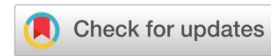




Research Article



Unregulated Orthodontic Practice and Its Implications for Equity and Sustainability in Public Health

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Abstract: Fixed orthodontic treatment improves oral function, dental aesthetics, and malocclusion correction within dental health services. Patients frequently select general dentists because they offer affordable and accessible treatment. However, the absence of comprehensive regulations governing the authority of general dentists in fixed orthodontic procedures creates legal uncertainty and increases potential risks to patient safety. This study examines the regulation of fixed orthodontic services provided by general dentists, identifies factors that hinder the improvement of public health outcomes, and evaluates the urgency of strengthening legal regulations governing fixed orthodontic treatment. The research applies an empirical normative legal method by using secondary legal materials as primary data and primary field data as supporting evidence. The study further analyzes statutory regulations concerning the authority of general dentists in fixed orthodontic practice and assesses their implementation within dental health services. The findings demonstrate that *first*, orthodontic treatment in Indonesia is generally regulated as a specialized service requiring specific professional competence, although existing regulations have not fully met the public's need for affordable and accessible care. *Second*, the limited number and unequal distribution of orthodontic specialists, high treatment costs, and low public awareness regarding professional competence encourage many patients to seek treatment from general dentists. *Third*, these conditions create legal, ethical, and professional challenges, thereby requiring adaptive regulatory reforms through competency-based training, stricter supervision, and stronger collaboration among the government, professional organizations, and educational institutions to ensure safe, equitable, and high-quality orthodontic services in Indonesia.

Keywords: Dentists; Legal Protection; Orthodontic; Public Health; Regulation;



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INTRODUCTION

Health is a basic human right and an important part of the people's welfare which must be realized in accordance with the philosophical values contained in Pancasila and the Constitution of the Republic of Indonesia of 1945. Health is a condition of physical, mental, spiritual and social well-being that allows individuals to live productively in economic and social environments. Health is one of the basic human needs, along with food, clothing and shelter, and is vital in maintaining the quality of human life. People are not able to optimally participate in social and economic development and effectively perform their daily activities without sufficient health conditions.¹ Article 28H paragraph (1) of the Constitution of the Republic of Indonesia

¹ Abolfazl Avan and Vladimir Hachinski, "Brain Health: Key to Health, Productivity, and Well-being," *Alzheimer's & Dementia* 18, no. 7 (July 27, 2022): 1396–1407, <https://doi.org/10.1002/alz.12478>



of 1945 states that every individual has the right to receive proper health services. The constitutional guarantee emphasizes that the realization of health rights must be carried out based on the principles of protection, equality, sustainability, participation and non-discrimination. This right is not limited to individual responsibility; it becomes a responsibility of the State to ensure equal access to health services for all citizens in order to achieve collective welfare and social justice.²

Health development is defined in the National Health System established by Presidential Regulation Number 72 of 2012 as a comprehensive effort carried out by all elements of society to increase awareness, willingness, and ability to live healthy lives in order to achieve the highest level of public health.³ The National Health System unites a variety of national health initiatives into a single framework such that health development objectives are achieved. This regulation reaffirms that every individual and family has the right to receive equitable and accessible health services and that it is the responsibility of the government to plan, regulate, administer and supervise the implementation of health care throughout the country. Thus, health services act not only as a public need but also as a legal instrument for the construction of a balanced, productive and socially just society.⁴ Dental and oral health care services are important for the maintenance and improvement of the standards of public health. These services include promotive, preventive, curative and rehabilitative actions for holistic oral health management. The promotive efforts are directed towards educating the community on the importance of oral hygiene, correct tooth brushing techniques and diet. Prevention measures are directed towards reducing the incidence of oral diseases, particularly dental caries and periodontal diseases, which are often due to poor oral hygiene practices. The accessibility of comprehensive dental and oral healthcare services enables society to have better access to knowledge, prevention and professional treatment, all of which improve the overall public health and quality of life.⁵

Dental treatment is an integral component of dental and oral health care services. Dentists medically treat patients with oral health problems, to prevent further complications and restore function to the mouth.⁶ The dental services cover scaling, dental filling, tooth extraction, orthodontic treatment, and other clinical procedures to improve the conditions of oral health. All procedures are performed by dentists with the utmost concern for the safety, comfort and success of the patient. Adequate healthcare facilities also help in providing high quality dental services and increase the

² I Wayan Sudirta et al., "Explore the Values of Pancasila as the Basic Philosophy of the Indonesian Nation," *Arena Hukum* 18, no. 1 (April 30, 2025): 127–58, <https://doi.org/10.21776/ub.arenahukum2025.01801.6>

³ Kavitha Palaniappan, Elaine Yan Ting Lin, and Silke Vogel, "Global Regulatory Frameworks for the Use of Artificial Intelligence (AI) in the Healthcare Services Sector," *Healthcare* 12, no. 5 (February 28, 2024): 562, <https://doi.org/10.3390/healthcare12050562>

⁴ Petra Kokko, "Improving the Value of Healthcare Systems Using the Triple Aim Framework: A Systematic Literature Review," *Health Policy* 126, no. 4 (April 2022): 302–9, <https://doi.org/10.1016/j.healthpol.2022.02.005>

⁵ Alice Kit Ying Chan et al., "Integration of Oral Health into General Health Services for Older Adults," *Geriatrics* 8, no. 1 (January 30, 2023): 20, <https://doi.org/10.3390/geriatrics8010020>

⁶ Amany Hany Mohamed Kamel et al., "The Role of Dental Oncology in Cancer Care: A Critical Component of Comprehensive Treatment, Education, and Interdisciplinary Collaboration– a Narrative Review," *Journal of Cancer Education*, April 30, 2025, <https://doi.org/10.1007/s13187-025-02639-6>



confidence of the general public in oral healthcare institutions. Dental rehabilitation represents the last phase of comprehensive oral healthcare.⁷ This process involves replacing missing or broken teeth with removable dentures, full dentures, dental crowns, bridges and dental implants to restore oral function and cosmetics. In recent years, public attention to healthcare has broadened from medical concerns to increasingly include aesthetic ones. This development has increased the demand for orthodontic treatment especially fixed orthodontic appliances. Orthodontic services include both removable and fixed appliances. Mild cases are usually treated with removable appliances, while more complex irregularities of the teeth are corrected more precisely with fixed appliances, under continuous professional supervision.⁸

Dental treatment is one of the important parts of dental and oral health care services. Dentists provide medical intervention to control oral diseases to prevent further complications and to ensure that patients receive the appropriate treatment based on their clinical situation. Dental services include scaling, dental fillings, tooth extractions, fixed orthodontic treatment and other procedures that support maintenance of oral health.⁹ All procedures are performed by dentists with a priority on patient safety, comfort and effectiveness of treatment. Adequate healthcare facilities and complete medical infrastructure greatly affect the quality of dental services and public confidence in oral healthcare institutions. The final stage of complete oral health care is dental rehabilitation. The process includes the replacement of missing or damaged teeth, using removable dentures, complete dentures, crowns and bridges, as well as dental implants, to restore the functional and aesthetic features of the oral cavity. In recent years, aesthetic considerations have been increasingly included in the public interest in healthcare. This has increased the demand for orthodontic treatment in particular fixed orthodontic appliances that improve dental alignment and facial aesthetics. Orthodontic treatment includes removable appliances for mild cases and fixed appliances for more complex dental conditions that require continuous professional supervision and precise clinical management.¹⁰

General dentists providing fixed orthodontic services have created significant controversy regarding the quality and safety of patient care. General dentists are legally authorized to provide dental and oral health care services including fixed orthodontic treatment. However, concerns are often raised as to how competent they are compared to orthodontic specialists. The concerns stem from the different levels of education, training duration, and clinical experience in orthodontic treatment that general dentists and orthodontic specialists have. Orthodontic specialists have many

⁷ Yuhei Matsuda et al., "Oral Health Management and Rehabilitation for Patients with Oral Cancer: A Narrative Review," *Healthcare* 10, no. 5 (May 23, 2022): 960, <https://doi.org/10.3390/healthcare10050960>

⁸ Yoshihiro Yoshimura et al., "Dental Professionals in the Triad of Rehabilitation, Nutrition Support, and Oral Management: A Pathway to Enhanced Oral Health Strategies," *Current Oral Health Reports* 12, no. 1 (April 25, 2025): 13, <https://doi.org/10.1007/s40496-025-00404-8>

⁹ Nadeem Karimbux et al., "Measuring Patient Experience of Oral Health Care: A Call to Action P," *Journal of Evidence-Based Dental Practice* 23, no. 1 (January 2023): 101788, <https://doi.org/10.1016/j.jebdp.2022.101788>

¹⁰ Jasmine Cheuk Ying Ho et al., "An Overview of Dentist–Patient Communication in Quality Dental Care," *Dentistry Journal* 13, no. 1 (January 14, 2025): 31, <https://doi.org/10.3390/dj13010031>



years of formal education including intensive study dedicated specifically to orthodontic science, diagnosis, treatment planning, biomechanics and complication management. In contrast, general dentists typically learn about orthodontics from short training courses that concentrate on the fundamentals of fixed appliance placement procedures. These limited training programs may not cover a comprehensive knowledge of advanced treatment techniques, post treatment management and handling of clinical complications that may arise in the course of orthodontic care. The broad education of orthodontic specialists helps them to improve their clinical competence and analytical skills in the treatment of simple and complex orthodontic cases with increased accuracy and professional responsibility.¹¹

Another difference between general dentists and orthodontic specialists is their ability to deal with complications in fixed orthodontic treatment. General dentists with little orthodontic training frequently experience challenges in managing complex clinical complications, such as malocclusion correction, periodontal injury, structural dental problems, and infections resulting from incorrect appliance placement. Inadequate management of these conditions can have significant implications for patient safety and treatment outcomes.¹² On the other hand, orthodontic specialists have extensive clinical education and practical experience they can use to identify complications early, develop appropriate treatment plans, and minimize risks during the course of treatment. Therefore, differences in the quality of treatment are the result of differences in the duration of education, as well as differences in the level of clinical competence and the ability to manage complications.¹³

However, fixed orthodontic services provided by general dentists are still attractive to patients with limited financial capacity as treatment costs are usually more affordable and accessible. Cost often determines the choice of patients when selecting an orthodontic service, especially in the middle and lower-income groups. However, relying on financial considerations alone to make treatment decisions may pose greater clinical risks to patients. Patients can choose their health care provider based on personal preference and financial means. When access to specialist orthodontic services is limited by the costs of treatment, however, ethical issues arise. This situation creates inequities in access to appropriate dental care and highlights the need for policies that balance patient protection, affordability, and professional competence in orthodontic services.¹⁴

Based on Article 70 paragraph (1) of Law Number 17 of 2023 concerning Health, dental and oral health care services are intended to maintain and improve public

¹¹ Nikolaos Ferlias, Ambrosina Michelotti, and Peter Stoustrup, "Patient Safety in Orthodontic Care: A Scoping Literature Review with Proposal for Terminology and Future Research Agenda," *BMC Oral Health* 24, no. 1 (June 18, 2024): 702, <https://doi.org/10.1186/s12903-024-04375-7>

¹² Karin Jepsen, Anton Sculean, and Søren Jepsen, "Complications and Treatment Errors Involving Periodontal Tissues Related to Orthodontic Therapy," *Periodontology* 2000 92, no. 1 (June 15, 2023): 135–58, <https://doi.org/10.1111/prd.12484>

¹³ Masoomeh Imanipour et al., "The Effect of Competency-based Education on Clinical Performance of Health Care Providers: A Systematic Review and Meta-analysis," *International Journal of Nursing Practice* 28, no. 1 (February 9, 2022), <https://doi.org/10.1111/ijn.13003>

¹⁴ Ana N. López et al., "Oral Health Inequities: Recommended Public Policies to Achieve Health Equity," *Journal of Dental Education* 86, no. 9 (September 27, 2022): 1242–48, <https://doi.org/10.1002/jdd.13071>



health standards. Article 4(c) and (f) also confirm that each person has the right to access safe, quality and affordable health services and has the autonomy to decide on the health treatments needed. These provisions provide a clear legal basis for the rights of patients to choose healthcare services including fixed orthodontic treatment.¹⁵ Therefore, patients have the right to receive orthodontic services that are affordable, safe and of quality according to their financial capacity and personal choice. Treatment can be provided by general dentists or orthodontic specialists in fixed orthodontic treatment. This decision is often driven by financial considerations as general dentists typically offer lower treatment costs. But patients who opt for cheaper services are still entitled to professional, safe and high-quality treatment according to legal standards. The importance of the balance between patient autonomy and professional responsibility is critical for the patient's welfare and the safety of treatment. Dental healthcare services as a part of public health rights should comply with the standards set by the government. Clear regulation of fixed orthodontic services provides legal protection of patients and helps to ensure the quality of professional healthcare. As the development of technology in dental healthcare services continues to grow, regulatory certainty also becomes more important as the public demand for orthodontic treatment continues to grow.¹⁶

The practice of fixed orthodontic treatment by general dentists became a serious legal problem in the case decided under Decision Number 557 PK/Pdt/2017. As the plaintiff, Wisda Wati had undergone fixed orthodontic treatment at Baiti Jannati Clinic in Padang in 2008 by drg. Hj. Yenni, the defendant, with the aim of improving the alignment of her anterior teeth. The patient underwent treatment for about two years without any significant improvement. Otherwise, the anterior teeth became progressively protrusive, several molars became impacted and one premolar was extracted without satisfactory results. The patient consulted with an orthodontic specialist and found that the treatment had led to loss of anchorage. The patient then instituted a legal proceeding for damages compensation. Finally, the Supreme Court denied the petition for judicial review and upheld the previous judicial rulings, finding no material legal error in the previous judgments. This case highlights the relevance of professional competence, ethical responsibility and regulatory supervision in fixed orthodontic services. Every healthcare provider must adhere to professional standards and legal rules to ensure the safety of patients and quality of care.¹⁷

Dentists have a duty to meet the competency requirements and improve their professional knowledge and clinical skills by participating in continuing dental education programs. With the fast development of dental science and technology, the continuing education is becoming more and more important. The limited availability of orthodontic specialists and the long period of training required to become a

¹⁵ Heuiwon Han et al., "Protecting Children in Aotearoa New Zealand: A Review on Legal and Professional Frameworks for Oral Health Practitioners," *Journal of the Royal Society of New Zealand* 55, no. 6 (December 2025): 1418–31, <https://doi.org/10.1080/03036758.2024.2430597>

¹⁶ Yuxuan Ma et al., "Perspective Opportunities and Challenges in Translating Dental Materials into Clinical Practice," *Translational Dental Research* 2, no. 2 (April 2026): 100061, <https://doi.org/10.1016/j.tdr.2025.100061>

¹⁷ Andreta Slavinska et al., "Narrative Review of Legal Aspects in the Integration of Simulation-Based Education into Medical and Healthcare Curricula," *Laws* 13, no. 2 (March 14, 2024): 15, <https://doi.org/10.3390/laws13020015>



specialist make it difficult to meet the public's demand for orthodontic services. Structured training and certification programmes to boost the competence of general dentists could be a strategic solution to improve access to affordable orthodontic care. Some additional authority, with appropriate regulations, can allow general dentists to provide a wider range of orthodontic services, without sacrificing professional standards or patient safety. The condition also demonstrates the urgent need to develop specific ministerial regulations that clearly define the scope of authority, competency requirements, and legal responsibility of general dentists performing fixed orthodontic treatment.¹⁸

Several studies published in Elsevier indexed journals have examined orthodontic practice from perspectives of professional competence, patient safety, healthcare accessibility, and sustainability in public health systems. Theodore Eliades et al. (2025) analyzed environmental sustainability within orthodontic practice and emphasized the necessity of standardized professional guidelines to support sustainable healthcare management.¹⁹ Nikhilesh R. Vaid and Samar Adel (2023) discussed contemporary orthodontic workflows and highlighted the importance of professional efficiency, standardized treatment procedures, and clinical competence in modern orthodontic services.²⁰ Takashi Ono et al. (2023) emphasized that postgraduate orthodontic education and competency standards play a significant role in protecting patient safety and strengthening professional accountability.²¹ Valeria Pangrazio Kulbersh et al. (2022) examined disparities in orthodontic certification systems and demonstrated the importance of regulatory frameworks in maintaining treatment quality and equitable healthcare access.²² Furthermore, A. R. Thom et al. (2020) explained that international collaboration among orthodontic organizations contributes to ethical governance, patient protection, and sustainable orthodontic healthcare development.²³

This study aims to examine the legal, ethical, and public health implications of unregulated orthodontic practice, particularly fixed orthodontic treatment performed without adequate professional standards and regulatory supervision. The study also seeks to analyze the impact of such practices on patient safety, healthcare equity, and

¹⁸ Sruthi Sunil et al., "Cultivating Professional Identity Through Community-Based Dental Education: A Qualitative Study," *Journal of Dental Education* 90, no. 2 (February 1, 2026): 186–95, <https://doi.org/10.1002/jdd.13947>

¹⁹ Theodore Eliades et al., "Environmental Footprints in Orthodontics: The World Federation of Orthodontists' White Paper on Sustainable Practices, Challenges and Research Imperatives," *Journal of the World Federation of Orthodontists* 14, no. 4 (August 2025): 194–201, <https://doi.org/10.1016/j.ejwf.2025.06.003>

²⁰ Nikhilesh R. Vaid and Samar M. Adel, "Contemporary Orthodontic Workflows: A Panacea for Efficiency?," *Seminars in Orthodontics* 29, no. 1 (March 2023): 1–3, <https://doi.org/10.1053/j.sodo.2023.02.002>

²¹ Takashi Ono et al., "World Federation of Orthodontists Guidelines for Postgraduate Orthodontic Education," *Journal of the World Federation of Orthodontists* 12, no. 2 (April 2023): 41–49, <https://doi.org/10.1016/j.ejwf.2023.03.002>

²² Valmy Pangrazio-Kulbersh et al., "Orthodontic Board Certifications: Global Perspectives, Challenges, and Evolving Trends," *Journal of the World Federation of Orthodontists* 11, no. 2 (April 2022): 49–52, <https://doi.org/10.1016/j.ejwf.2022.01.003>

²³ Allan R. Thom et al., "World Federation of Orthodontists: An Orthodontic Umbrella Organization Coordinating Activities and Pooling Resources," *Journal of the World Federation of Orthodontists* 9, no. 3 (October 2020): S3–14, <https://doi.org/10.1016/j.ejwf.2020.09.005>



the sustainability of public health services. Furthermore, this research intends to formulate regulatory recommendations that balance accessibility, professional competence, affordability, and legal protection within orthodontic healthcare services.

METHOD

This research applies a constructivist legal paradigm that understands legal reality as relative, contextual, plural, and socially constructed through interaction between individuals and their social environment. The study employs a normative empirical juridical approach by combining normative legal analysis with empirical field research to examine the regulation and implementation of fixed orthodontic services provided by general dentists.²⁴ The normative aspect analyzes statutory regulations, legal doctrines, and professional standards related to orthodontic practice, while the empirical aspect examines the implementation of fixed orthodontic services within society. The research utilizes primary and secondary data sources. Primary data derive from observations and in-depth interviews conducted with patients receiving fixed orthodontic treatment, general dentists, professional dental organizations, and academic experts. Secondary data consist of statutory regulations, court decisions, legal literature, scientific journals, and other relevant legal materials. The study also employs primary, secondary, and tertiary legal materials to support comprehensive legal analysis. Data collection techniques include library research, direct observation, and in-depth interviews conducted in several dental practices providing fixed orthodontic services. The research analyzes data through descriptive qualitative methods by classifying, interpreting, and connecting legal and empirical findings to identify patterns, inconsistencies, and legal issues related to orthodontic practice. The study applies hermeneutic and dialectical analysis to interpret legal norms, professional competence, patient rights, and healthcare accessibility. Through this mechanism, the research reconstructs legal understanding regarding the urgency of strengthening regulations on fixed orthodontic services to ensure patient protection, professional accountability, equitable healthcare access, and sustainable public health services.²⁵

RESULT AND DISCUSSION

Regulation of Orthodontic Services for Indonesian Dentists

Dental and oral healthcare services play a fundamental role in improving public health quality and supporting social welfare. Dentists contribute significantly through promotive, preventive, curative, and rehabilitative measures intended to preserve oral health, restore oral function, and enhance patient wellbeing. Healthcare services within dentistry include oral health education, early disease prevention, clinical diagnosis, restorative treatment, rehabilitation, and management of dentofacial conditions. Preventive programs encourage oral hygiene awareness, routine examinations, and measures to reduce the prevalence of dental caries and periodontal disease. Curative procedures involve restorative therapy, tooth extraction, root canal

²⁴ Iromi Ilham et al., "The Challenges and Strategies of Coastal Tourism Development: The Insight from Kampai Island, Indonesia," *Jurnal Ilmiah Peuradeun* 14, no. 1 (January 30, 2026): 171–94, <https://doi.org/10.26811/peuradeun.v14i1.1357>

²⁵ Ni Komang Sutrisni et al., "The Compliance of Governance on Family Data Protection Regulation," *Journal of Human Rights, Culture and Legal System* 4, no. 3 (2024): 706–41, <https://doi.org/10.53955/jhcls.v4i3.293>



treatment, and management of structural abnormalities affecting oral health. Rehabilitation services further support the restoration of oral function and aesthetics through prosthetic treatment and orthodontic intervention.²⁶

The delivery of professional dental services requires legal authorization through registration certificates and practice licenses issued by competent authorities. These legal instruments confirm that dentists possess recognized competence, professional qualifications, and authority to provide healthcare services. Professional competence includes clinical expertise, diagnostic ability, treatment planning, communication skills, ethical responsibility, and the capacity to manage patient expectations effectively. Dentists must also conduct comprehensive evaluations concerning malocclusion, anatomical conditions, and other clinical factors that influence treatment outcomes. The quality of treatment therefore depends upon accurate diagnosis, careful clinical judgment, and continuous professional development.²⁷

Government Regulation Number 28 of 2024 concerning the Implementation of Law Number 17 of 2023 on Health establishes that medical personnel and healthcare workers must practice according to their authorized competencies. The regulation states that professional authority derives from educational qualifications, certified competence, and additional training formally recorded within the Registration Certificate. This mechanism provides legal certainty regarding the scope of professional authority while strengthening patient protection and minimizing medical errors. The regulation also permits healthcare personnel to expand professional authority through certified education and professional training programs. Within dental healthcare services, general dentists may acquire additional competence in orthodontic treatment through structured training aligned with professional standards and healthcare regulations. Professional standards require healthcare personnel to maintain technical competence, ethical conduct, proper communication, accurate medical records, and safe clinical procedures. Public expectations regarding healthcare quality, safety, and professionalism continue to increase alongside scientific and technological development. Consequently, dentists must continuously improve clinical knowledge, technical abilities, and patient centered approaches in healthcare delivery.²⁸

Minister of Health Regulation Number 2052 of 2011 concerning Practice Licenses and the Implementation of Medical Practice regulates medical authority in emergency healthcare situations. The regulation authorizes doctors and dentists to perform actions outside ordinary clinical authority when emergency conditions threaten human life. Dentists may therefore provide immediate treatment in cases involving oral trauma, severe bleeding, or other conditions requiring urgent intervention to

²⁶ Ho-Yan Duong et al., "Oral Health-related Quality of Life of Patients Rehabilitated with Fixed and Removable Implant-supported Dental Prostheses," *Periodontology 2000* 88, no. 1 (February 2022): 201–37, <https://doi.org/10.1111/prd.12419>

²⁷ Talal Alharbi et al., "Diagnostic Challenges and Patient Safety: The Critical Role of Accuracy – A Systematic Review," *Journal of Multidisciplinary Healthcare* Volume 18 (May 2025): 3051–64, <https://doi.org/10.2147/JMDH.S512254>

²⁸ Olga Gershuni et al., "A Systematic Review on Professional Regulation and Credentialing of Public Health Workforce," *International Journal of Environmental Research and Public Health* 20, no. 5 (February 24, 2023): 4101, <https://doi.org/10.3390/ijerph20054101>



stabilize patient conditions and prevent further complications. Nevertheless, fixed orthodontic treatment does not constitute emergency healthcare because orthodontic procedures primarily function as corrective and aesthetic treatment requiring specialized competence acquired through formal education and clinical training. General dentists therefore must provide orthodontic treatment according to the competence recognized within their professional qualifications.²⁹

The regulation also permits delegation of medical authority from specialists to other healthcare personnel through written authorization under specific conditions. Orthodontic specialists may delegate limited orthodontic procedures to general dentists provided that the delegated tasks remain within the recipient's competence and continue under specialist supervision. Delegated authority must not involve independent clinical decision making or continuous professional practice exceeding recognized competence. Continuous fixed orthodontic treatment independently performed by general dentists without appropriate supervision may therefore conflict with legal and professional standards governing healthcare practice.³⁰

The Indonesian Medical Council Decree Number 126 of 2024 concerning the Professional Standards of Indonesian Dentists further defines the competence of general dentists within orthodontic services. The regulation states that general dentists possess competence to manage simple Class I dental malocclusion in children and adults. This competence includes prevention, treatment, evaluation, and follow up of simple dental malocclusion cases. The regulation additionally specifies procedural competence related to removable orthodontic appliances, including appliance fabrication, insertion, activation, and anchorage management. These standards demonstrate that the orthodontic competence of general dentists remains limited to simple dental cases and removable orthodontic treatment, while more complex orthodontic conditions require specialist expertise.³¹

The professional competency framework established by the Indonesian Medical Council includes professionalism, mastery of dental science, physical and stomatognathic examination, restoration of stomatognathic function, public oral health, and dental practice management. These competency domains provide the legal and professional foundation guiding dentists in delivering accountable, safe, and effective healthcare services. Strong regulatory supervision and continuous competency development remain essential for improving public trust, maintaining

²⁹ Athanasios E. Athanasiou, "Global Guidelines for Education and Their Impact on the Orthodontics Profession through the Years," *Seminars in Orthodontics* 30, no. 4 (September 2024): 385–88, <https://doi.org/10.1053/j.sodo.2024.04.010>

³⁰ Hafizah A. Hamzah et al., "Guidance for General Dental Practitioners on the Recognition and Referral of Potential Orthognathic Cases," *British Dental Journal* 240, no. 8 (April 24, 2026): 529–36, <https://doi.org/10.1038/s41415-026-9538-5>

³¹ Bhaven Modha, "Detainees within Immigration Removal Centres: A Highly Unique Cohort of Dental Patients," *Journal of Health Equity* 2, no. 1 (December 31, 2025), <https://doi.org/10.1080/29944694.2025.2461012>



professional standards, and ensuring equitable access to quality dental healthcare services in Indonesia.³²

Regulations governing dental practice must continuously adapt to scientific advancement, technological development, and evolving public healthcare needs. The government therefore holds an essential role in ensuring that healthcare regulations support professional dental practice aligned with national and international standards. Government responsibility includes supervising healthcare implementation, maintaining professional accountability, and providing adequate educational and training facilities for medical personnel, including dentists and orthodontic specialists. Effective regulatory supervision ensures that healthcare providers perform professional duties according to legal standards, ethical principles, and patient safety requirements.³³

The Indonesian Medical Council Regulation Number 103 of 2021 concerning the Educational Standards for Orthodontic Specialist Professional Programs establishes minimum competency standards for graduates of orthodontic specialist education. These standards encompass professional attitudes, scientific knowledge, clinical competence, and technical skills formulated within learning outcome criteria. All orthodontic specialist education programs must apply these standards as the primary foundation for curriculum development, learning processes, assessment systems, academic management, educational facilities, research activities, and professional training implementation. The regulation also aligns educational outcomes with the Indonesian National Qualification Framework and professional standards established by the Orthodontic Specialist Collegium.³⁴ Orthodontic specialist education requires comprehensive mastery of theoretical and applied sciences related to craniofacial anatomy, oral physiology, genetics, dent craniomaxillofacial growth, orthodontic biomechanics, oral radiology, cephalometric analysis, orthodontic appliances, and interdisciplinary treatment approaches. Orthodontic specialists must also develop competence in diagnosis, treatment planning, scientific research, communication, bioethics, legal aspects of healthcare, and management of orthodontic practice. Educational programs additionally require competence in managing Class I, II, and III malocclusion, facial asymmetry, maxillary constriction, temporomandibular disorders, orthognathic surgery, and interdisciplinary orthodontic treatment.³⁵

The regulation further emphasizes practical competence through clinical simulation, wire bending techniques, cephalometric analysis, interceptive orthodontics, corrective

³² Farizkha Andjani Davavilana, Fidya Meditia Putri, and Netty Suryanti, "Career Choice and the Influencing Factors of Bachelor and Dental Profession Students: An Observational Study," *Padjadjaran Journal of Dentistry* 36, no. 1 (May 29, 2024): 77, <https://doi.org/10.24198/pjd.vol36no1.48690>

³³ Nozimjon Tuygunov et al., "The Transformative Role of Artificial Intelligence in Dentistry: A Comprehensive Overview Part 2: The Promise and Perils, and the International Dental Federation Communique," *International Dental Journal* 75, no. 2 (April 2025): 397–404, <https://doi.org/10.1016/j.identj.2025.02.006>

³⁴ Gulsum Ceylan et al., "Examining the Influence of Self-Esteem and Digital Literacy on Professional Competence Factors in Dental Education: A Cross-Sectional Study," *Applied Sciences* 13, no. 16 (August 19, 2023): 9411, <https://doi.org/10.3390/app13169411>

³⁵ Shoroog Agou and Reem Alansari, "Defining Orthodontic Learning Outcomes for General Dentists: A Modified Delphi Process-Based Curricular Modification," *Seminars in Orthodontics* 30, no. 4 (September 2024): 413–21, <https://doi.org/10.1053/j.sodo.2024.04.007>



orthodontic treatment, retention management, and interdisciplinary patient care. Orthodontic specialist graduates must demonstrate independent capability in conducting comprehensive orthodontic treatment according to professional standards and evidence-based healthcare principles. Curriculum content therefore integrates cognitive competence, psychomotor skills, scientific research ability, and clinical professionalism to ensure that orthodontic specialists possess advanced expertise necessary for managing complex orthodontic conditions. These educational standards reflect the importance of maintaining high professional competence, patient safety, and internationally recognized orthodontic healthcare quality within Indonesia's healthcare system.³⁶

The analysis of regulations concerning fixed orthodontic services performed by general dentists applies Lawrence Meir Friedman's legal system theory, which consists of three interrelated components, namely legal structure, legal substance, and legal culture. These three components form an integrated legal system that influences the effectiveness of law enforcement and implementation within society. Through this theoretical framework, the study examines the regulatory arrangement of orthodontic services in Indonesia from institutional, normative, and sociological perspectives.³⁷ Legal structure refers to institutions responsible for regulating, supervising, and implementing legal norms. In the context of orthodontic services, the legal structure involves institutions such as the Ministry of Health and the Indonesian Dental Association, which establish professional standards and supervise dental practice. Existing regulations do not explicitly provide authority for general dentists to independently perform fixed orthodontic treatment because orthodontic procedures generally fall within the competence of orthodontic specialists. Nevertheless, practical conditions demonstrate that many general dentists continue to provide orthodontic services because patients seek more affordable and accessible treatment. This condition indicates inconsistency between regulatory structure and healthcare realities within society. Consequently, legal reform becomes necessary to provide a clearer regulatory framework allowing general dentists to perform limited orthodontic procedures after completing certified education and professional training under institutional supervision.³⁸

Legal substance concerns the content of legal norms regulating professional conduct and healthcare practice. Current healthcare regulations primarily emphasize that orthodontic treatment requires specialized competence acquired through formal orthodontic education. This legal substance reflects patient protection principles and professional accountability in healthcare services. However, limitations in specialist accessibility and economic barriers often encourage patients to obtain orthodontic treatment from general dentists. This situation creates a legal and practical gap

³⁶ Nikhillesh Vaiid et al., "Understanding Critical Thinking in Orthodontic Residency to Transform Novices to Experts," *Seminars in Orthodontics* 30, no. 4 (September 2024): 443–51, <https://doi.org/10.1053/j.sodo.2024.07.005>

³⁷ Lukman Santoso, Khaidarulloh Khaidarulloh, and Muh Jihad Al Haqiqi, "Fragmented Legal Protection in Child Marriage Prevention," *Al-Ahkam: Jurnal Ilmu Syari'ah Dan Hukum* 11, no. 1 (February 25, 2026): 27–55, <https://doi.org/10.22515/alahkam.v11i1.14103>

³⁸ Putu Ria Purnami et al., "Legal Protection of Patients Who Do Care in Dental and Oral Therapists Based on Permanence No. 20 of 2016 on Permission and Maintenance of Dental Therapist Practice," *Unram Law Review* 8, no. 2 (October 30, 2024), <https://doi.org/10.29303/ulrev.v8i2.359>



between normative regulation and societal healthcare needs. Therefore, reformulation of legal substance becomes important through the establishment of regulations permitting general dentists to provide orthodontic treatment within restricted competence boundaries supported by additional certification and professional supervision. Such regulatory development can strengthen legal certainty, patient safety, and healthcare accessibility while preventing medical disputes arising from professional actions exceeding competence limits.³⁹

Legal culture relates to public attitudes, values, awareness, and behavior toward legal norms and professional healthcare standards. In orthodontic services, many patients prioritize affordability and accessibility rather than professional specialization when selecting healthcare providers. Limited public understanding regarding orthodontic competence and treatment risks often influences patient decisions.⁴⁰ At the same time, professional ethics, legal awareness, and commitment to competence among general dentists significantly affect compliance with healthcare regulations. Transformation of legal culture therefore becomes essential to improve public awareness regarding the importance of obtaining orthodontic treatment from competent healthcare providers. Professional organizations and government institutions must strengthen legal education, professional ethics, and public socialization concerning orthodontic standards and patient safety. A strong legal culture will support effective implementation of healthcare regulations, reinforce professionalism among dentists, and increase public trust toward safe and high-quality orthodontic services.⁴¹

Implications for Equity and Sustainability Public Health in Central Java

Dental and public healthcare services within the research locations demonstrate variations in the availability of healthcare personnel, healthcare facilities, and specialist dental services. These differences influence public access to dental and orthodontic treatment within each region. In Boyolali Regency, healthcare services receive support from 141 general practitioners, 39 dentists, 60 specialist doctors, 708 nurses, and 482 midwives. Healthcare facilities include nine general hospitals, one specialized hospital, fourteen inpatient community health centers, fourteen non inpatient community health centers, forty-four auxiliary health centers, 205 village health posts, and 1,787 integrated healthcare service posts. Administrative health profile data from 2025 indicate that Boyolali Regency possesses twenty-eight community health centers functioning as providers of general and dental healthcare services. Each district contains at least one community health center. Dental healthcare services specifically operate at Boyolali II Community Health Center and several private healthcare institutions, including RSUI Banyu Bening and Gigigo Dental Care. Ungaran City recorded 172 dentists working across community health centers,

³⁹ Paul Snelling and Oliver Quick, "Confidentiality and Public Interest Disclosure: A Framework to Evaluate UK Healthcare Professional Regulatory Guidance," *Medical Law International* 22, no. 1 (March 8, 2022): 3–32, <https://doi.org/10.1177/09685332221079124>

⁴⁰ Abdurrohman Kasdi et al., "Fatwa and Religious Authority: Islamic Law, Social Media Ethics and Digital Age," *Al-Ahkam: Jurnal Ilmu Syari'ah Dan Hukum* 11, no. 1 (March 3, 2026): 56–66, <https://doi.org/10.22515/alakhkam.v11i1.10755>

⁴¹ Flavius Costanza-Gugiu, Ana Cernega, and Silviu-Mirel Pițuru, "Medico-Legal Implications and Risk Management Strategies in Orthodontic Practice: An Analytical Literature Review," *Healthcare* 13, no. 23 (November 25, 2025): 3054, <https://doi.org/10.3390/healthcare13233054>



hospitals, and other healthcare institutions during 2025. These personnel consisted of twenty-nine dentists in community health centers, fifty-four dentists in hospitals, and eighty-nine dentists in other healthcare facilities. The city also employed sixty-five dental specialists, including forty-four specialists working in hospitals and twenty-one specialists practicing within other healthcare institutions.

Kebumen Regency reported 393 medical personnel in 2025, consisting of 118 specialist doctors, 220 general practitioners, 48 dentists, and seven dental specialists. Among the dentists, fifteen worked in community health centers, ten served in hospitals, and forty practiced in other healthcare facilities. Dental specialists remained limited in number, with five specialists working in hospitals and four specialists practicing within other healthcare institutions. These conditions illustrate disparities in the distribution of dental specialists and healthcare accessibility across research locations. Fixed orthodontic treatment constitutes a dental healthcare procedure designed to improve dental alignment, jaw function, and dentofacial aesthetics. Public interest in orthodontic treatment continues to increase because many individuals associate dental appearance with health, self-confidence, and social acceptance. This growing demand has encouraged many patients to seek orthodontic services from general dentists because treatment costs remain more affordable than services provided by orthodontic specialists⁴². Nevertheless, the implementation of fixed orthodontic treatment by general dentists has generated debate regarding professional competence, patient safety, and the limits of clinical authority. Orthodontic treatment generally requires specialized education, clinical training, and comprehensive understanding of malocclusion, biomechanics, and craniofacial abnormalities possessed by orthodontic specialists.⁴³

Interviews conducted with patients in Kebumen, Boyolali, and Ungaran demonstrated that economic considerations represented the dominant factor influencing patient decisions in selecting general dentists for fixed orthodontic treatment. Many respondents explained that specialist orthodontic treatment remained financially inaccessible because of higher treatment costs. Patients therefore considered general dental clinics as more realistic and affordable alternatives despite understanding differences in professional competence between general dentists and orthodontic specialists. Several respondents also stated that they would prefer specialist treatment if treatment costs became more affordable. Accessibility factors additionally influenced patient preferences. Respondents in Boyolali explained that orthodontic specialists remained limited in number and primarily practiced in larger urban areas, requiring patients to spend additional time and transportation costs. Convenience, familiarity, and trust toward general dentists also influenced treatment decisions, particularly among patients who had long standing relationships with local dental practitioners.

The interviews further revealed that general dentists frequently encountered professional dilemmas when responding to patient requests for fixed orthodontic

⁴² Afa Dahlia Bahar et al., "Dental Aesthetics and Self-Esteem of Patients Seeking Orthodontic Treatment," *Healthcare* 12, no. 16 (August 8, 2024): 1576, <https://doi.org/10.3390/healthcare12161576>

⁴³ Ionut Luchian et al., "The Influence of Orthodontic Treatment on Periodontal Health between Challenge and Synergy: A Narrative Review," *Dentistry Journal* 12, no. 4 (April 17, 2024): 112, <https://doi.org/10.3390/dj12040112>



treatment. Although many dentists informed patients regarding the distinction between specialist competence and general dental competence, patients often insisted on continuing treatment because of financial limitations and accessibility concerns. Under these circumstances, general dentists attempted to provide treatment according to their professional ability while recognizing that fixed orthodontic treatment traditionally belongs within specialist orthodontic authority. These findings indicate that patient autonomy, economic inequality, limited specialist distribution, and unequal healthcare accessibility collectively contribute to the increasing practice of fixed orthodontic treatment performed by general dentists in the research locations.⁴⁴

Table 1. Research Results of Patients with Braces

City	Gender	Patient	Choosing a General Dentist	Percent	Choosing an Orthodontist	Percent
Kebumen	Man	20	14	70%	6	30%
	Women	20	15	75%	5	25%
Boyolali	Man	20	16	80%	4	20%
	Women	20	17	85%	3	15%
Ungaran	Man	20	17	85%	3	15%
	Women	20	15	75%	5	25%

Source: Data Processed and Analyzed by the Author

Based on interview results involving patients receiving fixed orthodontic treatment in Kebumen, Boyolali, and Ungaran, the study found that most patients preferred obtaining orthodontic treatment from general dentists rather than orthodontic specialists. The research involved balanced numbers of male and female respondents in each location, consisting of twenty respondents for each gender category. In Kebumen, fourteen out of twenty male respondents, representing seventy percent, selected general dentists for fixed orthodontic treatment, while six respondents, representing thirty percent, preferred orthodontic specialists. Among female respondents in Kebumen, fifteen out of twenty respondents, representing seventy five percent, selected general dentists, whereas five respondents, representing twenty five percent, chose orthodontic specialists. These findings demonstrated stronger patient preference toward general dentists among both male and female respondents.

A similar pattern appeared in Boyolali with even higher percentages. Sixteen out of twenty male respondents, representing eighty percent, preferred general dentists, while only four respondents, representing twenty percent, selected orthodontic specialists. Female respondents demonstrated greater preference toward general dentists, with seventeen out of twenty respondents, representing eighty five percent, choosing general dental practitioners and only three respondents, representing fifteen percent, selecting orthodontic specialists. In Ungaran, the findings also demonstrated substantial preference toward general dentists. Seventeen out of twenty male respondents, representing eighty five percent, selected general dentists, while only three respondents, representing fifteen percent, preferred orthodontic specialists. Among female respondents, fifteen out of twenty respondents, representing seventy

⁴⁴ Bhavya Fernandez et al., "Healthcare Providers' Perspectives on Service Delivery and Utilisation in Public Dental Outpatient Centres in Thiruvananthapuram, Kerala," *Discover Public Health* 23, no. 1 (January 9, 2026): 24, <https://doi.org/10.1186/s12982-025-01055-x>



five percent, selected general dentists, whereas five respondents, representing twenty five percent, chose orthodontic specialists.

These findings indicate that patients in all research locations predominantly prefer general dentists for fixed orthodontic treatment. The results further demonstrate limited public understanding regarding distinctions in competence and professional authority between general dentists and orthodontic specialists. Economic affordability, accessibility, familiarity, and limited availability of orthodontic specialists significantly influenced patient decisions.⁴⁵ The findings also demonstrate the urgency of strengthening regulations governing fixed orthodontic treatment performed by general dentists. The absence of clear regulatory limitations creates opportunities for general dentists to perform procedures traditionally categorized within specialist orthodontic competence. More adaptive regulations therefore become necessary to establish clear professional boundaries while simultaneously providing opportunities for general dentists to expand competence through structured education, professional training, and certification programs. Regulations issued by the Ministry of Health may establish standardized orthodontic training systems for general dentists to ensure treatment quality and patient safety.⁴⁶

Regulatory reform should also include stricter supervision of orthodontic services provided by general dentists. Professional organizations such as the Indonesian Dental Association and orthodontic specialist associations should participate in developing comprehensive professional guidelines and competency standards.⁴⁷ General dentists who complete certified orthodontic training programs may subsequently provide limited orthodontic services within regulated professional boundaries. Expansion of professional authority through regulated competency development may also address increasing public demand for orthodontic treatment, particularly in regions with limited numbers of orthodontic specialists. Clear regulations can strengthen equitable healthcare access, improve public confidence in dental healthcare services, and reduce the potential for medical disputes resulting from treatment outcomes that fail to meet patient expectations. The study additionally demonstrates that educational institutions possess an important role in addressing this issue. Current dental education curricula in Indonesia generally provide only basic orthodontic knowledge without intensive technical training related to fixed orthodontic treatment. Formal advanced training or certification programs for general dentists seeking expanded orthodontic competence also remain limited. Consequently, collaboration between regulators, educational institutions, and professional organizations becomes necessary to develop structured,

⁴⁵ Reem Alansari and Nikhillesh Vaiid, "Why Do Patients Transition between Orthodontic Appliances? A Qualitative Analysis of Patient Decision-making," *Orthodontics & Craniofacial Research* 27, no. 3 (June 27, 2024): 439–46, <https://doi.org/10.1111/ocr.12750>

⁴⁶ Ming-Sung Hsu et al., "Integrating Digital Technologies in Dental Technician Education: A Comparative Study of National Examination in Asian Countries," *Journal of Dental Sciences* 20, no. 1 (January 2025): 28–35, <https://doi.org/10.1016/j.jds.2024.10.017>

⁴⁷ Ignacio Garcia-Espona et al., "Is There a Common Pattern of Dental Specialties in the World? Orthodontics, the Constant Element," *BMC Oral Health* 24, no. 1 (January 8, 2024): 49, <https://doi.org/10.1186/s12903-023-03713-5>



supervised, and competency based orthodontic training programs for general dentists.⁴⁸

Interviews conducted with general dentists providing fixed orthodontic services in Kebumen, Boyolali, and Ungaran revealed numerous professional, ethical, and regulatory challenges within daily clinical practice. Most general dentists explained that patients frequently preferred treatment from general dental practitioners rather than orthodontic specialists because of economic limitations, accessibility barriers, and limited public understanding regarding differences in professional competence. Although general dentists consistently informed patients that fixed orthodontic treatment ideally belonged within the authority of orthodontic specialists, many patients nevertheless requested treatment from general dentists because specialist treatment costs remained financially inaccessible.⁴⁹ Several dentists explained that orthodontic treatment required comprehensive diagnosis, long term treatment planning, periodic evaluation, and management of potential complications. Nevertheless, patients often prioritized affordability over specialist qualifications. General dentists in Boyolali and Kebumen stated that many patients understood explanations regarding specialist competence yet continued requesting treatment because they lacked sufficient financial resources to obtain specialist care. Dentists also emphasized that limited availability of orthodontic specialists in smaller regions further influenced patient decisions. Patients living in rural or peripheral areas frequently faced additional transportation costs, longer travel distances, and extended waiting periods for specialist consultation, thereby encouraging them to seek treatment from nearby general dental clinics.⁵⁰

The interviews additionally demonstrated that general dentists frequently experienced professional dilemmas when deciding whether to accept or refuse patients requesting fixed orthodontic treatment. Many dentists expressed discomfort in rejecting patients who possessed limited financial capability and restricted access to specialist care.⁵¹ Some dentists stated that they attempted to provide treatment within the boundaries of their competence while remaining selective regarding the complexity of cases they accepted. They also emphasized the importance of referral mechanisms for cases requiring specialist intervention. Several general dentists explained that limited public knowledge regarding orthodontic competence contributed significantly to increasing requests for treatment from general practitioners. Many patients believed that all dentists possessed equal qualifications to perform fixed orthodontic treatment because orthodontic procedures had become

⁴⁸ Moshe Goldstein et al., "Structure, Governance and Delivery of Specialist Training Programs in Periodontology and Implant Dentistry," *Journal of Clinical Periodontology* 51, no. S27 (November 28, 2024): 55–90, <https://doi.org/10.1111/jcpe.14033>

⁴⁹ Rodney P. Jones, "A New Approach for Understanding International Hospital Bed Numbers and Application to Local Area Bed Demand and Capacity Planning," *International Journal of Environmental Research and Public Health* 21, no. 8 (August 6, 2024): 1035, <https://doi.org/10.3390/ijerph21081035>

⁵⁰ Kirk H. Waibel and Tamara T. Perry, "Telehealth and Allergy Services in Rural and Regional Locations That Lack Specialty Services," *The Journal of Allergy and Clinical Immunology: In Practice* 10, no. 10 (October 2022): 2507–2513.e1, <https://doi.org/10.1016/j.jaip.2022.06.025>

⁵¹ Farah Ahmed, Homa Fathi, and Christophe Bedos, "The Experiences of People Living with Environmental Sensitivities Concerning Oral Health and Access to Dental Services," *Disability and Rehabilitation* 46, no. 12 (June 4, 2024): 2600–2609, <https://doi.org/10.1080/09638288.2023.2227972>



increasingly common within society.⁵² Dentists therefore needed to provide additional education concerning differences between general dental competence and orthodontic specialist expertise.⁵³

The interviews further revealed strong expectations among general dentists regarding the establishment of clearer legal and professional regulations governing fixed orthodontic treatment. Many respondents argued that existing regulations failed to adequately address practical realities encountered within society, particularly the imbalance between public demand for affordable orthodontic treatment and the limited availability of orthodontic specialists. General dentists therefore proposed the development of adaptive regulations permitting general dentists to perform limited orthodontic procedures after completing structured education, professional training, and competency certification recognized by government institutions and professional organizations.⁵⁴ Respondents also suggested that additional certification programs could strengthen patient safety while simultaneously improving healthcare accessibility. Several dentists argued that not all orthodontic cases required specialist intervention because mild malocclusion cases could potentially receive safe treatment from properly trained general dentists. Consequently, they emphasized the importance of regulations clearly defining the categories of orthodontic cases manageable by general dentists after additional competency training.⁵⁵

The respondents highlighted the necessity of more equitable healthcare financing policies for orthodontic treatment. Some dentists suggested the establishment of insurance support systems or financial subsidy mechanisms to reduce treatment costs at specialist clinics. They argued that more affordable specialist treatment would decrease pressure on general dentists and improve patient access to appropriate orthodontic care. To increasing public demand for fixed orthodontic treatment, combined with economic inequality and unequal specialist distribution, has placed general dentists within complex legal and ethical situations. General dentists attempt to balance patient needs, professional responsibility, and regulatory limitations while continuing to provide accessible healthcare services. These conditions indicate the urgent necessity for adaptive regulations, competency-based training systems, and equitable healthcare policies capable of protecting patient safety while simultaneously responding to practical healthcare realities within Indonesian society.⁵⁶

⁵² Abdulrahman Khulaif Alshammari et al., "Knowledge and Perception of Orthodontic Treatment among General and Non-Orthodontic Dental Specialists: A Comparative Study," *Healthcare* 11, no. 3 (January 24, 2023): 340, <https://doi.org/10.3390/healthcare11030340>

⁵³ Javier Fernández-Serrano et al., "Differences in the Ratios of General and Dental Specialists in Europe," *International Dental Journal* 74, no. 3 (June 2024): 519–25, <https://doi.org/10.1016/j.identj.2023.12.004>

⁵⁴ D. Richmond et al., "The Medical Necessity of Orthodontic Care: A Qualitative Study," *JDR Clinical & Translational Research* 11, no. 2 (April 17, 2026): 159–67, <https://doi.org/10.1177/23800844251355270>

⁵⁵ Hamid Mahdavifard et al., "What Competencies Does an Orthodontic Postgraduate Need?," *BMC Medical Education* 24, no. 1 (December 18, 2024): 1461, <https://doi.org/10.1186/s12909-024-06475-y>

⁵⁶ Lindya Okti Herbawani, Ari Susanti, and Qorinah Estiningtyas Sakilah Adnani, "The Revolution in Midwifery Education: How AI and Deep Learning Are Transforming Outcome-Based Assessments?," *Advances in Medical Education and Practice* Volume 16 (August 2025): 1579–99, <https://doi.org/10.2147/AMEP.S543098>



Patients possess the right to determine the type of healthcare treatment they wish to receive, including fixed orthodontic treatment, as recognized under Article 4 of Law Number 17 of 2023 concerning Health. This provision guarantees patient autonomy in selecting healthcare services according to individual needs, preferences, and financial conditions. Within the context of fixed orthodontic treatment, patients may independently decide whether treatment will be performed by a general dentist or an orthodontic specialist. This freedom reflects recognition of patient autonomy and protection of fundamental healthcare rights within the healthcare system. Nevertheless, patient freedom in selecting healthcare services must remain balanced with the obligation of healthcare professionals to provide complete, accurate, and transparent information. Article 280 of Law Number 17 of 2023 establishes that medical personnel must provide healthcare services based on principles of equality, transparency, and informed agreement. In fixed orthodontic treatment, dentists therefore bear responsibility for explaining differences in competence between general dentists and orthodontic specialists, including the scope of professional authority, treatment limitations, and potential risks associated with procedures performed outside specialist competence. Comprehensive disclosure of information ensures that patient decisions rely upon objective understanding rather than assumptions or economic considerations alone.⁵⁷

Article 274 of Law Number 17 of 2023 further requires all medical personnel to provide healthcare services according to professional standards, professional service standards, and operational procedures. This provision aims to protect patient safety and maintain healthcare quality. Consequently, general dentists providing fixed orthodontic treatment must ensure that all procedures remain within recognized professional competence and legal authority. Failure to comply with these standards may create risks for patients and expose healthcare personnel to legal liability arising from professional negligence or actions exceeding authorized competence. Patient rights to affordable healthcare services therefore require stronger and more specific regulations governing the authority of general dentists in fixed orthodontic treatment.⁵⁸ Clear regulatory standards may provide legal certainty for healthcare professionals while simultaneously protecting patients from unsafe treatment practices. Such regulations may also reduce medical disputes caused by differing interpretations regarding professional competence and clinical authority.⁵⁹ The right of patients to obtain affordable orthodontic treatment must additionally remain balanced with professional responsibility to guarantee safe and high-quality healthcare services. Healthcare regulations not only protect patient access to affordable treatment but also require that all orthodontic procedures satisfy professional safety and quality standards. Patients selecting treatment from general dentists because of lower costs therefore retain the right to receive safe and professionally accountable treatment.

⁵⁷ Vahe Kehyayan, Yasin M. Yasin, and Areej Al-Hamad, "Toward a Clearer Understanding of Value-Based Healthcare: A Concept Analysis," ed. Claire Su-Yeon Park, *Journal of Nursing Management* 2025, no. 1 (January 19, 2025), <https://doi.org/10.1155/jonm/8186530>

⁵⁸ Al Imran Shahrul et al., "To Assess the Knowledge, Awareness, and Perception of Non-Dentists Offering Orthodontic Treatment among the Malaysian Young Adult Population," *BMC Public Health* 24, no. 1 (November 20, 2024): 3224, <https://doi.org/10.1186/s12889-024-20460-6>

⁵⁹ Andrada-Georgiana Nacu, Dan-Alexandru Constantin, and Liliana Marcela Rogozea, "Ethical Dilemmas and Legal Responsibilities in Patient Care: An Analysis of Hospital Safety," *Healthcare* 13, no. 21 (November 4, 2025): 2800, <https://doi.org/10.3390/healthcare13212800>



This principle remains essential to prevent long term harm resulting from procedures performed beyond appropriate professional competence.⁶⁰

The provisions contained within Article 70 and Article 4 letters c and f of Law Number 17 of 2023 establish balance between patient autonomy and healthcare provider responsibility. These provisions permit patients to select treatment according to financial circumstances without sacrificing legal protection regarding healthcare quality and safety. Within clinical practice, many patients seek fixed orthodontic treatment from general dentists because specialist services remain financially inaccessible. Interview results demonstrated that general dentists frequently experienced pressure to provide orthodontic services because of increasing patient demand, particularly among lower income groups.⁶¹ The research additionally revealed that limited public understanding regarding differences between general dental competence and orthodontic specialist expertise significantly influenced patient decisions. Findings from Kebumen, Boyolali, and Semarang Regency demonstrated that more than sixty percent of patients receiving fixed orthodontic treatment from general dentists did not understand that such procedures ideally belonged within specialist orthodontic competence.

Patient rights constitute fundamental human rights derived from the principle of self-determination within healthcare services. The right to healthcare represents both an individual right and a social right because healthcare decisions directly affect personal autonomy, dignity, and quality of life. Within orthodontic treatment, patients therefore possess the freedom to determine the type of healthcare services and healthcare providers according to their individual needs, preferences, and financial circumstances.⁶² The concept of informed consent further reflects recognition of patient autonomy because patients possess the right to receive adequate information before approving or rejecting medical treatment. This principle developed through international medical ethics instruments emphasizing protection of patient dignity, transparency, and voluntary decision making within healthcare relationships.⁶³

In Indonesia, Law Number 17 of 2023 concerning Health guarantees patient rights to obtain safe, high quality, and affordable healthcare services, receive treatment according to professional standards, access healthcare resources, and independently determine necessary healthcare services. These rights create important legal implications within fixed orthodontic treatment provided by general dentists. General dentists performing orthodontic treatment must ensure that all procedures comply

⁶⁰ Lujain Alchalabi et al., "Asylum Seekers and Refugees' Access to Oral Health Care Services in Switzerland: A Qualitative Study," *International Journal for Equity in Health* 25, no. 1 (December 15, 2025): 5, <https://doi.org/10.1186/s12939-025-02711-z>

⁶¹ Ciro Mennella et al., "Ethical and Regulatory Challenges of AI Technologies in Healthcare: A Narrative Review," *Heliyon* 10, no. 4 (February 2024): e26297, <https://doi.org/10.1016/j.heliyon.2024.e26297>

⁶² Marcin Paweł Ferdynus, "Is Dignity Still Necessary in Health Care? From Definition to Recognition of Human Dignity," *Journal of Religion and Health* 63, no. 2 (April 13, 2024): 1154–77, <https://doi.org/10.1007/s10943-023-01995-1>

⁶³ Cláudio Domingos Laureano et al., "Ethical Issues in Clinical Decision-Making about Involuntary Psychiatric Treatment: A Scoping Review," *Healthcare* 12, no. 4 (February 9, 2024): 445, <https://doi.org/10.3390/healthcare12040445>



with professional standards, operational standards, and patient safety principles. Failure to comply with these standards may create risks for patients and generate legal disputes concerning professional negligence and healthcare quality. Patient autonomy additionally requires healthcare professionals to provide comprehensive and transparent information regarding professional qualifications, treatment procedures, risks, benefits, and available alternatives. Patients therefore possess the right to understand differences between general dentists and orthodontic specialists before making treatment decisions. Informed consent cannot operate effectively unless patients fully understand the competence, limitations, and risks associated with orthodontic procedures. Consequently, general dentists bear ethical and legal responsibility to communicate honestly regarding the scope of their professional competence.⁶⁴

Patient rights also include access to healthcare resources and the right to obtain healthcare services according to medical needs and professional standards. Within orthodontic practice, healthcare resources involve not only medical equipment and clinical facilities, but also professional competence and certified training possessed by healthcare providers. General dentists performing fixed orthodontic treatment therefore require adequate competency development, continuing education, and appropriate clinical supervision to ensure patient safety and treatment quality. The implementation of patient rights within orthodontic treatment also closely relates to medical ethics principles, particularly respect for patient autonomy and the principle of beneficence and nonmaleficence. Respect for patient autonomy requires dentists to involve patients actively in healthcare decisions by providing sufficient information regarding treatment options, risks, and expected outcomes. Patients maintain the right to accept, refuse, or discontinue orthodontic treatment according to personal preferences and informed understanding. Nevertheless, respect for autonomy does not eliminate professional responsibility because dentists remain obligated to explain possible long-term consequences arising from patient decisions.⁶⁵

The principle of beneficence and nonmaleficence further requires dentists to prioritize patient welfare while minimizing risks and potential harm. Before initiating orthodontic treatment, dentists must conduct comprehensive examinations, evaluate oral and general health conditions, and determine whether treatment benefits outweigh possible complications. Dentists must additionally consider whether alternative or more conservative treatment options may provide safer outcomes for patients. These ethical obligations require careful clinical judgment, transparent communication, and continuous monitoring throughout the treatment process. One of the primary challenges in implementing these principles within fixed orthodontic treatment involves ensuring that patients genuinely understand the information provided by healthcare professionals. Many patients possess limited medical knowledge and therefore may struggle to understand orthodontic risks, professional limitations, or long-term treatment implications. Dentists must therefore communicate

⁶⁴ Rosnida Rosnida et al., “Legal Protection of Health Workers in Emergency Medical Procedures: An Analysis of Legal Certainty in Indonesia and Thailand,” *Jurnal Ius Constituendum* 11, no. 1 (December 31, 2025): 87–105, <https://doi.org/10.26623/jic.v11i1.12818>

⁶⁵ Andrew Dawood, “Patient Expectations in Implant and Aesthetic Dentistry,” *British Dental Journal* 238, no. 10 (May 23, 2025): 770–76, <https://doi.org/10.1038/s41415-025-8725-0>



information clearly, use understandable explanations, and provide opportunities for patients to ask questions before making healthcare decisions.⁶⁶

Ethical challenges also arise when patients prioritize affordability or aesthetic appearance over long-term oral health considerations. Some patients may refuse specialist referrals because of financial limitations or social preferences despite recommendations from healthcare professionals. Under these circumstances, dentists must balance respect for patient decisions with professional obligations to prevent harm and maintain treatment safety. Empathetic communication and patient centered approaches become essential to strengthen trust between dentists and patients while ensuring ethical healthcare delivery. High quality fixed orthodontic services therefore require integration of patient autonomy, professional competence, informed consent, beneficence, and patient safety principles within daily clinical practice. Through transparent communication, careful evaluation, ethical professionalism, and regulatory compliance, dentists can provide orthodontic treatment that respects patient rights while maintaining healthcare quality and protecting overall patient welfare.⁶⁷

Treatment cost constituted the primary factor influencing patient preference toward general dentists, with twenty eight percent of respondents identifying affordability as the main consideration. Patients in Boyolali particularly emphasized economic factors, indicating that middle income communities prioritized affordable orthodontic treatment while still expecting acceptable healthcare quality. In addition to financial considerations, patients also evaluated accessibility, convenience, and familiarity when selecting healthcare providers. The proximity of dental clinics represented the second most influential factor, accounting for twenty one percent of patient preferences. Patients in smaller regions such as Kebumen and Boyolali preferred healthcare providers located near residential areas because closer access reduced transportation costs, travel time, and difficulties associated with routine orthodontic visits.

Doctor reputation also influenced patient decisions, particularly among respondents who valued recommendations, treatment success, and communication quality. Fifteen percent of respondents selected general dentists based on perceived professional credibility and positive experiences shared through personal networks or social interaction.⁶⁸ Quality of service additionally affected patient satisfaction, although only eight percent of respondents identified this factor as their primary consideration. Patients generally prioritized affordability and accessibility before

⁶⁶ Jasmine Ho et al., "Strategies for Effective Dentist-Patient Communication: A Literature Review," *Patient Preference and Adherence* Volume 18 (July 2024): 1385–94, <https://doi.org/10.2147/PPA.S465221>

⁶⁷ Szilárd Dávid Kovács et al., "The Conflict between Oral Health and Patient Autonomy in Dentistry: A Scoping Review," *BMC Medical Ethics* 25, no. 1 (December 21, 2024): 150, <https://doi.org/10.1186/s12910-024-01156-3>

⁶⁸ Xiaofan Liu et al., "The Influence of Doctor-Patient Communication on Patients' Trust: The Role of Patient-Physician Consistency and Perceived Threat of Disease," *Psychology Research and Behavior Management* Volume 17 (July 2024): 2727–37, <https://doi.org/10.2147/PRBM.S460689>



evaluating clinical quality, waiting time, communication skills, and treatment comfort.⁶⁹

Only five percent of respondents considered orthodontic expertise as the main reason for selecting a dentist. This finding indicates limited public understanding regarding differences in competence between general dentists and orthodontic specialists. Many patients appeared unaware that fixed orthodontic treatment ideally requires specialist competence and advanced professional training. Recommendations from family members or friends influenced seven percent of respondents, while six percent considered flexible scheduling and clinic facilities as important factors. Previous treatment experience represented the least influential factor because most respondents focused primarily on practical considerations rather than long term clinical evaluation. Seventy percent of patients across Kebumen, Boyolali, and Ungaran preferred general dentists for fixed orthodontic treatment. Economic affordability, accessibility, and limited understanding regarding professional competence collectively shaped patient decisions. These conditions emphasize the urgency of strengthening public education, professional supervision, and adaptive healthcare regulations capable of balancing patient access, professional standards, and patient safety within orthodontic services in Indonesia.⁷⁰

The increasing prevalence of dental and oral health problems in Indonesia demonstrates that existing healthcare capacity remains insufficient to address public needs comprehensively. Clinical cases encountered in practice range from simple dental conditions to highly complex orthodontic disorders that require specialized expertise beyond the competence of general dentists. Data from the Indonesian Dental Association electronic certification system indicate that Indonesia currently has 47,622 registered dentists, while the number of registered orthodontic specialists remains limited to 1,158 practitioners. The number becomes significantly smaller when considering subspecialists in Dentocraniofacial Developmental Disharmony and Dentocraniofacial Special Care, which consist of only thirty-three and thirty-eight specialists respectively. Compared with Indonesia's population exceeding 270 million people, one orthodontic specialist potentially serves more than 233,000 individuals. This imbalance illustrates a substantial shortage of orthodontic specialists within the national healthcare system.

The unequal distribution of orthodontic specialists further aggravates the problem because most specialists practice in provincial capitals and large urban centers rather than regencies and rural areas.⁷¹ Consequently, many communities experience limited access to specialist orthodontic services, forcing patients to rely on general dentists for

⁶⁹ Nizar Alsubahi et al., "Healthcare Quality from the Perspective of Patients in Gulf Cooperation Council Countries: A Systematic Literature Review," *Healthcare* 12, no. 3 (January 25, 2024): 315, <https://doi.org/10.3390/healthcare12030315>

⁷⁰ Muhammad Danial Azman, Kurudeven Tamil Chelvan, and Adilah Abdul Ghapor, "Aligning Dental Curricula with National Oral Health Policy: Addressing Population Needs," in *Handbook of Dental Education Technology* (Singapore: Springer Nature Singapore, 2026), 1–33, https://doi.org/10.1007/978-981-97-0275-6_50-1

⁷¹ Andrew Wang et al., "Distribution of Specialist Orthodontic Service Provision Across South Australia According to Socio-Economic Status and Remoteness," *Australian Journal of Rural Health* 33, no. 2 (April 11, 2025), <https://doi.org/10.1111/ajr.70040>



orthodontic treatment. Educational institutions authorized to provide orthodontic specialist education also remain limited. Indonesia currently possesses only six universities offering Orthodontic Specialist Dental Education Programs, namely Universitas Gadjah Mada, Universitas Indonesia, Universitas Padjadjaran, Universitas Sumatera Utara, Universitas Hasanuddin, and Universitas Airlangga. These institutions maintain strict admission requirements, including a maximum admission age of thirty-seven years, minimum professional practice experience, and highly competitive selection processes. Each institution generally accepts only ten students per cohort, while lecturer to student ratios remain restricted to one lecturer for every three students. These limitations contribute directly to the disproportionate ratio between general dentists and orthodontic specialists, which currently reaches approximately forty-one to one.⁷²

The prolonged duration, high financial cost, and limited educational capacity of specialist programs discourage many dentists from pursuing orthodontic specialization. These conditions have contributed to the broader healthcare workforce crisis in Indonesia, particularly regarding specialist healthcare services. Scientific and technological advancement within dentistry has simultaneously increased public demand for specialized orthodontic treatment, thereby widening the gap between healthcare needs and specialist availability.⁷³ According to Suryono, Dean of the Faculty of Dentistry at Universitas Gadjah Mada, additional competency training for general dentists may provide an alternative solution for improving healthcare access while maintaining professional standards. He explained that competency based orthodontic training should operate within clearly regulated professional boundaries, receive accreditation from the Ministry of Health, and obtain recognition from the Indonesian Dental Collegium. He further emphasized that competency enhancement programs require structured education, supervised clinical practice, competency evaluation, and national examinations before general dentists receive formal certification. Nevertheless, professional authority must remain limited according to the scope of competence recognized through certification and professional regulation.⁷⁴ Addressing the shortage of orthodontic specialists therefore requires comprehensive policy reform. The government must expand specialist education capacity, increase scholarship opportunities, improve healthcare workforce distribution, and create incentive systems for specialists willing to practice in underserved regions. In addition, competency-based training pathways for general dentists may provide a strategic mechanism for improving access to limited

⁷² Barbara J. Zabawa, "Health Care Corporatization as a Catalyst for Wellness Legal Partnerships," *American Journal of Law & Medicine* 51, no. 2 (July 16, 2025): 252–85, <https://doi.org/10.1017/amj.2025.10067>

⁷³ Jahnavi Rao and Richa Dutta, "Considerations for Orthodontists Navigating Career Paths in Dental Support Organization," *Seminars in Orthodontics* 31, no. 3 (July 2025): 410–15, <https://doi.org/10.1053/j.sodo.2024.12.001>

⁷⁴ Eliana Amaral and John Norcini, "Quality Assurance in Health Professions Education: Role of Accreditation and Licensure," *Medical Education* 57, no. 1 (January 29, 2023): 40–48, <https://doi.org/10.1111/medu.14880>



orthodontic services while preserving patient safety, professional accountability, and healthcare quality standards throughout Indonesia.⁷⁵

Strategies for Addressing Unregulated Orthodontic Practice

Legal protection constitutes an essential element within the legal system because it relates directly to the rights and obligations possessed by legal subjects in social and legal relationships.⁷⁶ Law provides recognition and guarantees for fundamental human rights while functioning as an instrument to prevent arbitrary conduct and ensure justice, legal certainty, and social benefit. The state implements legal protection through statutory regulations, public policies, institutional mechanisms, and enforcement procedures designed to safeguard individual interests within society.⁷⁷ Article 28D of the 1945 Constitution of the Republic of Indonesia affirms that every citizen has the right to recognition, protection, legal certainty, and equal treatment before the law, including protection in healthcare services and other civil rights. Legal protection also regulates interactions among legal subjects by establishing rights, obligations, and legal consequences arising from social conduct.⁷⁸ Within healthcare services, legal protection operates through preventive and repressive mechanisms. Preventive protection includes licensing systems, professional competency standards, ethical obligations, and informed consent requirements intended to prevent disputes before violations occur. Repressive protection functions through judicial remedies, sanctions, compensation, and accountability mechanisms when legal violations or professional negligence cause harm to patients. The existence of these mechanisms demonstrates the important role of law in maintaining justice, social order, professional responsibility, and balanced legal relationships between healthcare providers and patients.⁷⁹

Health law represents a manifestation of legal protection intended to guarantee the fulfillment of healthcare rights as part of fundamental human rights within the era of globalization.⁸⁰ The Indonesian legal system recognizes healthcare as an essential element of public welfare that must be realized according to the philosophical foundations of Pancasila and the 1945 Constitution of the Republic of Indonesia. National health development therefore aims to increase public awareness, willingness,

⁷⁵ Galvin Sim Siang Lin, Tong Wah Lim, and Mariana Minatel Braga, "Embracing Competency-Based Education for Modern Dental Practice," *The Asia Pacific Scholar* 10, no. 2 (April 1, 2025): 8–12, <https://doi.org/10.29060/TAPS.2025-10-2/GP3440>

⁷⁶ Anis Mashdurohaturun et al., "Delayed Justice in Protecting Emergency Medical Workers," *Journal of Sustainable Development and Regulatory Issues (JSDERI)* 3, no. 2 (July 21, 2025): 347–71, <https://doi.org/10.53955/jsderi.v3i2.116>

⁷⁷ Illy Yanti et al., "Negotiating Shari'ah and Customary Law: Legal Pluralism in Familial Relationships among the Suku Anak Dalam in Jambi," *Journal of Islamic Law* 6, no. 2 (June 26, 2025): 177–205, <https://doi.org/10.24260/jil.v6i2.3311>

⁷⁸ Muhamad Fajar Pramono et al., "Repositioning Oligarchy and Democratic Governance: Institutional Reform in Indonesia," *Jurnal Ilmiah Peuradeun* 14, no. 1 (January 30, 2026): 123–50, <https://doi.org/10.26811/peuradeun.v14i1.2516>

⁷⁹ Rina Arum Prastyanti and Ridhima Sharma, "Establishing Consumer Trust Through Data Protection Law as a Competitive Advantage in Indonesia and India," *Journal of Human Rights, Culture and Legal System* 4, no. 2 (May 28, 2024): 354–90, <https://doi.org/10.53955/jhcls.v4i2.200>

⁸⁰ Linhua Xia, Zhen Cao, and Yue Zhao, "Paradigm Transformation of Global Health Data Regulation: Challenges in Governance and Human Rights Protection of Cross-Border Data Flows," *Risk Management and Healthcare Policy* Volume 17 (December 2024): 3291–3304, <https://doi.org/10.2147/RMHP.S450082>



and capability to achieve healthy living conditions for every individual to realize the highest possible standard of health as part of social welfare objectives. Within health law, the right to healthcare also constitutes an individual human right closely connected with the principle of self-determination. This principle forms the basis of the legal relationship between doctors and patients and subsequently develops into the doctrine of informed consent, which requires patient approval before medical treatment occurs.⁸¹

Patients and dentists possess equal legal standing as human beings and legal subjects who hold rights and obligations within healthcare relationships. Legal protection for patients and dentists has been regulated through statutory provisions that govern healthcare practice, professional standards, and ethical obligations. Dentists who perform professional duties according to competency standards and codes of ethics possess the right to obtain legal protection when facing medical disputes. This protection may operate within administrative, civil, or criminal legal frameworks depending on the circumstances of the dispute. In fulfilling patient rights, every medical action must comply with professional standards consisting of scientific knowledge, technical competence, professional conduct, and operational procedures. Dentists therefore carry the obligation to provide complete and accurate information concerning diagnosis, treatment plans, medical risks, and alternative procedures before obtaining informed consent from patients or their families.⁸²

The implementation of legal protection frequently encounters challenges within fixed orthodontic services performed by general dentists. The principle of protection and safety regulated under Article 2 of Law Number 17 of 2023 concerning Health establishes a fundamental obligation to ensure that healthcare services remain safe, professional, and consistent with medical standards. General dentists must provide comprehensive information regarding treatment risks, diagnosis, and clinical procedures to minimize misunderstandings and prevent medical disputes. Compliance with operational standards and professional regulations also provides legal certainty and professional protection for dentists in clinical practice.⁸³

Fixed orthodontic treatment belongs to the field of orthodontics, which requires specialized competence generally obtained through formal orthodontic specialist education. General dentists who perform fixed orthodontic procedures without appropriate competency may violate professional standards and potentially infringe patient rights. Article 201 of Law Number 17 of 2023 concerning Health requires medical personnel to conduct healthcare practice according to recognized competency standards and professional authority. Consequently, general dentists who exceed the scope of their competence in providing fixed orthodontic treatment may

⁸¹ Zahara Nampewo, Jennifer Heaven Mike, and Jonathan Wolff, "Respecting, Protecting and Fulfilling the Human Right to Health," *International Journal for Equity in Health* 21, no. 1 (December 15, 2022): 36, <https://doi.org/10.1186/s12939-022-01634-3>

⁸² Giuseppe Tarantini et al., "Informed Consent and Shared Decision-Making in Modern Medicine: Case-Based Approach, Current Gaps and Practical Proposal," *The American Journal of Cardiology* 241 (April 2025): 77–83, <https://doi.org/10.1016/j.amjcard.2025.01.015>

⁸³ Hannah Barrow et al., "Are the Standards of Professionalism Expected in Dentistry Justified? Views of Dental Professionals and the Public," *British Dental Journal* 234, no. 5 (March 10, 2023): 329–33, <https://doi.org/10.1038/s41415-023-5572-8>



face administrative sanctions, civil liability, or criminal responsibility under Indonesian healthcare law.⁸⁴

Legal protection for patients becomes increasingly important in fixed orthodontic services performed by general dentists who lack formal orthodontic competence.⁸⁵ Orthodontic treatment conducted beyond recognized professional authority may create medical disputes when negligence, treatment failure, or adverse clinical outcomes harm patients. Limited patient understanding regarding differences between general dentists and orthodontic specialists may also weaken the validity of informed consent and create legal consequences for healthcare providers. General dentists who provide orthodontic treatment therefore face significant legal and ethical responsibilities in ensuring patient safety and compliance with professional standards.⁸⁶ Orthodontic treatment requires specialized competence because the procedure involves diagnosis, treatment planning, biomechanical adjustment, and long-term clinical monitoring. Unclear regulatory boundaries concerning orthodontic practice may create overlapping authority between general dentists and orthodontic specialists, thereby increasing legal uncertainty and potential risks for patients. Comprehensive regulations remain necessary to define the scope of orthodontic procedures permitted for general dentists while maintaining healthcare quality and patient protection. From an ethical perspective, orthodontic treatment must comply with the principle of nonmaleficence, which obligates healthcare professionals to avoid causing harm to patients.⁸⁷ General dentists who intend to perform orthodontic procedures should therefore obtain continuing education and specialized training to ensure adequate competence. Proper orthodontic treatment provides significant functional and aesthetic benefits, including improved mastication, speech, dentofacial appearance, and psychological confidence. Nevertheless, inadequate treatment may produce serious complications such as root resorption, dental caries, enamel damage, periodontal disorders, and other clinical problems.⁸⁸

Medical negligence arising from improper orthodontic treatment may generate malpractice claims and medical disputes involving administrative, civil, or criminal liability. Medical disputes generally originate from professional negligence that causes patient harm during healthcare practice. Within medical law, professional responsibility focuses primarily on professional conduct, causation, and procedural compliance rather than solely on treatment outcomes because healthcare

⁸⁴ Martin Baxmann, Krisztina Kárpáti, and Zoltán Baráth, "A Systematic Review of the Content and Delivery of Clinical Knowledge in Orthodontic Postgraduate Programs," *BMC Medical Education* 25, no. 1 (May 20, 2025): 736, <https://doi.org/10.1186/s12909-025-07361-x>

⁸⁵ Vaibhav Gandhi et al., "Bridging the Gap between Residency and Reality: Key Principles of Orthodontic Practice Management for Early-Career Success," *Seminars in Orthodontics* 32, no. 2 (April 2026): 404–9, <https://doi.org/10.1053/j.sodo.2025.11.008>

⁸⁶ Maurice J. Meade et al., "Compliance of Orthodontic Practice Websites with Ethical, Legal and Regulatory Advertising Obligations," *International Orthodontics* 21, no. 1 (March 2023): 100727, <https://doi.org/10.1016/j.ortho.2023.100727>

⁸⁷ Anand Marya, Veerasathpurush Allareddy, and Prasad Nalabothu, "Teleorthodontics and the Ethics of Digital Transformation in Orthodontic Practice," *Seminars in Orthodontics* 32, no. 4 (August 2026): 722–28, <https://doi.org/10.1053/j.sodo.2025.08.001>

⁸⁸ Karin Jepsen, Anton Sculean, and Søren Jepsen, "Complications and Treatment Errors Related to Regenerative Periodontal Surgery," *Periodontology* 2000 92, no. 1 (June 12, 2023): 120–34, <https://doi.org/10.1111/prd.12504>



professionals perform obligations based on best professional efforts rather than guaranteed results.⁸⁹

Fixed orthodontic services performed by general dentists generate significant legal implications related to patient protection, professional accountability, and healthcare quality within dental practice. Healthcare regulations must provide effective legal safeguards through clear professional standards, administrative supervision, ethical accountability, and accessible dispute resolution mechanisms.⁹⁰ These legal protections aim to ensure that patients receive safe, high quality, and professionally accountable orthodontic treatment. Effective coordination between healthcare regulation, professional supervision, and legal enforcement therefore becomes essential in maintaining patient rights and professional responsibility within orthodontic services.⁹¹

Successful orthodontic treatment generally produces beneficial outcomes for both patients and dental practitioners. Appropriate correction of malocclusion according to established treatment plans may improve oral function, dentofacial aesthetics, patient satisfaction, and public confidence toward dental healthcare services. Positive treatment outcomes frequently strengthen professional reputation because satisfied patients often recommend dental services to relatives and broader social communities. Conversely, unsuccessful orthodontic treatment may produce serious legal and ethical consequences, including patient dissatisfaction, medical disputes, allegations of malpractice, and diminished professional credibility. General dentists consequently must conduct comprehensive clinical evaluation and perform orthodontic procedures only within recognized professional competence to minimize legal risk and protect patient safety.⁹²

Psychological factors also influence orthodontic treatment decisions, particularly among adolescent and adult patients who may experience anxiety regarding dental appearance during treatment. Dentists therefore hold responsibility for providing transparent information regarding procedures, risks, benefits, and expected treatment outcomes to support informed decision making.⁹³ According to the legal protection theory developed by Satjipto Rahardjo, law functions to protect individuals from harmful actions and legal uncertainty. Within orthodontic healthcare, legal protection must balance patient rights with professional certainty for general dentists.

⁸⁹ Briana J. Burris et al., "Medical Malpractice Court Cases Involving Treatment of the Temporomandibular Joint: Analysis of Prevalence, Risk Factors, and Court Rulings," *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology* 139, no. 3 (March 2025): 311–17, <https://doi.org/10.1016/j.oooo.2024.09.012>

⁹⁰ Daniel Asamoah, "The Role of Health Services Regulation in Healthcare Delivery," *Electronic Journal of Medical and Dental Studies* 14, no. 1 (February 19, 2025): em0108, <https://doi.org/10.29333/ejmnds/16003>

⁹¹ Yen-Wen Huang et al., "An Analysis of Dental Board Disciplinary Action among General Dentists in Texas," *The Journal of the American Dental Association* 156, no. 3 (March 2025): 225–33, <https://doi.org/10.1016/j.adaj.2024.12.009>

⁹² M Johnstone and M Evans, "Clinical and Medico-legal Considerations in Endodontics," *Australian Dental Journal* 68, no. S1 (June 7, 2023), <https://doi.org/10.1111/adj.12984>

⁹³ Min-Juan Zhang, Yan-Hui Sang, and Zhi-Hui Tang, "Psychological Impact and Perceptions of Orthodontic Treatment of Adult Patients with Different Motivations," *American Journal of Orthodontics and Dentofacial Orthopedics* 164, no. 3 (September 2023): e64–71, <https://doi.org/10.1016/j.ajodo.2023.05.021>



Comprehensive regulation, ethical supervision, competency standards, and public education consequently remain essential for ensuring safe, equitable, and legally accountable orthodontic healthcare services in Indonesia. This condition demonstrates inconsistency with Article 4 of Law Number 17 of 2023 concerning Health, which guarantees the right of every individual to obtain safe, high quality, and affordable healthcare services to achieve optimal health standards.⁹⁴ Patients possess the right to obtain affordable healthcare, seek second medical opinions, and independently choose healthcare providers according to personal preferences and financial capacity. Nevertheless, legal and professional controversy emerges when patients intentionally seek fixed orthodontic treatment from general dentists even though such procedures traditionally fall within the authority of orthodontic specialists.⁹⁵

The need to strengthen the competence of general dentists therefore becomes increasingly important to improve the quality and safety of fixed orthodontic services. Accredited professional training may equip general dentists with adequate clinical skills to perform limited orthodontic procedures safely and effectively while minimizing the risk of medical error. Competency development may also reduce the burden carried by the limited number of orthodontic specialists, particularly in regions experiencing shortages of specialist healthcare personnel.⁹⁶ Expansion of professional authority for general dentists through Minister of Health Regulations may therefore represent a strategic solution for improving accessibility to orthodontic healthcare services in Indonesia. Communities located in remote or underserved regions frequently experience significant obstacles in obtaining orthodontic treatment because orthodontic specialists remain concentrated within large urban centers. Geographic limitations, transportation costs, and high specialist fees consequently prevent many patients from accessing appropriate dental treatment. Allowing general dentists to perform limited fixed orthodontic procedures after completing accredited training and competency certification may significantly improve healthcare distribution without reducing professional standards.⁹⁷

Expansion of professional authority may also improve efficiency within the national dental healthcare system. Excessive dependence upon specialist practitioners frequently creates long waiting periods and decreases service effectiveness for patients requiring orthodontic treatment. General dentists who possess additional certified competence in orthodontics may assist in reducing patient overload while improving access to timely healthcare services. From an economic perspective, this policy may

⁹⁴ Ramnarayan B. K. et al., “Artificial Intelligence–Driven Dentistry: A Systematic Review of Ethical and Legal Challenges,” ed. Nicola Alberto Valente, *International Journal of Dentistry* 2026, no. 1 (January 16, 2026), <https://doi.org/10.1155/ijod/1870800>

⁹⁵ Neal C. Murphy, “Orthodontic Tissue Engineering,” in *Orthodontically Driven Osteogenesis* (Wiley, 2024), 1–59, <https://doi.org/10.1002/9781119700593.ch1>

⁹⁶ Daniel S. Lee et al., “Identifying Factors That Impact General Dentists’ Referrals to Orthodontists,” *American Journal of Orthodontics and Dentofacial Orthopedics* 161, no. 2 (February 2022): e147–71, <https://doi.org/10.1016/j.ajodo.2021.07.010>

⁹⁷ Rachel Esposito et al., “Geographic and Rural Health Care Resource Gaps in Orofacial Pain Provider Distribution across the United States,” *The Journal of the American Dental Association* 157, no. 3 (March 2026): 294–304, <https://doi.org/10.1016/j.adaj.2025.12.021>



also reduce treatment costs because orthodontic procedures performed by general dentists generally require lower service fees than specialist treatment.⁹⁸

Several countries with advanced healthcare systems have adopted comparable models by allowing trained general dentists to manage limited orthodontic cases under regulated professional standards. Implementation of expanded authority nevertheless requires clear legal frameworks, competency standards, and effective supervision mechanisms. Professional training curricula must include adequate theoretical and clinical components consistent with standards established by professional organizations and governmental authorities.⁹⁹ Continuous supervision and evaluation also remain necessary to ensure compliance with professional ethics and patient safety principles. General dentists who receive additional orthodontic authority must continue prioritizing patient welfare and refer complex cases to orthodontic specialists whenever treatment exceeds recognized competence. Comprehensive regulation therefore remains essential for balancing healthcare accessibility, patient protection, professional accountability, and legal certainty within fixed orthodontic services in Indonesia.¹⁰⁰

CONCLUSION

Based on the analysis of the discussion above, it can be concluded that *first*, orthodontic service regulations in Indonesia fundamentally emphasize that orthodontic treatment requires specialized competence and generally falls under the authority of orthodontic specialists; however, the existing regulations have not fully addressed the public's need for affordable and accessible orthodontic services. *Second*, the limited number and uneven distribution of orthodontic specialists, the high cost of treatment, and the low level of public understanding regarding differences in professional competence have led most patients to prefer orthodontic treatment provided by general dentists, particularly in areas with limited access to healthcare services. *Third*, these conditions create legal, ethical, and professional implications, thereby requiring adaptive regulatory reforms through strengthening the competence of general dentists based on training and certification, stricter professional supervision, legal protection for both patients and healthcare providers, and collaboration among the government, professional organizations, and educational institutions in order to establish orthodontic services that are safe, high-quality, equitable, and sustainable in Indonesia.

⁹⁸ Tracey L. Adams and Kaitlin Wannamaker, "Professional Regulation, Profession-State Relations and the Pandemic Response: Australia, Canada, and the UK Compared," *Social Science & Medicine* 296 (March 2022): 114808, <https://doi.org/10.1016/j.socscimed.2022.114808>

⁹⁹ Lisa Merry et al., "Continuing Professional Development (CPD) System Development, Implementation, Evaluation and Sustainability for Healthcare Professionals in Low- and Lower-Middle-Income Countries: A Rapid Scoping Review," *BMC Medical Education* 23, no. 1 (July 6, 2023): 498, <https://doi.org/10.1186/s12909-023-04427-6>

¹⁰⁰ Gabriele Napoletano et al., "Dental Identification System in Public Health: Innovations and Ethical Challenges: A Narrative Review," *Healthcare* 12, no. 18 (September 13, 2024): 1828, <https://doi.org/10.3390/healthcare12181828>



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