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The Code of Ethics and Conduct for Forensic Specialists: A Framework from The Portuguese Association of Forensic Sciences

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Abstract: Forensic sciences aggregate a series of scientific and technological domains that aid the judiciary and judicial system. Despite the highly specialized and qualified professionals taking a role in forensic practice, this paradigmatic integration of law, science, and technology often leads them to face significant ethical challenges. Indeed, forensic sciences hold a unique position due to the social and legal implications inherent to forensic expertise. The potential interference with personal rights and freedoms requires the professional practice of the forensic specialist to be guided by alignment with scientific-technical competence under the seal of the highest ethical principles. However, the absence of a specific statutory regulation blurs the performance of the forensic professional and may harm the professional credibility but also the scientific domain as a whole. The existence of ethical pillars is essential to support professional practice, following international recommendations in this regard. Herein, we propose a framework for a code of ethics and conduct that is based on the professional particularities characterizing the forensic practice but also considers the ethical issues that are mandatory to ensure high levels of reliability and credibility of forensic specialists.

Keywords: deontology; ethics; forensics; integrity; judiciary and judicial system; professional responsibility

1. Introduction

Forensic sciences are often pictured as a cross-domain field applied to law, integrating distinct specialization from core areas of natural sciences, medical and health sciences, and social sciences [1]. This broad range of scientific areas finds a parallelism in the professional scope of various professionals that can be classified as ‘Forensic Specialists’ [2]. Despite the numerous peculiarities inherent to forensic expertise, several professionals have their activities duly regulated by a specific statutory code through entity-based regulators such

as professional orders and colleges of specialization [3]. However, the lines of action of the forensic specialist, and the underlying scientific and technical skills, call for a detailed, rigorous, and transversal code of ethics.

As clearly indicated in the report “Strengthening Forensic Science in the United States: A Path Forward” by the National Academy of Sciences, no person should be allowed to practice without proper and valid certification, and the certification requirements should include adherence to a code of ethics [4,5]. For example, in the United Kingdom (UK), the codes of practice and conduct for forensic science providers, published by the Forensic Science Regulator, also suggest beyond training/competence and appropriate background checks, the existence of codes of conduct in forensic units and contracts which specify, among others, details on the expected conduct [6]. Although four main types of reporting outcomes can be associated with the professional scope of the forensic specialist (namely, intelligence, investigative, technical, and evaluative) [7], ultimately, the main goal is to conduct tests, interpret results unbiasedly, and deliver a concrete, and as much as possible, objective and scientifically supported outcome. Directly or indirectly, the usual aim is to facilitate the work of a judge or a jury on the determination of guilt or innocence of a suspect or to support a more accurate answer to the judicial demand on a non-criminal lawsuit.

Formal ethics drive the correct behavior of the individual, enabling one to discern right from wrong and promote moral excellence [8]. While ethics is not meant to determine actions restrictively, it offers the tools and paths to “deal with situations”. One of the most effective ways to avoid ethical violations is to be aware of the paths leading to error, rationalize, and anticipate them, enabling the setting of the most appropriate standards for the field [9]. Therefore, teaching forensic sciences to students and practitioners should consider ethics and deontology as part of the curricular plans, highlighting the foundations of acceptable behaviors and standards within the profession and making students aware of both the ethical and deontological challenges they may face later in their professional activity, while helping to solve problems and legal issues as well. Yet, this can be seen as an academic approach, and the existence of a code of ethics and conduct is fundamental.

A professional code of ethics outlines principles to help experts discern what is acceptable and to guide their decisions and problem-solving capacity, simultaneously fitting within the values of the professional class [10]. Its guidelines aim to prevent unethical actions while, simultaneously, ensuring professionalism [11]. Very often, the forensic specialist report shapes the judge/jury’s decision-making process, thus impacting the rights of a certain victim or suspect [12]. As the everyday activity of the forensic specialist might limit the individual’s freedom, there is an obviously justified demand for the highest standards of ethical and professional conduct and behavior [12]. Experts that are assumed to obey a code of ethics and conduct increase the likelihood that appropriate procedural guarantees are followed, that the expert analysis does not fail for reasons of contamination or expert malpractice, and that the chain of custody is assured.

Developing ethical and professional workers must be, and has been, a central tenet of every profession throughout history. The Hippocratic Oath was the first example defining a moral code of a profession, in this case for medical practice and behavior [13], being referred to as “a landmark in the ethics of Medicine” [14]. Ethics can be defined as the subject that describes a code of moral principles or values [15]. Being rather diffuse in terms of practical approaches, most professions have a code of deontology they abide by, trying to be as ethical as possible, and provide, as much as possible, straightforward answers to common problems.

Different professional classes share ethical and legal principles that can be classified as common and applicable to forensic sciences as a scientific and professional domain. Nevertheless, in their daily routine, forensic specialists may face unique challenges since different ethical codes (e.g., from forensic specialties, lawyers, judges, and law enforcement, among others) with differing objectives, rules, and philosophies, need to find a way to co-exist and dialogue together. Therefore, this article aims to contribute to the conceptualization and

implementation of a generic code of ethics and conduct that helps to define the boundaries for forensic specialists and guide actions within this diversified environment.

2. A Tentative Framework

The guiding lines of the current framework stem from the recently proposed Model for Forensic Expert Certification that aims to establish a Regulation of the Professional Practice of Forensic Specialists (RPPFS). The RPPFS defines the general requirements for the recognition of five certification levels, including appropriate experience/training/pedagogical processes [16]. The code of ethics and conduct is complementary to the proposed Forensic Expert Certification and should be an integral part of that process, underlying the professional activity of the certified professionals. The translation of the herein proposed framework to a code of ethics and conduct will increase public confidence in the quality of forensic services while simultaneously protecting the professionals themselves, who see their professional practice being guided by ethical conduct that is explicitly outlined for forensic practice.

2.1. General Principles

Forensic Specialists must, in all circumstances, and even outside the exercise of their professional activity, proceed in a way that honors the good name and dignity of the profession.

2.2. Content

All scientific domains where the intervention of Forensic Specialists is needed [17] are considered for the purpose of the application of this code now being presented. Even those areas of action that are already subordinated to established and specific codes of conduct will benefit from the use of the generic orientations of this framework.

The following scientific domains are some of the main areas of intervention for Forensic Specialists: Arson and Explosives; Bloodstain Pattern Analysis; Crime Scene Analysis; Documentoscopy; Forensic Anthropology; Forensic Archaeology; Forensic Ballistics; Forensic Biomechanics; Forensic Botany; Forensic Chemistry; Forensic Clinic; Forensic Entomology; Forensic Genetics and Biology; Forensic Geology; Forensic Linguistics; Forensic Nursing; Forensic Odontology; Forensic Palynology; Forensic Pathology; Forensic Photography; Forensic Psychiatry; Forensic Psychology; Forensic Serology; Forensic Social Service; Forensic Toxicology; Information Technology/Computer Forensics; Lophoscopy; Road Accidents Investigation.

2.3. Rights and Duties

2.3.1. General Rights

The rights of Forensic Specialists, among others, are:

- (a) To use their professionally assigned title.
- (b) To freely promote the high values of Justice and the pursuit of the material truth.
- (c) To work not only in the district or region where they are domiciled, judicially bounded, or registered, but also at a national, interstate, or international level, cooperating with other experts, always within their legal and regulatory framework.
- (d) To refuse any interference in their professional activity when ethical or scientific-technical aspects of professional practice are called into question, whatever their functions and hierarchical dependency, or wherever they carry out such activity.
- (e) To work without being discriminated against due to religion, race, sex, color, sexual orientation, age, social status, political opinion, or any other nature.
- (f) To point out flaws, without any prejudice, in the procedures and regulations of the institutions in which they work, when unworthy of exercising their profession or harmful to the reach of Justice.
- (g) To have fair and satisfactory working conditions that guarantee the right to have an effective occupation and a proper work ratio enabling personal fulfillment and that reconciles work and family life, ensuring respect for the deontology of the profession.

- (h) To strive for adequate remuneration in agreement with the quality standards of the provided scientific-technical services.
- (i) To have proper access to continuous training for skills updating and professional improvement, being allowed to call external and international collaborators to extend their knowledge and expertise.

2.3.2. Duties

General Duties

Forensic Specialists must:

- (a) Carry out the specific tasks of their professional activity, contributing to safeguarding the public interest.
- (b) Comply and ensure compliance with the legislation relating to the exercise of their profession.
- (c) Comply with the international conventions and recommendations that apply to the Forensic Specialist and that have been, respectively, ratified or adopted by the competent sovereign bodies.

Duties to Their Profession

Forensic Specialists seek, in every professional act, the excellence of the exercise, assuming the duty of:

- (a) Not accepting forensic services out of their fields of expertise and/or for which scientific competence is lacking, being honest on area(s) of knowledge.
- (b) Not seeking to obtain self-aggrandizement or competitive advantages by misleadingly, exaggerating, or misrepresenting their credentials and/or qualifications.
- (c) Recognizing that the first and primary responsibility of the Forensic Specialist is the global well-being, having to put the beneficiaries ahead of their personal or commercial interests, and promoting equal access to a service with quality, effectiveness, and safety.
- (d) Always bearing in mind the high degree of responsibility and the ethical duty to exercise with the utmost diligence and zeal.
- (e) Being aware of maintaining the chain of custody whenever applicable.
- (f) Regularly analyzing the work carried out and recognizing any flaws that deserve a change of attitude, guarding against the use of non-valid methods and misapplication of validated methods, and incorporating new scientifically supported methodologies and technologies.
- (g) Being impartial, avoiding any bias that will benefit the contracting party, and avoiding work on a contingency fee basis.
- (h) Asking to be excused from duty or declare himself ineligible in any case of personal or other justifiable legitimate reasons, and if any financial, employment-related or any other conflict of interest exists.
- (i) Ensuring, by all available means, working conditions with dignity and autonomy, and communicating, through the competent channels, shortcomings that affect the work quality.
- (j) Reporting violations of professional standards, unethical, illegal, or scientifically questionable behaviors of any Forensic Specialists or other professionals involved in the forensic expert activity.
- (k) Preparing and keeping detailed, clear, and accurate written records of all analyses/examinations and conclusions, allowing review and assessment by independent authorities.
- (l) Providing objective, understandable, and timely reports and testimonies, clarifications or explanations, distinguishing data from interpretations, using unequivocal terms, and disclosing all known associated limitations that prevent invalid inferences or mislead the judge or jury, prosecutors, lawyers, and investigators.

- (m) Taking the express responsibility of a report, through its signature, only if taking a pivotal role in the forensic expertise or resulting of direct or indirect supervision.
- (n) Not commenting publicly, including in mass/social media, pending professional matters in which they are directly involved or bound by professional secrecy.

Scientific and Technical Responsibility Duties

The Forensic Specialist must:

- (a) Drive the professional practice considering the self-responsibility of the acts, regardless of the hierarchical framework.
- (b) Assume the responsibility of case allocation, assuring the quality and the continuity of the professional acts, as well as on the acts related to the exercise of their professional activity practiced by other professionals under their supervision.
- (c) Keep their scientific and technical skills up to date to constantly improve professional activity.

Duty of Protection and Preservation of the Public Interest

Forensic Specialists must actively collaborate with public and private services on initiatives to protect and preserve the public interest.

Duty to the State

- (a) Forensic Specialists, who are civil servants, must comply with the deontological norms of that statute without failing to observe the obligations inherent to the ethical and scientific-technical aspects of the forensic practice.
- (b) Obligations inherent to the ethical and scientific-technical aspects of the forensic practice also apply to external Forensic Specialists that the State requests to issue expert reports.

Duties of Ethical Information

The Forensic Specialist must:

- (a) Be duly informed on situations where fundamental human rights and science may come into conflict.
- (b) Keep constantly informed on the opinions and resolutions of the National Ethical Councils.

Sustainability Duty

In terms of their responsibility to society, Forensic Specialists must act with awareness of the importance of safeguarding a human, healthy, and ecologically balanced living environment.

2.4. Incompatibilities and Impediments

In the practice of their professional activity, Forensic Specialists must be guided by the strict respect for deontological norms, being forbidden:

- (a) To establish collusion with third parties.
- (b) To collaborate with entities not ensuring independence in exercising the activity as a forensic professional.
- (c) To perform services that cannot be scientifically and technically proven or that are not registered within the official services of the institution for which they work.
- (d) To collaborate with a singular or collective entity, public or private, whenever such collaboration may violate the laws and regulations governing the exercise and legitimate interests of their professional activity.
- (e) To practice acts likely to cause harm to the Judiciary or Judicial System.
- (f) To practice acts contrary to the ethical principles herein defined, even if not constituting a violation according to the code of ethics of other professional activities.

2.5. Professional Secrecy

Forensic Specialists are bound by professional secrecy on the facts they become aware of during the exercise of their profession, except for situations stipulated by the Law.

The professional secrecy duty remains after the cessation of the professional activity, even if the professional domicile is changed.

2.5.1. Guarantee of Secrecy

To guarantee professional secrecy in the exercise of their activities, Forensic Specialists must:

- (a) Behave in a way that prevents third parties from becoming aware of information resulting from their professional activity.
- (b) Refrain from mentioning or commenting on facts that may violate the privacy of the beneficiaries of their professional activity.
- (c) Not be prevented from taking the necessary precautions to participate in the essential measures to safeguard the public interest.

2.5.2. Advertising of Professional Activity

Publicity inherent to the professional practice, namely signs, forms, and other documents, must be written in a way that does not affect the dignity of the profession.

2.6. Processing of Sensitive and Personal Data

The Forensic Specialist must ensure that data protection measures are applied, including healthy cyber security practices, to protect the confidentiality of the acquisition, registration, processing, analysis, and reporting of the sensitive and personal data obtained during the activities under his responsibility.

2.7. Relationships with Colleagues and Other Professionals

2.7.1. Duty of Urbanity

Forensic Specialists must treat each other courteously and all of those who work with them at any level.

2.7.2. Duty to Colleagues

Forensic Specialists must maintain a correct professional relationship with peers, namely by:

- (a) Avoiding attitudes dissimilar to the spirit of solidarity, loyalty, mutual aid, and the ethical values inherent to the professional activity. Yet, it is not unethical to disagree with peers, provided there is an adequate basis for the opinion.
- (b) Collaborating on the scientific and technical capacitation of colleagues, providing all the information necessary for their activity and improvement.

2.7.3. Duty to Other Professionals

Forensic Specialists:

- (a) In the exercise of their activity, Forensic Specialists must, without prejudice of their independence, and if allowed by law, maintain correct relations with other professionals (e.g., prosecutors, attorneys, and other experts).
- (b) Shall not untruthfully criticize or misrepresent others and their professional activity, nor shall they intentionally attempt, or otherwise encourage, to injure through malicious or false acts, either directly or indirectly, the professional reputation, prospects, practice, or employment of another professional.

3. Conclusion Remarks and Future Perspectives

There is a marked literature gap concerning ethics in forensic practice in the Portuguese context, as no published material was found during our literature search. Therefore, this

document presents itself as a novelty in the area. Still, this tentative code of ethics and conduct is not to be seen as temporally static and should be subject to updates and revisions, not only due to eventual alterations of the forensic practice itself but also shaped by social or political movements which may translate into legislative changes. Regardless of temporal updates and conceptual revisions, the forensic specialist is advised to regularly revisit the ground principles of the code but also to safeguard that the most suitable practices are being applied, even in an unconventional scenario. Indeed, the scientific capacitation of forensic specialists must be accompanied by ongoing training on ethics to ensure that proper decisions are taken [18,19]. Thus, it is advised the requirement in employment contracts, when applicable, of compliance with the code of ethics and conduct, and its regular consultation, since it will recall the constant need to act according to the best conduct at the scientific, technical, and ethical levels.

The forensic expert's perception or assessment of evidence is required when judges do not possess that special knowledge (e.g., DNA analysis, toxicological analysis) or when the facts, relative to persons, should not be the object of judicial inspection (e.g., legal medicine, psychology). Thus, the professional practice of forensic specialists is also expected to be driven by an adequate knowledge of the applicable law in alignment with the legal system where they practice [20]. Despite the different legal systems in the world, two play a significant role: the Roman-Germanic legal systems and the Common Law systems [21]. These systems present different approaches to forensic experts themselves. In Roman-Germanic systems, court experts must be certified before they are eligible to serve the court in a particular case, being appointed by the court at the request of the parties [22]. In Common Law, court experts do not need to be certified, although their expertise is evaluated by judges, and the involved parties contract and pay the expert witnesses [22,23]. Much has been written regarding the probatory value of expert evidence for both systems [21], and much has been evolving due to the recognition of situations where expert evidence has been misinterpreted or falsely supported. Facts to which the Innocence Project has drawn attention [24] highlight the importance and need for a code of ethics and conduct, mainly dedicated to those who play an active role in the context of expert evidence.

In fact, the adoption of a code of ethics is a strong positive step, so that the judges/juries, within the scope of their free will, trust and value the physical evidence to discover the material truth of the facts, and consider it safer and more reliable for making decisions [11]. Nevertheless, such acceptance, and eventually the public availability of the code, will also catalyze a positive perception of forensic practice by society, both in the scientific-technical and personal dimensions. While believing that forensic evidence is a crucial part of a judiciary or judicial decision, a US-based report on the general public's perceptions of the accuracy of several forensic science techniques and each stage in the investigation process stresses that respondents hold a doubtful view of the forensic science investigation process, believing that an error can occur about half of the time at each stage of the process [25]. Respondents from the US and Australia further share a skeptical view of the vast majority of techniques and also believe that a high degree of human judgment is involved [25,26].

Ascertaining the scientific validity of a specific forensic technique falls out of the scope of a code of ethics and conduct, as it is based on the technical limitations and robustness of a theoretical background. Nevertheless, when delivering reliable scientific outputs that are accompanied by a clear commitment to principles of ethics, forensic specialists might affect the public perception of its validity outside the scientific ecosystem [11,25]. On the other hand, inside the scientific system, all forensic disciplines, including the emerging ones (e.g., forensic architecture), as well as classic forensic areas where miscarriages of justice have been identified and scientific credibility questioned (e.g., microscopic hair comparison analysis [27]), might evolve faster and have their scientific principles established if the research work is supported by adequate ethical principles, which will ensure that all scientific content is appropriately dealt with.

Another dilemma that forensic specialists commonly must deal with is related to media coverage (namely TV panels) since several cases attract much public attention and demand almost instantaneous commentaries and speculations, most of the time without having access to the details of the case or possessing expertise in that particular scientific area. Being a forensic commentator is becoming a second career (especially after retirement), and ethics should be retained for life to protect, above all, the victim, but also the profession.

Indeed, there is an innate deal of stress related to the professional activity of those involved in the judiciary and judicial system that also affects forensic specialists. Besides the perception that the professional practice may limit freedom, often with harmful consequences for a particular defendant but also for the family, pressure may also arise from the fact that society expects those acting on justice to behave as role models [9]. Adopting a code of ethics and conduct, as an auxiliary tool in forensic practice, also ensures the practice of independent expertise without the influence of biased/malicious peers, while also avoiding possible constraints associated with institutional hierarchies [28].

Ethical misconduct impacts the forensic specialist, professionally and personally, but may also create negative publicity and interfere with the credibility of the profession and the vision of forensics as a credible science. Establishing a code of ethics and conduct for forensic specialists empowers organizations with credibility and willingness to take responsibility, demonstrating superlative goals and diminishing the frequency of personal bias. It is postulated that the best way to prevent the consequences of individual unethical actions is to avoid misconduct altogether [9]. The code of ethics and conduct sets standards to maintain a uniform line of behavior of those within a company or organization, and while not being coercive (i.e., does not entail legal penalties), it assumes internal regulations that must be complied with [11,29]. While professional and ethical conduct should be guaranteed and acknowledged at several hierarchical levels, global and unified supervision is expected at a national level, creating a set of guidelines allowing self-regulation and organizational mechanisms enabling the delegation to those responsible for subgroups or institutions. Groups are recommended to employ internal procedures to monitor compliance with the code of ethics and conduct, to create methods to fill, receive, investigate, and review complaints, and to set procedures to inform forensic specialists of the occurrences underlying unethical behaviors.

Most liberal professions, providing intellectual services based on a specific professional qualification, are subject to professional regulation, often established by statute [30]. This professional self-regulation has the power to establish criteria for entry to practice, to ensure practitioner competence and service quality, and to govern practitioner behavior, ensuring that practice is conducted ethically and responsibly [3,30]. The broad field of forensic sciences might limit the creation of a professional self-regulatory mechanism that can be applied to all forensic specialists. On the other hand, a common and critical feature across diverse forensic specializations is the high level of scientific and technical qualification and the need for the best ethical conduct [4,5] to be more easily generalizable. Besides the above, forensic activity, in many countries, remains to be regulated by specific regulatory bodies and full and broad scope legal frameworks, despite this urgent need for harmonization between the public interest, the protection of the liberal profession status and professional recognition, and the strict enforcement of ethics and responsibility.

The current framework, now presented, is grounded on the perception that if evidence is mishandled, manipulated, or misinterpreted, it can potentially destroy a case and/or the lives of the individuals involved, and negatively impact forensic practice's reputation. Forensic specialists must be not only adequately trained and educated, but they must also respect high moral and ethical standards and incorporate unexceptionable character core values. Finally, it is essential to highlight that standardizing ethics training presents challenges and difficulties since every forensic case is unique, either regarding evidence or involving people, including the experts. Therefore, it is, to a certain point, a permanent work in progress.

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