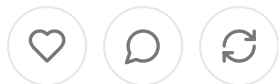


Real-Time Healthcare Payment Settlement Mechanics

OCT 23, 2024 • PAID



Share

Table of Contents

1. Prerequisites and Foundation

- Standardized Data Formats
- Health Information Exchange Networks
- Eligibility Verification Systems
- Practice Management and EHR Integration
- Value-Based Care Models

2. End-to-End Payment Workflow

- Patient Registration and Eligibility
- Service Delivery and Documentation
- Real-Time Claim Generation
- Immediate Claim Submission
- Automated Claim Adjudication
- Real-Time Pricing and Contract Application
- Instant Payment Determination
- Real-Time Funds Transfer

- Automated Reconciliation
- Patient Responsibility Collection
- Reporting and Analytics

3. Banking Relationships

- Payer Banking Requirements
- Healthcare Provider Banking Needs
- Payment Processor/Clearinghouse Relationships
- Patient Banking Considerations

4. Collateral Requirements

Payer Collateral Structures

- Cash Reserves
- Investment-Grade Bonds
- Reinsurance Agreements
- Corporate Guarantees

Healthcare Provider Collateral

- Advanced Payment Programs
- Loan Collateral Requirements

Payment Processor Collateral

- Operating Reserves
- Performance Bonds
- Insurance Requirements

5. Risk Mitigation Strategies

- Real-Time Monitoring Systems
- Tiered Payment Thresholds
- Dynamic Collateral Adjustments
- Regulatory Compliance Mechanisms

6. Financial Products and Innovation

- Healthcare Payment Guarantees
- Provider Bridge Financing
- Patient Payment Solutions

7. Technical Infrastructure

- API Integration Framework
- Data Standardization
- Blockchain Implementation (yes it's still relevant)
- AI and Machine Learning Applications
- Cloud Computing Architecture
- Payment Systems Integration

8. Regulatory Framework

- Healthcare-Specific Banking Regulations
- Cross-Border Considerations
- Data Privacy and Security Requirements
 - Encryption Standards
 - Authentication Requirements

- Security Audits
- Other Industry Regulations
 - HIPAA/HITECH Compliance
 - Quality Measure Reporting

9. Implementation Challenges

- Industry Adoption Barriers
- Legacy System Integration
- Data Security Concerns
- Standardization Requirements
- Change Management
- Regulatory Alignment

10. Conclusion

Stakeholder Benefits

- Provider Advantages
- Payer Benefits
- Patient Impact

Future Outlook

- Healthcare Banking Evolution
- Industry Transformation
- Next Steps

Breaking down the details...

1. Prerequisites:

- Standardized data formats (e.g., HL7 FHIR)
- Secure, interoperable health information exchange networks
- Real-time eligibility verification systems
- Integrated practice management and electronic health record (EHR) systems
- Adoption of value-based care models

2. Step-by-step workflow:

Patient registration and eligibility verification

- Patient arrives and provides insurance information
- Practice management system queries payer's eligibility verification API in real time
- System confirms coverage, deductibles, co-pays, and benefit limits

Service delivery and documentation:

- Provider performs medical service
- Clinical data is entered into EHR in structured format (e.g., SNOMED CT, ICD-10)
- EHR system generates appropriate billing codes (e.g., CPT, HCPCS)

Real-time claim generation:

- Practice management system combines clinical data, billing codes, and patient information
- Claim is automatically generated in standardized format (e.g., X12 837)
- Built-in rules engine checks for coding errors and compliance issues

Immediate claim submission:

- Claim is electronically submitted to payer's system via secure API
- Submission includes all necessary supporting documentation

Automated claim adjudication:

- Payer's system receives claim and supporting documentation
- AI-powered adjudication engine processes claim using predefined rules
- System checks for:
 - * Patient eligibility
 - * Provider network status
 - * Service medical necessity
 - * Correct coding and bundling
 - * Duplicate claims
 - * Fraud detection

Real-time pricing and contract application:

- System applies appropriate fee schedule or value-based contract terms
- Calculates allowed amount, patient responsibility, and payer portion

Instant payment determination:

- System generates an Explanation of Benefits (EOB) or remittance advice
- Payment amount is calculated based on adjudication results

Real-time funds transfer:

- Payer's financial system initiates immediate electronic funds transfer (EFT)
- Payment is sent via ACH network or real-time payment rail (e.g., RTP, FedN

- Funds are deposited directly into provider's bank account

Automated reconciliation:

- Provider's practice management system receives payment notification
- System automatically matches payment to claim
- Account is updated, and patient balance (if any) is calculated

Patient responsibility collection:

- If patient has remaining balance, notification is sent immediately
- Options for immediate payment via credit card, mobile wallet, or payment p are presented

Reporting and analytics:

- Real-time data on claims, payments, and denials is captured
- Analytics tools provide insights on revenue cycle performance, clinical outcomes, and quality metrics

3. Key Banking Relationships

Payers (Insurance Companies)

- Require partnerships with banks that can handle high-volume, real-time transactions
- Need banks with robust API interfaces for seamless integration
- May need multiple banking relationships to ensure redundancy and 24/7 availability

Healthcare Providers

- Need accounts capable of receiving instant payments
- Require banks with advanced reconciliation and reporting capabilities

- May benefit from banks offering specialized healthcare financial services

Payment Processors / Clearinghouses

- Act as intermediaries between payers, providers, and banks
- Need strong relationships with multiple banks to facilitate cross-bank transactions
- Require high-security, high-volume transaction capabilities

Patients

- While not directly involved in the main payment flow, patients' banks need to support real-time payments for instant co-pay or deductible transactions

4. Collateral Requirements

Payers (Insurance Companies)

Banks may require:

- Cash reserves: A percentage of average daily payment volume held in a secured account
- Investment-grade bonds: High-quality, liquid securities to cover potential payment obligations
- Reinsurance agreements: To mitigate the risk of large, unexpected claim volume
- Corporate guarantees: From parent companies for smaller or subsidiary insurers

Healthcare Providers

- Generally, providers would be receiving payments rather than needing to provide collateral
- However, for advanced payment or loan programs, banks might require:

- Accounts receivable as collateral

- Liens on medical equipment or property
- Personal guarantees from practice owners (for smaller providers)

Payment Processors / Clearinghouses

Banks may require:

- Cash reserves: Similar to payers, a percentage of daily transaction volume
- Performance bonds: To ensure ability to meet obligations
- Error and omissions insurance: To cover potential mistakes in payment processing

5. Risk Mitigation Strategies

Real-time Monitoring and Alerts

- Banks would likely implement systems to monitor transaction patterns and anomalies
- This could include AI-driven fraud detection systems

Tiered Payment Thresholds

- Transactions below certain thresholds might be processed instantly
- Larger transactions may require additional verification or hold periods

Dynamic Collateral Adjustments

- Collateral requirements could be adjusted in real-time based on transaction volume, market conditions, and risk assessments

Regulatory Compliance Checks

- Automated systems to ensure all transactions comply with healthcare regulations (e.g., HIPAA) and financial regulations (e.g., AML laws)

6. Potential New Financial Products

Healthcare Payment Guarantees

- Banks could offer guarantee products to payers, ensuring that providers receive payment even if the payer faces temporary liquidity issues

Provider Bridge Financing

- Short-term, low-interest loans to providers to cover any gaps between service provision and payment receipt

Patient Payment Plans

- Banks could offer instant approval for payment plans, allowing patients to pay their portion over time while providers receive full payment upfront

7. Technology Infrastructure

API Integration:

- RESTful APIs or FHIR-based APIs for real-time data exchange
- OAuth 2.0 for secure authentication and authorization
- API gateways for traffic management and security

Data standardization:

- Use of FHIR resources for clinical data
- X12 EDI standards for claims (837) and remittance advice (835)
- ICD-10, CPT, HCPCS for coding
- SNOMED CT for clinical terminology

Blockchain for immutable record-keeping:

- Distributed ledger to record all transactions
- Smart contracts to automate payment rules and value-based care agreements

AI and Machine Learning:

- Natural Language Processing (NLP) for clinical documentation analysis
- Predictive models for fraud detection and medical necessity determination
- Continuous learning to improve coding accuracy and reduce denials

Cloud computing:

- Scalable infrastructure to handle real-time processing
- Microservices architecture for modular and maintainable systems

Real-time payment systems:

- Integration with emerging real-time payment networks (e.g., RTP, FedNow)
- Support for multiple payment methods (ACH, credit card, digital wallets)

8. Regulatory Considerations

Healthcare-Specific Banking Regulations

- New regulations may be needed to govern the unique aspects of real-time healthcare payments

Cross-Border Considerations

- For health systems operating across national borders, banks would need to navigate international payment regulations

Data Privacy and Security

- Banks would need to ensure compliance with healthcare data protection law (e.g., HIPAA) in addition to financial data protection regulations

- End-to-end encryption for data in transit and at rest
- Multi-factor authentication for system access
- Regular security audits and penetration testing

Other Healthcare Specific Regulations

- Built-in checks for HIPAA, HITECH, and other healthcare regulations
- Automated reporting for quality measures (e.g., HEDIS, MIPS)

9. Challenges and considerations:

- **Industry-wide adoption:** Requires collaboration between providers, payers, technology vendors
- **Legacy system integration:** Many healthcare organizations still use older systems that may not support real-time capabilities
- **Data privacy and security:** Ensuring compliance with regulations while enabling real-time data exchange
- **Standardization efforts:** Continued work needed on data standards and interoperability frameworks
- **Change management:** Training staff and updating workflows to leverage real-time settlement
- **Regulatory alignment:** Potential updates to regulations to support and govern real-time settlement processes

10. Conclusion

Implementing real-time settlement in healthcare would require significant collaboration between financial institutions and healthcare stakeholders. Banks need to develop new products, risk management strategies, and technological capabilities to support this system. The collateral requirements and banking relationships would need to be carefully structured to balance the need for financial

security with the goal of enabling smooth, instant transactions. As the healthcare payment landscape evolves, we may see the emergence of specialized "healthcare banks" that are uniquely positioned to handle these complex requirements.

By implementing this real-time settlement system, healthcare providers could significantly reduce accounts receivable days, improve cash flow, and reduce administrative costs associated with claims processing and follow-up. Payers would benefit from increased efficiency, reduced processing costs, and improved provider relations. Patients would gain transparency into their financial responsibility and more options for managing their healthcare costs.

[< Previous](#)[Next >](#)

Discussion about this post

[Comments](#)[Restacks](#)

Write a comment...