

Medical confidentiality and performance: challenges and implications of sharing medical data in French football clubs

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Introduction

The importance of communication within a football club is well established today. The coach's leadership, though crucial, is not enough to ensure the team's overall success. The quality of communication between the technical staff, medical staff, and performance staff plays a key role not only in reducing the incidence of injuries but also in decreasing their duration (Afke van de Wouw 2023, Dönmez 2020, Ekstrand 2018, 2019, 2023a; Gabbett 2016 & 2020; Impellizzeri 2023, Tabben 2023, Silva 2023). Maintaining this communication continuously is essential as it helps reduce injury rates (Dönmez 2022, Ekstrand 2023b). The number and severity of injuries directly impact team performance, as more time lost to injury leads to worse results for the team. Injury reduction, management, rehabilitation, and reathletization have now been identified as key performance factors, and their importance has been increasing over the past decades. (Eliakim 2020, Häggglund 2013). Consequently, communication within the multidisciplinary medical and paramedical team, as well as between this team and the technical staff, has been identified as a key performance indicator by elite practitioners (Buchheit 2023a & 2023b). It is important not to forget that the knowledge, experience, and availability of the various members of the technical and medical staff are valuable assets, though they are not always sufficient on their own.

Sharing medical and paramedical data within a professional football club represents a major challenge (Monlouis 2024). This data includes sensitive health information about players, which is essential because health is a prerequisite for performance. The stakeholders around the footballer are professionals who must speak the same language. Performance managers, physical trainers, reathletizers, nutritionists, psychologists, mental trainers, physiotherapists, doctors, and medical specialists must all contribute to the athlete's health, which is essential for both individual and collective performance. However, in France, the legal framework imposes confidentiality of medical data and respect for the athlete's medical confidentiality, complicating this sharing and creating tensions between optimal sports performance and health (Monlouis 2024).

In the new dynamics of modern and multidisciplinary football, non-medical staff (e.g., physical coaches, rehab coaches, sports scientists, and performance managers) often assume rights to access and manage medical data. This is seen by medical staff as exceeding their prerogatives, leading to conflicts and potentially inappropriate practices. Beyond legal compliance, it is crucial to respect the roles and individuals involved. This article aims to define the scope of action for each actor for the benefit of the player, the team, and the club.

(Re)Defining the role of the performance manager and organizational charts of multidisciplinary teams

The term "performance manager" or "head of Performance" is often used inadequately to describe a managerial role that covers various sectors such as physical preparation, sports science, or physiology. This role may sometimes also include supervision of medical and paramedical areas such as dietetics, sports psychology, or reathletization. Ideally, this role includes being the "spokesperson" for the multidisciplinary team towards the technical staff (the head coach and assistants) and the club management (Buchheit 2023b) (Figure 1). In practice, this person consults, gathers data and opinions from everyone, and makes a final decision, communicating a single, coherent message reflecting the perspectives of the different members of the multidisciplinary team, thus ensuring complete 360° management around the player.

However, the most sensitive aspect of this role lies in the communication of medical information. The content of the disclosed information must be handled with particular care, as it is sensitive data that, if communicated or shared inappropriately, can violate medical confidentiality and legal regulations (CNIL). This is the focus of this article, which explores the challenges and solutions related to managing and disclosing medical data in the sports context.

Although this role is often associated with the term "performance," it should not include direct responsibility for the overall performance of the players and the team, which belongs exclusively to the head coach. The head coach is the true and only performance manager, defining, according to their philosophy of play, the performance criteria for their team and players. Collaborators must align their work with this vision of performance. It would be more appropriate to rename this position "multidisciplinary team (MDT) manager" to better reflect its varied responsibilities. As shown by Buchheit & Carolan (2019), there is great variability in the roles and functions associated with this title, which can create confusion.

1. If the MDT manager is a doctor (Figure 1A), medical and performance data management will be carried out by them in accordance with the law.
2. When the MDT manager is not a doctor (Figure 1B), the situation becomes more complex and raises important questions about the doctor's position in the hierarchy. If the doctor's direct hierarchical superior (n+1) is a sports scientist or a physical coach, this can pose problems in terms of respecting medical confidentiality. According to the french

law, a doctor's employment contract must be submitted to the departmental medical council. An organizational chart where a non-doctor supervises a doctor is unlikely to be validated by the council in the name of professional independence. Validation can only occur on the administrative part of the contract, meaning that a non-medical superior validates the doctor's work organization, but not their medical activity.

It is also practically difficult for one person to be responsible for both sports science and medical matters, as this role requires 1) interdisciplinary expertise that not all doctors possess, and vice versa, 2) a comprehensive understanding of medicine but also the authorization to access health data that sports scientists do not always have. This raises the question of the necessity of having two distinct people for these roles (Figure 1B), a question that remains open to debate. This diversity of skills is one of the reasons why organizational charts vary widely between sports structures, adapting to the specific skills of staff members (Buchheit & Carolan 2019).

In this context, it is recommended to operate as a duo (Figure 1B), with the doctor managing medical communications. The non-doctor manager makes performance and return-to-play decisions after injury, relying on medical information provided by the doctor at a precise moment; this information is ephemeral, not stored, and not directly exploited by the non-doctor, in compliance with the regulations in place. It is essential to adopt these rigorous practices to respect the legal framework while ensuring efficient and ethical management of player performance. This approach ensures smooth collaboration between the various disciplines while protecting sensitive medical data.

In the remainder of this article, we will explore in detail the best practices for finding the optimal balance between legal compliance and functional fluidity among the different staff members.

Issues and consequences of choosing the MDT manager

The choice of the MDT manager raises important questions, particularly concerning the definition of health in the context of high-level sport. In general terms, health is typically defined as the preservation of a person's physical integrity. Any muscle injury, for example, is viewed as an impairment to health. However, in the context of high-level sport, the reality is more complex. Injuries, particularly muscular ones, are often considered almost inevitable stages in an athlete's career. As such, the well-known adage "sport is health" does not fully apply to high-level sport, where physical demands may compromise this notion of health.

Two different perspectives can guide the ideal profile for an MDT manager:

1. Health as sports and functional fitness: This approach defines health not just as the absence of contraindications to playing sports or the absence of injury but as the player's ability to perform their sport (professionally or not) with all physical or psychological limitations as they are. From this perspective, a player may be considered medically cleared but may still experience pain or discomfort that is not incompatible with sports. Nevertheless, the decision to play or not is left to the staff, who, in agreement with the player, decide on the best option for the player's and the team's performance.
2. Health as risk management: Here, health is evaluated in terms of risks, notably the risk of (re)injury. This implies making decisions based on short-term goals (e.g., playing

the next match) versus the long-term consequences (the risk of worsening the injury). In this role, the doctor must balance the demands of performance with the preservation of the player's physical integrity, often facing external pressure to deliver results.

These points highlight the importance of the doctor's independence from sports results. It is crucial to keep the doctor as the guardian of the player's physical integrity. The doctor should be the one who offers an objective clinical assessment and presents the different options: either to avoid risk (the player does not play) or to take a calculated risk (the player participates in the next match with appropriate precautions).

The pressure placed on the doctor, especially if they also hold the MDT manager role, could compromise this objectivity. This strengthens the argument for separating the roles of doctor and MDT manager, preserving the integrity of medical judgment and ensuring balanced decision-making that protects both player health and the team's performance needs.

Importance of medical data sharing

Access to medical data for the "non-medical" staff is crucial for several reasons. Physical coaches use this information to adjust training programs and prepare plans to minimize the risk of injury. Rehab coaches validate recovery milestones after injury and must follow medical information while preparing the athlete for performance. Nutritionists optimize meal plans based on players' specific needs. Sports scientists monitor daily physical condition and adjust workloads to keep players in optimal shape. Mental coaches and psychologists may be key in overcoming difficulties in the athlete's physical progression. Physiotherapists have a close connection with the athlete and can be crucial in transmitting information. Doctors and medical specialists ensure the player's health, which is essential. Thus, access to this data allows for holistic management (e.g., 360°) of the players' health and performance.

The main point of entry to this communication and medical data sharing is the player's health, which should aim to improve both their performance and the team's. For example, these data are essential in deciding whether a player can participate in full training after a minor muscle issue, for adjusting programs, and for estimating a return date or participation in the next match. It can also be useful in cases where players are not completely transparent about their physical condition. By cross-referencing medical data with performance data or training load and fatigue tracking, it becomes possible to better understand the player's true condition, revealing whether they are genuinely fit to play. In practice, sharing all data allows the doctor and the sports science (and physical training) manager to make justified decisions involving stakeholders in their field of expertise.

Legal and ethical challenges

Medical monitoring of high-level and professional athletes is regulated by the decree of June 13, 2016, specified in the French Sports Code, and, if necessary, supplemented by the opinion of the federal medical commission of each federation. The content of this follow-up and its implementation must be clearly stated in the federation's general regulations.

According to Article L 4121-1 and subsequent articles of the Labor Code, the employer must take all necessary measures to ensure the safety and protect the physical and mental health of workers. Conversely, Article L 4122-1 of the Labor Code requires each worker to take care of their health.

Medical confidentiality applies to all doctors. Article 226-13 of the Penal Code notes that the disclosure of confidential information by someone entrusted with it by profession or

function is punishable. Article L.1110-4 of the Public Health Code specifies the right to privacy and confidentiality of information. Article R.4127-4 of the Public Health Code states that professional secrecy established for the benefit of patients applies to all doctors. Thus, doctors have criminal, civil, and professional responsibilities in maintaining medical confidentiality.

Sharing and exchanging information is only allowed among healthcare professionals or among expressly defined subcategories in Articles L1110-1 to L1115-3 of the Public Health Code. Access to health data for certain members of the medical team must be partial (physiotherapists, podiatrists, psychologists, dietitians. . .). The list of healthcare professionals is outlined in Articles L.4001-1 to L.4444-3 of the Public Health Code. In a club, the employer forms a medical team responsible for the care of athletes (including at least one doctor); these members then have employment contracts. The medical and paramedical staff do not constitute a care team within the meaning of Articles L. 1110-4 and L. 1110-12 of the Public Health Code unless the player has expressly granted all healthcare professionals intervening on the doctor's prescription the status of care team members (Article L. 1110-12).

Access to the complete medical record is not permitted. Sharing information between healthcare professionals who are not part of the same care team (external medical experts) requires the patient's prior consent. The club must then establish a medical department organizational chart, appoint a lead doctor to comply with information transmission under the law, and organize medical data management. The conditions for sharing medical confidentiality are cumulative under the law: sharing must be among healthcare professionals exclusively, concern a common patient, and aim for continuity of care.

It is essential to understand what constitutes data concerning the athlete. Pure medical data must comply with the Public Health Code and require the patient's prior consent. The Public Health Code does not clearly define health data. However, we can consider that Article L. 1110-4 brings under medical confidentiality all information concerning a person that comes to the attention of a healthcare professional. The General Data Protection Regulation (GDPR) provides a broad definition of health data (see "What is health data?" | CNIL). The National Council of the Order of Doctors does not define health data, as this is determined by French or European legislation, but it has published a practical guide with the CNIL on protecting personal data. It is important to consider that any data containing medical (physical or mental) information—past, present, or future—must be included under the medical confidentiality that doctors are bound by. The signing of a professional player's contract does not guarantee medical confidentiality. Consent is required for opening a medical record or for sharing information with individuals who are not healthcare professionals and who are not authorized to share medical confidentiality (such as physical trainers). In this latter case, consent is generally invalid under criminal law. It is recommended to limit risks by obtaining player consent, as players might be more reluctant to sue someone to whom they have given consent, and a judge would likely be more lenient. However, this does not have legal standing.

Doctors must ensure that players sign a more specific consent, such as for the opening of a personalized medical record. In the event of a dispute, the doctor must prove that they had the athlete's consent. Pure performance data are not considered health data. These data primarily belong to the athlete and generally correspond to external physical load data. Finally, there are crossover data. These include performance

data that, when combined with health data, can be sensitive. These data are collected through observations of physical effort. They are gathered to monitor fitness and improve sports performance, not for medical purposes. These data help assess physical performance and are central to a training program. There is a legal basis for their collection under the legitimate interest and contract execution by the performance analyst. However, the distinction between medical and non-medical data in this context is blurred (Monlouis 2024). The French National Commission for Informatics and Liberties (CNIL), the authority responsible for enforcing GDPR compliance in companies and public administrations, complicates this legal vision by distinguishing three categories of health data:

1. Health data by nature: This includes intrinsic medical information such as clinical and physical examination results, dietary assessments, electrocardiograms, and injuries reported during matches.
2. Health data by inference: These are data that, when combined with other information, can reveal health data, such as weight measurements combined with height to calculate Body Mass Index (BMI).
3. Health data by use: Data that becomes health-related based on the context of its use, such as a photograph of a disabled athlete used in a "parasport" promotional campaign (CNIL).

Ultimately, almost all the data collected daily could, at some point, be considered medical data. This complicates the management and sharing of these data significantly, making the issue extremely sensitive and requiring increased caution (Monlouis 2024).

It is important to know that the creation of a file containing health and performance data falls under a strict legal framework. Article L1111-8 of the Public Health Code requires that storage, in any format—paper or digital—be performed after the person receiving care has been duly informed. The person also has the right to oppose the exchange and sharing of information about them at any time. However, even with consent, problems may arise in a professional context, where players may feel compelled to agree so as not to jeopardize their career. In case of doubt, applying the strictest legal regime is necessary. For computerized records, both physical and logical protection measures are required, with multiple access levels (doctor, physiotherapist, psychologist, physical trainer, etc.). According to the CNIL, the handling of health and performance data of athletes is strictly regulated by the GDPR (Data Protection Act No. 2018-493 of May 25, 2018), which imposes stringent conditions for collecting and processing these data. In principle, the collection of health data is prohibited except in specific cases such as public interest or the explicit consent of players (CNIL).

Within a club, the doctor must uphold and enforce their professional independence in all forms (Article R4127-5 of the Public Health Code). Article R4127-95 of the Public Health Code further specifies that a doctor's professional responsibilities, including medical confidentiality and independence of decision-making, remain intact even when employed by an organization. The doctor must not accept any restrictions on their professional independence in medical practice, regardless of the company or organization employing them. This means that, within a club, while the doctor may be subject to administrative hierarchy (per the Labor Code), they cannot be under a hierarchical structure that influences their medical decisions. In other words, having a sports manager as a superior who imposes medical decisions that are solely the doctor's responsibility, or an organization that does not respect medical confidentiality, is not possible.

Medical negligence is explained within the context of the doctor’s civil responsibility in Article L1142-1 of the Public Health Code. Criminal liability regarding medical confidentiality is based on Article 226-13 of the Penal Code and Article L. 1110-4 of the Public Health Code, and disciplinary responsibility is addressed in Article R. 4127-4 (Article 4 of the Medical Ethics Code).

In summary, every doctor is civilly liable for any fault that causes harm to a third party. It should be noted that when a doctor is under contract with a club, they are not personally

civilly liable. Instead, the employer (the club) is responsible under the principle of employer liability for the actions of their employees (Article 1242 of the Civil Code), unless the doctor exceeds the limits of their mission. If a person makes medical decisions within a club without legal authorization, it may amount to practicing medicine illegally. The doctor cannot be held responsible for the actions of others. However, since they are responsible for protecting the athlete’s health, the doctor must demonstrate that they provided all necessary health information, but their decisions were not followed.

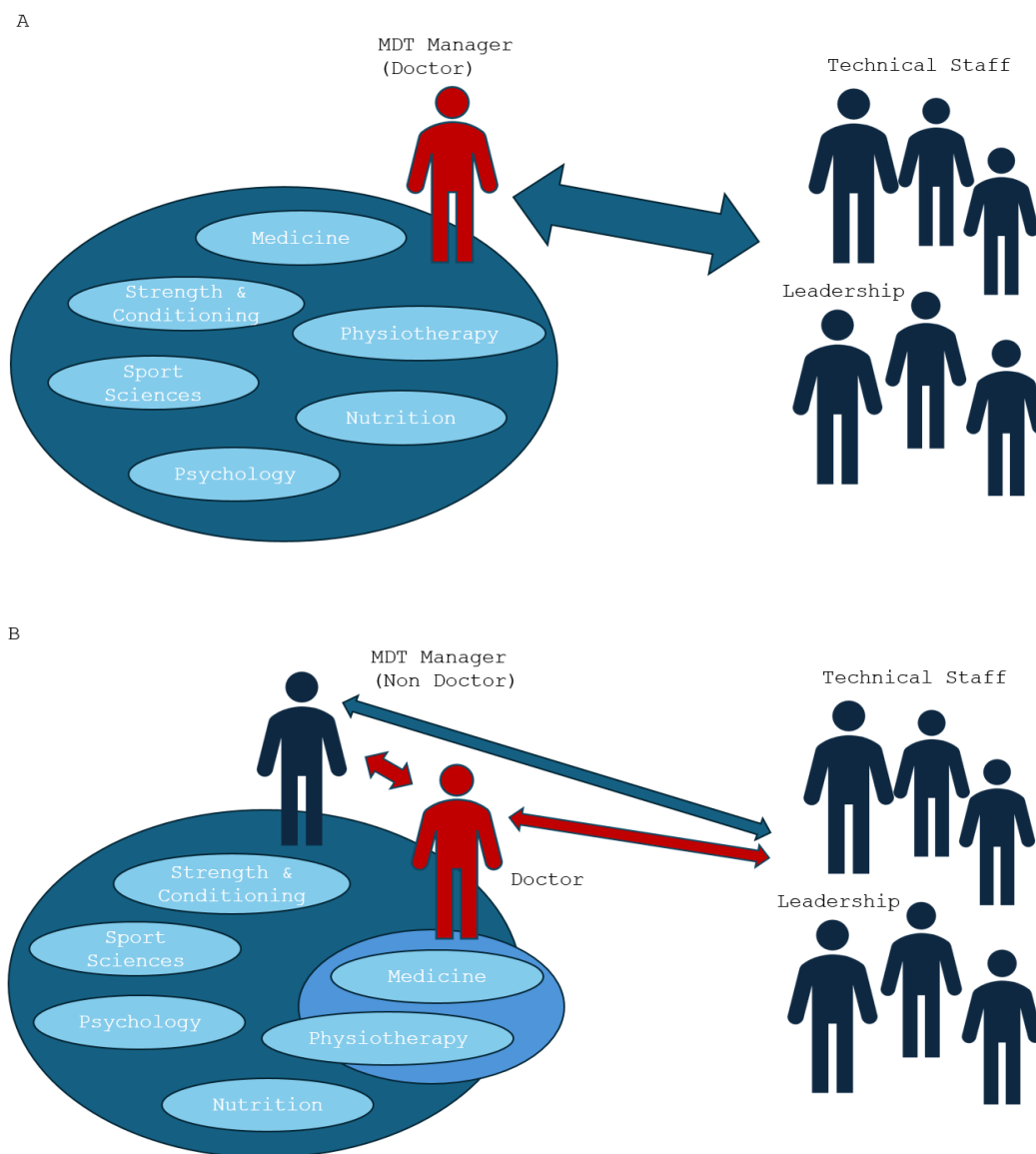


Fig. 1. Communication lines between the multidisciplinary team (MDT) manager, who is responsible for a comprehensive 360° view, and the technical staff as well as the leadership group (e.g., the sporting director and management), under two distinct scenarios. Scenario A: When the MDT manager is also a doctor, they have the discretion to directly communicate the necessary information for managing the player. Scenario B: In a duo setup where the MDT manager is not a doctor, the performance manager communicates directly about performance, while the medical information is exclusively communicated by the doctor. Figure adapted from Buchheit & Carolan (2019).

Confidentiality of medical data in Athlete Management Systems (AMS)

It is important to understand how AMS software, used by technical staff, sports science managers, and physical coaches, works to grasp the limits of accessible data. When data are hosted internally (within the club), those collected as objective medical data must be protected and accessible only to the doctor, similar to a computerized medical record. The rest of the data must comply with strict data storage requirements under the GDPR.

When data are hosted by an external provider, several French legal obligations must be met. The provider must hold the Health Data Hosting certification or approval according to Articles L.1111-8 and R.1111-9 of the Public Health Code. Health Data Hosting-certified hosts are certified by certain European bodies and are listed on the government website of the Agency for Digital Health. These hosts must demonstrate six levels of activity, from providing hosting sites to securing health data backups. Most importantly, the host must prove their ability to ensure the confidentiality, security, integrity, and availability of the health data entrusted to them by healthcare professionals. It is worth noting that, according to the CNIL, subcontracting the hosting of health data does not exempt professionals from security obligations. Thus, the club remains responsible for ensuring the security and confidentiality of the patients' data, including a clear organizational chart to restrict access to certain parts of the software.

The Public Health Code requires preventing unauthorized third parties from accessing, using, modifying, or accidentally erasing data. Therefore, access control and authorization procedures must be in place to restrict access to authorized personnel only. This is known as "personalized access rights." Technical security measures (filters, regularly updated protections) are required, as well as a contractual obligation for the host to return all data entrusted to them, without retaining a copy, to the club. Ultimately, the strict GDPR protection rules apply to the club, particularly the requirement for health data to be hosted by a provider based in France (pay attention to the subcontractors in the hosting contract) and to have a clear understanding of the processes put in place by the host for data protection. Thus, as surprising as it may seem given current practices, no objective medical data should appear in non-medical software (and thus, by extension, in AMS-type software), and only information about injury absences is allowed, without specifying the location or type of injury.

A new and interesting solution could be the Breakaway Data application, now used by the entire NBA, which allows the centralization of data at the individual level, with sharing managed by the players themselves. This option offers a novel and secure approach for managing sensitive medical data. The Breakaway Data app connects with various data sources via automated APIs or allows manual entries. Beyond traditional performance data like GPS tracking, strength tests, or ratings of effort and well-being, doctors and medical staff can also enter all critical information. This app allows for the creation of a performance and medical passport that is highly secure and GDPR-compliant. This passport gives players direct control over their data, enabling them to choose with whom, how, and for how long this information can be shared. This makes it a central tool for communication and coordination between the various stakeholders involved in a player's career, including clubs, national teams, and individual consulting teams (Buchheit 2023c).

Extremes to avoid

Two extreme behaviors exist in this context. Some doctors share data beyond legal limits to facilitate collaborative work related to performance. Conversely, some medical profession-

als refuse any sharing, creating communication issues and a loss of opportunity in terms of performance because it reduces the effectiveness of the medical-sports staff.

Minimizing collected data

The principle of minimization dictates that only appropriate, relevant, and limited information necessary for the purpose of collection may be gathered about athletes (CNIL).

Examples:

- **Locomotor load (GPS):** This measures training load in terms of running and specific movements on the field, allowing for content adjustments. This data collection is appropriate for performance optimization, and there is no explicit reason to limit it.
- **Heart rate:** Measuring heart rate outside of training or competition periods may be considered excessive and non-compliant. However, measurements taken at specific times and for performance analysis, such as upon waking for a few minutes, are possible if explained to the athlete.
- **Menstrual data:** Collecting data like the date of menstruation may be relevant, but requesting additional information such as the type of contraception would be excessive.

It is also important to highlight that the systematic collection of load data (GPS, heart rate, perceived effort) and response to load (e.g., sleep questionnaires, stress perception, biological variable measurements), which is increasingly integrated today into artificial intelligence models (Buchheit 2022), actually goes against the objective of protecting personal data, increasing the risks of misuse and confidentiality breaches.

Conditions and best practices for collecting health data

A well-considered protocol should precede any measure. The CNIL does not permit collecting data indiscriminately and then deciding what to do with it later. Several conditions and best practices must be followed when collecting and processing health data in a sports context to ensure legal compliance and protect players' personal data:

1. **Define the roles of stakeholders:** Clearly define the roles and responsibilities of the various actors involved in processing the data (data controller, subcontractor, etc.).
2. **Specific purpose:** Data collection must have a clear and justified purpose, such as improving physical performance, injury prevention, or managing an athlete's career.
3. **Respect for fundamental principles:** Data protection principles, such as minimization, security, and confidentiality, must be strictly followed.
4. **Lawful, fair, and transparent processing:** Athletes must be informed and give explicit consent before using wearable devices (e.g., sleep or activity sensors like Whoop, Oura ring). If they are not informed according to the provisions of Article 13 of the GDPR, this would not constitute transparent data collection (CNIL).
5. **Verification of legal basis and use cases:** Before any collection, it is essential to verify that the legal basis and authorized use cases for collecting health data are in place and compliant with legal requirements.
6. **Compliance with GDPR and national laws:** Ensure that all data collection and processing practices comply with the GDPR and relevant national laws.

Legal retention period for data

The legal retention period for personal data must be strictly limited to the time necessary to achieve the purposes for which

the data was collected. According to CNIL recommendations, individual physical performance data can be retained for the duration of the athlete's career. This enables continuous and effective career management and optimization. However, for specific analyses or studies, retention should correspond to the validity period of the subcontracting agreement or the time needed for statistical analysis. Once this period expires, the data must be securely deleted to avoid the risk of leaks or improper use (CNIL).

The file creator is responsible for optimally protecting personal data and must be able to demonstrate that protection. The right to erasure, a lighter version of the right to be forgotten, is mandatory, and data must be deleted when the player leaves the club or when staff members with access to these data leave the organization. Specific medical data must remain under the responsibility of the doctor managing the file. According to Article R1112-7 of the Public Health Code (CSP), the retention period for medical records in public and private institutions is 20 years. For a private practice doctor, although the law does not specify a time frame, it is recommended to follow the same 20-year period to ensure secure and compliant medical data management.

Avoiding "lost opportunities"

Some players prefer not to disclose their medical data to avoid "lost opportunities." For example, a player with a significant injury history may fear that revealing this information could harm their transfer or contract prospects. Similarly, poor physical test results could jeopardize their future opportunities, highlighting the importance of confidentiality and respecting personal data.

"Middle-ground" solutions

To balance effective data sharing with legal obligations, several strategies can be considered:

- **Clear organizational chart and access rights:** Clearly define the roles and responsibilities within the club, specifying access rights to data for each position. A well-structured organizational chart can help clarify who can access which information and for what purpose.
- **Smooth sharing practices:** Encourage good practices for the smooth sharing of information and overall functioning. The goal is to avoid unauthorized access to medical data and ensure regulated sharing. For example, use secure platforms where data can be viewed but not stored, with the athlete's consent validating all stakeholders.
- **Legal responsibility of the doctor:** Civil liability rests with the employer if the doctor is an employee. However, criminal and disciplinary liability always remains personal to the doctor. This recognition should encourage precautionary practices while facilitating the sharing of necessary information.
- **Right to erasure:** Ensure that non-medical staff do not retain data beyond the necessary period of use. Mechanisms should be in place to erase data after it has been used.

Practical cases and solutions related to sharing medical data in a professional football club

Table 1 presents practical cases illustrating the challenges and solutions related to the sharing of medical data in a professional football club. Each case is analyzed from three perspectives: the performance/non-medical staff's point of view, the medical/legal standpoint, and a proposed solution. These examples highlight potential tensions between different roles and the need to find a balance between data protection and optimizing sports performance.

Solutions?

In high-level sports, the obligation to perform necessitates resolving challenges. Communication between two professional sectors that are not allowed to share health data must be handled carefully. Leaks must be tracked, and communication must remain smooth.

1. **Player consent:** Players must consent to the sharing of their medical data with staff members involved in their programs, with the aim of optimizing their performance and ensuring their well-being. This informed consent is crucial to ensure that players understand how their data is used, reinforcing trust and transparency between players and staff. Moreover, a solution like the Breakaway Data app could allow players to centralize and manage the sharing of their data themselves, adding an additional layer of control and security to the management of sensitive information.
2. **Confidentiality agreement for practitioners:** An additional level of consent can be implemented for staff members who sign a confidentiality agreement, committing to use the data solely for the players' programs and not to retain or store data they should not access. Although this practice is not widespread in France according to the authors, it is common in countries like Spain, England, and Australia, and aims to further protect player data.
3. **Non-storage of sensitive data:** AMS should be designed to allow controlled and temporary access to data without permanent storage. This involves setting strict protocols for data consultation, with automatic deletion after consultation or specific use. This ensures that doctors are not held responsible for sensitive data beyond the necessary period.
4. **Files with limited access:** In theory, the law does not permit this because French legislation is extremely restrictive. This is an opportunity to advocate for a change in the law, defining a specific information flow concerning the health of high-level and professional athletes within the structures where they operate, in compliance with GDPR and in their best interest. It would be advisable to implement systems where health data are temporarily available to non-medical staff. This would allow discussions on prevention and the development of training programs without risking injury, recurrence, or chronic conditions. Primary, secondary, and tertiary prevention would become fully meaningful. For example, physical coaches could have access to a player's injury history only for the time needed to develop prevention programs, after which the data would be automatically deleted from the system. This approach would provide a framework that protects the doctor by limiting their direct responsibility. This proposal is implicitly supported by the CNIL but requires further clarification.
5. **Ephemeral messages:** Information, always communicated verbally on the field, is used with the player's consent. However, information shared with one person may be perceived differently by another if their understanding differs, leading to errors and misunderstandings. Using ephemeral messages for written communication of medical information via secure applications could be an effective solution. Messaging platforms offering self-destructing messages would allow critical information to be shared without the risk of long-term storage or misuse. However, this solution has its limits, especially since recipients could take screenshots, potentially exposing sensitive data. WhatsApp groups, widely used, pose security issues. Alternative systems like Signal or Telegram, offering similar functionality with enhanced security, might be more appropriate and secure.

Table 1. Practical cases illustrating the challenges and solutions related to the sharing of medical data in a french professional football club.

Practical Case	Performance and Non-Medical Staff's View	Medical/Legal Perspective	Proposed Solution
Hierarchical Organization: Can a non-medical multidisciplinary team manager (MDT) be the hierarchical superior of a doctor?	From a legal standpoint, this is impossible, even if it ensures coordination, integrates all data/information around the player (360° management), and provides optimal administrative management of the doctor's position.	<ul style="list-style-type: none"> • The framework must be established in the contract and validated by the medical council. • Only administrative exchanges are permitted (working hours, work location, travel organization), and at no time should the doctor's professional independence or medical confidentiality be compromised. 	<ul style="list-style-type: none"> • Establish a clear job description with a clear explanation of the hierarchy where medical decisions and professional independence remain the responsibility of the doctor. • If a doctor is the MDT manager: doctor => coach directly (Figure 1A). • If a sports scientist is the MDT manager, there should be dual communication: doctor & MDT manager => coach (Figure 2B). • It is also understood that players give their informed consent to this exchange of information.
Injury history: Physical trainers need the injury history to prepare prevention programs (e.g., a history of muscle injury increases the risk of recurrence by 2.1 to 11 [Croisier 2017, Green 2020])	Not having access to injury history is a lost opportunity and increases the risk of injury, preventing the optimization of prevention and training programs.	<ul style="list-style-type: none"> • Risk of illegal data retention beyond its immediate usefulness. 	<ul style="list-style-type: none"> • Temporary access to necessary data for injury prevention to create prevention and training programs, with automatic deletion after the program is created. • Ensure the player's full agreement, even allowing them to transmit the data themselves to the sports science manager.
Statistics and epidemiology: Cross-referencing injury frequency and severity with training and match exposure	Need for detailed analyses to "benchmark" injuries (e.g., comparing injury rates to the literature in terms of injuries per 1000 hours of exposure).	<ul style="list-style-type: none"> • Inability to have individual traceability for each athlete. • Having a precise protocol to explain why this data is collected and how it will be used to maintain individual and collective health. 	<ul style="list-style-type: none"> • Joint work between doctors and the performance team to provide global information without individual traceability. • Clear, specific access to the necessary data should be defined. • Athlete consent should be obtained as part of a study aimed at improving collective performance.
Use of messaging: Sharing medical information via WhatsApp with people outside the medical department (e.g., sports director and performance staff)	Common practice for instant communication to prepare sessions, with the same level of information shared.	<ul style="list-style-type: none"> • Risk of uncontrolled disclosure and inappropriate storage of sensitive information. 	<ul style="list-style-type: none"> • Choose data to be shared. • Use ephemeral messages or more secure applications (e.g., Signal or Telegram) for temporary communication of information. • Ensure the athlete's approval.
Athlete Management Systems (AMS): Systems integrating all data	Practical centralization for global player management at any time.	<ul style="list-style-type: none"> • Problem with access control and sensitive data storage. • Clear levels for data transmission. • Compliance with GDPR. 	<ul style="list-style-type: none"> • Specific and controlled access for each practitioner, with regular audits to verify compliance. Data storage hosted in France for GDPR compliance.

Conclusion

Sharing medical data within a professional football club is a complex and delicate matter, marked by the need to reconcile the demands of sports performance, the legal constraints of data protection, and the respect for medical confidentiality (Monlouis 2024). Potential tensions between the various practitioners—doctors, physical coaches, rehab, coaches, psychologists, nutritionists, and sports science managers—highlight the

challenges related to the secure management of players' health information. To navigate this complex landscape, the doctor plays a central role, especially when collaborating with sports science managers and physical coaches, ensuring smooth communication while adhering to legal frameworks (Figure 1B). Aristotle said: "Virtue is the mean between two vices, one of excess and one of deficiency." In high-level sports, it is also un-

wise to lean towards extremes. It is important to stay in one's role, avoid harming communication quality, and not cause a lost opportunity (due to too much or too little information) that could impact the athlete's health.

A reflection should thus be initiated by the National Council of the Order of Doctors and legislators regarding the definition, collection, and use of health data in high-level sport. The MDT manager, or the duo formed with a doctor when the MDT manager is not a doctor (Figure 1B), should centralize and manage the data to avoid dispersion or misuse. This manager would be the guardian of the club's compliance and ethics, ensuring that only essential health and performance data are used by staff, and for the player's benefit.

In conclusion, a joint effort by the Ministry of Health, the Ministry of Sports, and the National Council of the Order of Doctors could be a valuable legacy of the 2024 Paris Olympics. Respect for medical confidentiality is paramount, and field arrangements must be well-regulated to prevent legal risks. The reflection on health data, performance, and communication must be guided by a balanced benefit-risk analysis, taking into account the realities on the ground and common sense. The primary goal is to ensure smooth information flow while protecting the players' health. Each actor must understand and respect their role and legal responsibilities, ensuring effective collaboration and secure data management. By adopting rigorous practices such as automatic data deletion, time-limited access to files, and the use of ephemeral messages, football clubs can ensure effective and secure management of players' health data. This guarantees not only legal compliance but also trust and collaboration within the team, which is essential for optimal sports performance (Buchheit 2023b). The balance between protecting medical data and optimizing sports performance through effective and legal communication is a challenging yet vital task—and likely one of the most important missions of the MDT manager.

Key points for optimal management and operation:

- Clarify roles and responsibilities in organizational charts.
- Validate the doctor's role through a contract submitted to the departmental medical council.
- If the MDT manager is not a doctor, work as a duo with a doctor for medical data management.
- Limit data collection to strictly necessary information.
- Use secure practices like automatic data deletion and ephemeral messages.
- Ensure informed player consent for sharing their medical data.
- Require staff to sign a confidentiality agreement, committing to use data only within the defined framework and not store it indefinitely.
- Emphasize that more information can be shared verbally when it is time-sensitive rather than storing it long-term.
- Comply with the Public Health Code and the Code of Medical Ethics on medical confidentiality and shared medical confidentiality.

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