sciendo
Polish Journal of Medical Physics and Engineering
The Journal of Polish Society of Medical Physics
ISSN 1898-0309, doi: 10.2478/pjmpe-2024-0012
June 2024
Vol 30, Issue 2

Review Article

Book review: “Guidelines on professional ethics for medical physicists”, Training Course Series 78, Vienna, 2023

Mishkat Ali JAFRI [1,ABD,*], Intikhab ULFAT [1,DEF]
[1]*Department of Physics, University of Karachi, Pakistan*
[*]*Corresponding author: Mishkat Ali Jafri; mishkatali@khi.iba.edu.pk*

(received 22 February 2024; accepted 9 April 2024)

Abstract

The International Atomic Energy Agency (IAEA) has published the document namely “Guidelines on professional ethics for medical physicists” in 2023. This document complements several other IAEA publications on similar topics like IAEA Human Health Series 25. The “code of ethics” in medical physics practices is an essentially important topic and this publication covers the topic comprehensively. However, a few areas of improvement like the correlation of this publication with the concepts of leadership, safety culture, etc. have been identified in this review.

Keywords: medical physics; code of ethics; IAEA; regional professional bodies of medical physics.

Book review

Article III of its statute empowers the International Atomic Energy Agency (IAEA) with the authority to establish or adopt safety standards aimed at safeguarding health and minimizing risks to life and property. This mandate obliges the IAEA to develop a comprehensive set of safety standards to fulfill its mission. Notably, the "Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards (GSR Part 3), 2014," addresses both technical and non-technical dimensions of radiation protection, with a specific emphasis on the competence and roles of medical physicists. GSR Part 3 also underscores the ethical considerations in applying radiation safety, particularly within hospital settings.[1]

Over the past decade, professional bodies in the field of medical physics have increasingly recognized the significance of ethics. The American Association of Medical Physicists (AAPM) took a crucial step by formulating the "Code of Ethics for Medical Physics" through the Task Group Report TG-109.[2] Subsequently, the IAEA addressed these ethical principles in its publications, particularly "IAEA Human Health Series 25," which was heavily influenced by AAPM's TG-109.[3,4] In 2018, the Asia-Oceania Federation of Organizations for Medical Physics (AFOMP) developed its own code of ethics following deliberations in a meeting in India attended by regional medical physics bodies.[5] The European Federation of Organizations for Medical Physics (EFOMP) also played a role in shaping ethical conduct, issuing guidelines on professional behavior and procedures for addressing alleged misconduct through its EFOMP Policy Number 11 in 2003.[6] Furthermore, the International Commission on Radiological Protection (ICRP) has issued reports emphasizing the importance, requirements, and practical implementation of ethical principles in radiation protection.[7]

Notably, the IAEA has recently published a significant document, "Guidelines on Professional Ethics for Medical Physicists in 2023," which offers practical guidance on implementing the code of ethics in real working conditions. The authors responsible for this publication are G. Loreti and D. Van der Merwe from the Human Health Division of the IAEA.[8]

The "Foreword" of this document correctly identifies the need for greater recognition of the medical physics profession within the medical community. This section also references various IAEA publications that serve as the foundation for IAEA TCS 78. The primary objective of this publication is to provide clinically qualified medical physicists (CQMPs) practicing in various medical physics specialties, such as radiology, nuclear medicine, and radiotherapy, with comprehensive insights into professional ethics, ultimately enhancing their practice within the healthcare environment.

TCS 78 is structured into six sections. Section 1 serves as an introduction, offering insights into the background, objectives, scope, and overall document structure. Section 2 probes into how ethical principles and conduct influence the roles and responsibilities of medical physicists. Section 3 provides an overview of the key ethical principles that have a significant impact on medical physics practice. In Section 4, the document explores the ethical elements relating to the workplace in

© 2024 Authors
This is an open access article licensed under the Creative Commons Attribution-NonCommercial-NoDerivs License (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Authors’ contribution:
A – Research concept and design, B – Collection and/or assembly of data, C – Data analysis and interpretation, D – Writing the article, E – Critical revision of the article, F – Final approval of the article.

general, scientific integrity, research pursuits, and direct interactions with patients. Section 5 presents scenarios that pose ethical dilemmas in medical physics, offering descriptions and demonstrating how ethical principles can be applied to address these dilemmas. Finally, Section 6 offers guidelines on the academic and clinical training necessary for medical physicists to attain competence in professional ethics and lists some recommended core reference texts.

This document equips medical physicists with a comprehensive understanding of ethical concepts and their practical implementation in real-world scenarios. Its significance is further underscored by a recent AAPM survey, which revealed a need for increased awareness and training among medical physicists regarding the code of ethics and its implementation.[9] Additionally, the document enriches the reader's experience by presenting numerous real-life examples.

However, while the document adeptly addresses the ethical aspects of medical physics practices, it falls short of establishing a strong correlation between ethical considerations and the concepts of leadership and safety culture.[10] Although references to IAEA publications on safety culture in medical applications are included in the "References" section, the document lacks an in-depth exploration of these concepts within the text. Furthermore, the IAEA safety standard "Leadership and Management for Safety," GSR Part 2, is notably absent from the publication. Including a brief description of these concepts in the context of ethical principles and guidelines would provide valuable insights for both the general reader and the medical physics community. Additionally, an introductory section that offers a brief overview and historical context of the code of ethics developed by EFOMP, AAPM, AFOMP, and the IAEA's activities related to ethical guidelines for medical physics practices would enhance the document's comprehensiveness. Moreover, the document occasionally appears loosely connected with the code of ethics outlined in IAEA HHS 25, particularly in terms of the sequence of topics. Given the similarities, a more explicit one-to-one connection and mapping between IAEA TCS 78 and the established code would enhance the document's utility.

Declaration

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

1. International Atomic Energy Agency. Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards. IAEA Safety Standards Series No. GSR Part 3. IAEA, Vienna; 2014. https://doi.org/10.61092/iaea.u2pu-60vm
2. Skourou C, Sherouse GW, Bahar N, et al. Code of ethics for the American Association of Physicists in Medicine (Revised): Report of Task Group 109. Medical Physics. 2019;46(4). https://doi.org/10.1002/mp.13351
3. International Atomic Energy Agency. Roles and Responsibilities, and Education and Training Requirements for Clinically Qualified Medical Physicists. IAEA Human Health Series No. 25, IAEA, Vienna; 2013.
4. Jafri M, Farrukh S, Ilyas N. A review of the IAEA approach toward the “code of ethics in medical physics practices”. Pak J Nucl Med. 2022; 12(1):55-57. https://doi.org/10.24911/pjnmed.175-1651299935
5. Round WH, Ng KH, Rodriguez L, et al. AFOMP policy number 6: code of ethics for medical physicists in AFOMP Countries. Australas Phys Eng Sci Med. 2018;41(4):809-810. doi:10.1007/s13246-018-0708-x
6. Sherriff SB, Dendy PP. Guidelines on Professional Conduct and Procedures to Be Implemented in the Event of Alleged Misconduct - EFOMP Policy Statement No 11. Physica Medica. 2033;19(3):227-229.
7. Cho KW, Cantone MC, Kurihara-Saio C, et al. ICRP Publication 138: Ethical Foundations of the System of Radiological Protection. Ann ICRP. 2018;47(1):1-65. https://doi.org/10.1177/0146645317746010
8. International Atomic Energy Agency. Guidelines on Professional Ethics for Medical Physicists, Training Course Series No. 78. IAEA, Vienna; 2023
9. Ozturk N, Armato SG III, Giger ML, Serago CF, Ross LF. Ethics and professionalism in medical physics: A survey of AAPM members. Medical Physics. 2013;40(4). https://doi.org/10.1118/1.4797463
10. International Atomic Energy Agency. Leadership and Management for Safety, IAEA Safety Standards Series No. GSR Part 2, IAEA, Vienna; 2016. https://doi.org/10.61092/iaea.cq1k-j5z3