Patient Engagement with Amazon Pinpoint and Amazon Personalize

Targeted and meaningful patient engagement on AWS

1. For ease of interaction, patients and payers can use a number of optimized channels in this solution, with this example describing how mobile apps, digital therapeutics devices, chatbots, or voice-enabled devices can be used for key interactions such as patient registrations, appointments, payer status alerts, prescriptions, medicine distribution, wellness advice, etc.

2. Amazon Cognito uses Web-Identity Federation authentication to grant access to the system using familiar methods like a patient’s Facebook, Amazon, or Google credentials.

3. Amazon Kinesis Data Streams, a scalable and durable real-time streaming service, decouples the system, provides event-driven messaging, and supports an extended microservices architecture.

4. Patient data, attributes, transactions, and session state are encrypted at-rest and securely managed in the high-performance and scalable Amazon DynamoDB NoSQL datastore.

5. Patient symptoms and medical notes are analyzed and tagged for automated decision making by Amazon Comprehend Medical supporting next best actions.

6. Amazon Kinesis Data Streams triggers an AWS Lambda function that sends notifications to subscribers via an API or via Amazon Pinpoint. Amazon ElasticSearch enables the analysis and visualization of data across the solution.

7. Raw and curated data generated through every channel is ingested into the AWS Lake Formation data lake for processing and analytics, allowing for combined external datasets and finding causation and correlation in data using Amazon SageMaker ML models.

8. Amazon Personalize trained model is executed against any new patient behaviors or insights in real-time to place patients in a more suitable segmentation in real-time.

9. After a patient is segmented into one or more groups, Amazon Pinpoint engages patients with relevant content on their preferred channel.