

Review Article

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Personalized Care Planning for Medicaid Patients with AI

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ABSTRACT

Artificial intelligence is increasingly being deployed in the healthcare sector. Healthcare providers are exploiting the technology in patient engagement, telehealth services, and provision of personalized services. Despite the widespread use of AI in healthcare, Medicaid management has yet to start using the technology for personalized care planning. This piece of writing discusses issues in Medicaid planning for personalized care and explores how AI can enable Medicaid management to support the delivery of personalized care.

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Introduction

For the past decade, healthcare providers have been shifting care provision towards personalized services. Many healthcare facilities have re-engineered their operations to offer tailored healthcare services that respond to patients' needs and preferences. The traditional one-size-fits-all approach has been replaced by custom treatments and interventions that consider individual variations in genetics, lifestyle, and environmental factors. Although healthcare providers are taking necessary steps to provide personalized care, the question is whether Medicaid programs can adjust their planning to facilitate bespoke care delivery for Medicaid patients.

Medicaid Care Planning

Although Medicaid has been playing an integral role in expanding healthcare access in low-income populations, the funding design of the program is not meant to support modern approaches in healthcare, such as personalized care delivery. Medicaid programs are restrictive in nature. The management determines the type, amount, duration, and scope of services the programs cover. The management also determines the rate of payments for services [1]. By limiting the kind of services covered, the scope of service delivery, and the duration of care, it becomes difficult for healthcare providers to prescribe tailored care. They cannot recommend services outside covered services and cannot design treatment plans that span outside the duration covered by the programs.

Medicaid programs are strict with costs and reimbursement rates. This implies that providers cannot provide top-of-the-range care services that fall outside the cost range stipulated by Medicaid management. Medicaid programs are also subject to access gaps in various areas. For example, according to a KFF report, despite more than 39 percent of Medicaid enrollees living with a mental health or substance use disorder, the programs do not support exclusive access to psychiatrists [2]. The case is similar to other areas, such as oral health. Due to low payment rates, only 36 percent of psychiatrists and dentists accept new Medicaid patients.

KFF states that even those who accept Medicaid only take a few patients, and there is a good chance they no longer accept new patients. The unwillingness of physicians to accept the Medicaid program ultimately hurts specialized care. Patients cannot access specialized mental and oral health care services due to few service providers accepting Medicaid payments [3].

In a nutshell, Medicaid programs leverage a one-size-fits-all approach that limits customization of healthcare delivery. The model restricts the type of treatment plans available to patients. Besides, since the programs are more inclined to cover basic healthcare services, patients seeking services such as mental health help have limited access to providers. These are issues that can be mitigated by redesigning Medicaid programs to cater to patients' individual needs. Instead of having a model that provides uniform funding for all patients, patients can have personalized covers that align with their core needs. For example, patients with chronic conditions such as diabetes should have exclusive access to diabetes-related care services, whereas patients with mental health issues should have covers that allow them access to advanced mental care services. This can only be attained by Medicaid management understanding the healthcare risks of each individual under Medicaid coverage. AI is the only technology that can help Medicaid management understand beneficiaries' individual needs.

Weaknesses in Medicaid planning

- Planning leverages one size fits all approach which limits personalization of service delivery.
- The model restricts the type of treatment plans available to patients.
- Planning does not emphasize covering 'non-basic' services such as oral health and mental health.

Application of AI in Medicaid Personalized Care Planning

One of the most prominent applications of artificial intelligence in the commercial sector is data processing and predictive analytics using historical data. Medicaid programs can also leverage these capabilities to facilitate the delivery of personalized care. Some of the ways AI can be exploited to facilitate the provision of customized care for Medicaid patients include;

Predictive Analysis for Risk Stratification

Rather than using a one-size-fits-all approach in Planning, AI models can be employed to analyze patients' data and develop personalized plans. Information from data points such as electronic health records (EHRs), claims data, Social Determinants of Health (SDoH), and Patient-Reported Data can be used to accurately predict patients' health outcomes in future years. For instance, they determine patients' vulnerability to chronic conditions such as diabetes and heart diseases. The ability to predict patients' health outcomes earlier can enable Medicaid management to craft custom covers that align with such patients' future healthcare needs. This allows for more precise budgeting and facilitates the provision of advanced care since the agency has already budgeted for each patient's needs.

Personalized Treatment Recommendations

Currently, Medicaid management does not play a role in recommending treatment plans for its subjects. The agency focuses more on processing claims and reimbursing providers for services rendered. Integrating AI in Medicaid systems can empower Medicaid management to recommend treatment plans for its members, especially those with chronic conditions. Using information such as EHR data, Social Determinants of Health, and Patient-Reported Data, Medicaid management can determine patient similarities and use historical outcomes to recommend effective treatment regimens for current patients. The agencies can even use the patient's genetics and medical history to recommend personalized medication.

Communication and Alerts

The previous sections have discussed how AI can enable Medicaid management to predict patients' potential healthcare complications. With this knowledge, the agency can take early intervention plans to reduce or delay conditions. They can message their enrollees about best lifestyle practices such as diet and exercise. AI bots can be deployed to craft and send these alerts. AI bots can also send patients notifications, encouraging them to adhere to treatment plans and reminding them of upcoming checkups.

Role of AI in personalized care planning for

Medicaid patients

Facilitates creation of personalized care plans by:

- Predicting patients future care needs
- Recommending custom treatment plans based on outcomes from similar patients
- Sending alerts to remind patients about upcoming appointments and adherence to treatment plans
- Supporting preventive measures by educating patients on lifestyle intervention

Implications

Integrating AI in Medicaid planning for personalized services impacts patients and management. Some of these impacts are

- **Streamlined Operations:** AI reduces administrative burdens, allowing Medicaid management to focus more on core functions of planning and management work.
- **Improved Patient Outcomes:** Tailored care leads to better management of conditions and overall health improvement.
- **Higher Patient Satisfaction:** Personalized plans address individual needs and preferences.
- **Cost Savings:** Preventive care reduces expensive interventions and hospitalizations.

Conclusion

Although healthcare providers are shifting to providing patient-centered personalized care, Medicaid is not well structured to support the provision of personalized care. Medicaid employs the one-size-fits-all approach that limits the services available to enrollees. Besides, Medicaid cover is not keen on covering mental health and oral health services. The restrictive nature of Medicaid coverage is mainly motivated by cost savings. The use of AI in Medicaid care planning can give planners visibility into potential conditions enrollees may experience in the future. This information can then be used to craft personalized covers for each patient, allowing them to access better healthcare services without exceeding budgets allocated for them. The technology can also recommend treatment plans and teach enrollees about good lifestyle habits. Although AI can be helpful in care planning for Medicaid patients, it is important developers of the technology ensure it is not susceptible to biases and data privacy issues.

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