TATA
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Value Based Care:
A Patient-Centric Model

Abstract

The United States healthcare landscape has changed significantly over the past few hundred years. Just two short lifetimes ago, it was still common practice to pay for medical services using goods instead of currency. Even though we've come a long way since then, exceling in medical research, education, and infrastructure, rising costs and inefficient payment models continue to plague our healthcare model. Since 1975, the US health expenditures have consistently outpaced our annual GDP growth at a rate that is simply unsustainable. This trend has prompted both legislative bodies and other healthcare ecosystem participants to explore alternatives, a search which ultimately lead to the concept of Value Based Care.

At its core, value based care seeks to establish a balance between quality of care and cost of care. Though simple in theory, value based care and value based payments have proven to be difficult to implement across the healthcare ecosystem. Understanding how payment models have evolved over time as well as the different options that are available is critical to navigating the path ahead.

Issues with Traditional Models

Traditional payment models, like fee-for-service, are fairly intuitive in their implementation but lack in their ability to align objectives between providers, payers, and patients. There is little incentive for patient outreach programs because reimbursement is based on volume of services and procedures. Additionally, there is no emphasis on the outcome of those procedures. A physician who refers a patient for 10 specialized services for an incorrect diagnosis receives a higher reimbursement, based purely on volume, than a physician who refers a patient for two specialized services for a correct diagnosis.

Payers and providers both operate independently, primarily due to lack of interoperable systems and established best practices for sharing information, which further exacerbates the problem. If a patient sees multiple providers, no single provider has a holistic view of that patient's overall health. This not only has a detrimental impact on patient health plan but also adds time and cost elements to an already overburdened system.

However, fee-for-services does get one thing right. It encourages providers to be thorough in their search for a diagnosis, and it encourages payers to be cost-efficient in providing those services because they are aware of expected high volume of procedure requests. However, it shouldn't stop there. The payment model should also reward physicians for getting to the right answer, and, perhaps more importantly, getting there faster. This is the balance between effectiveness and efficiency that is so often sought through the implementation of Value Based Care models.

Next Generation of Payments: Value Based Care

There is need for a fundamental change in our health care delivery system to make it focused towards addressing the future economic risks of excess medical cost growth and make the switch to value based care as our nationages. Within value based care is a regulatory shift towards new models of payments that reward providers who deliver quality care that is evidenced for costs, outcomes and improvement. However, showcasing the relationship between cost and quality isn't easy, which is why a key factor in value based care is the need for detailed and critical analysis of data to bring systematic improvements including:

- the precise workflows, systems, inefficiencies, variances and challenges faced by those purchasing the health care services and care delivery

- outcomes for all dimensions of the delivery system including safety, effectiveness, efficiency, equity, and focus on the patient

- costs to value

Through the above, value based care becomes a mechanism to build an efficient, holistic, person-centric, improved and sustainable healthcare delivery and payment system.

However, this should come as no surprise. After all, data has been at the heart of myriad advancements recently across virtually every industry. Healthcare is no different. Data is the core foundation that will allow continuous ongoing measurement of populations, cohorts, measures, utilization of services, variances, evidence-based practices, outcomes and health statuses as we shift from a provider focused episode based care delivery system to a longitudinal person-centric, preventative, innovative, costs and quality outcomes based care delivery system.

Furthermore, innovation in value based care will develop new approaches to ease the burdens placed on providers, reduce inefficiencies in record keeping, enhance analytics, provide real time reporting of insights and evaluate disparate payment models and programs, to ensure the delivery of health care services at a cost and quality that holds value.

Novel Patient-Provider-Payer Relationship

So what does a value-based patient-provider-payer relationship look like? The truth is, it can actually take on many forms, depending on the level of integration and shared risk between stakeholders. On the lower end of the spectrum, there is patient centered medical home, pay for performance, and episode of care payment models. With increasing accountability, there will be a subsequent rise in models that incorporate shared savings, shared risk (i.e. Accountable Care Organizations – ACOs), and full risk capitation. A final potential implementation of value based care goes as far as provider sponsored health plans, though this is often cited as impractical and is usually used as a theoretical example.

However, regardless of what value based model is implemented, the need for real time longitudinal health record information across the care delivery team, to include administrative claims, electronic and digital health, biometrics, genomics and other data sources will be critical in

addressing important behavioral and life style drivers of value. These, in turn, will highlight opportunities for improvement in cost, quality and outcomes.

The Way Forward

In short, though the need for value-based care has been triggered by the unsustainable cost trend, the benefits will be felt throughout the healthcare ecosystem. Additionally, at the core of this philosophy lies a very basic requirement, sharing of information. Payers are sitting on mountains of data that would be beneficial to providers, and providers are capable of providing invaluable insights that would not only improve patient outcomes but significantly impact overall population health. Leveraging this information and transforming it into actionable insights will not only improve the effectiveness of care (i.e. quality) but also the efficiency of care (i.e. cost), a process that will bring back into focus the most important part of the healthcare equation - the patient.

About The Authors

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As a Domain Consultant in TCS, Dorothy Egan has 20+ years of rich experience in health analytics. Her areas of expertise include advanced healthcare analytics, value-based care QPP, MIPS, MACRA. She has successfully contributed in areas like telehealth, Insurance, Financial Claims processing – clinical, IT, financial, Analytics divisions. She has a Bachelor's degree in Science Business Administration.

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Brenda is a Healthcare Consultant with TCS with 35 years of experience in healthcare payer sector. She has expertise in Payer Operations, Benefits, Claims, Encounter Data Management, Provider databases, Fee Schedule and Contract mainte-nance, MAC (Medicare Administra-tive Contractor) Recovery system implementation. She has been a part of Compliance initiatives such as HIPAA transactions (834, 835, 837, 270/271), CAQH and HEDIS for NCQA.

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

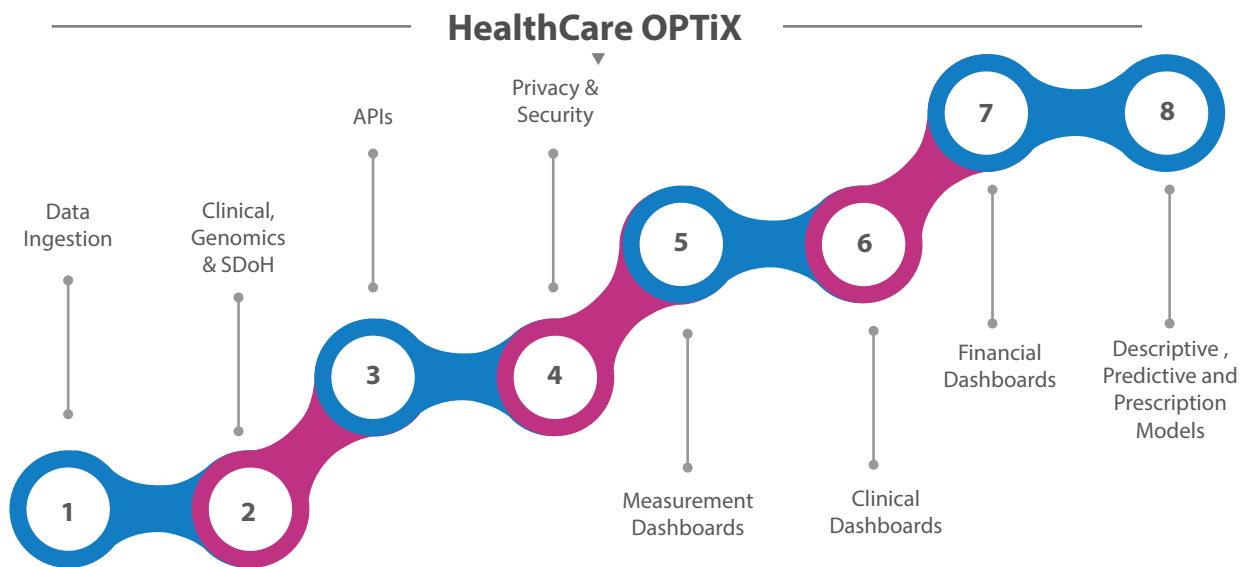For more information, visit us at **www.tcs.com**

Experience certainty.   IT Services
Business Solutions
Consulting

Healthcare Analytics

Product

Healthcare Analytics powered by TCS OPTiX is a secure, cloud-ready, big data analytics platform with API integration	Can be deployed as on-premise, private, public cloud, or PaaS	Out of the box analytics for descriptive, predictive and prescriptive analytical models	Actionable insights using intuitive user interface and reports

Key Features & Functionality

HealthCare OPTiX

Data Ingestion — 1

Clinical, Genomics & SDoH — 2

APIs — 3

Privacy & Security — 4

5 — Measurement Dashboards

6 — Clinical Dashboards

7 — Financial Dashboards

8 — Descriptive, Predictive and Prescription Models

1. Will be able to support ingestion of data from health plans, providers and PBMs using traditional file or FHIR standards
   - Social Data and Sensor streams
2. The data will be stored in a proprietary data model, accessible through our insights layer
3. Allows for 3rd party applications to access data available for workflows and reporting
4. Adheres to Industry privacy and security standards
5. Measurement Dashboard:
   - Preconfigured calculations based on industry standard benchmarks, such as HEDIS, Medicare Stars, and MIPs
   - Customizable measure/KPIs
6. Clinical Dashboard:
   - Ability to slice and dice Population Health data for clinical consideration (i.e. Product, geography, condition, age, gender, etc.)
7. Financial Dashboard:
   - Calculates the shared savings related to Value Based Care to ensure providers are maximizing their earnings
8. Descriptive, Predictive and Prescription Models
   - Preconfigured and customized options available

HealthCare OPTiX Eco-system Architecture

Data Sources

EMR	HL7 FHIR Integration Service
Medical Claims	HIPAA EDI Transaction
Pharmacy	NCPDP Rx Transaction Integration
Financial	Custom datasets Integration

Data Sources

Medical Imaging (MRI, X-Rays…)	IoT Device Integration
Population Health Statistics Data	Social Media Integration
Social & Sensor Data	Insurance / Financial Data Sources
Genomics	
Survey Data	

Mobile – IoT Wellness Component

My Health	My Activity Tracker	My Patients	Digital Twin	Cognitive Assistant
My Challenges	My Rewards	Remote Monitoring	IoT Connected Wellness	Social Media Integration
My Goals	My Programs	Elder Care	Kinect Fitness	Digital Library
My Rx	My Appoint-ments	TeleRehab	TeleMedicine	Chat
My Consent	Pregnancy	Chronic Care	My Library	My Devices

API

HealthCare OPTiX Analytics Component

UI   Other Channels

API

Descriptive Analytics   Predictive Analytics   Prescriptive Analytics

Semantic Layer   Registration   De-identified Datasets

FHIR   Payer   Rx   SD
Devices   **Data Store**   OH
          Measures   Genomics

Landing Zone

API
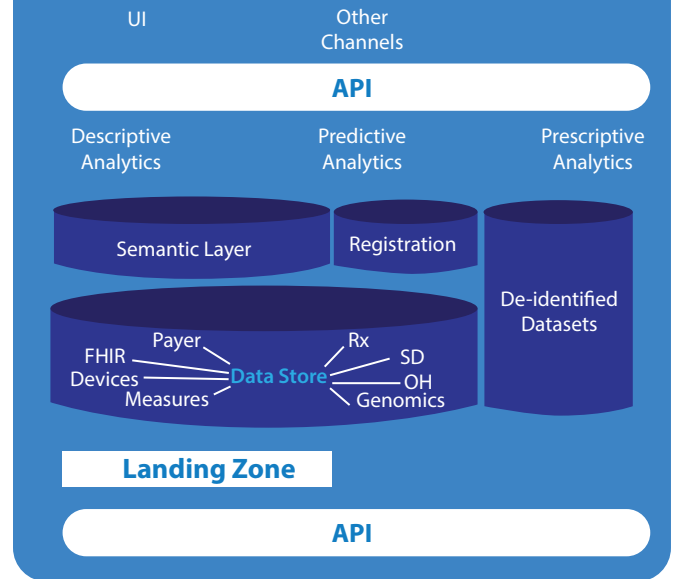
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Members / Patients   Financial users   Providers   Data Scientists   Actuaries

Data Hub

{api}

Analytics

Behavior & Risk/Loss Models

Social Profile

Wellness Profile
Financial Profile

Real-time Monitoring

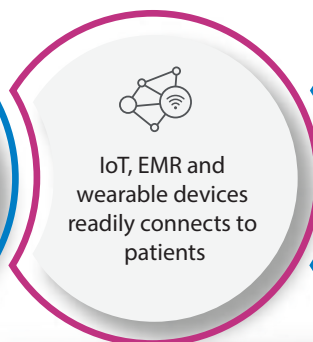| Extracts	Visual Analytics Angular	WebPortal
JDBC/ ODBC Connection	Advanced Analytics Python	
RESTful API OAuth2	Mobile Devices iOS, Android Studio	

Metadata	Ontology	Security	Privacy Policy	Consent Engine	Compliance	Deidentification	Governance

In Summary

Out of the Box - Ready to go

IoT, EMR and wearable devices readily connects to patients

Built based on standards including HIPAA, HL7 and FHIR

Continuous improvement through TCS Investments in Research, Innovation & Products

Awards & Recognition

2019 Brand Finance® Awards — TOP 3 IT SERVICES BRAND

Business Superbrands — BRITAIN'S CHOICE 2019

#1 IN CUSTOMER SATISFACTION 2019 EUROPE — Whitelane Research

top EMPLOYER GLOBAL 2019 — CERTIFIED EXCELLENCE IN EMPLOYEE CONDITIONS

To know more

Visit the **Life Sciences & Healthcare** page on **tcs.com**
Email: **healthcare.solutions@tcs.com**

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IT Services
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TCS HealthCare Analytics

Powered by OPTiX™

The most configurable Big Data solution for Value Base Care so you can hit the ground running

Benefits

Identify gaps in care

Improved patient experience

Better health outcomes

Improved staff experience

Lower cost of care

Better payer/provider collaboration

How It Works:

- Combines information from multiple sources to generate actionable insights

Clinical ▸ Financial ▸ Social ▸ Genomic

- Uses machine learning and cognitive computing to create predictive and prescriptive analytics
- Helps healthcare providers optimize quality of care to reduce risk, increase patient engagement, and manage disease through true preventive medicine, reducing the total cost for better outcomes
- Reduces burden on providers and payers by enhancing visibility into a patient's complete health history
- Works across platforms to give insights that transcend traditional data siloes
- Built from the ground up to be the customized solution you're looking for

To learn more, go to **www.tcs.com** or contact our sales team at **healthcare.solutions@tcs.com** or **630-245-3340**. We are happy to answer your questions and provide a product demonstration.