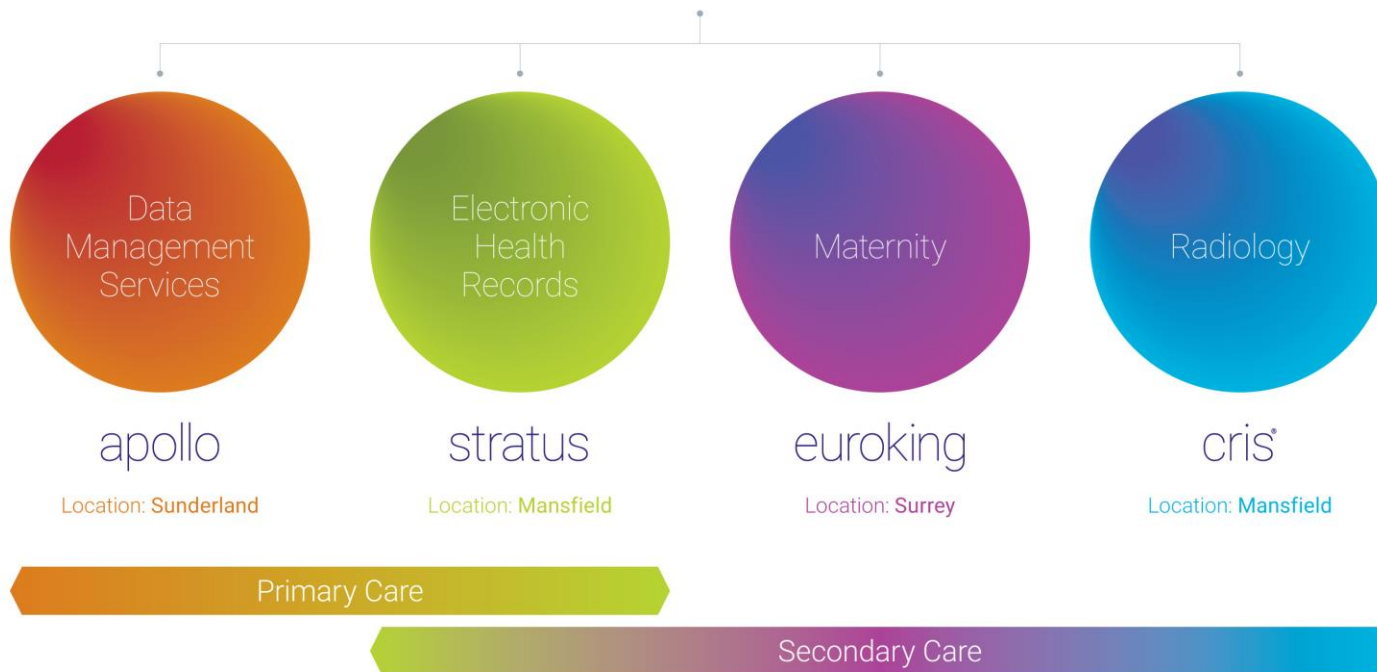# NYHDIF

Mercure Wetherby hotel - 10th May 2019

Accessing GP data and use in Population Health Management
Tony Megaw MD

Introduction

wellbeing
software

apollo	stratus	euroking	cris
Data Management Services	Electronic Health Records	Maternity	Radiology
Location: **Sunderland**	Location: **Mansfield**	Location: **Surrey**	Location: **Mansfield**

Primary Care

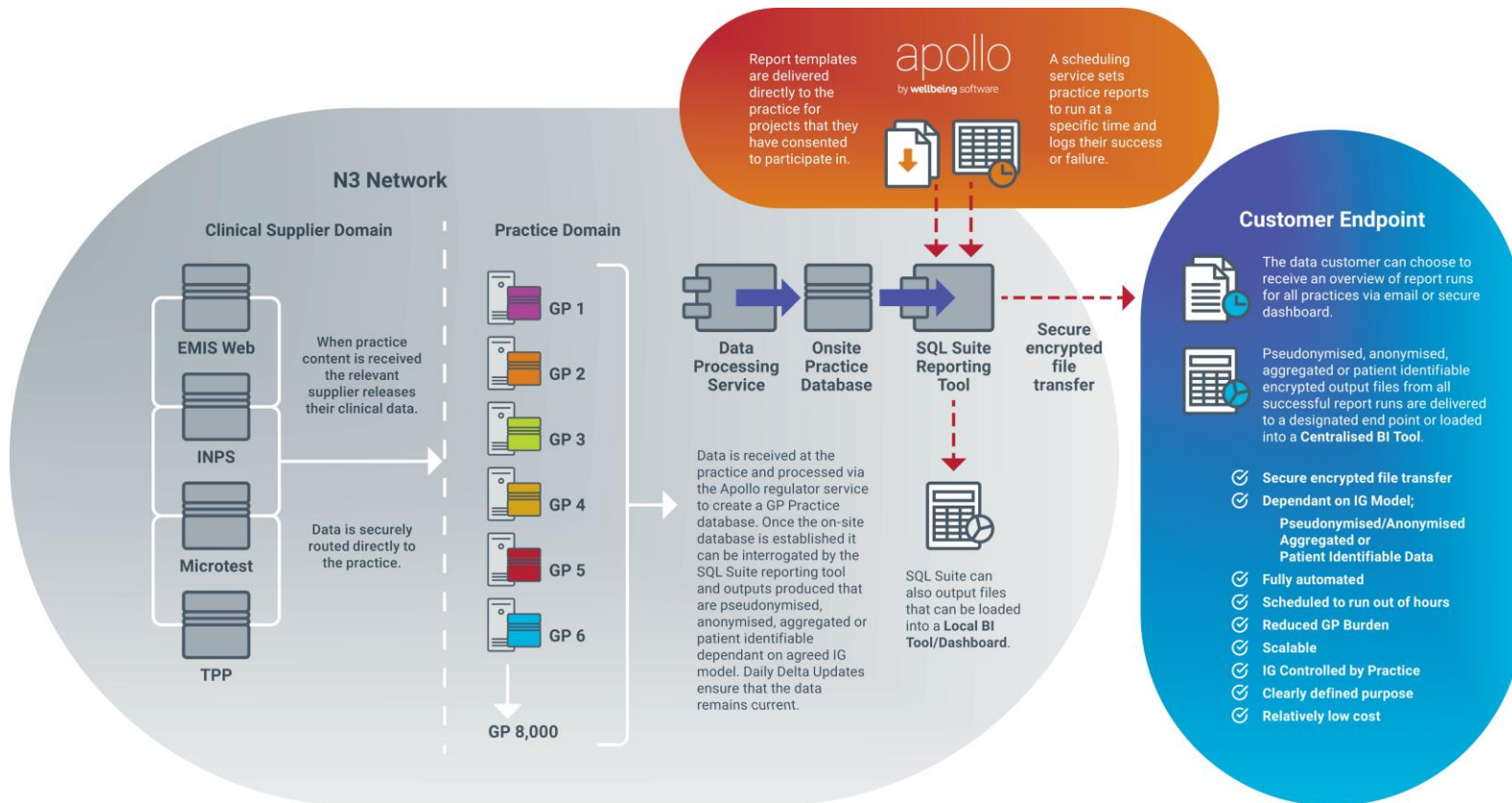Secondary Care

GPSOC IM1 Interfaces
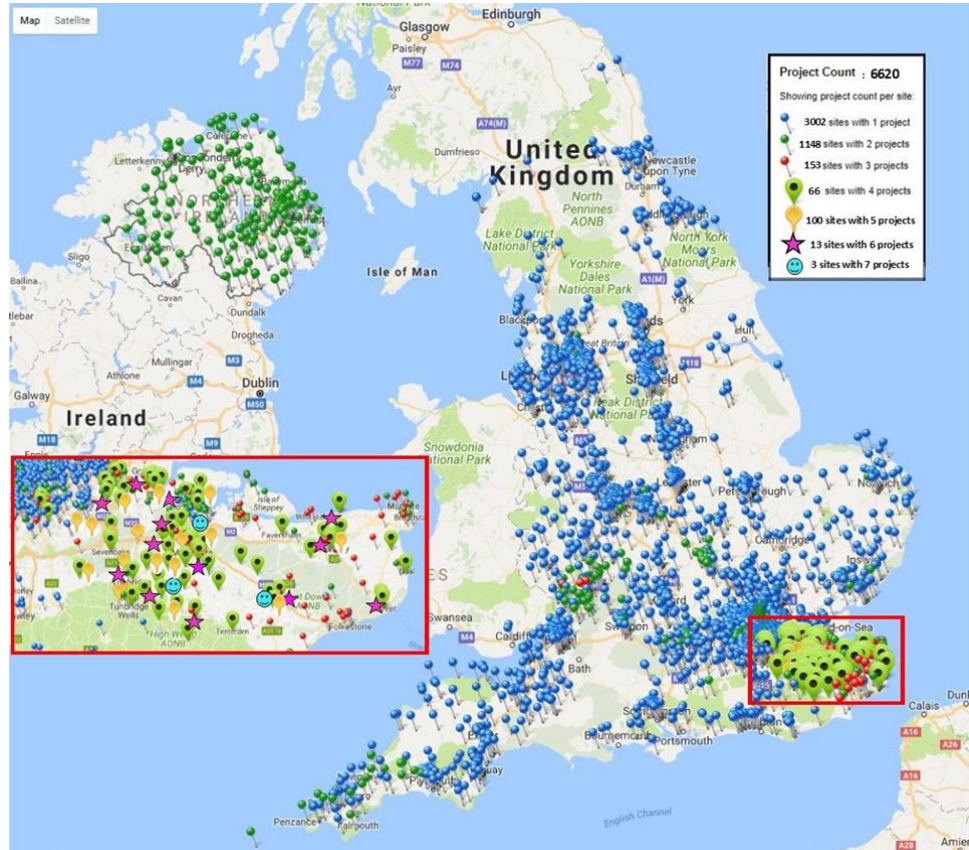
GP IT Futures

- Foundation and non-foundation suppliers
- Modular
- SaaS model
- Per patient pricing (commoditised)
- Interface challenges:
  - Demand
  - Scalability
  - Performance
  - Throttling
  - Recovery
  - Governance
- Architecture models:
  - Direct links to supplier
  - NHS Digital acting a clearing house ("care.data2")
  - LHCREs
  - Data warehouses
  - Cloud based services
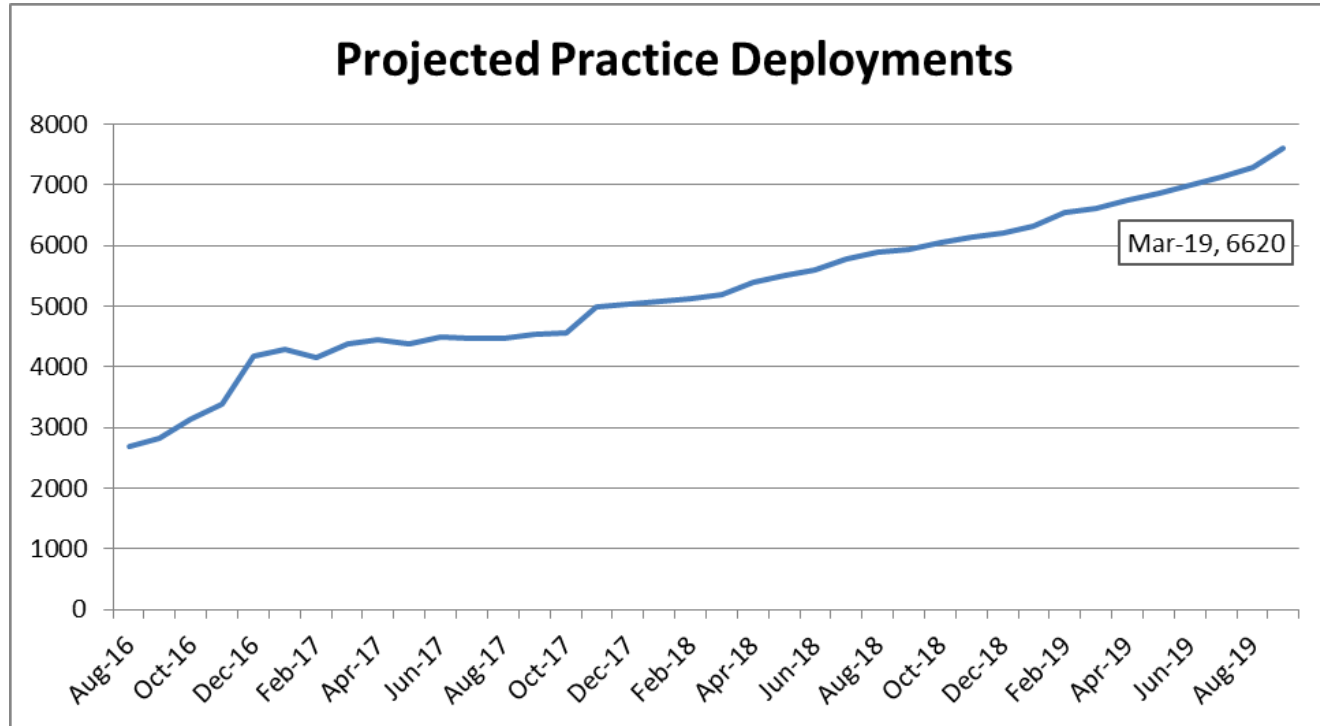 - Distributed architecture
  - Aggregators

Data harnessing

N3 Network

Clinical Supplier Domain

EMIS Web

INPS

Microtest

TPP

When practice content is received the relevant supplier releases their clinical data.

Data is securely routed directly to the practice.

Practice Domain

GP 1

GP 2

GP 3

GP 4

GP 5

GP 6

GP 8,000

apollo by **wellbeing** software

Report templates are delivered directly to the practice for projects that they have consented to participate in.

A scheduling service sets practice reports to run at a specific time and logs their success or failure.

Data Processing Service

Onsite Practice Database

SQL Suite Reporting Tool

Data is received at the practice and processed via the Apollo regulator service to create a GP Practice database. Once the on-site database is established it can be interrogated by the SQL Suite reporting tool and outputs produced that are pseudonymised, anonymised, aggregated or patient identifiable dependant on agreed IG model. Daily Delta Updates ensure that the data remains current.

SQL Suite can also output files that can be loaded into a **Local BI Tool/Dashboard**.

Secure encrypted file transfer

Customer Endpoint

The data customer can choose to receive an overview of report runs for all practices via email or secure dashboard.

Pseudonymised, anonymised, aggregated or patient identifiable encrypted output files from all successful report runs are delivered to a designated end point or loaded into a **Centralised BI Tool**.

- ✓ Secure encrypted file transfer
- ✓ Dependant on IG Model;
  Pseudonymised/Anonymised
  Aggregated or
  Patient Identifiable Data
- ✓ Fully automated
- ✓ Scheduled to run out of hours
- ✓ Reduced GP Burden
- ✓ Scalable
- ✓ IG Controlled by Practice
- ✓ Clearly defined purpose
- ✓ Relatively low cost

Projects harnessing data

Growth in demand for data harnessing projects

Harnessed healthcare data - use cases

- Disease surveillance
- Risk stratification/patient safety
- Demand and capacity planning
- Clinical research/real world evidence
- Clinical trials/patient recruitment
- Health checks/screening
- Integrated care programmes
- Local health care records

Disease surveillance

- Northern Ireland Flu Surveillance (1.9m patients)
  - **Detection of future flu outbreaks** to alert and prepare hospitals for an increase in patients
  - By monitoring the incidence of flu an flu like illness during GP consultations, trends identified to guide logistical planning
- RCGP RSC Communicable and Respiratory Disease Monitoring (2m+ patients)
  - Information analysis and interpretation concerning the onset, patterns, prevalence and **trends of morbidity in primary care**
  - Most important activity is the surveillance of influenza and the monitoring of **vaccine effectiveness** on behalf of Public Health England using linked data pseudonymised at source.

Risk stratification/Patient safety (12m+ patients)

- Improved patient safety through **appropriate prescribing**
- Identification of 'at risk' patients
- Major financial savings
  - ➢ emergency admissions
  - ➢ A&E attendances
  - ➢ total hospital admissions
  - ➢ Total outpatient attendances

Radar usage is associated with a saving of:

£114million	£25million	£130million	£29million
Emergency Admissions into Hospital	Attendances into A & E	Total Hospital Admissions	Total Outpatient Attendances

All Practices with Radar activated achieved savings compared to the standardised national rates of:

-7.6%	-9.8%	-4.2%	-3.0%
Emergency Admissions into Hospital	Attendances into A & E	Total Hospital Admissions	Total Outpatient Attendances

Top Practices with Radar activated achieved savings compared to the standardised national rates of:

-12.7%	-14.4%	-7.3%	-5.0%
Emergency Admissions into Hospital	Attendances into A & E	Total Hospital Admissions	Total Outpatient Attendances

Non-users had increases in spend compared to standardised national rates of:

+1.2%	+1.6%	+0.7%	+0.5%
Emergency Admissions into Hospital	Attendances into A & E	Total Hospital Admissions	Total Outpatient Attendances

ALL USERS TOTAL SAVING

Per Patient	NHS	Each CCG
£41	£298,695,603	£10,350,000

Demand and capacity planning

- **GP Access Fund**
  - ➢ Demand and capacity support for GP practices
  - ➢ Improved access to GP services
  - ➢ Sufficient routine appointments evenings and weekends
  - ➢ Provide **evidence GPAF initiative delivering expected benefits** for practices and patients by monitoring appointment slots availability and usage

Clinical Research/Real World Evidence

- **UK Biobank**
  - ➤500,000 volunteers consented for linkage to their primary care data to **study the interaction of genes, lifestyle and environment** to help researchers identify why diseases develop.

- **Salford Lung Study – Real World Evidence Study**
  - ➤First Real World Evidence study – Asthma & COPD (Data linkage with other sources of data).
  - ➤Positive healthcare outcomes **allowing appropriate drugs to be brought to market faster benefitting patients**, healthcare organisations and the pharmaceutical industry.

- **Greater Manchester Connected Health City**
  - ➤ Building rapid **Interventions to reduce antimicrobial resistance (BRIT).** Antibiotic Prescribing initiative to improve the health of patients

Clinical Trials/Patient Recruitment

- **Identification of appropriate patients** for particular studies
- Manage patient consents
- Making patients aware of clinical trial options
- Support recruitment of patients
- Bring treatment to patients sooner

Health Checks/Screening

- NI Diabetic Eye Screening Programme

  ➢Secure electronic data transfer of consented diabetic patients to Belfast Trust for screening/recall.

  ➢Replaced labour intensive paper based mechanisms for data collection in results reporting and referrals to secondary care

  ➢Eliminated the opportunity for confidential patient data collection forms to go missing in the post

  ➢Improvement in quality of data by eliminating transcription errors .

  ➢Onward **referrals to ophthalmology** not delayed

Improving Child Health Immunisation in East of England

- Integration of GP systems with local child health record systems (EMIS and TPP)
- Fully managed, automated service
- Reduction in transcription errors
- Reduced GP practice burden

- Provide CHIS deliver service to whole of East England and report:
  - **a 4% increase in the number of pre-school boosters**
  - **a 1% rise in primary school immunisations**
  - **a reduced waiting list for vaccines as a result of better scheduling**
  - **a greater certainty that GP practice and Provide CHIS records match due to the automated process**
  - **a saving of 455 Practice Nurse hours as a result of automating the data input process**

Iron lungs in a polio ward, 1950.
Society has a short memory.
#vaccinate

Integrated Healthcare

- **North West London Collaboration** – Wholes Systems Integrated Care Programme
  - ➤ Single record for each patient from a range of providers
  - ➤ GP data linked with patient activity data from acute, community, mental health and social care settings to ensure better care is provided
  - ➤ Improved Healthcare for 2 million London residents
  - ➤ Joined up approach to patient treatment
  - ➤ Large scale analytics engine
  - ➤ Analytics dashboards made available for clinicians, care professional and managers
  - ➤ Supports movement towards **capitation budget for new models of care**
  - ➤ Supports population health management and pathways redesign
  - ➤ Drives more tailored, effective care and focussed risk management

Stratus Share2Care and future options

Patient | GP | Alder Hey | Share2Care | Wider Region

Patient context launch

stratus

Nimbus Engine | eConsent | Forms | Medical images

consumer | publisher

Legacy Document Store

Document Scanning

XDS Registry

XDS Repository

XCA

XDS Registry

XDS Repository

euroking

apollo

cris

PACS

02
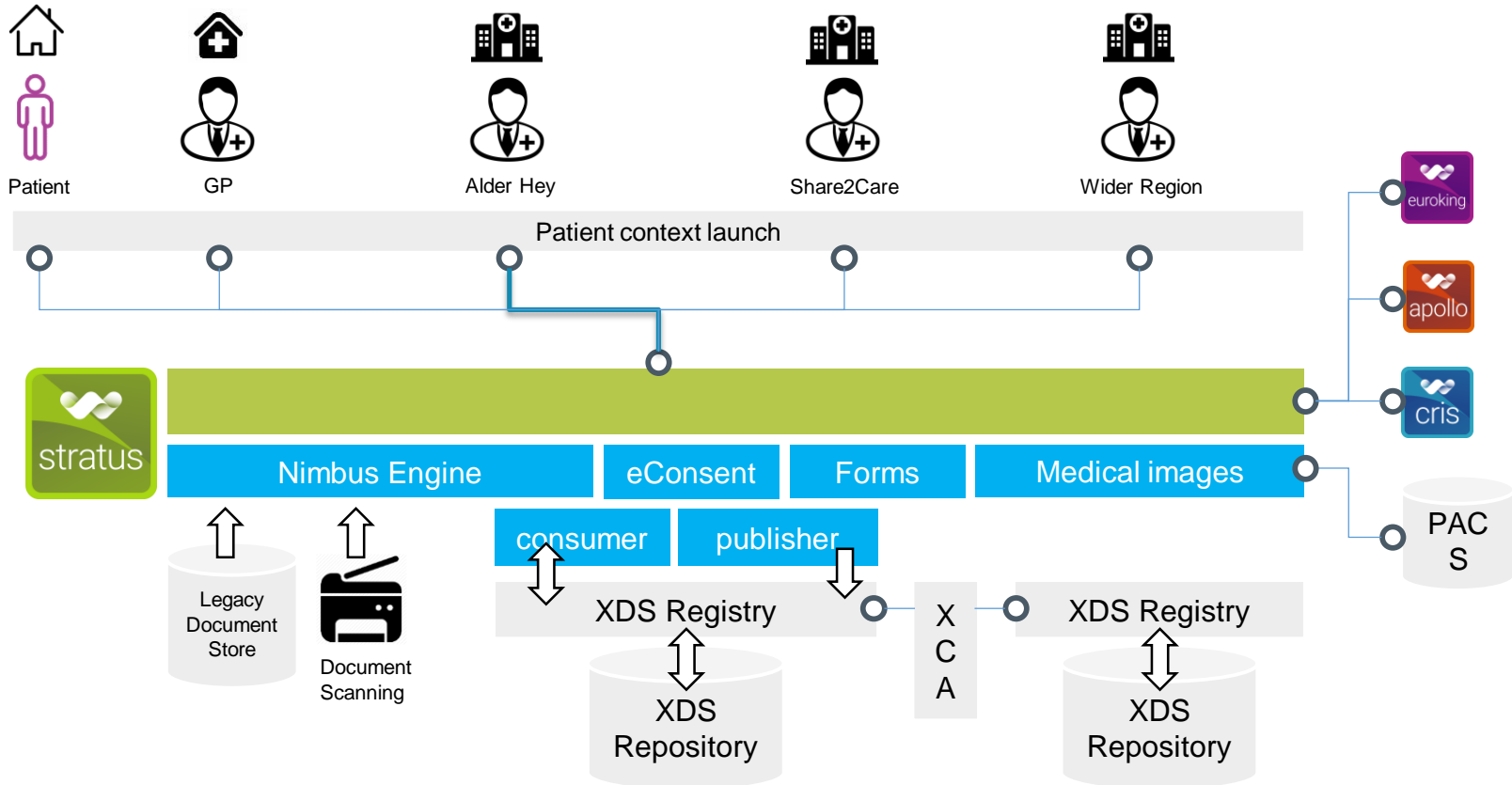
What is Apollo Connect?
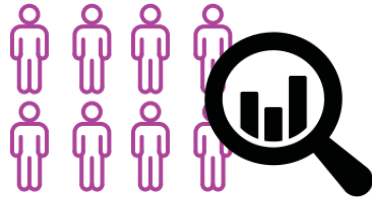
Large scale data extraction and services

Bulk data sets delivered seamlessly for population health management, risk stratification and medical research

Single patient interface for clinical care

Near real-time structured data from primary care practices for use in clinical care
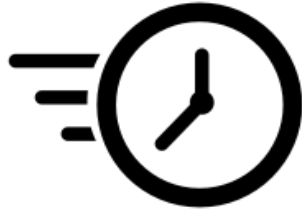
Apollo single record transaction process
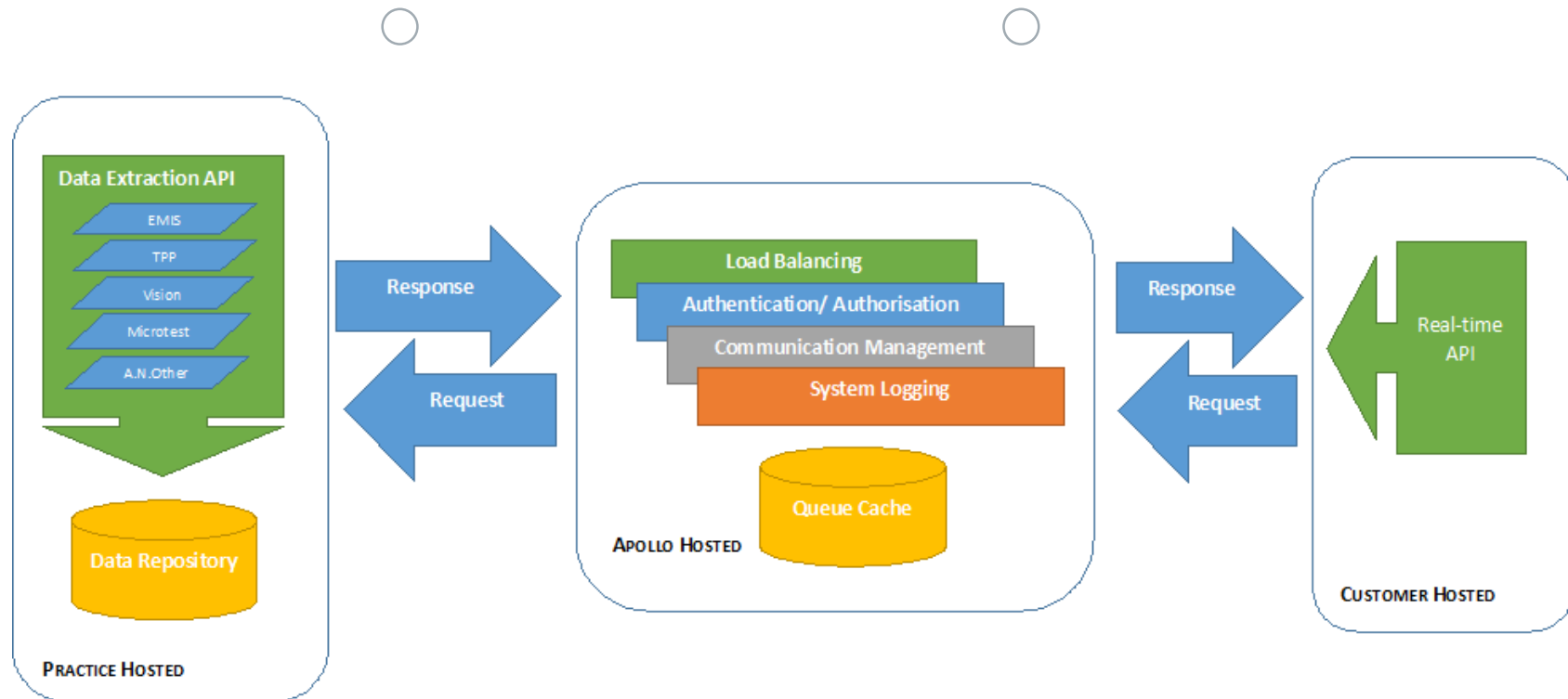
How Apollo Connect works

Structured data

CDA
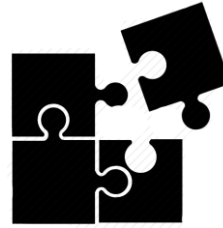
BUTTON

REST and FHIR

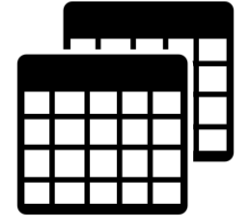apollo connect

GP
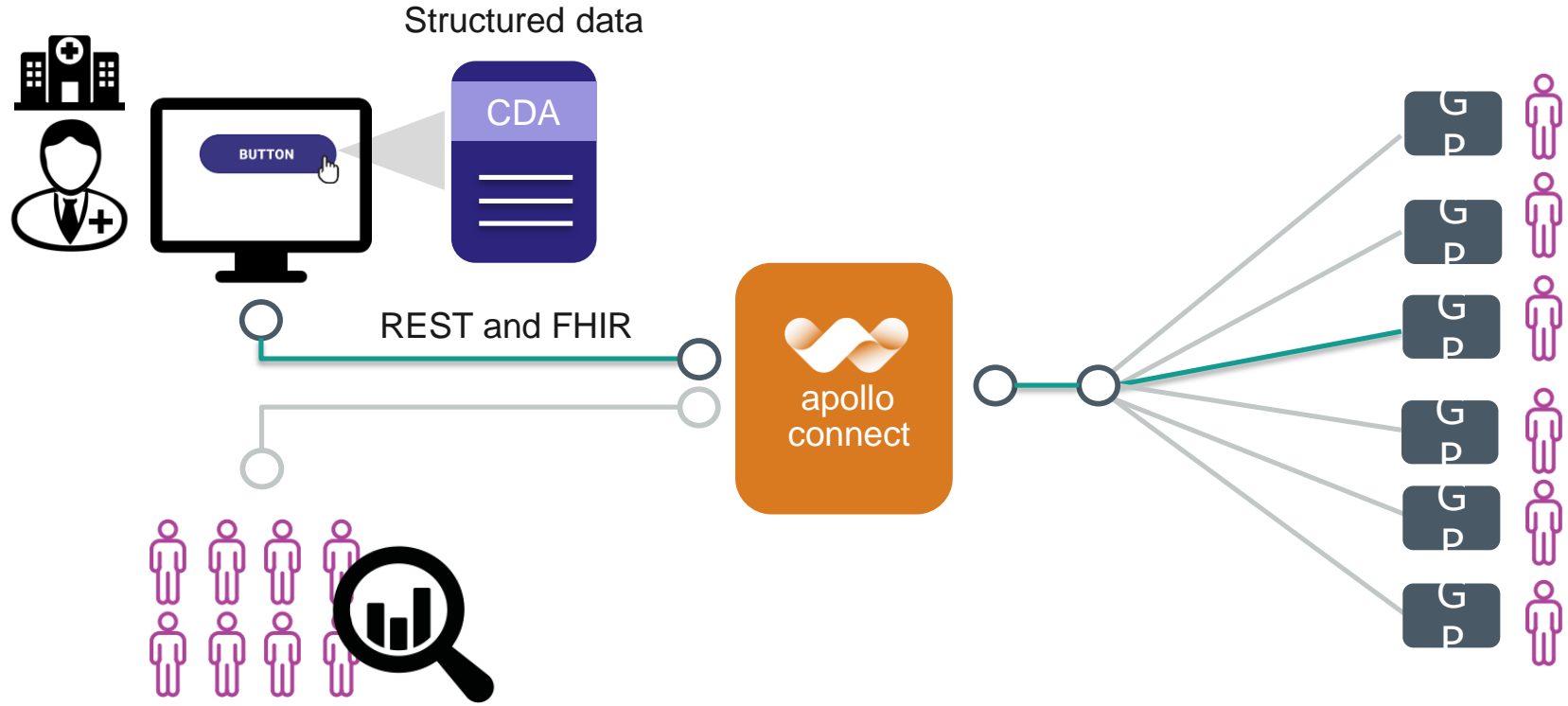
Apollo Connect Features
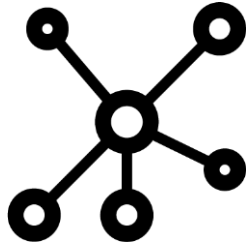
Innovative distributed edge architecture delivering scalable and low cost infrastructure

Refreshed daily to support clinical decision making and fully integrated into Stratus

Access records from all GP systems through automated, fully managed service

Access the full record with structured data feed

Thank you