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Ethical Challenges of using Artificial Intelligence in Medicaid Services

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1. Abstract

AI is one of the technologies that is quickly being incorporated into Medicaid services. Although the assimilation of AI in Medicaid services promises a plethora of benefits, these benefits will only be achievable if CMS addresses ethical issues related to the use of the technology. This paper discusses AI ethical issues in Medicaid and proposes ways these concerns can be resolved.

2. Keywords

Ethical challenges, Artificial intelligence, Medicaid, CMS, Technology

3. Introduction

Artificial intelligence has been tipped as the next frontier in delivering Medicaid services. Evidence suggests that use of AI tools in Medicaid services can reduce fraud and misuse, streamline administrative functions, lower operational costs, and enhance overall healthcare outcomes and satisfaction of Medicaid beneficiaries [1]. These benefits have seen the adoption rate of AI in Medicaid rise from 10 percent in 2015 to 80 percent in 2024, as illustrated in the figure below [2].



Although the use of AI in Medicaid promises a plethora of benefits, it opens a door for serious ethical challenges. For example, the use of AI engines in other fields has demonstrated the vulnerability of the technology to biases. It is implausible for governments' IT systems to portray biases towards specific demographics.

4. AI use cases likely to face unethical challenges

Some of the applications of AI in Medicaid likely to be vulnerable to ethical challenges include;

4.1. Beneficiaries enrollment

US citizens apply for Medicaid membership by submitting credentials such as proof of income, residency, and identification documents. Other information considered when processing eligibility include household size, age, disability status, and pregnancy. If not trained properly, AI models can discriminate against applicants based on this information. For example, the model may discriminate against applicants from



minority neighborhoods. Beneficiary enrollment is one of the main AI use cases in Medicaid, and it is the most likely to be vulnerable to bias.

4.2. Risk stratification

Risk stratification is another area where AI has multiple use cases. Using data from claims, electronic health records, demographic information, health risk assessments, and social determinants of health, AI models can group enrollees as either low-risk, moderate-risk, or high-risk. High-risk enrollees have access to advanced care, while low-risk members are considered healthy and only need preventative care. There is a risk of AI models intentionally grouping high-risk patients from certain populations or social classes as moderate or low risk to deny them access to required care.

4.3. Fraud detection

Fraud is flagged by detecting suspicious patterns and outliers in claims and payments. While AI models can be effective in detecting and flagging fraud, there is a risk of these models being biased. For example, suppose there is a sudden rise in fraud claims from a certain county, AI models may flag claims from that region, including legitimate ones. Providers whose few claims may have been rejected for being inaccurate may experiencing frequent denial of their claims.

4.4. Patient engagement

Chatbots can enhance engagement with members. However, these models can lack vital ethical values when not trained sufficiently. For example, they may fabricate information and mislead patients. Fabricated medical information can not only cause panic among patients but can also cause harm. Poorly developed models may also lack empathy, which is vital for patient communication.

5. Ethical challenges

The previous section has discussed AI use cases that are more likely to experience ethical challenges. This section discusses ethical issues that Medicaid services must address before deploying AI models in their systems. Prominent ethical challenges include;

5.1. Bias and discrimination

Bias is an ethical vice that can be transferred to AI models via training data. If the training data is incomplete or skewed, AI models will likely learn to be discriminative. For example, if the training data shows patients of the same conditions but different races are placed in different risk groups, the models will replicate this. If the training data shows that patients from minority groups are recommended to facilities of a certain level, the models will likely take up this bias. Bias is one of the major ethical challenges that must be addressed when integrating AI models in Medicaid systems.

5.2. Privacy and data security

Medicaid service providers must allow AI models to access patients' information. Some of these models are developed by third parties and hosted on third-party servers that CMS does not have control over. Providing AI models developed and hosted by third parties with access to patient data raises ethical concerns about the safety of the data. There is also the question of consent before AI models access patients' data [3].

5.3. Accountability

Fully autonomous models can significantly lower operational costs by replacing human workers and obviating the need for

human supervision. While autonomous models are swift and cost-effective, they are tools that cannot be responsible for their actions. Who should be answerable for mistakes committed by AI models? For example, who should be liable when an eligibility model erroneously denies a patient coverage? If a model sends wrong reminders to patients and the victim ends up overdosing, who should take responsibility for the error? Accountability is a serious ethical concern that must be addressed when integrating AI models into Medicaid services.

5.4. Accessibility

AI models will likely favor tech savvies or people with at least basic digital literacy. As CMS integrates autonomous AI models in its services and eliminates human resources, there is a risk of denying non-tech savvies from accessing some services. For example, closing call centers and replacing them with chatbots may be convenient to young people with digital skills but detrimental to elderly people who are used to making calls rather than chatting with bots. As Medicaid services are updated with new AI technologies, it is paramount that they ensure these technologies are accessible to everyone or they provide alternatives for people not familiar with the technologies.

5.5. Transparency issues

One of the defining traits of super-automated AI models is their ability to auto-tune their parameters. The main problem with this ability is that it can over-tune the parameters to create a 'black box' where even the administrators and developers of the models no longer know how the models are arriving at decisions. In healthcare, all decisions must be explainable. Besides, the 'black box' problems complicate the accountability issue. No one may be willing to be liable for automated decisions that cannot be explained.

6. Addressing ethical concerns

Addressing the ethical implications of AI in Medicaid requires a multi-layered approach that includes technical safeguards, policy measures, and community involvement when implementing the technologies. Some of the recommendations for addressing the issues include;

- *Ensuring fairness and minimizing bias*: Bias concerns can be addressed by conducting regular audits for racial, gender, geographic, and socioeconomic bias. This challenge can also be mitigated by training models using complete, representative data. It is also advisable to conduct equity testing on models in different demographics before deploying.
- *Using explainable AI*: XAI is a branch of AI that offers clear, understandable reasoning for decisions. XAI should be particularly used in models for eligibility and risk scoring.
- *Ensuring oversight for accountability*: Always keep humans involved in the loop, especially in sensitive roles. CMS may also need to create governance boards to regulate and oversee the use of AI in Medicaid services. Third-party vendors should be compelled to meet required ethical standards and be accountable for model performance.
- Lean data approach: only allow AI models to access patient data required for their roles. This minimizes exposed patient data. Using secure architecture and encryption technologies can also enhance patients' data



security. It is also a rule of thumb to anonymize data to reduce the risk of exposure.

• *Regulatory compliance*: Adherence to regulations such as HIPAA, the Civil Rights Act, the Americans with Disabilities Act (ADA), and OECD AI Principles can be pivotal in addressing most ethical concerns mentioned in this document.

Ethical Concern	Remediation
Bias and	Complete unbiased training data.
discrimination	
Privacy and data security	User consent, lean data.
Accountability	Explainable AI, human supervision
Accessibility	Provide alternative access avenues
Transparency	Explainable AI

7. Conclusion

AI is a promising technology that can revolutionize Medicaid healthcare delivery. However, blind deployment of these technologies can result in ethical issues that cause distrust among users, lawsuits, and poor health outcomes. CMS can mitigate ethical problems by using right technologies when developing AI models, training models with high-quality data, and always keeping humans involved in roles performed by these technologies. The success of AI in Medicaid services will depend on how well ethical concerns will be addressed. Consequently, CMS must devise a strategy to incorporate the aforementioned remediations in their AI development frameworks.

8. References

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