



Designing and Evaluating an Intelligent Workflow System for Automating Coverage Continuity Across Medicaid, CHIP, and ACA Marketplaces

Khader Ahmed Mohammed*

Independent Researcher, USA

* Corresponding Author Email: khaderintech@gmail.com - ORCID: 0000-0002-1997-0050

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Abstract:

Uninterrupted health insurance coverage among Medicaid, CHIP, and ACA Marketplaces is still grappling with administrative complications and the barriers to transition eligibility resulting in coverage divide among vulnerable groups. Transformative solutions to be applied to automate eligibility determination and reduce churn in the coverage process can be found in the intelligent workflow systems that combine artificial intelligence and machine learning algorithms with Business Process Management platforms. Health information exchange infrastructure is used to support the flow of data among organizationally varied systems to enable coordinated care delivery. Modern AI-enhanced eligibility engines will add automated data verification features, which significantly lower the disenrollment procedures by ex parte renewals. Predictive analytics software can be used to detect beneficiaries with a high likelihood of coverage loss, so that proactive intervention mechanisms can be put in place. Business Process Management systems coordinate intricate work-flows across multi-systems which include eligibility engines, document management systems, and external data. Comprehensive assessment systems involving coverage churn rates, renewal success measures, transition efficiency measures, and health outcome measures offer multidimensional performance transparency. This has significant technical issues, such as integration of the old system, data quality control, and standards-based interoperability specifications. The implementation will require close consideration of organizational change management, human resources development, and long-term stakeholder involvement. The combination of both cutting-edge automation solutions and the principles of the person-centered design makes intelligent workflow systems the key to the continuity of coverage goals in healthcare safety net programs.

1. Introduction

The ability to provide Americans with constant access to health insurance, especially among the low and middle-income groups, is one of the main issues of the modern healthcare system. The national healthcare safety net is based on Medicaid, the Children Health Insurance Program (CHIP) and the Affordable Care Act (ACA) Marketplaces having different eligibility requirements, administrative structures and procedural mandates. The constant movement of individuals and families in and out of these coverage sources with their changes in income, major life changes like employment, birth of a child, or change in marital status lead to severe disturbances in access to healthcare. The phenomenon, often referred to as churn, does not only disrupt the provision of

fundamental medical services that are fundamental, but it also creates significant financial exposures to beneficiaries besides burdening administrative expenses throughout the healthcare system. The adoption of intelligent workflow systems is an opportunity of change to deal with these chronic challenges based on greater automation and ability to make choices based on data.

The healthcare information technology environment has changed significantly to facilitate coordinated care provision and administrative effectiveness. The Health information exchange infrastructure helps to facilitate, securely and electronically, the movement of health-related information across systems that are organizationally and geographically different to enhance a better coordination of care and minimizes duplicative testing and administrative load [1]. The

introduction of artificial intelligence and machine learning algorithms into the eligibility verification procedures has become a promising prospect especially since they can properly process intricate eligibility requirements in real-time, and the quality of output remains intact. Moreover, the implementation of Business Process Management systems with healthcare applications in particular proved to have a significant potential in organizing multi-system workflows across the administrative domains. This study integrates the policy landscape, technical specifications, and modern methods of automation applicable to the realization of a smooth continuity of coverage between the Medicaid, CHIP, and ACA Marketplace and offers to compile an extensive design and assessment framework of an intelligent workflow system that would utilize standards-based interoperability, AI-driven prediction of eligibility, and automation of processes and minimize coverage gaps and increase healthcare access by vulnerable groups.

2. Policy Landscape and Legislative Framework for Coverage Continuity

The coordinated coverage policy in Medicaid, CHIP, and ACA Marketplaces has been changing a lot since the enactment of the Affordable Care Act including development of essential conditions of coordination between eligibility and simplification of enrollment. New structural reforms that were brought out by ACA are the single streamlined application procedure, the introduction of Modified Adjusted Gross Income (MAGI) as the standard of common income, and standardized data interchange protocols that were introduced to serve efficient program transition. These were intended to establish a single set of eligibility determination standards which would reduce coverage losses due to life events or income fluctuation. Nonetheless, the implementation in practice among states showed that there were significant complexities in converting legislative intent into operational reality especially in terms of reconciliation of point-in-time income determinations against annual income estimates and alignment of premium tax credit determinations with determinations of Medicaid eligibility. The Medicaid Information Technology Architecture offers states with a model of creating interoperable and modular Medicaid enterprise systems that facilitate the delivery of better program administration and beneficiary services and facilitates their adherence to federal requirements [2].

New legislative changes have brought new opportunities and challenges to the coverage continuity efforts. The Consolidated Appropriations

Act of 2022 included elements specifically aimed at enhancing continuous coverage protections, such as provision of twelve-month continuous eligibility of children and postpartum people, which the research has suggested can significantly decrease administrative disenrollments and increase the health status of vulnerable populations. The fulltime coverage mandates of the public health emergency were shown to be accompanied by considerable decreases in loss of coverage, with studies showing that Medicaid enrollment was up by much during times when states sustained enrollment requirements, and recognizing the significance of policy stability in the continuity of coverage [3]. These regulatory improvements are coupled with findings that reveal procedural barriers form one of the major factors of coverage loss among the deserving people. But countervailing pressures have been brought about by concurrent budget reconciliation clauses and some of them include lower provider tax thresholds and increased work reporting requirements. Budget reports approved by Congress show that shifts in federal health insurance coverage subsidies have a substantial influence on the rate of coverage, and reforms to premium tax credits and Medicaid eligibility requirements are expected to change enrollment in coverage programs [4]. The differences in policy execution at the state level make the situation even more complex, with jurisdictions having a lot of freedom in adopting optional eligibility clauses, crafting renewal workflows, and investing resources in technology infrastructure. This heterogeneous environment of implementation requires versatile automation software at the level that can be adapted to various policy setups whilst ensuring that the performance standards across various administrative settings are consistent. The policy framework thus helps to set the mandate behind the use of intelligent workflow systems and the intricate operational demands by such systems to realise significant gains in coverage continuity across the programs serving millions of vulnerable Americans.

3. Artificial Intelligence and Machine Learning Applications in Eligibility Determination

The use of artificial intelligence and machine learning technologies in determining eligibility processes is an irreversible shift in the paradigm of the old system based on rules to the new dynamic and data-driven processes that can face complex eligibility situations with greater accuracy and efficiency. The conventional methods of determining eligibility placed a lot of reliance on manual review of documentation and the

application of rules that were always prone to delays, mismatch, and errors that often led to the wrong termination of coverage or the refusal of an enrolment. Modern AI-based eligibility engines bring revolutionary features in various aspects of the determination process. The use of artificial intelligence in the healthcare sector has grown at a massively rapid rate that includes clinical decision support and administrative processes automation, as well as predictive analytics that can be used to increase operational efficiency and the accuracy of decision-making processes under complex conditions [5]. Machine learning algorithms are used to combine and authenticate information in diverse data sets such as Supplemental Nutrition Assistance Program files, Internal Revenue Service tax filing records, and state wage databases by automated data verification systems, which make ex parte renewal completion rates significantly lower under comprehensive implementation across the eligibility systems. The technology of natural language processing has turned out to be especially useful in the process of deriving structured data on eligibility out of unstructured document uploads, allowing automated processing of income verification documents, identity confirmations and residency attestations which formerly had to be reviewed by a caseworker, and being significantly faster in processing timelines than manually reviewing such documents, but with the same quality of data. Machine learning applications conditioned by the historical eligibility and enrollment data exhibit advanced pattern recognition applications that facilitate real-time processing of a large number of overlapping eligibility requirements such as household composition analysis, income trend analysis and tax filing status analysis. In addition to retrospective determination of eligibility, predictive analytics applications allow the identification of beneficiaries with a high risk of losing coverage and targeted intervention strategies can be adopted before they experience a coverage gap. Healthcare predictive analytics uses past data trends to predict events in the future to help healthcare organizations identify the high-risk population, assign resources more efficiently, and apply preventive measures that could enhance the outcome but at a lower cost [6]. These proactive strategies reflect a paradigm shift in the solution to problems aimed at obtaining better results through preventive case management rather than the reactive one, which allows allocating resources efficiently and enhancing the results of coverage. Predictive churn models use several risk factors such as income volatility trends, past renewal trends, currency of contact information, and an upcoming administrative

deadline to produce risk scores, which are used to prioritize outreach work to those who are most likely to suffer coverage disruptions. When deploying AI-based eligibility systems, it is important to pay attention to the issues of algorithmic fairness, transparency, and accountability, especially because the effects of eligibility decisions made by vulnerable groups are enormous. The validation frameworks should also guarantee that machine learning models are not reproducing or enforcing the pre-existing difference in access to coverage and thus, the performance of the models should be constantly monitored to achieve fair results in terms of demographic subgroups and geographic settings. The explainable AI implementation will allow beneficiaries and caseworkers to see how automated determinations are based, thus meeting the quality assurance and due process criteria that safeguard the rights of beneficiaries during the eligibility determination lifecycle.

4. Business Process Management Platforms for Workflow Orchestration and Case Management

Business Process Management systems offer the necessary framework of the multi-system processes that are in place to facilitate a smooth coverage continuity under Medicaid, CHIP, and ACA Marketplace programs. These enterprise level solutions have full process modeling, automation and monitoring and optimization features that are required to support the complex coordination needs of cross program transitions. In the current BPM systems tailored to specific healthcare solutions, have pre-defined process templates, regulatory standards, and integration solutions that can be implemented fast, and are compliant with federal and state mandates. The coordination of the various component parts in the system such as eligibility engines, document management systems, communication platforms, and external data sources through the coordination facilities of BPM solutions ensures consistency plus data integrity of the programs across boundaries. Enterprise systems of Medicaid implementation in states are associated with both complex technical and organizational issues related to the migration of historical infrastructure with the continuity of its work, with the development of works and solutions related to the choice of the system structure, prioritization of modules, and the use of stages of implementation [7]. The advanced features of the modern BPM platforms are represented through the example of the enterprise solutions aimed at government health programs since they provide a single care management features covering the entire lifecycle

of application of a beneficiary to maintenance of the coverage and integration of programs. These platforms offer multi faceted member displays that bring together information on several platforms and allows caseworkers to perceive individual situations when they are whole rather than in program-specific lenses. Intelligent document ingestion and classification Natural language processing functions integrated in sophisticated platforms assist in sorting document submissions to the correct workflow queues whilst extraction of relevant data elements to be included in eligibility decisions. The functionality of self-service portal enables the beneficiaries to take care of their coverage as they see fit when needed, and file documentation, update contacts, and track the status of their applications, without the aid of caseworkers, which helps to cut down the number of administrative resources and enhances the experience of members. Automated agent assistance capabilities involve the use of intelligent prompts, proposed actions, and related reference information based on the context of the case, giving the caseworker similar support in the decision-making process and allowing a reduction in training needs and the minimization of processing errors. The studies of the workflow management systems prove that appropriately introduced digital health interventions can contribute to process efficiency and administrative burden reduction and quality of care provision greatly when incorporated in the thoughtful way within the existing organizational framework and clinical practices [8]. Integration features enable straightforward exchange of data with external systems via standards-based interfaces such as Fast Healthcare Interoperability Resources (FHIR) and Health Insurance Portability and Accountability Act compliant application programming interfaces, which help coordinate with the healthcare providers and managed care organizations among the coverage ecosystem stakeholders. The configuration flexibility can allow jurisdictions to tailor workflows to the policy demands of the state, eligibility routes, and organizational frameworks without impairing fundamental functionality and upgrade routes to sustainability. Implementing a workflow orchestration enabled by BPM constitutes a significant investment in the technological infrastructure that needs to be strategically planned in terms of system architecture, data migration, interface development, and change management to achieve a successful adoption and a permanent performance gain on the organizational level.

5. Evaluation Framework and Performance Metrics for Coverage Continuity Systems

The creation of a detailed evaluation framework that includes well-defined performance measures forms a fundamental basis of determining the efficiency of smart workflow systems that are aimed at enhancing the continuity of coverage under Medicaid, CHIP, and ACA Marketplace programs. Strict evaluation methodologies can help the stakeholders to measure the performance of the system, show areas of improvement, and prove the value to policymakers and program managers. The assessment framework should include various aspects of system performance such as operational efficiency measures, coverage continuity measures, financial impact measures, and health outcome measures that all define the contribution of the system towards program goals. There are numerous aspects to the concept of access to healthcare such as service availability, geographic accessibility, affordability, patient needs accommodation, and acceptability of services, where each aspect mentioned above belongs to a particular measurement methodology to fully assess the performance of a healthcare system [9]. Coverage churn rate is a primary measure of how often people lose coverage and re-enroll during defined measurements, which directly measures the coverage discontinuity the intelligent workflow systems seeks to reduce.

The measurements of renewal success rates differentiate between ex parte renewals that are made with the help of automated data verification and renewals that need to be made by the beneficiaries in order to give an idea of the effectiveness of the system automation and the rates of its usage among the beneficiaries. States with high ex parte renewal rates tend to have significantly lower procedural disenrollment than those with limited automation capacity, which shows how data integration and automated verification can be important. The indicators of transition efficiency assess both the temporal and administrative aspect of transferring persons between programs of coverage and they may be expressed in the number of days taken on average to make a program transition and administrative cost per transition event. Financial impact evaluations should take into consideration various cost elements such as administrative spending saved by automation of processes, healthcare spending that can be saved by enhancements in continuity of the coverage and implementation costs, which is the fee involved in the development and maintenance of the system. A study of the research on the return on investment in health information technology implementations has shown that the total cost-benefit analysis should address

not only direct savings of costs but indirect benefits such as health outcomes, better population health, and less administrative complexity [10]. Measurements of health outcomes give the final test of the interventions of continuity of coverage, measurable alterations in the use of preventive services, indicators of chronic disease management, and health outcomes indicators attributable to lesser coverage interruption. The assessment plan should include the right comparison methods, such as pre-post implementation comparisons, matched control group designs, or difference-in-differences methods that consider changes in policies simultaneously as well as changes in time patterns that influence coverage patterns. Longitudinal enrollment databases, integrated claims and encounter data, member experience assessment surveys, administrative process metrics documented by workflow management systems are data infrastructure requirements that define a multidimensional performance assessment serving as the basis of ongoing system improvement and policy refinement initiatives in a variety of implementation settings.

6. Implementation Challenges and Technical Considerations

The introduction of the intelligent workflow systems to facilitate the continuity of coverage is associated with significant technical, organizational, and policy issues that need to be addressed carefully to ensure successful roll out and optimal performance. Integration with legacy systems is one of the main technical challenges, since most state Medicaid systems are on decades-old mainframe systems with limited integration capabilities, proprietary data structures and strict business logic that is difficult to change. The modernization strategies have to strike the right balance between the competing goals of still being in operational stability on the mission critical eligibility systems and the ability to add new automation features and integration interfaces. This heterogeneity of state information technology environment creates the need to adopt flexible implementation strategies to support the existence of different technical architecture, degrees of technical sophistication and resource availability across jurisdictions. Implementations of Health information exchange have thorny issues such as data standardization, semantic interoperability, governance complexity, sustainability that are subject to constant concerns and investment to overcome [1]. The problems of data quality and completeness often prove to be the obstacle during the implementation because intelligent workflow

systems require the presence of correct, timely, and comprehensive data supplied by various sources to be effective. Missing or old contact data, a lack of conformity in data format between systems, and lack of coverage of external data sources may significantly affect system performance and necessitate investment in data cleansing, standardization and enrichment operations.

Another implementation dimension that is of critical significance is the change management in organizations because the automation of the workflow fundamentally transforms the roles, duties, and operational procedures of the eligibility workers, supervisors, and program administrators. Effective implementations should be supported by thorough training initiatives, effective communications about system features and constraints and properly organized change management strategies that account the workforce issues and ensure an organization develops the capacity to harness the new technological strengths to their advantage. The Medicaid Information Technology Architecture system accentuates the necessity of alignment of business architecture; the technical solutions should respond to business program needs and operational demands and meet the policy differences and administrative systems of states [2]. The privacy and security issues require strong consideration during the design and implementation of the system due to the sensitivity of the personally identifiable data including the protected health information handled by the eligibility systems and heavy regulation that the Health Insurance Portability and Accountability Act, the Data sharing agreements offered by the Internal Revenue Service and state privacy laws have. Technical architecture should have strong access control, encryption, audit logging facilities, and incident response systems, which reduce the harm to the beneficiary data and allow legal systems to operate properly. The differences in state Medicaid program sets, optional eligibility avenues, and procedural mandates create a problem in policy alignment since what appears to be a minor change at jurisdiction level, requires a significant amount of system configuration to capture policy parameters at a particular jurisdiction. The dynamism of the coverage policy, which involves numerous changes in legislation and regulations that impact standards of eligibility, and procedural requirements, necessitates dynamic system designs that can be easily reconfigured without undergoing massive custom design. Financial sustainability is a long term implementation aspect in that systems need to have the constant investment on maintenance, improvements and technology upgrades which have

to balance with the competing financial priorities such as budgets and changing federal funding sources on administrative processes. These multifaceted issues can only be tackled through concerted efforts by the technology vendors, state agencies, federal partners, and policy stakeholders to come up with implementation roadmaps that

prioritize activities in the right sequence, allocate resources where they are needed and ensure the momentum toward coverage continuity goals despite the unavoidable challenges that may arise along the complex system transition that cuts across years and organizational boundaries.

Table 1: Policy Requirements and Implementation Challenges for Cross-Program Coverage Coordination [2][4]

Policy Component	Federal Requirement	Implementation Challenge	State Discretion Level
Application Process	Single streamlined application	Point-in-time vs. annual income reconciliation	Moderate
Income Standard	Modified Adjusted Gross Income (MAGI)	Premium tax credit coordination	Low
Data Exchange	Standardized protocols	System interoperability gaps	High
Continuous Eligibility	12-month guarantee for children/postpartum	Procedural verification requirements	High
Renewal Processes	Ex parte renewal priority	Data source integration	Moderate
Work Requirements	Reporting compliance	Administrative burden increase	High
Premium Tax Credits	Federal subsidy alignment	Eligibility determination divergence	Low
Provider Taxes	Threshold compliance	Revenue impact on state budgets	Moderate

Table 2: AI and Machine Learning Capabilities in Automated Eligibility Verification Systems [5][6]

Technology Application	Data Sources Integrated	Processing Capability	Accuracy Benchmark	Implementation Maturity
Automated Data Verification	SNAP, IRS, wage databases	Ex parte renewal automation	High	Advanced
Natural Language Processing	Document uploads	Structured data extraction	Very high	Intermediate
Pattern Recognition	Historical enrollment data	Real-time criteria processing	High	Advanced
Predictive Churn Models	Multiple risk indicators	Coverage loss forecasting	Moderate-high	Emerging
Income Trend Analysis	Tax returns, wage records	Volatility pattern detection	High	Intermediate
Household Composition	Administrative records	Member relationship verification	High	Advanced
Tax Status Verification	IRS data feeds	Filing status confirmation	Very high	Advanced
Contact Currency Assessment	Multiple databases	Communication risk evaluation	Moderate	Intermediate

Table 3: Business Process Management Platform Capabilities for Coverage Continuity Workflows [7][8]

Platform Capability	Functional Component	Automation Level	Integration Requirement	User Impact
Process Modeling	Workflow design tools	Semi-automated	Low	Caseworker efficiency
Document Ingestion	NLP-enabled classification	Fully automated	Moderate	Reduced processing time
Member Portal	Self-service functionality	User-initiated	Moderate	Enhanced autonomy
Agent Assistance	Context-aware prompts	Automated	Low	Decision consistency
Data Consolidation	360-degree member view	Automated	High	Holistic understanding
External	FHIR/API	Automated	High	Ecosystem coordination

Integration	connectivity			
Analytics Dashboard	Performance monitoring	Real-time	Moderate	Process optimization
Configuration Management	Policy parameter adaptation	Semi-automated	Low	Jurisdictional flexibility

Table 4: Multidimensional Performance Metrics for Coverage Continuity Assessment [9][10]

Metric Category	Specific Indicator	Measurement Frequency	Data Source	Stakeholder Priority
Coverage Churn	Loss and re-enrollment rate	Monthly	Enrollment database	High
Renewal Success	Ex parte completion percentage	Monthly	Workflow system	High
Renewal Success	Beneficiary-action completion	Monthly	Workflow system	High
Transition Efficiency	Average days for program transfer	Weekly	Process metrics	Moderate-high
Administrative Cost	Per-transition expense	Quarterly	Financial system	Moderate
Automation Rate	Percentage automated determinations	Monthly	Workflow system	High
Health Outcomes	Preventive service utilization	Quarterly	Claims data	High
Member Experience	Satisfaction survey scores	Semi-annually	Survey platform	Moderate

7. Conclusions

The advancement of intelligent workflow systems represents transformative potential for addressing coverage continuity challenges across Medicaid, CHIP, and ACA Marketplace programs serving vulnerable populations. Automated eligibility determination through artificial intelligence and machine learning technologies substantially reduces procedural disenrollment while accelerating processing timelines through sophisticated data integration and verification algorithms. Predictive analytics capabilities enable proactive identification of beneficiaries facing elevated coverage loss risks, facilitating targeted interventions that prevent gaps before occurrence. Business Process Management platforms provide comprehensive orchestration infrastructure coordinating complex multi-system workflows across eligibility engines, document management systems, and external data sources. Evaluation frameworks encompassing coverage churn metrics, renewal success indicators, transition efficiency measurements, and health outcome assessments enable multidimensional performance monitoring essential for continuous system optimization. Implementation success requires addressing substantial technical challenges including legacy system integration, data quality management, and standards-based interoperability while simultaneously managing organizational change through workforce development and stakeholder engagement. The integration of

advanced automation capabilities with person-centered design principles and evidence-based policy frameworks positions intelligent workflow systems as critical infrastructure for achieving coverage continuity objectives, advancing health equity, and enhancing healthcare access for millions of Americans dependent on public coverage programs nationwide

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- **Ethical approval:** The conducted research is not related to either human or animal use.
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References

- [1] David W Bates, "Health Information Technology and Care Coordination: The Next Big Opportunity for Informatics?" National Library of Medicine, 2015. [Online]. Available: <https://pmc.ncbi.nlm.nih.gov/articles/PMC4587058/>
- [2] Medicaid.gov, "Medicaid Information Technology Architecture (MITA),". [Online]. Available: <https://www.medicaid.gov/medicaid/data-systems/medicaid-information-technology-architecture>
- [3] Brian Stamm et al., "Challenges and Policy Considerations of the Medicaid Unwinding for People with Disabilities," PubMed, 2025. [Online]. Available: <https://pubmed.ncbi.nlm.nih.gov/40011417/>
- [4] Congressional Budget Office, "Federal Subsidies for Health Insurance Coverage for People Under 65: 2020 to 2030,". [Online]. Available: <https://www.cbo.gov/system/files/2020-09/56571-federal-health-subsidies.pdf>
- [5] Foreseemed, "Artificial Intelligence in Healthcare,". [Online]. Available: <https://www.foreseemed.com/artificial-intelligence-in-healthcare>
- [6] Foreseemed, "Medical Insights: Predictive Analytics in Healthcare,". [Online]. Available: <https://www.foreseemed.com/predictive-analytics-in-healthcare>
- [7] Medicaid.gov, "Medicaid Enterprise System Implementation Forecast,". [Online]. Available: <https://www.medicaid.gov/medicaid/data-systems/medicaid-enterprise-system-implementation-forecast>
- [8] Teresa Zayas-Cabán, Saira Naim Haque, and Nicole Kemper, "Identifying Opportunities for Workflow Automation in Health Care: Lessons Learned from Other Industries," National Library of Medicine, 2021. [Online]. Available: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8318703/>
- [9] European Patients' Forum, "Defining and Measuring Access to Healthcare: the Patients' Perspective," 2016. [Online]. Available: https://www.eu-patient.eu/globalassets/policy/access/epf_position_defining_and_measuring_access_010316.pdf
- [10] Sayeh Nikpay, Zhanji Zhang, and Pinar Karaca-Mandic, "Return on investments in social determinants of health interventions: what is the evidence?" National Library of Medicine. 2024. [Online]. Available: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11425055/>