Healthcare

Capabilities & Offerings

Agenda

◆ Healthcare COE

◆ Healthcare Expertise

◆ IT Services & Focus Areas

◆ Digital Healthcare Services

◆ R Systems' Advantages

◆ Case Studies

Healthcare
COE

- 20+ Years of experience in Healthcare Services

- Experienced Engineers, Healthcare Domain Experts & Business Analysts

- Expertise in Standards & Regulatory Compliances – US FDA, MHRA, ICD – 10, HL7

- HIPAA & AAPC Certified Professional & Multi-specialty Coders

- 6-Sigma, SEI CMMi Level-5, ISMS & PCMM Level-5 Certified

- IT Service partner for the US Federal Government (Department of Healthcare Services)

Healthcare
Expertise

Payor

Payor   Provider

Life Science   MedTech

Payor

- Revenue Cycle Management

- AR systems

- Payor Analytics

- Electronic Billing (EDI) – Claims, Adjudication, Denials

- ACP Certified Coders

- Eligibility Checking

- Payment Processing/Collections

- ICD-10 Translation

- Working with ACO, HMO, Beacon

Healthcare
Expertise

Provider

Payor

Provider

Life Science

MedTech

Provider

- Practice Management system

- Patient Administration System

- EMR/ EHR/ PACS System

- Rx, LIS, RIS, CRM Systems

- Decision Support System

- Clinical Predictive Analytical System

- Interface Engine

- Interoperability - HIE

- Clinical Terminology Service

- HL7, ICD-10, CPT Standards.

Healthcare
Expertise

Payor

Provider

**Life Science**

MedTech

MedTech

- Digital Transformation Solutions

- Medical Imaging Solutions

- AI/ML & Imaging Analytics

- Clinical Data Engineering

- Patient & Physician Engagement

- Telehealth

- Clinical Decision Support Systems

- Health IT Interoperability
  (IoT device integration & healthcare data interoperability)

Healthcare
Expertise

Payor

Provider

Life
Science

MedTech

Life Science
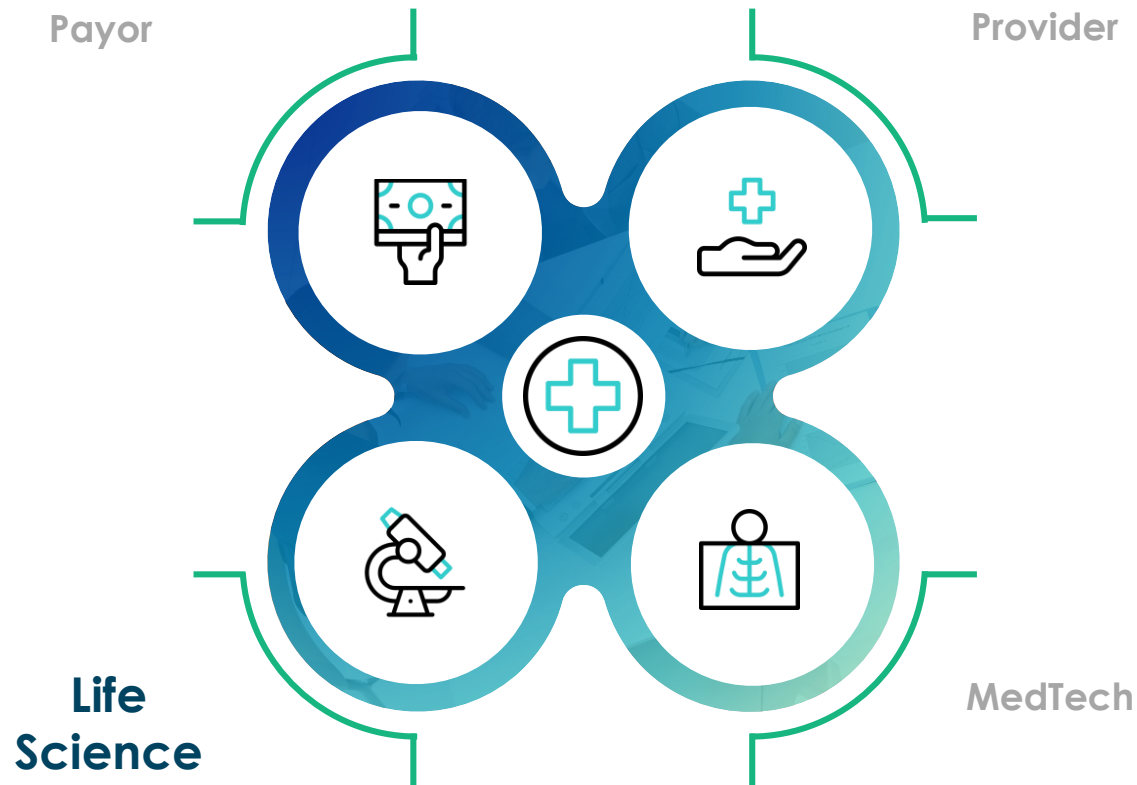
- Data Management

- Electronic Case Report

- Data Validation

- Pharmaceutical Analytics

- Behavioural Health Management

- Wellness & Disease Management

- Lab Automation

- Patient Engagement – Remote Patient Monitoring, Mobile Apps & Patient Engagement Solutions

Healthcare IT Services

⚙ Service Offerings

- **IT Consulting**
- **Development** - Healthcare Software and Products
- **Product Engineering**
- **UI & UX**
- **Migration & Modernization**
- **Integration Brokers** - EHR, EMR with PACS
- **Testing** - Manual, Automation, Compliance
- **Network & Application Security**

Focus Areas

Regulatory

- HIPAA Compliance
- NHS UK Compliance
- ICD Transition/ Migration
- Health Insurance Exchanges
- EHR/CLIA Certification
- HL7, IHE, HITSP Standards
- Meaningful Use (MU) Implementation
- US Federal/State Compliances
- GDPR Compliance

Digital Transformation

- IPAEHR/EMR/Integration with LIS & RIS
- AI & Machine Learning
- Cloud Enablement
- Telehealth
- Mobility Solutions

Competencies

- Practice Management System
- Hospital Management System
- EHR/EMR/PACS/LIS/RIS Integrations
- Portals – CRM, Physician Portal, Patient Portal

- Scheduling & Tracking System
- Claims Adjudication
- Decision Support System
- HEDIS Dashboards
- Claims Management

HIPAA Compliance

Transaction & Code Set Compliance

- Compliance with CPT-4 and ICD-9CM
- Gearing Up for ICD 10 transition
- Standard Electronic Transaction with payors
- [837, 835, 274/275, 271/272]

Security Compliance

- Documented & implemented security policy
- Layered physical and network security
- Access controlled enclosures
- CCTV coverage of entire production area
- Restricted internet access, printer access
- All data storage devices inoperable
- Encryption [VPN]
- Independent audit by clients

Business Agreement with Covered Entity

- Security and privacy practice and documentation is a super-set of HIPAA Business Associate Agreement

Privacy Compliance

- Audit trail for all information access
- NDA with employees working on PHI
- Employee training
- Comprehensive general liability coverage

HL7 Implementation

Experience in Handling
(Across Healthcare Industry)

- **Transfer Protocols :** HTTP, TCP/IP, Database, Email, File System, PDF, (S)FTP, DICOM, Web Services (SOAP)
- **Data Formats:** HL7 v2.x, HL7v3, CDA, X12, CCR, XML, DICOM, EDI
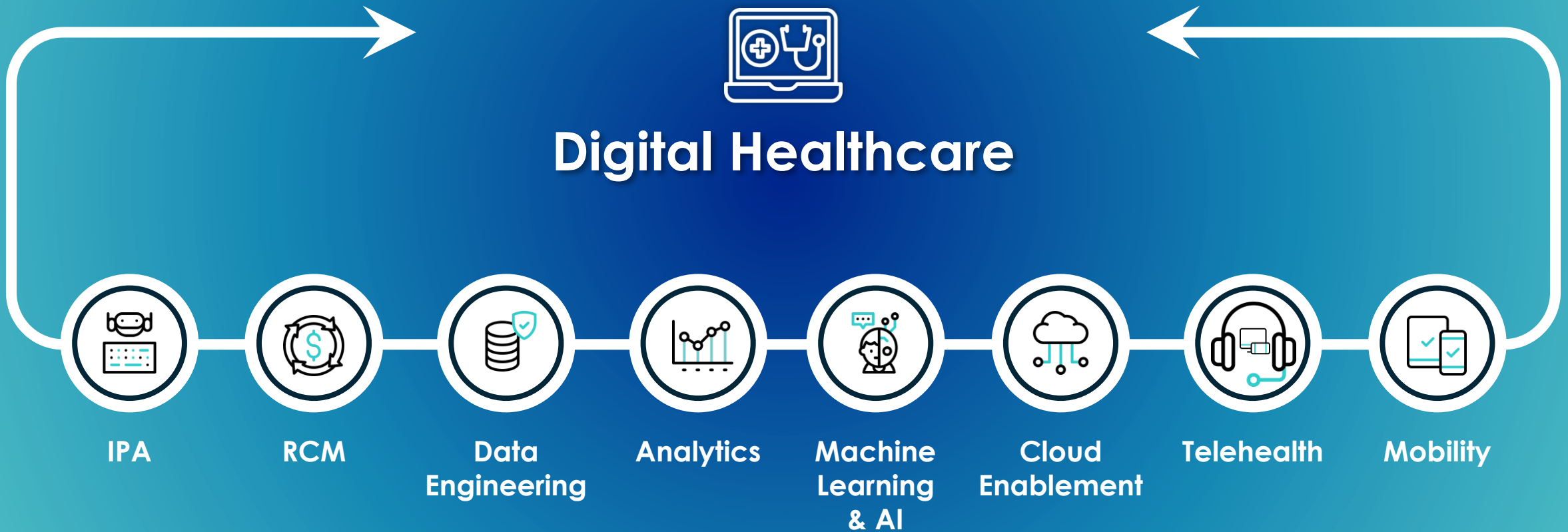- **Interface Engine:**

HL7® FHIR®
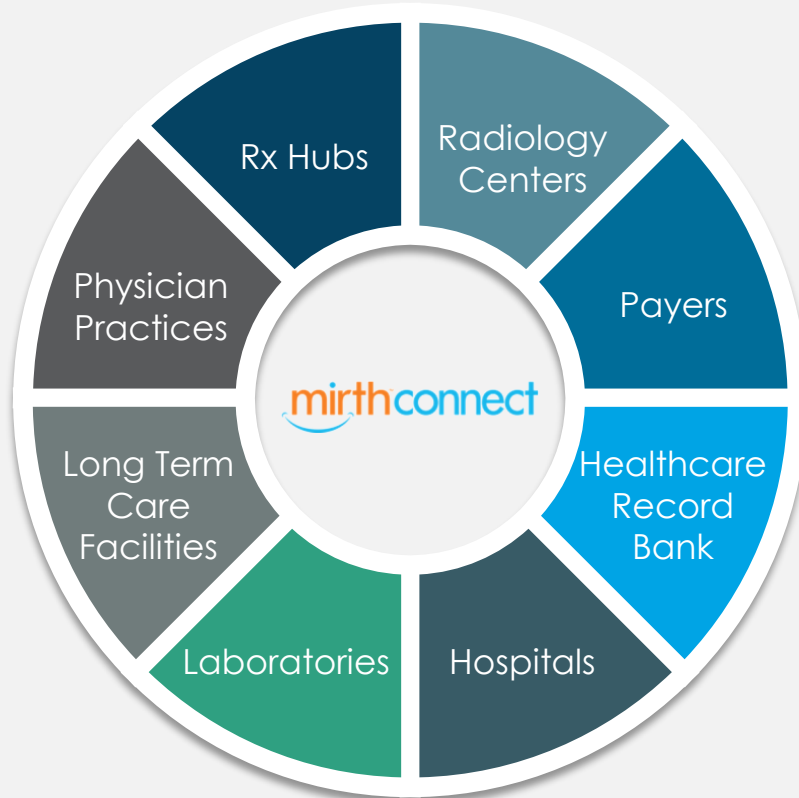
Use Cases

- Patient Care Coordination

- Electronic Health Record (EHR) Integration

- Public Health Reporting

- Medical Device Integration

- Clinical Research

- Telemedicine

Intelligent Process Automation (IPA)

Key Business Use Cases

- New Patient Registration
- Appointment Scheduling
- Care Coordination
- Payment Posting
- AR (Account Receivable) , Patient AR
- Claim Validation
- Claim Adjudication
- Claim Logging
- Claim Approvals & Denials
- Data Management
- Reports & Dashboards
- Supply Chain
- R&D

Expertise

Cognitive & Enterprise automation
- Intelligent automation comprising of BOTS collaborations

IPA Analytics
- Real-time process statistics & operational analytics

Operational optimization
- 'Reduce errors & costs' by leveraging human intelligence

Workforce management
- Bots that can be controlled by the business operations team(s)

IPA ROI
- Productivity gain by 80% with 50% saving on cost to begin

Benefits

Improved Regulatory Compliance

Easy Scalability

Higher Speed to Market

24*7 Workflows

Revenue Cycle Management (RCM)

Our end-to-end RCM services include

Medical Coding

- CPT4
- ICD10
- Modifiers
- HCPCS
- Coding Audits
- Coding Denials
- Documentation Review
- Provider Feedback
- Healthcare Analytics

Medical Billing

- Scheduling
- Eligibility
- Provider Credentialing
- Demographics Entry
- Preauthorization
- EFT/ERA Processing
- Claims Creation & Submission
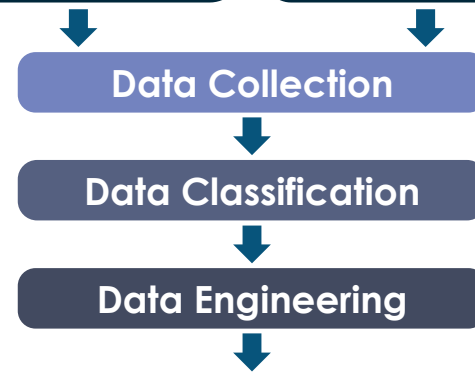- Adjustments
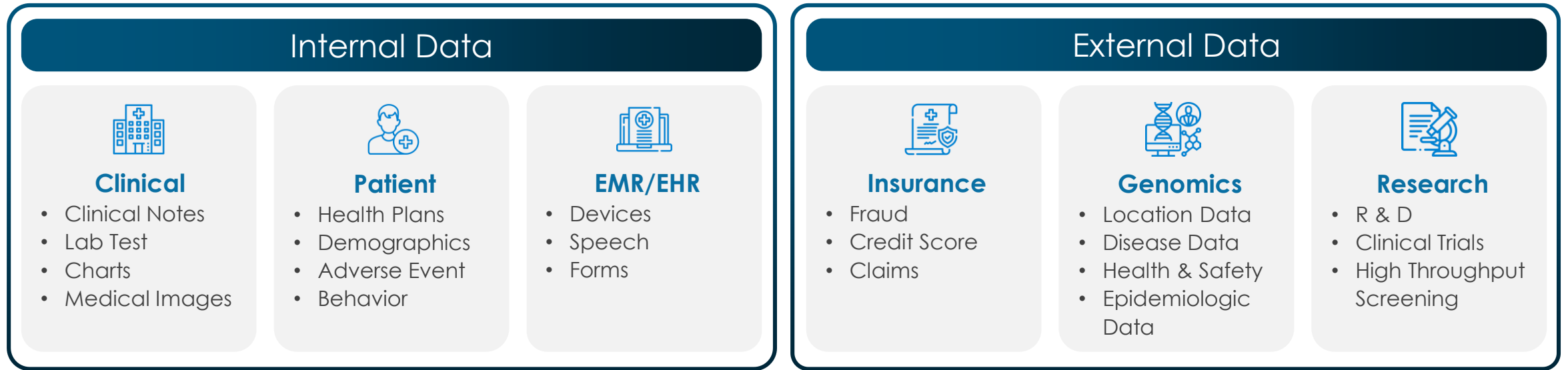- Payment Posting
- Denials Capture

Accounts Receivable Management

- Follow-ups
- Denial Management
- Appeals & Resolution
- Eligibility
- Pre-Cert
- Credit Balance & Refunds
- Patient Refunds
- Insurance Refunds
- Underpayment
- Post Collection

Data Engineering

Internal Data

Clinical
- Clinical Notes
- Lab Test
- Charts
- Medical Images

Patient
- Health Plans
- Demographics
- Adverse Event
- Behavior

EMR/EHR
- Devices
- Speech
- Forms

External Data

Insurance
- Fraud
- Credit Score
- Claims

Genomics
- Location Data
- Disease Data
- Health & Safety
- Epidemiologic Data

Research
- R & D
- Clinical Trials
- High Throughput Screening

Data Collection

Data Classification

Data Engineering

Our Offerings

- Data Cleansing
- Advanced Analytics
- Reporting Application
- PDF Data Extraction

- Self Service Data Preparation
- Web Scraping
- Business Intelligence
- Optimization of Database

- ETL, Data Warehousing, Data Lake Consulting & Implementation
- Datasets & Data Visualization
- Cognitive Computing

Analytics

Areas Addressed

Clinical Side of Business

- **Prevent Hospital** infections
- **Risk Driven** Treatments
- **Precision** Medicines
- **Reduced** Length of stay
- **Prevent** Readmissions
- **Rehab &** After care

Revenue Side of Business

- **Write** Offs
- **Claim Denial** Classification
- **AR Resolutions** Predictions
- **Propensity** to pay

Benefits

CLINICAL

Reduced Readmission

Improved Patient Care

Save Medical Service Cost

Reduced Length of Stay

Risk-driven Treatment

Discharge Prioritization

Streamline Operations Workload

Reduced Cost of Care

Rehab and After Care

REVENUE

Revenue Optimization

Predictive Modelling

Improved revenue collection

Optimized Resources

Pre-planning, Bird's Eye View

Early Resolution

Manage Claim Denial and Delays

Risk-based Evaluation

Learn Patient's Payment History

Patient Data + **Healthcare Data Analytics** + **Clinical Insights** = **Targeted Action**

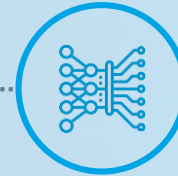# Machine Learning & AI Offerings

R SYSTEMS

Unstructured Data Analysis
- Text Mining & NLP, Speech Recognition, Image Analytics & Q&A Bots

Search/Retrieval
- Medical Information Retrieval Systems for Healthcare Records using Machine Learning

IoT
- Real-time Monitoring of Patients with Sensors & Wearables

Optimization
- AI optimizes the system by Automating Pre-authorizing Insurance, following-up on Unpaid Bills, Maintaining Record, etc.

Patient Lifecycle & Experience
- Using Machine Learning, handle standard repetitive tasks to reduce time & effort from doctors and patients

Predictive Analytics
- Identify Patterns & Trends to predict Health Conditions, Diagnostics or Particular Treatment using Machine Learning & AI

Cloud Enablement

Major Offerings

- ❑ **Enterprise Consulting** – Cloud Readiness Assessment, DevOps Transformation
- ❑ **Cloud Migration & Native Development** – Application Migration & Modernization
- ❑ **Cloud Managed Services** – 24*7 or Business-hour cloud support
- ❑ **Infrastructure Services** – Infrastructure maintenance/capacity planning

Cloud Applications

- eCommerce Healthcare
- M-Health Application
- Data Warehouse Solution
- Medical Education
- Telehealth
- PHR,EHR & EMR
- Clinical Decision Support System
- Healthcare Analytics
- Healthcare Information System

Key Benefits

- Scalability
- Lowered Cost
- Easy Interoperability
- Enhances Security
- Protects from Disasters
- Faster Decision-Making
- Better Access to Health Data
- Improve Patient Experience
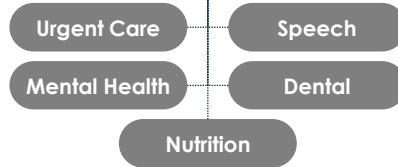- Manage Financial Resources
- Personalized Care & Research

aws

Google Cloud

Microsoft Azure

Telehealth

Telehealth

Patient to Provider

Patients finds and initiate consultation through a platform

- Urgent Care
- Speech
- Mental Health
- Dental
- Nutrition

Provider to Provider

Connects multiple provider to one another in the care of a patient

- Skilled Nursing
- Hospital
- Visiting Nurse
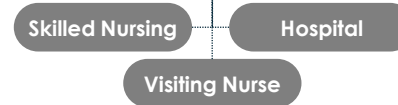
Provider to Patient

Connects care providers directly to their existing patients

- Primary Care
- Specialist
- Mental Health
- Dental
- Speech
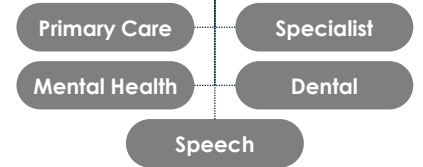
Solution Offerings

Basic
- Remote Video Visit
- Follow-up Visit
- HIPAA Compliant

Better
- Telemedicine Mobile App
- Appointment Management
- Messaging
- EHR Integration

Best
- Medical Device Integration
- Billing Integration
- Teleconsultation Ecosystem
- E-Health Education Application
- Health & Records Tracking Application

Mobility Solutions

R SYSTEMS

Patient Apps

- **Patient Communication**
- **Medical Reports**
- **EHR & EMR**
- **Medicine Reminder**
- **Telehealth**

- **Medical Personnel Communication**
- **e-Prescription**
- **Appointment & Scheduling**
- **Medical Training & Education**
- **e-Commerce**

Provider Apps

Technology Stack

iOS | Kotlin | SWIFT | Java | React | Android Studio | Xcode

android | Objective - C | JS | IONIC | Xamarin | jQuery mobile framework.
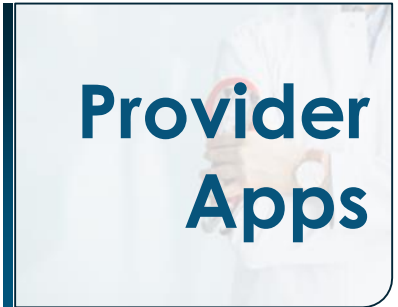
User Experience - Portages Mobile Application

Overview

- The client is a behavioral health technology company
- We developed mobile app with Content Management System to control data in a secured manner
- Facilitated practitioner to enroll patients and view survey reports to suggest a treatment plan
- App provided admin to view the aggregated data at the population level and manage the subscribers
- Enhanced the mobile marketing experience by integrating the woo-commerce subscription plan for users
- Enhanced user experience with the more flexible and interactive touch operation mode
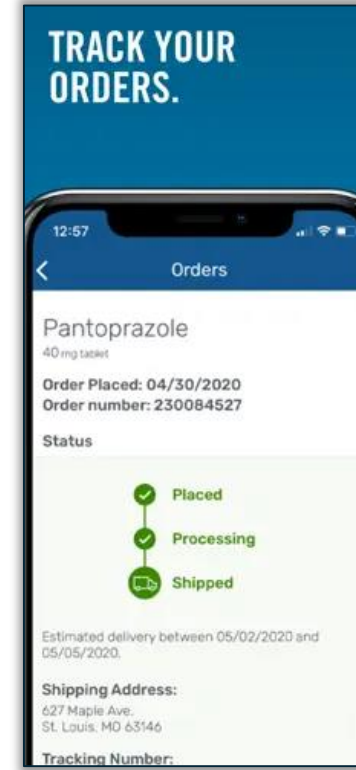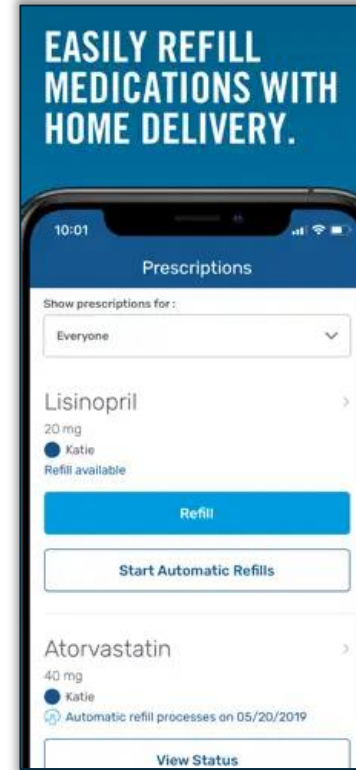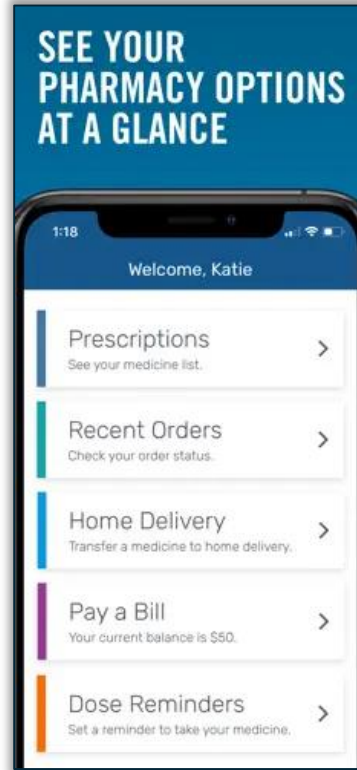- A group of practitioners can share the patient data with each other

Click to: Download on the App Store   GET IT ON Google Play
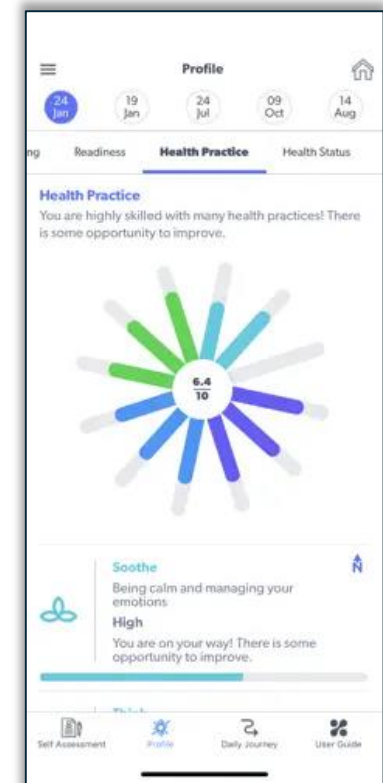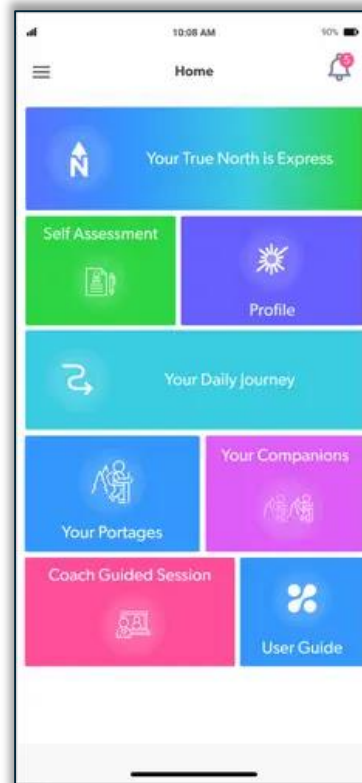
React   SQLite   Visual Studio   Xcode   android studio

User Experience - Mobile App for Active Pharmacy System

Overview

- The client is a leading company for pharmacy benefit management
- Developed Active Pharmacy mobile native application for Android and iOS platform
- Enabled users to manage medication through a personalized dashboard
- Created automated CI/CD pipeline with Agile scrum
- Implemented automation & unit test cases from scratch
- Helped users locate the pharmacies, nearby dealers, view active policies, etc.
- Safety alerts for medication-related safety issues
- The app was AODA compliant for people with disabilities

SEE YOUR PHARMACY OPTIONS AT A GLANCE

1:18 — Welcome, Katie

- Prescriptions — See your medicine list.
- Recent Orders — Check your order status.
- Home Delivery — Transfer a medicine to home delivery.
- Pay a Bill — Your current balance is $50.
- Dose Reminders — Set a reminder to take your medicine.

EASILY REFILL MEDICATIONS WITH HOME DELIVERY.

10:01 — Prescriptions

Show prescriptions for: Everyone

Lisinopril
20 mg
Katie
Refill available
[Refill]
[Start Automatic Refills]

Atorvastatin
40 mg
Katie
Automatic refill processes on 05/20/2019
[View Status]

TRACK YOUR ORDERS.

12:57 — Orders

Pantoprazole
40 mg tablet

Order Placed: 04/30/2020
Order number: 230084527

Status
- Placed
- Processing
- Shipped

Estimated delivery between 05/02/2020 and 05/05/2020.

Shipping Address:
627 Maple Ave.
St. Louis, MO 63146

Tracking Number:

GO DARK MODE.

10:02 — Prescriptions

Show prescriptions for: Everyone

Lisinopril
20 mg
Katie
Refill available
[Refill]
[Start Automatic Refills]

Atorvastatin
40 mg
Katie
Automatic refill processes on 05/20/2019
[View Status]

Click to: Download on the App Store   GET IT ON Google Play

Java   Kotlin   Swift 5   Jenkins   fastlane   SWAGGER   Sketch   Jira   iOS   android

Services & Expertise Crossover

Focus Areas	Payor	Provider	Life Science	MedTech
Regulatory	• HIPAA 4010 & 5010 • EDI Compliance • ICD-9 to ICD-10	• HL7 • SMART on FHIR • ICD-10 Transformation • HITECH • HIPAA 4010 & 5010	• Good Laboratory Practice (GLP) • Good Clinical Practice (GCP) • Good Manufacturing Practice (GMP)	• GDPR • HIPAA Compliance • Meaningful Use Implementation
Digital Transformation	• Intelligent Process Automation • M-Health Application • Data Analytics & Dashboard Solution • Cloud Based Solution • Digital Managed Services	• Digital Health Platform • Multi-channel Portals • HIE Services • Health Intelligence & Analytics • M-Health Application • SharePoint Portal • RCM Systems	• Document Management System • Analytics and Risk-based Monitoring • Lab Process Automation • Robotic Process Automation • Supply Chain Management	• Cloud based system • EHR integration with EPIC & CERNER • Remote Monitoring Application • Mobility – VR Application • BI Solution
Competencies	• Healthcare Payor CRM • Clinical Knowledge Management • Portal for self-service, health management, Agent self-service • Enrolment & Claim Processing Automation	• Practice Management System • Automating EHR, Lab Ordering, Claim Processing • Patient Engagement Program • Decision Support system • e-Prescription & Billing System	• Lab Information Management System • Pharmaceutical Analytics • Clinical Trial Data management • CRM/Salesforce Solutions • Medical Device Monitoring and Diagnostics	• Medical Management System • Nerve Monitoring System Development • Intravascular Ultrasound (IVUS) Imaging System • Clinical Simulation Analytics Learning Management System

Partial Clientele

Payor

Provider

MedTech

LifeScience

Public Sector

Client Testimonials

ASPEN HEALTHCARE

"Many things impress us with R Systems, what most impresses us is the Technical Aspect of the team, they always find solutions if we encounter any issues"

Portages Health
Extraordinary Behavioral Healthcare Everywhere

"I'm extremely pleased with the transformation that you has achieved with our current platform; we now have a product that will be able to go to market, with pride"

AMA

"The Project Management resource seamlessly handles all aspects of the project. We don't have to worry about whether the important work is going to be delivered on-time, because we know it will. That leaves our Product Managers free to spend time on more higher-level Product thinking"
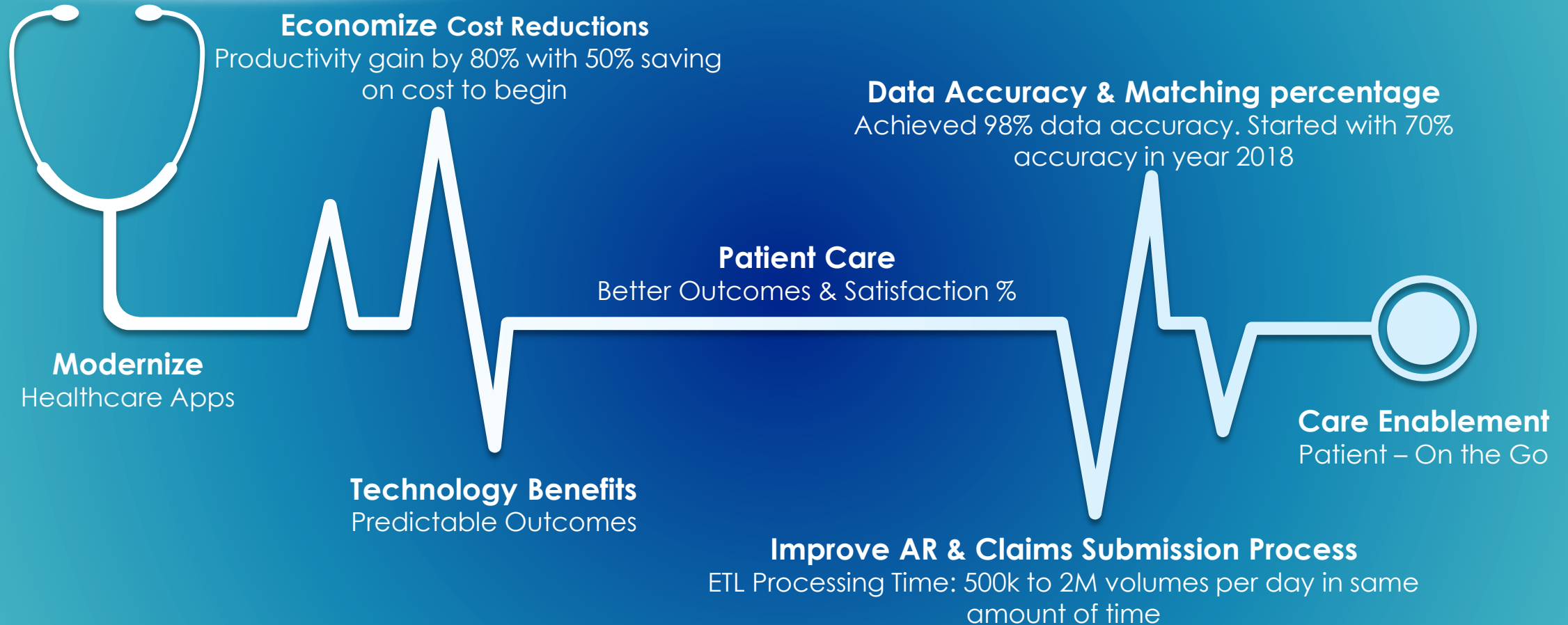
HUMAN CARE SYSTEMS

"These guys at R Systems have phenomenal attention to detail & focus on on-time delivery!"

Alliance & Partnership

Thank You

Worldwide Headquarter
R Systems International Ltd.
C - 40, Sector - 59,
Noida 201307 (UP), India
P: (+91) 120-430-3500
F: (+91) 120-258-7123

USA Corporate Office
R Systems Inc.
5000 Windplay Drive,
El Dorado Hills, CA 95762
P: (+1) 916-939-9696
(+1) 800-355-5159
F: (+1) 916-939-9697