

ILONA KWIECIEŃ

ANNA JĘDRZYCHOWSKA

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Assessment of the adequacy of minimum guarantee sums in mandatory medical malpractice insurance in Poland in relation to claims for annuities by injured patients

This article examines the adequacy of minimum guarantee sums in compulsory insurance for entities providing medical services in Poland, within the framework of risk management principles and objectives. The authors refer to the principles and functions of the risk management process and the perspectives of various stakeholders. Value of risk is analysed in relation to annuities claimed for bodily injury, using the maximum probable loss approach in cases of serious injury resulting in the loss of the ability to work and lead an independent life at a young age—key components of annuity claims. To determine the value of the damage, the authors conduct example annuity calculations using the scenario method. The calculations were conducted in relation to two medical malpractice cases involving Polish medical entities: one concerning an injured Polish patient, and the other a German patient (illustrating medical tourism from a neighbouring country). In both cases, Polish substantial law applies, as determined by the location of the tort. That is why, the claim assessment is based on life expectancy tables and macroeconomic data from both the Polish and German markets.

The key findings lead to the conclusion that the insurance sums stipulated by the legislator are grossly inadequate in relation to the level of injury sustained. Limited empirical examples and scenario analyses of potential claims for serious bodily injury (without even considering the worst-case scenarios) suggest that the legislator's minimum insurance sums are exceeded by 4 to over 100 times (for foreign patients), solely for annuities. This has negative consequences—albeit varying across different stakeholders. The findings also show that the value of annuities is indeed spread over time, but it significantly surpasses compensation claims, underscoring the importance of annuities in risk assessment.

The results concerning the potential claim values should form the basis for the legislative decisions regarding minimum guarantee sums, especially if we assume the primacy of the proper protection of potentially injured parties. Furthermore, these findings are also important in shaping the scope of protection under voluntary insurance instruments.

Keywords: liability risk management, compulsory third-party liability insurance, medical malpractice, bodily injury compensation

Introduction

In Poland, one can observe a trend similar to that in many other markets: an increase in the number and value of claims related to broadly defined medical errors¹ and violations of patient rights.

Of particular significance, in the context of risk management and the focus of this article, are events causing significant bodily harm or damage to health (with cases of death excluded) as a key risk factor. These trends, in turn, provoke discussions about the risk borne by medical entities and the optimisation of damage compensation systems. These systems range from traditional concepts based on tort liability, fault or negligence, through alternative dispute resolution (ADR) methods, to no-fault compensation fund systems. Various financing models have been proposed including shifting the compensation burden onto society (via compensation funds and social insurance) or onto the patient (through first-party insurance)². Issues related to the impact of system design on the attitudes of entities exposed to liability risk (e.g., hospitals, doctors), including defensive reactions by medical service providers³ and the experiences of injured patients, are also

1. Due to the scope of the study, the authors omit discussions on the terminology and conceptual scope of medical malpractice. In this article, events causing the liability of entities are significant, therefore both so-called diagnostic, medical, organisational, and technical errors are included. Discussion and terminological proposals regarding events, errors, and medical accidents, see, e.g., Serwach M., *Ochrona ubezpieczeniowa pacjentów przed negatywnymi skutkami leczenia*, 'Medycyna Praktyczna', Kraków 2018.
2. Cf. Wadlington W., *Medical Injury Compensation: A Time for Testing New Approaches*, 'Journal of the American Medical Association', 1991 vol. 265 [21], pp. 2861–2863. <https://doi.org/10.1001/jama.1991.03460210107041>; *Kompensacja szkód wynikłych ze zdarzeń medycznych. Problematyka cywilnoprawna i ubezpieczeniowa*, ed. E. Kowalewski, TNOiK, Toruń 2011; Grembi V., *Medical Malpractice*, in: *Encyclopedia of Law and Economics*, ed. J. Backhaus, Springer, New York 2014. https://doi.org/10.1007/978-1-4614-7883-6_68-1; Raposo V.L., *The unbearable lightness of culpability: the compensation for damages in the practice of medicine*, 'Saúde e Sociedade', 2016 vol. 25, no. 1, pp. 57–69. http://www.scielo.br/scielo.php?pid=S0104-12902016000100057&script=sci_arttext&tling=en; Watson K., Kottenhagen R., *Patients' Rights, Medical Error and Harmonisation of Compensation Mechanisms in Europe*, 'European Journal of Health Law', 2017 vol. 25, issue 1, pp. 1–23. https://brill.com/view/journals/ejhl/25/1/article-p1_1.xml?language=en; Serwach M., *Ochrona*, op. cit.; Bieńkowska D., *Kryzys tradycyjnych reżimów odpowiedzialności prawnej lekarza w polskim systemie prawnym / Crisis of traditional regimes of physician's legal liability in the Polish system of law*, 'Medyczna Wokanda', 2020 no. 14, pp. 39–48. https://nil.org.pl/uploaded_files/1604408335_mw-14-2020-wnetrze.pdf; *Odpowiedzialność prywatnoprawna. System Prawa Medycznego, Tom 5*, ed. E. Bagińska, CH Beck, Warszawa 2021; Świątek K., *Pozasądowe prawne modele kompensacji szkód medycznych – analiza prawno-porównawcza*, 'Studia Prawa Publicznego', 2023 no. 1 [41], pp. 111–137. <https://doi.org/10.14746/spp.2023.1.41.6>
3. Bieńkowska D., *Kryzys*, op. cit.

discussed in both the literature and legislative practice. This includes considerations around the externalisation of harm⁴, the phenomenon of *compensation (claiming) culture*⁵, crises in medical malpractice insurance over the years, and the economic effects of reforms⁶.

A system based on public liability insurance without adequate legislative support is ineffective. This is shown, for example, by studies from Romania⁷ where legislation governing the field of medicine stipulates that malpractice insurance is mandatory, but insurance companies only cover certain damages and the contracts analysed have different clauses. These clauses in insurance contracts can pose difficulties for doctors if they do not possess sufficient knowledge of them.

In the Polish system, compensation is essentially carried out through claims based on civil liability. ADR systems (medical incident commissions, operational until July 2024, and a compensation fund under the Patient Rights Ombudsman, introduced in September 2023) have a limited scope of compensation, both in terms of the types and amounts of compensation. The literature points to the need for greater precision in the operation of these systems. For instance, in the legal classification of the term ‘complication’, a definition is necessary⁸.

With regards to liability insurance, the legislator has introduced a mandatory risk management method for medical entities by requiring them to hold liability insurance⁹, while specifying minimum levels of protection through the introduction of minimum guarantee sums.

Given that risk assessment, management, and compensation system design, including those conducted by regulators, require thorough risk analysis, identification, and evaluation, the authors propose examining the adequacy of these instruments through the lens of risk management principles and stakeholder perspectives. Here, one should take into account such fundamental parameters as probability and the potential value of damage (widely accepted in the context of COSO, FERMSA, or ISO standards). However, special attention will be paid to the analysis of the adequacy of the minimum insurance sums required by the legislator, as these sums essentially reflect the level of financial risk transfer deemed acceptable within the planned compensation system, as well as the safety of medical service operations—both of which are crucial for assessing the effectiveness of the regulations.

Within the framework of this article, the adequacy analysis will be carried out through example calculations of the damage value in a particularly severe scenario: a single case leading to a large claim. This involves:

- bodily injury suffered at a young age, either at the start of a professional career or at birth;
- the loss of the ability to live independently and the total loss of the ability to work;

4. Kwiecień I., *Czynniki determinujące skuteczność transferu ryzyka poniesienia ciężaru kompensacji szkód na osobie poprzez obowiązkowe ubezpieczenie odpowiedzialności cywilnej*, ‘Wiadomości Ubezpieczeniowe’, 2010 no. 4, pp. 5–27.

5. Kwiecień I., *Kultura roszczeniowa – dynamika zjawiska w kontekście odpowiedzialności cywilnej i ubezpieczeń*, ‘Rozprawy Ubezpieczeniowe’, 2010 no. 2, pp. 7–20.

6. Cf. Grempi V., *Medical*, op. cit. and the extensive literature cited therein.

7. Voroneanu-Popa R. et al., *Study on medical malpractice insurance in Romania*, ‘Clinical Forensic Medicine’, Romanian Society of Legal Medicine, 2022 no. 30, pp. 143–148.

8. Steffens F. et al., *Erfahrungen aus der Gutachterkommission / Experiences from the commission of experts*, ‘Urologie’, 2023 no. 62 [3], pp. 256–260.

9. Article 25 of the Act of 15 April 2011 on Medical Activities [Polish Journal of Laws of 2024, item 799].

- a claim for an annuity due to incapacity to engage in gainful employment and increased needs for the rest of the patient's life.

The focus is on illustrating the magnitude of the risk through annuities, as these claims are essentially related to economic loss, which allows us to bypass deliberations on the subjectivity of non-economic loss and the compensation for pain and suffering. Moreover, due to the long compensation period with the concurrent construction of insurance sums based on an occurrence trigger, this constitutes a significant adequacy test.

We analyse the case of a Polish patient and a German patient in the context of medical services provided in Poland to foreign patients, which is popular due to Poland's proximity and the attractive conditions it offers to foreign patients, especially those from neighbouring countries such as Germany. This analysis also takes into account Poles working and living in Germany. Poland ranks 7th among European countries in terms of medical tourism destinations, mainly for complex surgical procedures, dentistry, orthopaedics, and cardiology¹⁰.

In both cases, the Polish and the German patients, the scope of claims is governed by Polish law (both substantive and procedural law). However, the assessment of damages must take into account economic indicators from the German market, including income levels and costs related to needs provided at the place of residence). The higher levels of these indicators justify the inclusion of this case in the analysis to estimate the adequacy of minimum insurance sums in singular but highly probable cases, particularly with regard to the scale of the damage (in the worst-case scenario).

1. Background – legislation overview

The Polish legislator mandates that entities engaged in medical activities must obtain liability insurance to cover damages resulting from the provision of healthcare services or the unlawful omission thereof. The determination of the scope of coverage and minimum insurance sums was entrusted to the minister responsible for financial institutions in consultation with the minister responsible for health, after obtaining the opinion of the Supreme Medical Council, the Supreme Council of Nurses and Midwives, the National Council of Laboratory Diagnosticians, the National Council of Physiotherapists, and the Polish Chamber of Insurance¹¹. The minimum insurance sums are specified in Euros, with a stipulation that they will be converted into Polish zloty (PLN) based on the average euro exchange rate announced by the National Bank of Poland for the first time in the year when the liability insurance contract is concluded. Table 1 presents the insurance sums as stated in § 3 of the Regulation of the Minister of Finance of 29 April 2019¹² on compulsory third-party liability insurance for entities performing medical activities.

10. *Medical Tourism Index 2020–21*. <https://www.medicaltourism.com/mti/2020–2021/region/europe> [6.10.2024]

11. Article 25 of the Act of 15 April 2011 on Medical Activities (Polish Journal of Laws of 2024, item 799).

12. Regulation of the Minister of Finance of 29 April 2019 on Compulsory Third-Party Liability Insurance for Entities Performing Medical Activity (Polish Journal of Laws of 2019, item 866), in force since 1 June 2019.

Table 1. Minimum guarantee sums for medical entities or staff – currently required (2024)

	Entity	Minimum GS
1.	Hospital	EUR 100,000 per one occurrence EUR 500,000 with respect to all occurrences
2.	medical staff – doctor, dentist	EUR 75,000 per one occurrence EUR 350,000 with respect to all occurrences
3.	medical staff – nurse and physiotherapist	EUR 30,000 per one occurrence EUR 150,000 with respect to all occurrences
4.	laboratory diagnostician (since 10.11.2023)	EUR 30,000 per one occurrence EUR 150,000 with respect to all occurrences

Source: Regulation of the Minister of Finance of 29 April, 2019 on Compulsory Third-Party Liability Insurance for Entities Performing Medical Activity.

The minimum insurance sums presented in the table have essentially remained unchanged since 1 January 2012¹³. There is no provision for automatic indexation, not even about changes in the level of prices or wages. Similarly, no distinction is made based on the medical specialisation in which the profession is practised, unlike the regulation in force from 12 January to 12 June 2010, and until the end of 2011¹⁴, which required a higher minimum insurance sum (EUR 100,000) for certain fields such as anaesthesiology and intensive care, obstetrics and gynaecology, surgery, neonatology, clinical oncology, orthopaedics and musculoskeletal traumatology, urology, otolaryngology, ophthalmology, and emergency medicine. As further indicated, this is based on studies regarding the frequency of claims. In the framework planned by the legislator, it should be noted that the insurance sums apply to events that occurred during the 12-month coverage period (occurrence trigger). The sum is reduced by the payment of compensations and benefits.

The above-mentioned guarantee amounts cover services provided by Polish entities to all patients, including those from abroad. This results from the fact that it should be assumed that the rules applicable to non-contractual obligations of a cross-border nature will apply here, under the 'Rome II' Regulation¹⁵. Accordingly, the general principle in Article 4 paragraph 1 applies here: the law applicable to a non-contractual obligation arising from a tort is the law of the country in which the damage occurs, regardless of the country in which the event causing the damage occurred or regardless of the country or countries in which the indirect effects of this event are felt. While this is beyond the scope of this study, one might consider whether the damage of a pecuniary nature (e.g., loss of income or increased needs) for a natural person residing in Germany is an indirect effect, as referred to in Article 4 section 1, or is part of the damage to the person sustained at the location of the medical service that resulted in bodily injury. The criterion of the place where the personal injury (direct loss) occurred is also consistent with Recital 17 of the 'Rome II' Regulation.

13. Regulation of the Minister of Finance of 29 December 2011 on Compulsory Third-Party Liability Insurance for Entities Performing Medical Activity (Polish Journal of Laws of 2011, No. 293, item 1729), in force since 1 January 2012.
14. Regulation of the Minister of Finance of 26 April 2010 on Compulsory Third-Party Liability Insurance for Physicians and Dentists Practising in the Territory of the Republic of Poland (Polish Journal of Laws of 2010, No. 78, item 515).
15. In accordance with Article 33 of the Private International Law Act, the basis is Regulation (EC) No 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to non-contractual obligations (Rome II), OJ L 199, 31.7.2007, p. 40.

Consequently, the scope of claims for both patients will be governed by Polish substantive law which:

- introduces the principle of full compensation for damage incurred as a normal consequence of the tort (the 'make the victim whole' principle) and
- grants, in cases of bodily injury or health disorder, the right to claim compensation for both non-economic loss (such as pain and suffering) and economic loss, including all related costs, as well as compensation for the loss of the earning ability, increased needs and diminished prospects, payable as an annuity¹⁶. As indicated, this analysis focuses on the loss of the ability to work and increased needs, while the application of Polish law renders consideration of German regulations unnecessary.

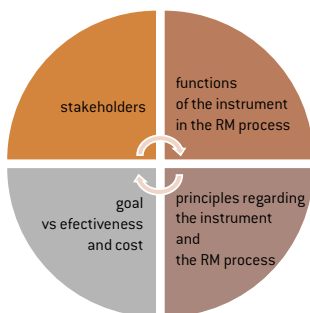
On the other hand, in the context of damage valuation and determining the amount of compensation, factors shaping the value of the damage, such as income earned in a particular location and costs incurred there, will be important. This justifies the inclusion of economic indicators from the German market when assessing damages for a German patient. Obviously, one should accept the hypothesis that these indicators will be higher than those applicable to a Polish patient, which suggests a significant impact on the potential value of damages and the associated liability risk.

2. The perspective of utilising insurance as a risk management method

Liability insurance functions as a tool for the economic protection of the liable entity and as a means of compensating those who suffered damage. In contemporary risk management frameworks, it serves as a method of risk assumption, an instrument that should be integrated into the overall risk management process. Its utilisation must be preceded by a thorough risk assessment and should be analysed in terms of its benefits, limitations, and costs¹⁷.

Accordingly, much like the legislative, the assessment of the adequacy of minimum insurance sums should consider the issues discussed, including those highlighted in Figure 1.

Figure 1. Key elements of the risk management process from the perspective of assessing insurance sums



Source: Own elaboration.

16. Articles 361, 363, 444, and 445 of the Polish Civil Code. We omit the case of indirect damage in the event of death—Articles 446 and 446(1) of the Polish Civil Code.

17. Cf. Kwiecień I., *Ubezpieczenia w zarządzaniu ryzykiem działalności gospodarczej*, CH Beck, Warszawa 2010; Vaughan E.J., Vaughan T.M., *Fundamentals of Risk and Insurance*, John Wiley & Sons, Hoboken 2013.

The invoked elements intersect, and in the context of analysing minimum guarantee sums, it is essential to consider various stakeholders' perspectives. From the perspective of the state, operating at the macroeconomic level, liability for bodily injury due to medical malpractice can be viewed as a strategic risk management tool. It protects at-risk entities and compensation for the injured. In this way, the state also manages risk—insurance compensation is typically quicker and more reliable, especially in cases involving high-value damages (whether individual claims or cumulated claims). It also serves as a mechanism for compensating losses that might otherwise be externalised to the state or society at large.

The primary rationale for mandating insurance requirements is to ensure real protection for injured parties¹⁸. In medical malpractice cases, the protection of at-risk entities becomes particularly significant. Liability insurance not only covers obligations but also, like any well-structured risk management programme, enhances operational security, which is essential for high-risk professions. The function of transferring the financial burden of liability and providing a sense of security in action, allowing entities to focus on their primary objectives, is especially important for both at-risk entities and patients. It is also noted that entities providing medical services often adopt a defensive posture, which can affect the scope of services provided and the work environment¹⁹. In this regard, it is also important to consider the significant additional benefits of transferring risk to insurers. These include analysis, prevention, claims management, continuous risk identification, and evaluation based on events, which distinguish the risk management process from the quality management process of medical entities²⁰. However, the integration of an insurance instrument into risk analysis influences these management processes because improving the risk profile is in the interest of both the insured and the insurers. For example, in the claims management sector, the Michigan model, which began in 2002, established a quick-response system for addressing adverse patient outcomes, avoiding the need for complaints and lawsuits. This model was a precursor to modern communication and resolution programs (CRPs)²¹.

For injured patients, the transfer of the financial burden of liability to the insurer and the entire claims process, beyond the adjudicative efficiency due to the specialisation of the financial entity, is also significant in the context of distancing negative reactions from the liable entity. Often, pursuing claims against medical providers is perceived by the latter not as the exercise of legitimate rights but as abuse or a failure to understand professional risk, further exacerbating feelings of injustice. In this context, the tendency to litigate is negatively perceived, not as an exercise of rights or heightened awareness²².

18. See, e.g., Faure M.G., *Economic Criteria for Compulsory Insurance*, 'The Geneva Papers on Risk and Insurance. Issues and Practice', 2006 no. 31 [1], pp. 149–168. <https://www.jstor.org/stable/41952884>; Orlicki M., *Ubezpieczenia obowiązkowe*, Wolters Kluwer, Warszawa 2011; Tettamanti B., Bär H., Werz, J., *Compulsory Liability Insurance in a Changing Legal Environment – An Insurance and Reinsurance Perspective*, in: *Compulsory Liability Insurance from a European Perspective*, ed. A. Fenyves, C. Kissling, S. Perner, D. Rubin, De Gruyter, Berlin-Boston 2016, pp. 343–382.

19. Raposo V.L., *The Unbearable*, op. cit.; Bieńkowska D., *Kryzys*, op. cit.

20. Kavalier F., Spiegel A.D., *Risk Management in Health Care Institutions: A Strategic Approach*, Jones and Bartlett Publishers, Sudbury 2003.

21. For more, see Sage W.M., Boothman R.C., Gallagher T.H., *Another Medical Malpractice Crisis? Try Something Different*, 'Journal of the American Medical Association', 2020 no. 324 [14], pp. 1395–1396.

22. Criticism of one-sided assessment of litigation culture: see, e.g., Thomas G., *Better Routes to Redress*, 'The Actuary', October 2005, p. 24; The Stationery Office by Order of the House, *Constitutional Affairs Committee*:

This approach is inconsistent with the rationality of managing personal finances from the victim's perspective, i.e., in the microeconomic dimension. The priority here is the principle of 'making the victim whole as soon as possible'. This dimension is also important from the perspective of the state, as it counteracts the externalisation of loss and supports a sense of social justice.

The issues raised reflect the principles of sound risk management processes and the criteria for selecting instruments or methods for risk assumption. The fundamental criterion for choosing a risk management method is effectiveness, while the fundamental principle of insurance is the provision of real and comprehensive protection. This fulfils key functions such as protection, stabilisation, and economic compensation²³. The effectiveness of the transfer, as intended by the legislator, depends on many factors, including legal and economic aspects, as well as social and psychological (behavioural) elements. Some of these factors are more precise, predictable, or subject to manipulation (e.g., regulations in the area of substantive and procedural law, and fees), while others depend on subjective decision-making by participating entities (e.g., assessing damage and liability criteria). Certain factors are interdependent, such as decisions within the claims process regarding litigation costs and the principle of their allocation.

A lack of comprehensive protection results in a lack of full effectiveness of transfer, the retention of losses by the liable entity, incomplete compensation for the injured party, further externalisation of losses, and the resulting negative reactions. While the legislator does introduce minimum guarantee sums, they also indicate a certain value that can be considered appropriate for the size of the risk within a given risk category. The decisions made by entities required to purchase insurance, including broader coverage, are influenced, on one hand, by awareness of risk exposure, the level of potential liabilities, information asymmetry, and, as economic analyses indicate, the level of assets potentially involved in the obligation (depending, for example, on the organisational and legal form of the entity). Of course, the cost of increasing the guarantee sum also plays a role²⁴. On the other hand, due to the challenge of providing mandatory liability insurance coverage (e.g., moral hazard and the wide scope of coverage), insurance companies often construct policies in the surplus range (above the minimum guarantee sum), with varying levels of coverage and pricing.

Incorporating the aforementioned principles of risk management processes and considering the interests of all stakeholders also aligns with the principle of inclusiveness. This refers to enhanced awareness and management of risk, as outlined in standards such as ISO (31000:2018).

3. Risk assessment as the basis for a decision on the guarantee sum

Risk assessment involves evaluating the probability of risks occurring and their potential impact. This process should be preceded by risk identification, which entails identifying and understanding the potential risks associated with the activities of the entity, in this case, those related to medical

Compensation culture, Third Report of Session 2005–06, Volume II, 2006. <https://publications.parliament.uk/pa/cm/200506/cmselect/cmconst/754/754ii.pdf> [25.10.2024]; Kwiecień I., *Kultura*, op. cit.

23. See, e.g., Handschke J., *Funkcje i zasady ubezpieczeń gospodarczych*, in: *Ubezpieczenia gospodarcze*, ed. T. Sangowski, Poltext, Warszawa 2000; Meyer A., Zacher J., *Decisive factors for an accomplished clinical claims and risk management*, 'Unfallchirurg', 2020 vol. 123, pp. 16–21.

24. Faure M.G., *Economic*, op. cit.

practice and potential liability²⁵. In the field of medical malpractice, it is necessary to consider not only events causing harm (such as bodily injuries, which are the focus here) but also reported claims and their effectiveness, both in terms of frequency and value. Technical, legal, economic, and social factors influence both the probability and value of harm. From a technical standpoint, research emphasises that risk depends on the area/specialisation. However, significant differences exist in the frequency of claims and the size of payments across different specialisations²⁶.

Specialisations identified as higher-risk in this report include obstetrics, neurosurgery, emergency room care, cardiovascular surgery, general surgery, orthopaedics, and plastic surgery. The relationship between medical malpractice claims and specialisation, based on a literature review, is explored in the work by Jędrzychowska, Kwiecień, Szymańska, and Szymański²⁷.

Regarding the probability and frequency of malpractice events, it is worth noting that the results of analyses in studies across various markets suggest that the effectiveness in the malpractice sector is relatively low. For instance, Becker²⁸ reports that as many as 76.4% of patient claims in the German market are unfounded. Anupam²⁹ indicated, based on US data from 1991 to 2005 covering nearly 41,000 physicians insured by a large national liability provider, that 7.4% of physicians faced a claim annually, with only 1.6% resulting in indemnity payments. Interestingly, the probability of a claim depends on the duration of medical practice. By the age of 45, 36% of physicians in low-risk specialities are likely to have faced at least one malpractice claim, compared to 88% in high-risk specialities.

The severity of risk in the U.S. market is also reflected in the trends of premium increases. A Milliman industry report on medical professional liability (MPL) insurance revealed that premiums paid by policyholders increased by 74% between 2001 and 2006, decreased by 21% between 2006 and 2017, and then entered a new growth period, rising by 5.4% in 2018 and 1.2% in 2019 (R. Lord, Milliman, unpublished report 'The National Medical Professional Liability Insurance Market', 2020³⁰).

Research on the Chinese market highlights a very high success rate for claims. Wang et al. (2017) report that of the 11,014 cases investigated between 2010 and 2015, 68% resulted in monetary compensation. This is comparable to previously reported values in China (67%) and the United States (56%), but much higher than in Canada (33%).

25. ISO 31000:2018, *Risk management – Guidelines*. <https://www.iso.org/obp/ui/en/#iso:std:iso:31000:ed-2:v1:en> [15.10.2024]

26. See, e.g., HOPE, *Insurance and Malpractice: Final report of HOPE's Sub-Committee on Co-ordination*, Brussels 2024. http://www.hope.be/wp-content/uploads/2015/11/71_2004_OTHER_Insurance-and-malpractice-report.pdf; Jena A.B. et al., *Malpractice Risk According to Physician Specialty*, 'The New England Journal of Medicine', 2011 vol. 365, pp. 629–636; Luigi B., Scellato G., Ughetto E., *The investment strategies of publicly sponsored venture capital funds*, 'Journal of Banking & Finance', 2013 vol. 37, pp. 707–716. <https://doi.org/10.1016/j.jbankfin.2012.10.018>

27. Jędrzychowska A. et al., *The Structure of Health Services in Public Hospitals as the Factor determining the Medical Malpractice Risk – Case Study from Poland*, in: *Education Excellence and Innovation Management: A 2025 Vision to Sustain Economic Development during Global Challenges*, ed. K.S. Soliman, International Business Information Management Association (IBIMA), 2022, pp. 1823–1839.

28. Becker B.S. et al., *Behandlungsfehler-Begutachtung der MDK-Gemeinschaft*, 'Medizinischer Dienst des Spitzenverbandes Bund der Krankenkassen e.V. (MDS)', 2017.

29. Jena A.B. et al., *Malpractice*, op. cit.

30. Report cited in Sage W.M., Boothman R.C., Gallagher T.H., *Another*, op. cit.

In Japan, although the success rate is lower than in the United States, England, and Germany, the number of claims and the amounts of awards are rising³¹. For example, between 1961 and 2017, the success rate for malpractice claims against internists in Japan was 50%, with diagnostics errors identified as the primary cause (2021).

The percentage differences between countries likely reflect differences in legal framework, medical systems, and socio-economic conditions, which go beyond the scope of this article. Here we just aim to emphasise that the number and effectiveness of claims depend on numerous factors, including specialisation. Factors such as the cost of pursuing claims—filing fees, appeals, expert witness fees, procedural risk related to litigation costs, liability rules, regulations, case law regarding the scope of claims, and evidentiary facilitations—also influence effectiveness, and thus, risk assessment.

The literature also highlights the impact of events such as terrorist attacks (e.g., WTC 2001) or epidemics (e.g., COVID-19) on the number of claims, resulting in the accumulation of hospitalisations and claims³².

The Polish health service does not maintain publicly available, detailed registers of medical errors, including component claims and the specific areas of medical services to which they relate. Data on the Polish market regarding compensation for medical errors is available from the Ministry of Justice records concerning civil court proceedings for damages caused by the health service from 2011 to 2017 (ISWS, 2018). The data presented by Jędrzychowska, Kwiecień, Szymańska, Szymański³³ indicates that the success rate for claims ranged from 19–28% in district courts, and slightly higher—25–30%—for higher-value claims examined by regional courts.

Given the specified framework of the study, we will focus on the value of the damages, omitting a detailed analysis of the claims available to injured parties in the event of bodily injury (see Articles 444, 445, 446, 446(1), 446(2) of the Polish Civil Code, in conjunction with Articles 361 and 363 of the Civil Code), as these have been extensively analysed in the literature.

In the context of the analysis, given the dynamic nature of liability risk for bodily injury, it is crucial to account for long incubation periods of damage, the evolutionary nature of harm, long-term benefits, and the sensitivity of claims to macroeconomic and legal factors.

For the assessment of damages, we will adopt a scenario based on the probable maximum loss (PML) indicator, which is used for risk analysis for insurance purposes, according to the definition by CAE and Munich Re. Probable maximum loss, a worst-case scenario, is understood as the maximum damage likely to occur to insured property as a result of a single event. This is calculated by taking into account all circumstances that affect insurance risk. However, it should be noted that smaller-value claims occur more frequently, and their accumulation over 12 months, for which the minimum SG is determined, should also be taken into account when assessing the adequacy of the sum insured.

31. Takashi W., *Malpractice Claims of Internal Medicine Involving Diagnostic and System Errors in Japan*, 'Internal Medicine', 2021 vol. 60, issue 18, pp. 2919–2925; Wang Z. et al., *Records of medical malpractice litigation: a potential indicator of health-care quality in China*, 'Bulletin of the World Health Organization', 2017 no. 95, pp. 430–436. <http://dx.doi.org/10.2471/BLT.16.179143> <https://www.who.int/bulletin/volumes/95/6/16-179143/en/>; Bertoli P., Grembi V., *Courts, Scheduled Damages, and Medical Malpractice Insurance*, 'Baffi Center Research Paper', 2015 no. 2013–145, pp. 1–34. <http://dx.doi.org/10.2139/ssrn.2367218>
32. Sage W.M., Boothman R.C., Gallagher T.H., *Another*, op. cit.
33. Jędrzychowska A. et al., *The Structure*, op. cit.

4. Example of assessing loss value – loss scenario with annuity claim due to serious bodily injury

The challenges associated with covering future liabilities within insurance policy limits, as well as the difficulties in creating reserves for capitalised annuity values and predicting the amount of awarded annuity payments, can be illustrated by the example of lifetime annuities for directly injured parties. Assuming that a proper analysis of liability insurance risk should consider so-called bad-case (or worst-case) scenarios, we examine situations in which the injured parties are of a low age and suffer very serious bodily injuries, resulting in disability and a need for care (on a part-time basis, not round-the-clock), as well as a total loss of earning capacity, and consequently leading to a claim for annuities.

We only consider a bad-case scenario, where 16 hours of care per day are required, excluding the cost of rehabilitation.

As noted in the introduction, due to the widespread use of Polish healthcare services by residents of neighbouring countries, the analysis also takes into account the case of a patient from Germany.

Therefore, the potential value of annuity damages is assessed through the value of two forms of annuities³⁴:

- an annuity for increased needs but in this analysis, we limit the assessment only to the costs of care, utilising the care rates equivalent to the rates charged by social assistance centres and social workers³⁵ and
- an annuity due to the total loss of earning capacity expressed based on average net wage (as established in case law), but not reduced by social security benefits.

The presented calculations are intended to illustrate the scale of the issue rather than precisely determine the value of the damage in every aspect. Although the obligation arising from such a claim is typically spread over time, unlike in the case of compensation, the long-term nature of the benefit, especially considering rising costs of care³⁶ and the construction of the sum insured (trigger occurrence), require future payments to be factored into the analysis. Moreover, the benefit can be capitalised into a lump sum, and according to Article 447 of the Civil Code, the condition for such capitalisation is the valid interest of the injured party, not that of the obliged party (e.g., economic interest).

Therefore, in empirical examples, the reserve for the capitalised value of the annuity is based on actuarial calculations, using data on the probability of survival and death over subsequent periods (in this simulation, life expectancy tables for Poland and Germany from 2020 were used), as well as the present value of benefits paid in subsequent periods discounted to the time of creating the reserve or determining the current value of the annuity obligation for the injured party. Thus, the present value of future benefits, in the case of an annuity payable once a year in advance for

34. We are omitting the issue of whether we are dealing with three annuities (as predominantly decided by case law) or one (SC ruling of 10 November 2022, case file No. II CSKP 660/22).

35. Jurisprudence often refers to the rates of social assistance centres which differ significantly from commercial service prices. Moreover, they mostly cover the cost of services provided on weekdays.

36. See, e.g., Swiss Re, *Motor Bodily Injury Landscape. A comparison of 14 European countries*, 2023. https://www.simlaweb.it/wp-content/uploads/2022/11/allegato-2.pdf?fbclid=IwAR2uPYDnZl_CCb8ZZEvhmfiP8g8DNLU-iOUa2K9EyLYS83wJiKtpVmuQs2MM (5.10.2024)

an amount of one Polish złoty, can be expressed as the sum of discounted payments multiplied by the probability of surviving to the next payment date, as given by the following formula³⁷:

$$l\ddot{a}_x = \sum_{k=1}^{\omega} (1+r)^k v^k {}_k p_x$$

where:

${}_k p_x$ – the probability that a person aged x will survive for another k years,

$v = 1/(1+r)$ – the discount factor, where r is the rate of return,

t – the benefit growth rate,

ω – the maximum age included in the life tables, set at 110 years.

Source: Kowalczyk P., Poprawska E., Ronka-Chmielowiec W., *Metody Aktuarialne*, PWN, Warszawa 2006, p. 138.

The above formula can be expanded by incorporating factors such as the expected future growth of benefits, and similar variables. In cases where benefits are paid more frequently than once a year, it is also necessary to appropriately distribute the probability of survival across parts of the year (as life expectancy tables provide probabilities of surviving each full year). For this one can utilise the assumption³⁸ of the uniformity of deaths throughout the year, in which case ${}_p p_x = 1 - tq_x$, where q_x represents the probability that a person aged xx will die within the next year. Alternatively, the constant mortality intensity or the Balducci assumption can be adopted. Similarly to a term annuity, it is assumed that the annuity is paid once a year at the beginning of the year (this assumption may lead to slightly inflated values but significantly simplifies the calculations).

In the article, however, a simplification was made by assuming that the interest rate at which the capital grows is equal to the rate of growth in the costs of care and wages. The probabilities of survival for additional months were not calculated, and annual settlement periods were retained. Thus, the formula takes the form:

$$l\ddot{a}_x = \sum_{k=1}^{\omega} {}_k p_x$$

Source: Kowalczyk P., Poprawska E., Ronka-Chmielowiec W., *Metody*, op. cit., p. 139.

At this point, it is important to mention the correction introduced regarding the life tables from which the probabilities of the injured party surviving to subsequent payment months are derived. It was assumed that the error resulted from disability. According to the data³⁹, individuals with disabilities tend to have shorter life spans, and thus their probabilities of surviving to subsequent payment periods are lower than those indicated by the general life expectancy tables of their respective

37. For further elaboration on actuarial methods, you may refer to Kowalczyk P., Poprawska E., Ronka-Chmielowiec W., *Metody aktuarialne*, PWN, Warszawa 2006 and Małłoka M., *Matematyka w ubezpieczeniach na życie*, Wydawnictwo Wyższej Szkoły Bankowej w Poznaniu, Poznań 1997.

38. Kowalczyk P., Poprawska E., Ronka-Chmielowiec W., *Metody*, op. cit.

39. Rotenberg S., Smythe T., Kuper H., *Left Behind: Modelling the life expectancy disparities amongst people with disabilities in Low and Middle-Income Countries*, 'medRxiv', 2023. <https://doi.org/10.1101/2023.07.12.23292565>

countries. Since life expectancy tables adjusted for disability are not available, the Potential Years of Life Lost (PYLL)⁴⁰ indicator was used. This indicator suggests that in Germany, approximately 4 years of life are lost, while in Poland, the figure is approximately 7 years. Therefore, in the simulation for a 20-year-old individual, the probabilities of survival in subsequent years were adjusted as if the individual were 24 years old in Germany and 27 years old in Poland⁴¹.

To illustrate the issue, the present value of two annuities was calculated:

1. **An annuity for increased needs:** It was assumed that the injured party requires 16 hours of care per day. Based on the adopted rates, this amounts to EUR 126,144 annually in Germany and EUR 36,733.60 in Poland.
2. **An annuity for incapacity to work:** It was assumed that, from the start of employment until retirement age, the person earns either the minimum wage (gross annual: EUR 25,812 in Germany and EUR 11,792.40 in Poland) in the first scenario, or the average annual wage according to Eurostat data (with consideration of the gender pay gap, annual data provided in Table 2) in the second. Since minimum wages are provided in gross terms, as is Eurostat data on average annual earnings for men and women, we approximated the net amounts. For Germany, we calculated the net income for a childless individual without tax benefits (e.g., children), but participating in social and health insurance, and not paying church tax. This yielded approximately 62% of the assumed gross salary⁴². The same approach was applied to Poland⁴³, where the proportion was 75%. Additionally, it was assumed that after reaching retirement age, the income would decrease according to the replacement rate (data provided in Table 3). The following tables (2 and 3) contain the quantities needed to perform the calculations. The amounts are given in EUR to allow for comparability between countries and in relation to the minimum insurance sum.

40. OECD data, *Potential years of life lost*. <https://data.oecd.org/healthstat/potential-years-of-life-lost.htm#indicator-chart> (7.10.2024)

41. Ibid.

42. *Brutto-Netto-Rechner*. <https://www.wiwo.de/tools/brutto-netto-rechner/> (7.10.2024)

43. *Kalkulator wynagrodzeń*. <https://wynagrodzenia.pl/kalkulator-wynagrodzen> (7.10.2024)

Table 2. Assumptions for calculating increased needs and loss of earning capacity benefits – Part 1

	Care rate EUR/h	Age of starting work ⁴⁴		Retirement age		Replacement ratio ⁴⁵	
		F	M	F	M	F	M
Germany	21,67 ⁴⁶	20	19	67 ⁴⁷		0,52	0,45
Poland	6,29 ⁴⁸	24	21	60	65 ⁴⁹	0,58	0,66

Source: Own calculations.

Table 3. Assumptions for calculating increased needs and loss of earning capacity benefits – Part 2

	Minimum monthly wage EUR	Average annual wage EUR ⁵⁰		Minimum monthly wage EUR	Average annual wage EUR ⁵¹	
		gross			net	
		F	M		F	M
Germany	2,151	38,946	50,172	1,333.62	24,146.52	31,106.64
Poland	982.70 ⁵²	12,370	14,966	737.03	9,277.5	11,224.5

Source: Own calculations.

For the purpose of the analysis, two scenarios were considered, differing only in the age of the injured party. In the first scenario, the individual is 20 years old, while in the second scenario, the individual is injured at childbirth. Below are the present values of lifetime annuities for increased needs (requiring 16 hours of care per day) and for incapacity to work (in two variants: based on

44. Eurostat data, *Lifeline of women and men*. <https://ec.europa.eu/eurostat/cache/infographs/womenmen/bloc-1a.html> (7.10.2024)

45. Eurostat data, *Aggregate replacement ratio for pensions (excluding other social benefits) by sex*. https://ec.europa.eu/eurostat/databrowser/view/ilc_pnp3_custom_9782303/default/table?lang=en (7.10.2024)

46. *Sozialarbeiter/in Gehälter in Deutschland*. <https://www.stepstone.de/gehalt/Sozialarbeiter-in.html> (7.10.2024)

47. Sozialgesetzbuch (SGB) Sechstes Buch (VI) – Gesetzliche Rentenversicherung Artikel 1 des Gesetzes v. 18. Dezember 1989, BGBl. I S. 2261, 1990 I S. 1337.

48. Ośrodek Pomocy Społecznej Warszawa Targówek, *Usługi opiekuńcze OPS Targówek*. https://targowek.um.warszawa.pl/waw/opstargowek/uslugi-opiekuncze?fbclid=IwAR0m6osg2Stgbt01lyxfn8IToTBfkxBQHc_hlrLISNkqAM-CIPZsWqmxulhA (7.10.2024); Ośrodek Pomocy Społecznej Warszawa Wola, *Cennik usług OPS*. https://ops-wola.waw.pl/jak-pomagamy/swiadczenia/cennik-uslug-ops/?fbclid=IwAR3SLHs7vMkaVfzyBJk_UWAhGcPv4w3x1vDEtuUYA-0u3tNVxRgUfNzUuM2o (7.10.2024), converted at the exchange rate from 9 February, 2024 of the National Bank of Poland. <https://nbp.pl/statystyka-i-sprawozdawczosc/kursy/tabela-a/> (7.10.2024)

49. Article 24 of the Act on Pensions and Disability Pensions from the Social Insurance Fund (Polish Journal of Laws of 1998, No. 162, item 1118; consolidated text: Polish Journal of Laws of 2023, item 1251).

50. Eurostat data, *Mean annual earnings by sex, economic activity and collective pay agreement*. https://ec.europa.eu/eurostat/databrowser/view/earn_ses18_26_custom_9779811/default/table?lang=en (7.10.2024).

51. Ibid.

52. Regulation of the Council of Ministers of 14 September 2023 on the minimum wage for work and the minimum hourly rate in 2024 (Polish Journal of Laws of 2023, item 1893) <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20230001893/O/D20231893.pdf>, converted at the exchange rate from 9 February 2024 of the National Bank of Poland. <https://nbp.pl/statystyka-i-sprawozdawczosc/kursy/tabela-a/> (7.10.2024)

average or minimum wages in the economy). Table 4 shows the present values of annuities for the 20-year-old injured individual, while Table 5 presents those for a newborn.

Table 4. Present values of lifetime annuities by country and gender for an injured person aged 20 (in EUR)

	Germany	Germany	Poland	Poland
Present value of the annuity	women	men	women	men
due to loss of earning capacity at the minimum net wage	853,675.52	794,263.77	425,299.54	386,484.83
due to loss of earning capacity at the average net wage	1,288,053.89	1,543,847.89	446,127.98	490,493.26
due to increased needs (16-hour care)	7,635,862.03	7,039,035.67	1,864,157.67	1,724,405.89

Source: Own calculations.

Table 5. Present values of lifetime annuities by country and gender for a newborn victim (in EUR)

	Germany	Germany	Poland	Poland
Present value of the annuity	women	men	women	men
due to loss of earning capacity at the minimum net wage	851,979.62	807,078.60	388,540.78	382,873.14
due to loss of earning capacity at the average net wage	1,285,495.05	1,568,756.69	407,569.02	485,909.62
due to increased needs (16-hour care)	10,149,981.29	9,539,437.43	2,737,570.81	2,441,195.30

Source: Own calculations.

Our estimates are conservative—the calculation covers only one component of the increased needs benefit (care), limited to only 16 hours per day (although case law sometimes references a night-time break). In scenarios of serious bodily injury, however, 24-hour care would be more appropriate. We have also not accounted for rehabilitation costs, where the number of hours may be lower than for care, but the cost per hour is higher. Other periodic needs, such as treatment, transportation, diet, equipment, and similar expenses, are likewise excluded. Additionally, the calculation omits claims for reduced prospects, as well as situations where loss of earning capacity affects individuals earning significantly above the average.

To some extent, these excluded elements may be offset by social insurance benefits, although this may not provide significant compensation in cases where individuals are injured at a young age, including wrongful birth cases.

A broader issue is whether awarding a benefit for loss of income equivalent to net income and only until retirement age, is sufficient compensation for the loss of income. After the period of receiving benefits from the Social Insurance Institution (ZUS), the injured party is entitled to a pension from the social security system upon retirement age. However, it should be remembered that no pension contributions were paid during the period of incapacity to work, which, in a defined contribution system, clearly leads to a lower pension. It might be more appropriate (although not considered in this analysis) to award a lifetime net benefit based on an appropriate replacement rate in the economy, with a reduction upon reaching retirement age. Alternatively, a fixed-term benefit until retirement could be provided at the net income level plus pension contributions, with the obligation to pay these into the pension system (which is already facing financial shortfalls).

Nevertheless, when examining the value of damages in the analysed scenarios, we find similarities with the results from the SwissRe report on bodily injury claims in the context of shaping coverage in third-party motor liability insurance⁵³. In that report, the cost of care for a 30-year-old German is estimated at approximately EUR 14 million, while for a 30-year-old Pole, the cost is around EUR 2 million.

5. Discussion and conclusions

The empirical examples presented regarding benefits from these two titles alone allow us to determine that the value of the damages may exceed EUR 3 million in cases of wrongful birth for a patient from Poland and EUR 11 million for a patient from Germany. In cases involving a patient aged 20 at the time of the incident, these values are estimated at EUR 2 million for a patient from Poland and EUR 8 million for a patient from Germany. These results are strongly influenced by differences in care rates, income levels, and life expectancy. Undoubtedly, all amounts exceed the minimum insurance sums. These values, not reduced by social insurance benefits, surpass the legislator's minimum insurance sum ranges by four to over one hundred times.

The inadequacy of the insurance sums is acknowledged within the medical community. Reference is often made to, for instance, benefits, including rising costs of private care and other expenses; however, it seems that the impact of those factors on the risk value of the benefit is underestimated. This is likely due to the spreading of payment burdens spread over time.

Indeed, the above-mentioned values essentially determine the lack of significant impact, in terms of value, on assessing the adequacy of minimum insurance sums for compensation claims, considering the trends of rising claims discussed earlier, and the significance of potential compensation claims. Due to the scope of the study, a broader analysis of compensation was omitted, but a cursory review of judgments in cases of severe bodily injuries resulting in permanent incapacity preventing independent existence⁵⁴ reveals that compensation amounts awarded by courts were adjusted to account for inflation (indexed at inflation target rate of the Narodowy Bank Polski (the National Bank of Poland) which is 2.5%) and range between PLN 1.1–1.7 million (EUR 253,000–390,000). Given the referenced annuity values, this does not significantly alter the damage value assessment.

Nevertheless, the significance of compensation in assessing the adequacy of guarantee sums can be expressed as a one-time payment. Since these compensation values already significantly exceed the minimum guarantee sums in the cited cases of serious injury, it should be noted that they essentially deprive both the insured and the beneficiary of the option to, for example, claim an adjustment to the guarantee sum if there is a risk of its exhaustion due to annuity payments (as established in case law regarding MTPL insurance). This limitation arises from the requirement to submit a claim before the relationship subject to modification ceases⁵⁵.

53. SwissRe, *Motor*, op. cit.

54. Court of Appeal in Wrocław, sygn. I ACa 1358/22; Court of Appeal in Wrocław, sygn. I ACa 1190/21; Court of Appeal in Gdańsk, sygn. I ACa 444/19.

55. Among others, the Supreme Court ruling dated 17 October 2012, ref. No. II CSK 646/11; Katowice Court of Appeal ruling dated 28 September 2016, ref. No. VACa 1016/15.

In our assessment, we omit the costs associated with the process, which are rising due to the costs of expert opinions and interest and which often amount to 50% of the total amount due to the lengthy duration of malpractice proceedings. It should be noted, however, that interest owed by the responsible guarantor insurer does not reduce the guarantee sum.

The analysis results clearly indicate that the minimum guarantee sums set by the legislator do not fulfil their intended function within the principles and objectives of risk management and insurance methods. Consequently, they lead to the retention of risk by the liable entity, resulting in frustration, defensive postures, and criticism of victims seeking compensation.

Additionally, with such low policy limits in comparison to the occurrence trigger, healthcare providers are not shielded from changing circumstances and factors affecting the scale of damages over time, including shifts in case law trends, socio-economic conditions, and indicators influencing claims, particularly compensation claims. This is significant in prolonged legal proceedings and potential claims arising over extended periods due to lengthy statutes of limitations, for example, in torts that constitute criminal offences.

It is indeed perplexing why the policy limits in compulsory medical liability insurance for healthcare providers deviate so markedly from the minimum policy limits concerning bodily injury in third-party motor liability insurance. For comparison, according to Directive (EU) 2021/2118 amending Directive 2009/103/EC, policy limits for bodily injury in motor insurance are set at EUR 6,450,000 per accident, regardless of the number of injured persons, or EUR 1,300,000 per injured person. In the context of medical malpractice, the specificity of risk suggests the possibility of significant bodily injury to a single victim. The disparity between EUR 1.3 million and EUR 100,000 is apparent, and indeed, all analyses regarding the potential size of compensation claims for victims of traffic accidents in cases of single bodily injury, health impairment, or death⁵⁶, are applicable to malpractice.

Of course, this issue requires an in-depth analysis. On one hand, the severity of harm in medical malpractice is significantly lower in terms of both the number of events and the effectiveness of claims recovery (criteria and liability principles). On the other hand, it is important to consider the smaller number of entities bearing the burden, as well as their diversity in terms of financial resources (public versus private entities). From the legislator's and the public interest perspectives, increasing policy limits could rationalise the planned instrument aimed at minimising the externalisation of costs and improving the effectiveness of the compensation system. Additionally, the compensatory and preventive impact of insurers' actions on a large scale (including significant initiatives in prevention and claims management in medical malpractice insurance) can contribute to enhanced patient safety.

From the perspective of healthcare providers, increasing policy limits may be perceived as a mandated instrument generating additional costs. However, in this regard, it is necessary to raise awareness of the role and significance of the entire risk management process and the indicated instrument. Higher policy limits mitigate retention and secure the protective function of insurance, offering not only benefits but also a sense of security for the at-risk entity, which can then focus on primary goals and preventive interventions to improve healthcare standards—offering additional arguments for hospitals.

56. As shown in Swiss Re cyclic reports such as Swiss Re, *Motor*, op. cit.

For insurers offering products such as civil liability insurance for hospitals, increasing policy limits may impact portfolio management. While introducing higher amounts may pose a challenge for risk management, it can also enhance the attractiveness of the offering for potential clients. Furthermore, it ensures better portfolio diversification by mandating protection at a level commensurate with the scale of the risk.

Higher policy limits can expedite compensation for the injured party, which is important for both social and individual justice and rehabilitation. It also mitigates the negative impact of the retention of damages by the healthcare provider from the claimant's perspective.

Of course, it would be necessary to consider red flags, such as the question of whether higher policy limits might lead to higher claims (the 'debtor's certainty'). However, it should be noted here that debtor's certainty applies to public healthcare facilities, while private facilities may operate under various legal structures with capital that limits the feasibility of compensation for patients.

Another concern within the medical community is the potential for substantial increases in insurance premiums if the sum insured is raised. This outcome is not obvious and requires an actuarial study (currently, the authors are determining what distributions can describe both the frequency and value of claims based on data from public hospitals), but it seems intuitive that any increase may be disproportionate. This is because high-value damages occur less frequently. Also, a proportional increase did not take place in the case of changes in the minimum guarantee sums for third-party liability insurance for MTPL insurance brokers.

In summary, the decision to increase policy limits in hospital liability insurance requires a balanced approach, taking into account macro and microeconomic dimensions and the benefits to all stakeholders involved.

This analysis addresses alternative concepts for funding damages, such as a compensation fund. However, we highlight the following points:

- Low benefit amounts provoke discussions about the depreciation of life and health, in the context of gaps in the social security system and the low health security efficiency, which leads to the externalisation of damages.
- The significance of the lack of individual prevention—the spreading of risk financing costs onto patients (via deductions from health insurance contributions) without affecting healthcare providers—implies a lack of motivation to manage risk *ex-post*.
- Limited coverage to specific facilities and only public hospitals impacts the subjective scope of protection (perpetrators and patients) and restricts risk diversification subjectively and objectively.

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Minimalne sumy gwarancyjne w obowiązkowych ubezpieczeniach odpowiedzialności cywilnej podmiotów wykonujących działalność leczniczą w Polsce z perspektywy ekonomicznej analizy prawa

Przedmiotem artykułu jest ocena adekwatności minimalnych sum gwarancyjnych w obowiązkowym ubezpieczeniu podmiotów wykonujących działalność leczniczą w Polsce w kontekście celów i zasad zarządzania ryzykiem. Autorzy odnoszą się do zasad i funkcji procesu zarządzania ryzykiem oraz perspektyw różnych interesariuszy. Wartość ryzyka analizowana jest w odniesieniu do kluczowych obszarów roszczeń z tytułu szkód na osobie w postaci renty długookresowej, z uwzględnieniem podejścia maksymalnej możliwej straty (bad scenario) w przypadku poważnych uszkodzeń ciała skutkujących utratą zdolności do pracy i samodzielnej egzystencji w młodym wieku. W celu ustalenia wartości szkody przeprowadzamy przykładowe obliczenia renty metodą scenariuszową w oparciu o rachunek aktuarialny. Obliczenia oparto na tablicach trwania życia oraz danych makroekonomicznych z rynku polskiego i niemieckiego, gdyż uwzględniono również przypadek turystyki medycznej – poszkodowanego z Niemiec. Kluczowe ustalenia pozwalają stwierdzić, że wskazane przez ustawodawcę sumy ubezpieczenia są całkowicie nieadekwatne do wielkości ryzyka. Ograniczone przykłady empiryczne

i analizy scenariuszowe potencjalnych roszczeń w zakresie poważnych uszkodzeń ciała (z pominięciem jednak najgorszego scenariusza) sugerują przekroczenie wskazanych przez ustawodawcę minimalnych sum ubezpieczenia od 4 do ponad 100 razy, już dla samej renty, co implikuje negatywne konsekwencje – choć różne dla poszczególnych interesariuszy.

Słowa kluczowe: zarządzanie ryzykiem odpowiedzialności cywilnej, obowiązkowe ubezpieczenie OC, zdarzenia medyczne, kompensacja szkód na osobie

DR HAB. ILONA KWIECIEŃ, Professor at the Wrocław University of Economics and Business, Advocate, Wałbrzych Bar Association
e-mail: ilona.kwiecien@ue.wroc.pl;
ORCID 0000-0003-3382-9467

DR ANNA JĘDRZYCHOWSKA, the Wrocław University of Economics and Business, Department of Insurance, Court Expert at the Regional Court in Wrocław
e-mail: anna.jedrzychowska@ue.wroc.pl
ORCID 0000-0002-3837-1734