

Startup Profile | Carbon Health

Carbon Health is a tech-enabled healthcare provider that delivers primary care, urgent care, mental health care, and specialty care, all seamlessly through in-person clinics and telemedicine. Carbon's cloud technology stack and cloud-based clinical apps have turned the industry on its ear by using machine-based learning to surface diagnoses, in-app messaging to get second opinions, integration with electronic prescribing and labs, and detailed analytics for every step of the patient and doctor interaction.

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We wanted more fine-grained controls around security, user access and (HIPAA) compliance that extends to images and source code. AWS provides that.”

Maksim Horbul, Staff DevSecOps, Carbon Health

Customer Challenges

Carbon Health was seeing exponential growth in monthly patient visits, largely driven by its pandemic testing resources, omnichannel care offerings, and efficient in-house electronic health records (EHR). The Carbon EHR, telemedicine, and prescription management services ran on an architecture that could not scale as efficiently, quickly, nor cost-effectively as their growth demanded. Scaling from a few thousand patients a day, to a peak of more than 15,000 per day, required new answers.

Reasons for Migration

- **Broadest market reach:** Availability of AWS technical and business support teams
- **Migration support programs and resources:** Total cost of ownership reduction through AWS resources
- **Most comprehensive and performant infrastructure:** Superior database performance
- **Comprehensive security and compliance support:** More effective and precise controls for security and user access

AWS Solution

The AWS account team learned of technical blockers, scaling limits, architecture demands, and cost challenges in both engineering and hosting expenses. The AWS team then provided a thorough exploration of infrastructure and platform solutions that would allow Carbon Health to meet its compliance, scaling, and cost requirements.



40% reduction in cloud services expense



3X throughput increase in database performance



Improved cloud performance enabling treatment of 1 million patients and COVID-19 testing for more than 2 million patients

AWS Services



Amazon API Gateway



Amazon RDS for PostgreSQL



Amazon Aurora Serverless



Amazon S3



Amazon CloudWatch



Amazon SageMaker



Amazon Kinesis



AWS App Mesh



Amazon OpenSearch Service



AWS Lambda