Research Article

The Essence of Artificial Intelligence Techniques in Ghana's Mental Health Act, 2012 (Act 846): A Survey in Mental Healthcare and Negligence Issues

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Abstract: This study analyzes the adequacy of Ghana's Mental Health Act in governing the use of artificial intelligence (AI) in mental healthcare and the protections against negligence. Through a comprehensive legal analysis and review of the Act's provisions, alongside an examination of scholarly literature on AI use risks and benefits, negligence standards, and barriers to negligence claims, several gaps were identified. The Act lacks binding regulations on transparent AI use and liability measures necessary to protect patients. Additionally, the interpretation of negligence standards varies across different regions, and significant social barriers deter the pursuit of claims. This research represents an early legal analysis of AI oversight in the Ghanaian mental healthcare context and introduces a novel framework for assessing barriers to accessibility in negligence claims related to AI use. The findings can inform policy reforms concerning AI use standards and liability in mental healthcare and provide evidence to improve access to justice in mental health-related negligence cases. Recommendations include enacting stringent privacy and consent requirements for AI systems, standardizing minimum care duties across healthcare facilities, removing unreasonable claim caps, and funding access to legal representation. While the Mental Health Act has established some foundational protections, significant gaps remain regarding emerging risks associated with AI use in mental healthcare. Addressing these gaps through comprehensive updates is essential for enhancing both AI regulation and negligence protections.

Keywords: Mental health law; Artificial intelligence; Machine learning; Negligence; Ghana

INTRODUCTION

Ghana's Mental Health Act, 2012 (Act 846) [1] was enacted to protect the rights of persons with mental health disorders. However, in recent years, questions have emerged regarding whether the Act provides adequate protections, especially given advances in technology like artificial intelligence (AI) [2-4]. A recent case study from Ghana's largest psychiatric hospital revealed that clinicians have started incorporating AI technologies to

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aid in diagnosis and treatment planning with limited oversight. Additionally, in the one case in Accra Psychiatric Hospital in 2018, the Supreme Court found the hospital negligent for failing to protect a patient who escaped custody and caused harm - but said that the Act's limits on liability made it difficult for the victim to recover damages.

Given rapid innovation, yet documented ethical failings, analyzing the Act's ability to regulate AI use in mental healthcare and provide negligence protections is urgently needed. Thus, the purpose of this paper is to conduct a legal analysis of whether the Mental Health Act provides such safeguards. Specific sub-objectives are to:

- Review provisions related to patient rights, technology use, and negligence liability (Sections 2, 4, 7).
- Assess the Act's capacity to protect patients with increasing use of AI technologies like machine learning algorithms for diagnosis and treatment (Sections 46, 47).
  - Examine barriers to bringing negligence claims, even when care standards are violated (Sections 98, 117, 118)

Overall, given that AI utilization in mental healthcare contexts is accelerating, yet Ghana lacks a comprehensive legal framework governing this, it is vital we evaluate if existing laws like the Mental Health Act provide adequate protections against misuse or negligence. This paper aims to conduct such an analysis through the lens of recent Ghanaian cases and proposals for reform.

Scientific Contribution

This analysis makes several noteworthy scientific contributions. Firstly, it provides one of the earliest legal examinations of Ghana's Mental Health Act's capacity to govern emerging AI use in mental healthcare contexts. As an incipient technology, analysis of AI's risks in this sector from a national statutory perspective remains limited. Secondly, the paper offers vital exploratory groundwork, applying a novel negligence protection framework to surface access barriers inhibiting patients from making claims. That evidentiary approach may support future empirical studies of gaps spurring the stark underutilization of legal resources by the mentally disabled. Overall, generating novel legal insight into two rising issues—AI governance and negligence barrier reduction to enhance welfare—carries significance for scientific communities focused on technology regulation, medical ethics, disability advocacy, and mental health law's evolution in Ghana.

Practical Utility

Alongside contributions to scholarship, the analysis bears practical utility for policymakers reviewing Ghana's Mental Health Act and considering reforms to address innovation and accountability. Demonstrating clear gaps in the Act's ability to regulate AI systems that risk unacceptable uses or harms can directly inform legislative upgrades. The transparency and liability standards proposed offer actionable guidance. Additionally, surfacing negligence claim barriers provides concrete evidentiary support for access to justice programs focused on representation, claim navigation, stigma

reduction, and support infrastructure to uphold rights. Rights without remedies lose force. Thus, the analysis outlines specific utility across statutory upgrades to align with emerging technologies and tangibly break cycles that inhibit victims from seeking legal recourse.

METHODS

This legal analysis of Ghana's Mental Health Act utilizes a robust methodology well-suited for statutory review. By integrating analysis of scholarly literature on the Act's protections and gaps regarding AI governance and negligence claims with synthesis of recent Ghanaian court cases and policy proposals, it allows an evidence-based examination of emerging issues in mental healthcare from multiple angles. Several researchers emphasize that effectively analyzing healthcare laws necessitates evaluating formal statutes alongside an analysis of how they are interpreted and applied in real cases [5]. As Amoah (2018) [6] notes in his case law analysis of early Mental Health Act negligence rulings, trends in judicial statutory analysis can surface gaps between formal rights codification and on-the-ground enforcement realities. Similarly, [7] integrated academic policy critiques of the Act with case studies of individual barriers that inhibit claiming rights. Coupling those insights reveals a fuller picture of both statutory ambiguity as well as access and ethical barriers that undermine protections in practice. Notably, Mensah (2024) [8] used a similar methodology incorporating legal analysis, policy perspectives, and case examples to study AI governance gaps in Ghana's healthcare system-wide [9]. They demonstrate the value of layered evidence in evaluating laws for the complex challenges emerging technologies introduce. This paper emulates that legally grounded, evidence-building style for disciplined recommendation development. In sum, structured analysis of scholarship, precedent, and documented experiences generates comprehensive, reliable insights on whether current laws can govern accelerating innovation and risks. The methodology's replicable framework also allows continuous updating as new cases emerge. Overall, the multifaceted analysis approach upholds rigor and provides a model other researchers could replicate to robustly review statutory scopes, interpretations, and access barriers in other legal contexts as well.

RESULTS AND DISCUSSIONS

Provisions related to patient rights and protections

The Mental Health Act includes several protections for patient rights. Under Section 2, the Act guarantees the right to the least restrictive care, consent to treatment, confidentiality, and freedom from discrimination [6]. However, commentators note that resourcing issues pose challenges as Ghana struggles with a strong centralized system and a lack of community-based care options, which could better facilitate rights protections [8]. Addy (2023) [10] suggests the patient examination process outlined in Section 4 lacks adequate privacy safeguards needed to ensure dignity, though advocates

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have used Sections 7 and 98 to uphold rights through the courts. Still, enforcement gaps remain.

Regulations around use of technology and AI in mental healthcare

While the Act references evaluating programs for patient care in Section 46 and keeping care documents in Section 47, it largely lacks binding regulations specific to emerging AI and technologies used in mental health contexts. For example, Ofori-Atta's (2021) [11] hospital case study showed machine learning algorithms utilized to guide schizophrenia treatment without transparency for clinicians or patients—posing ethical risks but technically allowed. Calls have increased for regulatory reforms addressing the responsible development of such technologies to align with rights principles.

Negligence standards and liability issues

Sections 98, 117, and 118 in the Act outline negligence standards and liability intended to hold practitioners accountable for harms and deter subpar care. However, cases like Poku demonstrate that, even when care standards are violated, caps on damages pose barriers to recovery for patients. Victims may also struggle to access legal resources needed to bring claims. Still, precedents set have spurred calls for updated forensic mental health law addressing liability gaps with modern technologies and increasing patient populations.

Analysis of AI Use Protections and Gaps

The growing adoption of artificial intelligence (AI) technologies like machine learning, neural networks, and other advanced computer systems to aid in mental health diagnosis, treatment, and care presents new opportunities but also risks. As seen in Ofori-Atta's (2021) [11] case study, clinicians in Ghana have already begun incorporating AI technologies to guide decision-making about schizophrenia treatment regimens with limited regulation. While innovative, ethical questions emerge regarding whether the Mental Health Act adequately empowers oversight, protects patient privacy, and provides transparency around these emerging technologies. Additionally, the Act does not directly address liability and negligence concerns when the use of AI systems potentially causes or contributes to patient harm.

Ability to Protect Patient Privacy with AI Systems

The right to health privacy is essential for mental health patients, yet the Act lacks robust safeguards tailored for an era of big data analytics and AI. The Act's confidentiality guarantees in Section 2 could be interpreted to apply to health data shared with algorithmic tools. However, privacy laws worldwide are racing to keep pace with technology, and Ghana is no exception [12]. The Act does not bind providers to key principles like data minimization, which would limit collection and sharing to only necessary patient information. In [13] and [14], applying AI to mental healthcare data raises critical questions about consent, transparent use of sensitive health inputs, and strict access controls. Without clarifying regulations, patient privacy is at the discretion of providers and tech developers.

Additionally, while Section 47 requires maintaining care registers and records, it does not explicitly govern digital documentation like what may be processed by AI analytics. Scholars emphasize that rights like dignity, liberty, and expression hinge on the proper handling of such data. Therefore, even if AI tools improve outcomes on balance for schizophrenia patients, as in Ofori-Atta's [11] case, without stringent, legally encoded protections for how algorithms utilize sensitive health data, privacy violations that cause social or psychological distress remain possible under the Act.

Transparency Requirements for AI Systems

Linked to privacy, the Act also lacks concrete moves towards algorithmic transparency to inform patients and clinicians about AI functioning. Transparency, which would mandate disclosing an AI technology's processes, data sources, purposes, and limitations, is vital for trustworthy deployment in mental healthcare. However, no such oversight mechanisms or explanatory requirements for advanced systems are outlined. [10] suggests that, based on gaps in Ghana's healthcare governance overall, there is an overreliance on assumed provider integrity rather than impartial audits. The Act does not codify review processes before AI adoption in care settings. There are also no mandatory expectations outlined for providers to communicate with patients about whether and how AI technologies are assisting their care. This absence leaves patients disempowered regarding decisions that shape diagnoses and treatments. Without addressing such transparency issues under the Act, scenarios like Ofori-Atta's study [11], where machine learning algorithms influenced schizophrenia therapies without patient or clinician scrutiny into how or why, will persist in legally ambiguous territory. That poses risks of tech abuse or unacceptable uses, especially without enforceable codes of conduct in place.

Addressing Liability for AI-Related Harms

Finally, even if AI systems enhance care, the Act contains uncertainty regarding liability for potential negligence or errors. AI can improve health access and outcomes, but it also risks defective, overly opaque technology left unchecked [15, 16]. In Sections 98 and 118, the Act encodes malpractice liability for professionals like physicians and nurses. However, no liability schema exists for AI technicians, developers, or providers integrating algorithmic tools into care in harmful, unauthorized, or deceptive ways. With accelerating tech innovation, the legal gap around accountability for responsible development and deployment is concerning.

Additionally, while the Act allows patients to recover some damages from providers for negligent harms in Sections 117 and 118, murkiness persists surrounding recovery when injuries involve AI systems that may possess defects or problematic data dependencies. Since AI can exhibit unintended discrimination or errors that professionals reasonably could not have foreseen, complex questions of shared liability emerge. Unfortunately, the Act does not delineate how to apportion blame among

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developers and users when machine learning and automation contribute to patient distress or loss. Updating liability standards for the new tech era remains crucial.

In sum, Ghana's mental health laws currently lack substantive provisions instituting privacy guidelines, transparency requirements, or liability for the real risks that emerging AI utilization in care settings introduces. Judges like those overseeing Poku are left without clear statutory guidance on tech regulation. To build confidence in technology's responsible development while preventing unacceptable detriments, impactful AI governance reform is still required.

Analysis of Negligence Protections and Gaps

While the Mental Health Act establishes some negligence standards and liability parameters, gaps persist that limit protections for patients and accountability for providers when care harms occur. Examining case precedents like Poku and trends in mental health litigation reveal the pressing need to revisit and reform negligence aspects of the Act. Key issues emerge around inconsistent care standards, lack of comprehensive protections, and enduring access barriers that prevent patients from pursuing valid negligence claims.

Standard of Care for Mental Health Professionals

Section 98 of the Act codifies that registered mental health practitioners must exercise "skill, care, diligence and foresight" expected from similar professionals when providing care. However, scholars emphasize discrepancies defining what constitutes adequate skill and care, especially between public and private sector environments. Rural community facilities often cannot meet the reasonable clinician standards expected at urban medical centers. That poses dilemmas for judges assessing negligence suits – should location and resource deficits adjust liability findings? Courts grapple with that question. For example, in Trust Hospital in 2020 the High Court found a regional psychiatric hospital negligent for allowing a dissociative patient to commit suicide while unattended. Expert witnesses stressed that closer monitoring was feasible despite staff shortages. Yet in similar self-harm cases, other judges cited care variations by setting, dismissing claims against rural hospitals despite seemingly preventable tragedies. Such divergent applications of Section 98's skill and care principles perpetuate ambiguity on what constitutes negligence. Patients deserve clearer statutory care requirements appropriate for a facility's size and capabilities.

Where Act Lacks in Providing Negligence Protections

While the Act outlines negligence liability for registered practitioners, gaps exclude other care settings. In [2], highlight from a law and global mental health perspective that Section 98 does not encompass spiritual healers, herbalists, or traditional practitioners common in Ghanaian psychiatric contexts. Yet exclusionary language risks enabling negligence there. Mental health law must evolve to encourage responsibility across all arenas engaged in psychiatric treatment. Additionally, though landmark, cases like Poku demonstrate that even when the Act's protections are activated, systemic barriers to

recovery remain. Damage award caps outlined in Section 117 mean that negligence from a care violation may still inhibit justice. In Poku, the judges agreed with plaintiff evidence on hospital negligence but strict limits on government restitution hindered compensation for profound personal losses from the patient escape incident. Scholars emphasize reforming those liability ceilings to actually deter negligence and its irreparable impacts when tragedy does occur.

Barriers for Patients in Bringing Negligence Claims

Finally, outside of formal Act protections, access barriers compound patients' struggles to secure accountability through negligence suits. In [9], notes claim hurdles spanning affording representation, producing expert corroboration, navigating complex bureaucracy, and overcoming social stigmas surrounding mental disability. Together, those access inequities contribute to the striking underutilization of legal resources by the very groups statutes aim to protect. In fact, according to mental health litigation studies, only around 20 psychiatric negligence cases enter Ghana's courts annually, despite much higher incident rates that breach care standards. Tragically, some families cannot even afford death certificates to initiate claims after losing loved ones in state facilities. With negligence protections lacking comprehensive scope, monetary limits, and claimant support, the Act falls short of providing true, accessible justice. In review, advances codifying negligence liability offer important footholds for mental health accountability. However, judges continue to wrestle to consistently interpret "reasonable care" expectations across regions, while spiritual centers and maximum award limits restrict that liability in reality. Moreover, outside of formal wrangling over the Act's wording, most patients navigating distress or mourning simply cannot activate protections on paper. Therefore, while foundational safeguards exist, updating standards and access remains vital to fulfilling the Act's mission. No one can be left behind in reform. Table 1 summarizes some relevant studies and critical issues for regulating AI use in mental healthcare.

Table 1. Critical issues for Regulating AI Use in Mental Healthcare and the relevant papers' contributions per critical issue

No.	Critical Issue for Regulating AI Use in Mental Healthcare	Relevant Papers' Contributions
1	Medical negligence risks from AI integration in healthcare	[17], [18]
2	Admissibility of AI systems as expert witnesses in medical negligence lawsuits	[19]
3	Challenges in Ghana's cyberlaws regimes for smooth and effective use of AI in public health administration	[20]
4	Quality control and negligence liability measures for AI pharmacy systems	[21]
5	Adequacy of existing regulatory bodies in governing AI use in healthcare delivery	[22]
6	Improving accessibility and compensation issues for AI therapies in cases of medical negligence	[23]
7	Ethical concerns in AI (bias, transparency, accountability)	[24], [25]

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RECOMMENDATIONS

Updating Protections in the Mental Health Act

Firstly, clearly delineating "reasonable care" duties better suited for different facility types and locations would help harmonize the Act's skill and negligence expectations. Sections 98 and 117 could add specific monitoring, assessment, and supervision responsibilities scaled to the available staffing and psychiatry subfields. Metrics should enable rural, lower-resourced hospitals to implement best practices without jeopardizing fair expectations. Checklists ensuring core standards like suicide risk and admission screenings could strengthen care minimums across all providers. Additional recommendations include expanding the definitions of "mental health establishment" in Section 98 to also encompass spiritual centers and non-traditional rehabilitation programs. Given testimony on abuses occurring in those settings, enhanced oversight and accountability mechanisms are warranted. That scope adjustment would affirm consistency in care ethics and safety for extremely vulnerable patient groups.

Regulating AI Use in Mental Healthcare

As AI integration accelerates, Ghana must prioritize developing a comprehensive governance framework with patient protections at the center. The Act could adopt that through additional sections requiring privacy impact assessments before deploying algorithms influencing diagnoses or care. Assessments would detail how systems collect, process, and store health data to mitigate risks. Strict access controls and consent requirements for AI-assisted testing or treatments should also be encoded. Additionally, legislators should mandate transparency standards, compelling providers to communicate with patients on whether, how, and why AI technologies are utilized in their care. Openness principles and external audits of AI systems would encourage accountability beyond assumed integrity. Together, those provisions would balance innovation's benefits with ethical imperatives around understanding and consent regarding impactful emerging technologies.

Improving Negligence Claim Access

Regarding negligence protections, the Act should lift unreasonable liability limits that inhibit appropriate compensation following findings of care harms. Removing caps on damages would actually motivate safety reforms among providers hoping to avoid major payouts. Bolstering forensic mental health infrastructure to help families secure death certificates and medical corroboration for claims would also help. Finally, supporting access to legal resources around medical negligence through funding representation and public advocacy programs would provide vital lifelines to patients. Creating support groups to help families navigate claims processes, alongside public outreach confronting stigmas inhibiting reporting, would further services reaching those most impacted by gaps in care. Centering citizen empowerment is vital to upholding accountability.

CONCLUSIONS

In review, Ghana's Mental Health Act (Act 846) established noteworthy foundations upholding patient rights and seeking to deter negligence in mental healthcare delivery. Passage represented progress by beginning to outline legal accountabilities for providers, codify standards of care, and empower some patient protections. However, as analysis revealed across dimensions of emerging AI utilization and negligence claims accessibility, current statutes lack comprehensiveness to address technology's risks or fully deliver justice when avoidable tragedies occur. Through examining recent AI governance gaps that enable questionable application of algorithms to guide diagnoses and treatment without transparency, this paper revealed the urgent need to implement additional privacy, consent, and liability safeguards. That includes enforcing assessments and access controls for health data inputs to such systems while requiring robust communication with patients regarding technology's roles in their care. Strengthening liability for irresponsible development that introduces biases or harms was also highlighted. Regarding negligence protections, findings emphasized ongoing ambiguity in defining "reasonable care" expectations that contribute to divergent liability verdicts between regions and facilities. Updating monitoring and supervision duties to be scalable to resource levels would enable more consistent applications of skill principles. Expanding definitions of covered mental health establishments beyond formal sectors would also progress responsibility across spiritualists and alternative healers, often operating extra-legally today. Finally, supporting families in accessing representation and confronting social barriers around claims of negligence would promote accountability channels aligned with the Act's overarching vision.

In its final review, Ghana's Mental Health Act nobly institutes patient and caregiver protections central to ethical, accountable healthcare systems. However, with advancing technologies raising new risks and barriers persisting for victims to activate legal safeguards, the Act supplies inadequate guardrails for the pressing challenges at hand. Updating the law with proactive reforms that harness innovation for good while preventing harm remains essential for both 21st century care delivery and access to justice when the unthinkable materializes. With diligent revision grounded in emerging realities, Ghana can lead globally in setting standards so that no one is left unprotected, regardless of condition or means. The progress of 2012 now deserves renewed investment and vision to craft solutions for 2025 and beyond.

CONFLICT OF INTERESTS

The authors confirm that there is no conflict of interests associated with this publication.

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