The Business of Healthcare Data: The Value & Return on Investment in Big Data Analytics

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Conflict of Interest

Kevin Meriwether
Patrick Murta

Have no real or apparent conflicts of interest to report.
Agenda

- Company overviews
  - Humana
  - Conviva Care Solutions
- Payer/Provider partnership
- Drivers changing the landscape
- Creating strategic data assets and full spectrum value
- Big Data focused on people, process, and workflow
- Using Big Data to support models in care and enable organizational efficiencies
- Achieve ROI across the continuum
- Q/A
Learning Objectives

• Showcase an overarching business plan to create data and value-driven business models

• Outline a Big Data program that reduces costs by focusing on people, process, and workflow

• Leverage Big Data to support new models in care while enabling organization to build efficiencies and reduce friction at the point of care

• Highlight the Conviva approach to holistic value-based care

• Explore innovative methods to achieve ROI from both the organizational and patient perspectives
Humana is a leading insurer and health care provider, with a focus on seniors

- Committed to helping our members achieve their best health through a spectrum of products and offerings including insurance products, case management, population health, predictive analytics, and well-being initiatives
- Sees integrated health delivery as the key in providing maximum benefit to our members and partner providers
- Believes technology, including shared Big Data, is critical in achieving the goal of integrated care delivery
- Closely partners with provider groups to enable the value based care and integrated care delivery model

Insurance Services

- **Leading position in Medicare Advantage (MA) and Part D**
  - 3.9 million\(^1\) MA members
  - 4.5 million\(^2\) stand-alone Prescription Drug Plan (PDP) members
- **One of the leading service providers to the military through TRICARE contract**
  - 5.9 million\(^3\) members
- **1.5 million\(^4\)** commercial group members

Healthcare Services

- **Humana At Home** – approximately 716,000 members\(^5\) enrolled
- **Humana Pharmacy** – 4th largest PBM\(^6\)/mail order services
- **Primary Care Clinics** – 233 owned, JV and alliance clinics across 30 markets
- **Integrated Clinical & Consumer Analytics platform**
Conviva Care Solutions

- Conviva Care Solutions manages $2.2B in patient revenue, serves 235,000 patients of which 79% are in full risk arrangements

- Created as a joint venture between Humana & MCCI as an independent and multi-payer care delivery organization

- Manages over 100 primary care medical centers in Florida and Texas

- Employs 375 primary care clinicians in the Conviva Physician Group and supports over 300 independent physician practices

- Conviva’s vision is to help people achieve their best lives
• Principal guideline: only through a provider/payer partnership can we fully optimize patient care

• How this is achieved…
  • Each focuses on core competencies
  • Humana focuses on Big Data analytics and provides those insights to Conviva
  • Conviva takes the insights and optimizes patient care and clinic operations
Value Based Care

- Value Based Care has fundamentally changed the healthcare landscape by tying data and analytics to desired health outcomes:
  - Identification of at-risk populations and individuals
  - Guidance on which actions or behavioral changes are needed to achieve desired outcomes
  - Predictive modeling of interventions
  - Feedback on the results of those interventions

- Humana’s Big Data informs the mechanisms of risk stratification, proactive solutions, appropriate hospitalization, appropriate utilization of resources, and better quality of life
Industry inflection point

- Value based care drives the need for integration
- API/FHIR adoption is increasing
- 21st Century Cures Act is a lever to enable integration and interoperability
- Industry initiatives such as Da Vinci and FAST are accelerating the cause
- Blue Button 2.0 and other CMS and ONC support is moving forward
- Need for innovation
Poll Question 1

• Do you see value based care driving adoption of shared analytics?
  1. Yes, it’s necessary
  2. No, not needed
  3. Not sure yet
Why a payer / clinician partnership?

• Payers have lots of data, both administrative and increasingly clinical, to provide a more holistic view of the patient

• Payers typically have big computing infrastructures and Big Data capabilities from both a compute standpoint and data science

• Payers are willing to participate

• Clinicians who are experienced in Value Based Care provide relevant insight to make payer data actionable
Plan for creating data with value – the goals

• Distill Humana Big Data into usable insights for care delivery, providing high value at the point of care for our clinicians and patients

• Identify and treat the Right Patient, at the Right Time, in the Right Place, by the Right Care Team

• In full-risk situations, every interaction needs to be tied to improved health outcomes

• Driving our investment in minable data that is actionable
The Conviva Model

• Humana has a wealth of data and synthesizes the information from across the health care landscape

• Claims data includes touchpoints and interactions from across the continuum of care – providing valuable insight for our Care Teams to build personalized and holistic care plans

• Critical to this endeavor is proper Risk Stratification

• Stratification by clinical risk profile informs:
  • Frequency of clinic visits
  • Utilization of clinicians and specialist
  • Referrals to specialty programs such as disease / pain management and care coaching
The Conviva Model

- Preventive testing and screening are optimized, addressing HEDIS / quality gaps

- Insight into medication profiles allow clinicians to address adherence and polyphraphamacy issues

- Insights from utilization across the continuum of care drive post-acute management and transition of care planning

- Under-utilization patterns can also be identified, frequently signaling social issues such as: Food Insecurity, Transportation, and Care-giver Burnout, which can then be addressed
The Conviva Model at Work

- Targeted primary prevention
  - Flu Vaccination Program for high-risk patients

- Clinical pathways for special populations
  - COPD optimization

- Optimized collaboration with specialists
  - Pain management
Poll Question 2

• How would you describe the term ‘Big Data’
  1. Any large database
  2. Marketing term
  3. Specific tech such as Hadoop
Key technical points

- Big Data is a combination of database technologies including
  - Relational data models
  - Hadoop
  - Document data models
  - NoSQL

- Big Data should be considered as one leg in a three legged stool that consists of
  - Big Data
  - Workflow integration using contemporary technology such as FHIR and SMART on FHIR
  - People with right process
Poll Question 3

- Do interoperability and data analytics compliment each other?
  1. No relationship between them
  2. Yes, definite synergy
  3. Not sure yet
Big Data Process

Adapters and Paths

Core Processes

Visualization & Integration

Supported Data Subjects
- Lab
- Hedis
- RX
- HRA
- Membership
- BH
- Claims
- PM
- MRA
- Service Fund Rewards
- PHM
- Census
- Assessments
- Care Plans
- CCD
- HL7
- Unstructured Data
- Notes
- Cases
- Patient Experience
- Longitudinal
- Ratings
- E2

Data Providers
- Payers
- PHM
- Data Science

Live Node

Model & Discovery Node

Visualization & Integration

FHIR Document Data Model
- ‘Future-proofing’
- No refactoring with versioning
- R and Python friendly for ML

Data Foundation
- Census
- Programs
- Financial Indicators
- Predictors
- Insights
- Quality
- Patients

API & Other Distribution

Normalizer Metadata Archiver Mastering

Data Integration Staging Bucket

API & Other Distribution
Realizing ROI - Conviva

• Big Data acquisition and computing costs leveraged
• Clinician resource planning optimized
• Optimized clinical workflows and documentation
• Better health outcomes for our patients
Realizing ROI - Humana

• Healthy/happy members
• Decreased provider abrasion
• Better quality care
• Optimized outcomes and corresponding financial benefit
Realizing ROI – Patients

• Living their best life
• More efficient interaction with clinicians
• Optimized use of their health care dollars
• Better engagement to community resources
Questions

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