Overview

This case study outlines how smartData designed and delivered a scalable CRM and reporting solution for a leading Australian-American genomics company. The client provides DNA-based health, wellness, and pharmacogenomic insights through accredited labs across Melbourne and Houston. With a global footprint spanning North America, Europe, and Asia, they required a centralized system to streamline patient engagement, lab workflows, genetic reporting, and accreditation compliance.

Problem Statement

The client struggled with fragmented workflows for genetic test orders, counseling sessions, and clinical reporting. Lack of integration across labs and inconsistent KPI visibility limited their scalability and compliance tracking. The goal was to consolidate CRM, reporting, and compliance into one intelligent system that could meet multi-region data privacy laws and lab accreditation standards (NATA, CAP, CLIA).

Solution

smartData implemented an end-to-end solution using Microsoft Dynamics 365 CE hosted on Azure, integrating genetic data processing, counseling coordination, and compliance tracking. A custom ASP.NET dashboard layer was built for stakeholder reporting. The system automated patient lifecycle management from test initiation to report delivery and audit logging for regulators.

Core Features

★ CRM & Workflow Automation

- Automated onboarding → lab processing → result delivery workflows
- Role-based dashboards for clinicians, counselors, and lab teams
- Tracking of test categories: pharmacogenomics, nutrigenomics, disease risk

★ Clinical Reporting & KPI Dashboards

- ASP.NET dashboards with metrics: turnaround time, counseling sessions, variant data
- SQL Server-based data modeling for fast reporting
- Audit-ready reports aligned with NATA, CLIA, and AABB standards

★ API Integration & Interoperability

- Bi-directional API connections to sequencing systems and EHRs
- Secure API endpoints for partner clinics to retrieve results
- Real-time event triggers for status updates and lab milestones

★ Scalable Cloud Deployment

- Azure-based secure architecture with automated backup and alerts
- Azure Functions for API gateway orchestration and notifications
- Designed for geographic scale (AU, US, UK, APAC) with region-aware configurations

Technical Challenges & Solutions

- Challenges	- Solutions
Securing sensitive genomic & health data	Encrypted storage, field-level security, and audit logs across all modules
Managing regional compliance complexity	Multi-region workflows and configuration in Dynamics 365 for AU, US, UK laws
Secure donations	Optimized reporting queries and asynchronous API integrations
Performance bottlenecks with large data	Shared dashboards and document version control across clinical teams
Coordinating clinical workflows	

Upsell Opportunities

Patient Portal: Direct access to reports, test history, and appointment bookings

AI Integration: Predictive analytics for drug-gene interactions and health risk scores

Telehealth: Embedded video sessions, integrated calendars, and post-consultation tracking

Conclusion

By implementing a unified CRM, clinical workflow automation, and compliance reporting solution, smartData successfully empowered the client to scale their genetic testing services globally while meeting stringent healthcare data and regulatory requirements. The platform has not only improved internal efficiency but also enhanced the accuracy, security, and delivery of genomic insights to clinicians and patients. This transformation positions the client to confidently expand across new markets with a robust, cloud-first architecture that supports future AI, telehealth, and patient engagement enhancements.

Screenshots