public Health, and the Legacy of Jacobson v. Massachusetts*, 95 Am. J. Pub. Health 571 (2005).

39 Marian Moser Jones and Ronald Bayer, *Paternalism and Its Discontents: Motorcycle Helmet Laws, Libertarian Values, and Public Health*, 97 Am. J. Pub. Health 208, 213 (noting that it is possible to find a social cost for any behavior, but that approach would allow limitless interference with individual liberty).

40 *See id.*

41 *See* Daniels, *supra* n. 35; Ronald Bayer, *Workers' Liberty, Workers' Welfare: The Supreme Court Speaks on the Rights of Disabled Employees*, 93 Am. J. Pub. Health 541 (2003).

42 NFL Comments and Corrections (June 24, 2016).

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48 *Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19 June–22 July 1946*; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948, *available at* http://www.who.int/about/definition/en/print.html, *archived at* http://perma.cc/4SQ3-AWHA.

49 *Social Determinants of Health,* World Health Org., http://www.who.int/social_determinants/sdh_definition/en/, *archived at* http://perma.cc/USS7-8C9J; *see also* Michael Marmot & Richard G. Wilkinson, Social Determinants of Health (2d ed. 2005); For discussions of the relationship between these social determinants and ethics and political philosophy, *see, e.g.*, Sridhar Venkatapuram, Health Justice: An Argument from the Capabilities Approach (2011); Norman Daniels, Just Health: Meeting Health Needs Fairly (2007); Madison Powers & Ruth Faden, Social Justice: The Moral Foundations of Public Health and Health Policy (2006).

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