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Case Study

Remote Patient Monitoring Through Secure EHR, Device & FHIR Integration

The Client

The client is a healthcare technology provider offering remote patient monitoring and clinical decision-support solutions for hospitals and clinics. Its platform consumes data from Electronic Health Records (EHRs) and connected devices to help care teams monitor patients, review clinical information, and make more informed decisions across distributed care settings.

Serving independent hospitals across the United States, the platform is designed to support comprehensive care by combining remote monitoring, automated clinical data collection, and algorithm-driven decision support in a single application.

The Challenge

The client needed to strengthen and continuously modernize an established remote patient monitoring platform while expanding integrations and protecting existing functionality. Complex third-party device connectivity, cloud infrastructure concerns, ongoing maintenance requirements, and new interoperability needs created pressure on reliability, security, and scalability.

- ✔ **Device Integration:** Complete complex third-party device integrations and reliably capture remote patient data.
- ✔ **Cloud Security:** Improve AWS infrastructure, instance management, and virtual private network configuration.
- ✔ **Platform Modernization:** Upgrade the application and dependencies without disrupting functional or integration workflows.
- ✔ **FHIR Interoperability:** Implement FHIR-based messaging and integration capabilities for new clients and connected systems.



Technology Environment

Telliant worked with the client to support the platform using the following technology environment:

WEB APPLICATION

- Python
- Django
- REST APIs
- D3.js

DATABASE

- PostgreSQL

CLOUD & INFRASTRUCTURE

- AWS
- Terraform

INTEROPERABILITY

- FHIR
- EHR Integrations
- Connected Devices

About Us

Telliant Systems, offers a diverse selection of custom software product development services, such as product strategy, software design, application development, QA/Testing, & application management services. Expert teams are available to develop web, enterprise, & mobile app, including iOS & Android development.

Solution Highlights

Telliant enhanced the platform as a secure, multi-tenant SaaS solution that connects EHR data, remote monitoring devices, clinical decision support, and administrative workflows.

- ✔ **Multi-Tenant SaaS:** Supported multiple organizations with role-based access and privilege controls.
- ✔ **Automated Clinical Data Flow:** Automated processes from patient creation through collection of data from multiple EHR sources.
- ✔ **Connected Device Integration:** Integrated devices including digital inhalers and additional devices used to capture and synchronize patient vitals.
- ✔ **Clinical Decision Support:** Enabled algorithm-driven alerts and decision support to help providers and clinic staff act on patient data.

Insights and Results

The enhanced platform strengthened connected care workflows by bringing EHR information, remote monitoring data, and decision-support capabilities into a more modern application environment.

- ✔ **Digital Inhaler Integration:** Captured inhalation activity, identified effective or ineffective inhalation, and supported clinical decision-support alerts.
- ✔ **FHIR-Based Exchange:** Enabled secure sending and receiving of clinical information using FHIR-based integration workflows.
- ✔ **Ongoing Releases:** Supported maintenance releases for existing customers while preserving platform functionality.

