IBM Performance 2012

Smarter Analytics. Smarter Outcomes.

Seton Healthcare Family

....making healthcare smarter

Mark Rice

13-11-2012

Disclaimer

Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making a purchasing decision. The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver any material, code or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for our products remains at our sole discretion.

THE INFORMATION CONTAINED IN THIS PRESENTATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. WHILE EFFORTS WERE MADE TO VERIFY THE COMPLETENESS AND ACCURACY OF THE INFORMATION CONTAINED IN THIS PRESENTATION, IT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. IN ADDITION, THIS INFORMATION IS BASED ON IBM'S CURRENT PRODUCT PLANS AND STRATEGY, WHICH ARE SUBJECT TO CHANGE BY IBM WITHOUT NOTICE. IBM SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES ARISING OUT OF THE USE OF, OR OTHERWISE RELATED TO, THIS PRESENTATION OR ANY OTHER DOCUMENTATION. NOTHING CONTAINED IN THIS PRESENTATION IS INTENDED TO, NOR SHALL HAVE THE EFFECT OF, CREATING ANY WARRANTIES OR REPRESENTATIONS FROM IBM (OR ITS SUPPLIERS OR LICENSORS), OR ALTERING THE TERMS AND CONDITIONS OF ANY AGREEMENT OR LICENSE GOVERNING THE USE OF IBM PRODUCTS AND/OR SOFTWARE.

The problem – rapid change

Uncontrolled costs

100 million

People worldwide pushed below the poverty line by personal healthcare expenditures each year.[1]

2 times

Healthcare costs are rising two times faster than economic growth in many countries.[2]

Inconsistent quality

1.5 million

Citizens in the US harmed by errors in the way medications are prescribed each year.[3]

1 in 10

The estimated number of patients affected by healthcare-related infections in the EU.[4]

Lack of access to timely care

50 percent

Of developed countries where people with higher incomes have better access to physicians than those with lower incomes.[5]

35 years

Life expectancy within developing countries that struggle with poor urban governance.[6]

Source: (1) Wall Street Journal; (2) HIMSS; (3) HIMSS; (4) Journal of the American Medical Informatics Association; (5) TBD; (6) HIMSS

With this change comes an opportunity to exploit the explosion of information

15 petabytes

Amount of new information created each day - eight times more than the information in all US libraries

… yet some health organizations operate with **blind spots** and information is **not actionable**

Volume of information → **Lack of Insight**

1 in 3 managers frequently make critical decisions without the information they need

Variety of information → **Inefficient Access**

1 in 2 don't have access to the information across their organization needed to do their jobs … notably unstructured information including paper

Velocity of decision making → **Inability to Predict**

3 in 4 business leaders say more predictive information would drive better decisions

** Recent study by Enterprise Strategy Group*

… but the biggest blind spot still remains

- How are you measuring and reducing preventative readmissions?
- How are you providing clinicians with targeted diagnostic assistance?
- Which patients are following discharge instructions?
- How are you leveraging unstructured data to prevent and detect fraud?
- How are you using data to predict intervention program candidates?
- **Would revealing insights trapped in unstructured information facilitate more informed decision making?**

Does unlocking the unstructured data help accelerate your transformation?

- ✓ Physician notes and discharge summaries
- ✓ Patient history, symptoms and non-symptoms
- ✓ Pathology reports
- ✓ Tweets, text messages and online forums
- ✓ Satisfaction surveys
- ✓ Claims and case management data
- ✓ Forms based data and comments
- ✓ Emails and correspondence
- ✓ Trusted reference journals including portals
- ✓ Paper based records and documents

***Over 80%** of stored health information is unstructured**

** AIIM website, accepted industry percentage*

Unstructured data is messy but filled with key medical facts

Echocardiogram Sample Report:

DATE OF STUDY: MM/DD/YYYY

DATE OF INTERPRETATION OF STUDY:

Echocardiogram was obtained for assessment of left ventricular function. The patient has been admit… syncope. Overall, the study was subo…

FINDINGS:

1. Aortic root appears normal.
2. Left atrium is mildly dilated. No gro… recognized, although subtle abnormal… atrium is of normal dimension.
3. There is echo dropout of the intera… could not be excluded.
4. Right and left ventricles are normal… ventricular systolic function appears t… fraction is around 55%. Again, due to… abnormalities in the distribution of lat… excluded.
5. Aortic valve is sclerotic with normal… Doppler study demonstrates trace aor…
6. Mitral valve leaflets are also sclero… imaging and Doppler study demonstra… regurgitation.
7. Tricuspid valve is delicate and oper… clearly seen. No evidence of pericardi…

CONCLUSIONS:

1. Poor quality study.
2. Eyeball ejection fraction is 55%.
3. Trace to mild degree of mitral regu…
4. Trace aortic regurgitation.

Cardiology Consultation Transcribed Medical Transcription Sample Reports

DATE OF CONSULTATION: MM/DD/YYYY

REFERRING PHYSICIAN: John Doe, MD
CONSULTING PHYSICIAN: Jane Doe, MD
REASON FOR CONSULTATION: Surgical evaluation for coronary artery disease.
HISTORY OF PRESENT ILLNESS: The patient is a (XX)-year-old female who has a known history of coronary artery disease. She underwent previous PTCA and stenting procedures in December and most recently in August. Since that time, she has been relatively stable with medical management. However, in the past several weeks, she started to notice some substernal dyspnea with chest pain. For the most part, the pain subsides with rest. For this reason, she was re-evaluated with a cardiac catheterization. This demonstrated 3-vessel coronary artery disease with a 70% lesion to the right coronary artery; this was a proximal lesion. The left main had a 70% stenosis. The circumflex also had a 99% stenosis. Overall left ventricular function was mildly reduced with an ejection fraction of about 45%. The left ventriculogram did note some apical hypokinesis. In view of these findings, surgical consultation was requested and the patient was subsequently evaluated by Dr. Doe.
PAST MEDICAL …
1. Coronary arte…
2. Dyslipidemia.
3. Hypertension.
4. Status post br…
ALLERGIES: No…
MEDICATIONS: …
q.h.s.
SOCIAL HISTOR… history. She doe…
FAMILY MEDIC… carcinoma.
REVIEW OF SY… hemoptysis of pr… abdominal pain. She… some diffuse abd… no depression or… problems or bloo… lumpectomy proc… mammography a… changes in weigh…
PHYSICAL EXAMINATION: Her blood pressure is 130/70, pulse is 60. She is in a sinus rhythm on the EKG monitor, Respirations are 16 and unlabored. Temperature is 98.2 degrees Fahrenheit. She weighs 160 pounds, she is 5 feet, 4 inches. In general, this was an elderly-appearing, pleasant female who currently is not in acute distress. Skin color and turgor are good. Pupils were equal and reactive to light. Conjunctivae clear. Throat is benign. Mucosa was moist and hydrated. Neck veins not distended at 90 degrees. Carotids had 2+ ubstrokes bilaterally without bruits. No lymphadenopathy was appreciated. Chest had a normal AP diameter. The lungs were clear in the apices and bases, no crackling or egophony appreciated. The heart had a normal S1, S2. No murmurs, clicks or gallops. The abdomen was soft, nontender, nondistended. Good bowel sounds present. No hepatosplenomegaly was appreciated. No pulsatile masses were felt. No abdominal bruits were heard. Her pulses are 2+ and equal bilaterally in the upper and lower extremities. No clubbing is appreciated. She is oriented x3. Demonstrated a good amount of strength in the upper and lower extremities. Face was symmetrical. She had a normal gait.
IMPRESSION: This is a (XX)-year-old female with significant multivessel coronary artery disease. This patient also has a left main lesion. She has undergone several PTCA and stenting procedures within the last year to year and a half. At this point, in order to reduce the risk of any possible ischemia in the future, surgical myocardial revascularization is recommended.
PLAN: We will plan to proceed with surgical myocardial revascularization. The risks and benefits of this procedure were explained to the patient. All questions pertaining to this procedure were answered.

Medications, diseases, symptoms, non-symptoms, lab measurements, social history, family history and much more

…on Transcribed Medical Transcription Sample Reports
…: John Doe, MD
…N: Jane Doe, MD
…ILLNESS: This (XX)-year-old lady is seen in consultation for Dr. John … consideration for ventral hernia repair and has a background of … known coronary artery disease. The patient was admitted with complaints … sis, and vomiting. She underwent a CT scan of the abdomen and pelvis … ral hernia involving the transverse colon, but without strangulation. There … ncy. She had bilateral renal cysts. The hepatic flexure wall was thickened. … diverticulosis without diverticulitis. It has been recommended to her that she … bral hernia. For this reason, cardiology consult is obtained to assess … from the cardiac standpoint.
…: Bypass surgery: She underwent echocardiography and cardiac … catheterization prior to the operation. Echocardiography showed an ejection fraction of 50%. There was marked left ventricular hypertrophy with apical wall 1.80 cm and posterior wall 1.55 cm. Coronary arteriography showed 90% stenosis in the anterior descending artery, situated distally just before the apex of the left ventricle. Only mild to moderate narrowing was seen elsewhere in the coronary circulation.
CORONARY RISK FACTORS: Her father had an irregular heartbeat and her brother had a fatal heart attack. She herself has had high blood pressure for 20 years. She has elevated cholesterol and takes Lipitor. She has had diabetes for 20 years. She is not a cigarette smoker. She does little physical exercise.
REVIEW OF SYMPTOMS: CARDIOVASCULAR AND RESPIRATORY: She has no chest pain. She sometimes becomes short of breath if she walks too far. No cough. She has occasional swelling of her feet. Occasionally, she gets mildly lightheaded. Has not lost consciousness. She tends to be aware of her heartbeat when she is tired. She has no history of heart murmur or rheumatic fever. GASTROINTESTINAL: Recent GI symptoms as noted above, but she does not usually have such problems. She has had no hematemesis. She has no history of ulcer or jaundice. She sometimes … blood in the stool. GENITOURINARY: She tends to have … up once at night to pass urine. No dysuria, incontinence. She has had … stones noted. NEUROLOGIC: She has occasional headaches. No … on, hearing, or speech. No limb weakness. MUSCULOSKELETAL: She … joints and has a history of gout. HEMATOLOGIC: No anemia, … us blood transfusion. GYNECOLOGIC: No gynecologic or breast …
… She has had shoulder and hand injuries and has had carpal tunnel … and has been on insulin. She has chronic renal insufficiency with … has had hypothyroidism. She has had morbid obesity. She has chronic … sea BiPAP. She has had hysterectomy and oophorectomy in the past.
…pital, she was taking glipizide XL 2.5 mg daily, metoprolol 50 mg … atorvastatin 40 mg daily, Synthroid 75 mcg daily, aspirin 81 mg daily, … recently, she is taking Lipitor 40 mg daily, Lantus 10 units at bedtime; … metoprolol 50 mg b.i.d., and Zocor 2.25 grams q.h.s. … not drink alcohol.
… is not currently dyspneic, in no distress. She is alert, oriented, and …
… and react normally. No icterus. Mucous membranes well colored. … neopathy. Jugular venous pressure not elevated. Carotids equal. … per minute and regular and the blood pressure 132/78. The cardiac … There is a grade 3/6 ejection systolic murmur heard medial to the … with well heard radiation to the neck vessels. … cussion and auscultation. Normal respiratory effort. … cer. The presence of a large ventral hernia is noted. … derma. Posterior tibial pulses were felt bilaterally, but I did not feel the …
… lesions are noted.
…OSTIC DATA: Electrolytes are normal. BUN and creatinine 16/2.2. … is 7.8, hemoglobin 11.7 with hematocrit 34.9, platelets 187,000. … an AG: 7:7. TSH: 1.62. Troponin I was normal on three occasions. … ged heart with postoperative changes, but no evidence of acute … ble left atrial enlargement. Low voltage QRS, probable inferior wall … terior wall infarction, age undetermined.
… with bioprosthetic valve. Residual systolic murmur. … ses with severe stenosis in anterior descending artery, but this is … only a small mass of myocardium. … ular systolic function. The EKG appearance of previous myocardial … indicating multiple other medical problems as listed above … the chart.
It appears that she does not wish to proceed with the … if such surgery is not

The patient had a chest x-ray, which showed cardiomegal… effusion, a left costophrenic angle which has not changed… head CT, which showed atrophy with old ischemic chang…

Seton Healthcare Family

- Not-for-profit organization which provides healthcare services for over an 11-county population of 1.9 million:
  - 5 major medical centers
  - 2 community hospitals
  - 3 rural hospitals
  - An inpatient mental health hospital
  - Several strategically located health facilities
  - 3 primary care clinics for the uninsured.

Project: Reducing Congestive Heart Failure (CHF) Readmissions

IBM Content and Predictive Analytics for Healthcare uses the same type of natural language processing as IBM Watson, enabling us to leverage information in new ways not possible before. We can access an integrated view of relevant clinical and operational information to drive more informed decision making and optimize patient and operational outcomes."
Charles J. Barnett, FACHE, President/Chief Executive Officer, Seton Healthcare Family.

Business Challenge

Seton Healthcare strives to reduce the occurrence of high cost Congestive Heart Failure (CHF) readmissions by proactively identifying patients likely to be readmitted on an emergent basis.

What's Smart?

IBM Content and Predictive Analytics for Healthcare solution will help to better target and understand high-risk CHF patients for care management programs by:

- Utilizing natural language processing to extract key elements from unstructured History and Physical, Discharge Summaries, Echocardiogram Reports, and Consult Notes
- Leveraging predictive models that have demonstrated high positive predictive value against extracted elements of structured and unstructured data
- Providing an interface through which providers can intuitively navigate, interpret and take action

Smarter Business Outcomes

- Seton will be able to proactively target care management and reduce re-admission of CHF patients.
- Teaming unstructured content with predictive analytics, Seton will be able to identify patients likely for re-admission and introduce early interventions to reduce cost, mortality rates, and improved patient quality of life.

IBM solution

- IBM Content and Predictive Analytics for Healthcare
- IBM Cognos Business Intelligence
- IBM BAO solution services

Key Findings

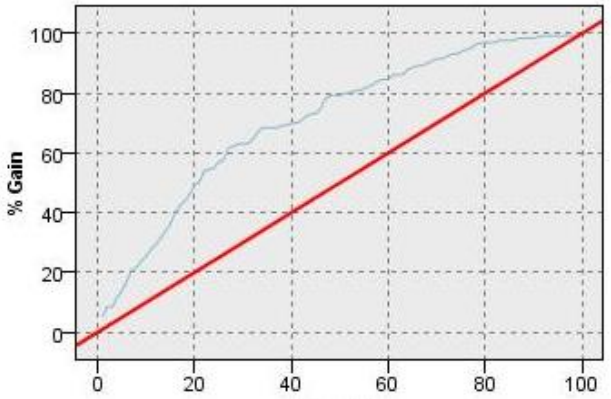
What Really Causes Readmissions at Seton

The Data We Thought Would Be Useful … Wasn't

- 113 candidate predictors from structured and unstructured data sources
- Structured data was less reliable then unstructured data – increased the reliance on unstructured data

New Unexpected Indicators Emerged … Highly Predictive Model

- 18 accurate indicators or predictors



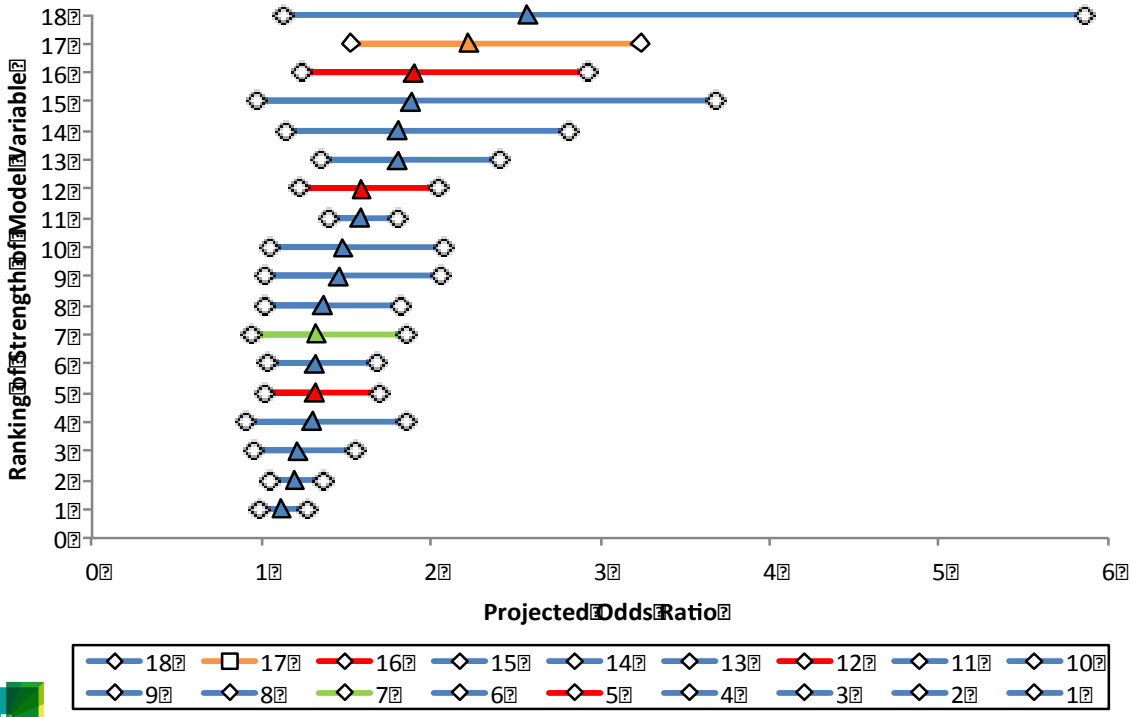
Predictor Analysis	% Encounters Structured Data	% Encounters Unstructured Data
Ejection Fraction (LVEF)	2%	74%
Smoking Indicator	35% (65% Accurate)	81% (95% Accurate)
Living Arrangements	<1%	73% (100% Accurate)
Drug and Alcohol Abuse	16%	81%
Assisted Living	0%	13%

Key Findings

Top 18 Indicators

New Insights Uncovered by Combining Content and Predictive Analytics

- LVEF and Smoking are significant indicators of CHF but not readmissions
- Assisted Living and Drug and Alcohol Abuse emerged as key predictors (only found in unstructured data)
- Many predictors are found in “History” notations and observations



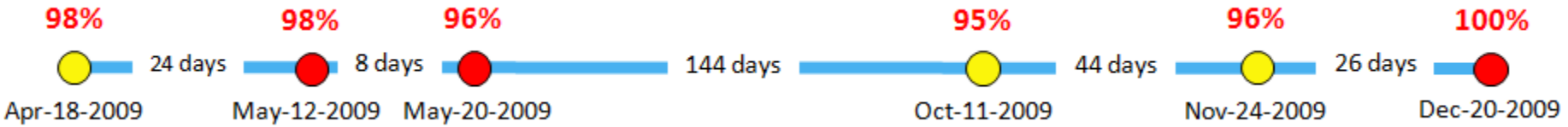
18. Jugular Venous Distention Indicator
17. Paid by Medicaid Indicator
16. Immunity Disorder Disease Indicator
15. Cardiac Rehab Admit Diagnosis with CHF Indicator
14. Lack of Emotion Support Indicator
13. Self COPD Moderate Limit Health History Indicator
12. With Genitourinary System and Endocrine Disorders
11. Heart Failure History
10. High BNP Indicator
9. Low Hemoglobin Indicator
8. Low Sodium Level Indicator
7. Assisted Living (from ICA Extract)
6. High Cholesterol History
5. Presence of Blood Diseases in Diagnosis History
4. High Blood Pressure Health History
3. Self Alcohol / Drug Use Indicator (Cerner + ICA)
2. Heart Attack History
1. Heart Disease History

Key Findings

Admit / Readmission
30-Day Readmission

Case Study: CHF Patient X

Patient X was hospitalized 6 times over an 8 month period. The same basic information was available at each encounter and Patient X's readmission prediction score never dropped below 95 (out of possible 100)



Individual Patient Data at Each Encounter (Patient X @ Dec 20, 2009)

Patient X (DSS & Cerner)
High Model Score (100)
Gender: Male
Age: 73
Insurance: Medicaid
Lack of Emotional Support: Yes
Sodium Level: Low
Cholesterol Level: High
COPD History: Yes
Heart Disease & Heart Failure History: Yes
HBP History: Yes

NLP Clinical Documentation
Living Arrangement: Permanent
Assisted Living: No
Smoking History: Yes
Smoking Amount: N/A
Alcohol Abuse History: Yes
Drug Abuse History: N/A
Ejection Fraction: N/A

Patient Population Monitoring
Clinical and Operational Data

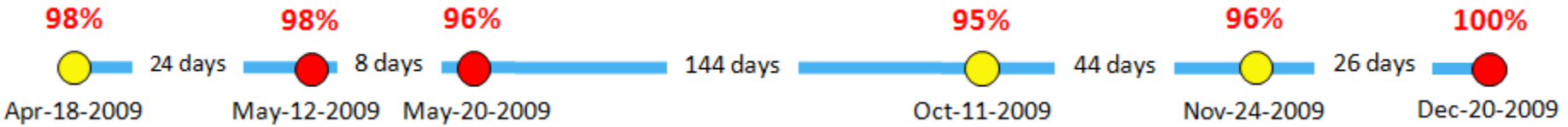
Key Findings

Admit / Readmission

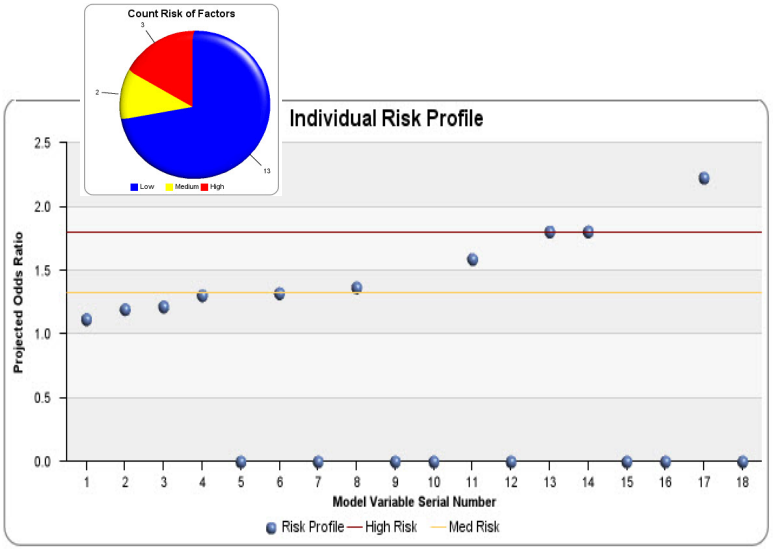
30-Day Readmission

Case Study: CHF Patient X

Patient X was readmitted the 5th time after 26 days with additional risk factors. It surfaced that there was of lack of emotional support plus Patient X had taken up smoking again as well as alcohol abuse.



Individual Patient Data at Each Encounter (Patient X @ Dec 20, 2009)



Description of Model Serial Number

18. Jugular Venous Distention Indicator
17. Paid by Medicaid Indicator
16. Immunity Disorder Disease Indicator
15. Cardiac Rehab Admit Diagnosis with CHF Indicator
14. Lack of Emotion Support Indicator
13. Self COPD Moderate Limit Health History Indicator
12. With genitourinary system & Endocrine disorders
11. Heart Failure History
10. High BNP Indicator
9. Low Hemoglobin Indicator
8. Low Sodium Level Indicator
7. Assisted Living from ICA Extract
6. High Cholesterol History
5. Presence of diseases of the blood in diagnosis history
4. High Blood Pressure Health History
3. Self Alcohol/Drug Use Indicator (Cerner + ICA)
2. Heart Attack History
1. Heart Disease History

Patient Population

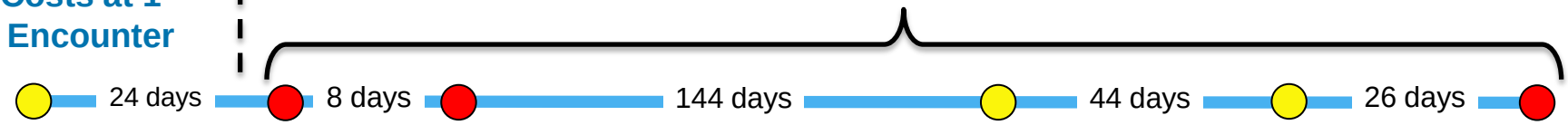
Key Findings

Admit / Readmission
30-Day Readmission

Case Study: CHF Patient X

17% of Out-of-Pocket Costs at 1st Encounter

83% of Out-of-Pocket Costs Avoidable (5 Unnecessary Encounters)



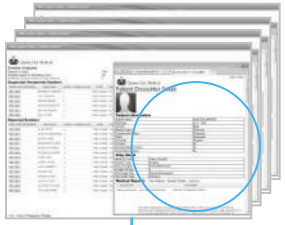
Summary of Key Readmission Risk Factors for Patient X

- **Possible Intervention Factors:** High Cholesterol, Low Sodium, Emotional Support, High Blood Pressure
- **Other Factors:** Paid by Medicaid, History: COPD, Heart Disease and Heart Failure
- A number of the top 18 factors were not available from the data at each encounter including the top predictor (Jugular Venous Distention Indicator)

Patient Population Monitoring
Clinical and Operational Data

IBM Innovation

IBM Content and Predictive Analytics (ICPA) for Healthcare



A 42-year old white male presents for a physical. He recently had a right hemicolectomy invasive grade 2 (of 4) adenocarcinoma in the ilocecal valve was found and excised. At the same time he had an appendectomy. The appendix showed no diagnostic abnormality.

Patient **Age:** 42
Gender: Male
Race: White

Procedure **hemicolectomy**
diagnosis: invasive adenocarcinoma
anatomical site: ileocecal valve
grade: 2 (of 4)

Procedure **appendectomy**
diagnosis: normal
anatomical site: appendix

- *Physicians*
- *Other Clinicians*
- *Care Coordinators*
- *Researchers*
- *Executives*
- *Business Analysts*
- *Claims*
- *Fraud*
- *Knowledge Workers*
- *Other Systems and Applications*

Accurately extract buried medical facts and relationships with **medical annotators**

Analyze compiled information for trends, patterns, deviations, anomalies and relationships in aggregate to reveal new insights with **content analytics**

Model, score and predict the probability of outcomes with **predictive analytics**

Make insights accessible and actionable for all clinical and operational knowledge workers (and systems)

*Confirm hypotheses or seek alternative ideas from learned knowledge via Watson for Healthcare from the same user interfaces**

IBM P
Sr

* Future capability

ICPA

Visualizing Results

Cognos dashboard reporting system can help in monitoring the key clinical, operational and financial metrics. More importantly, being able to track down the top priority cases for case management.

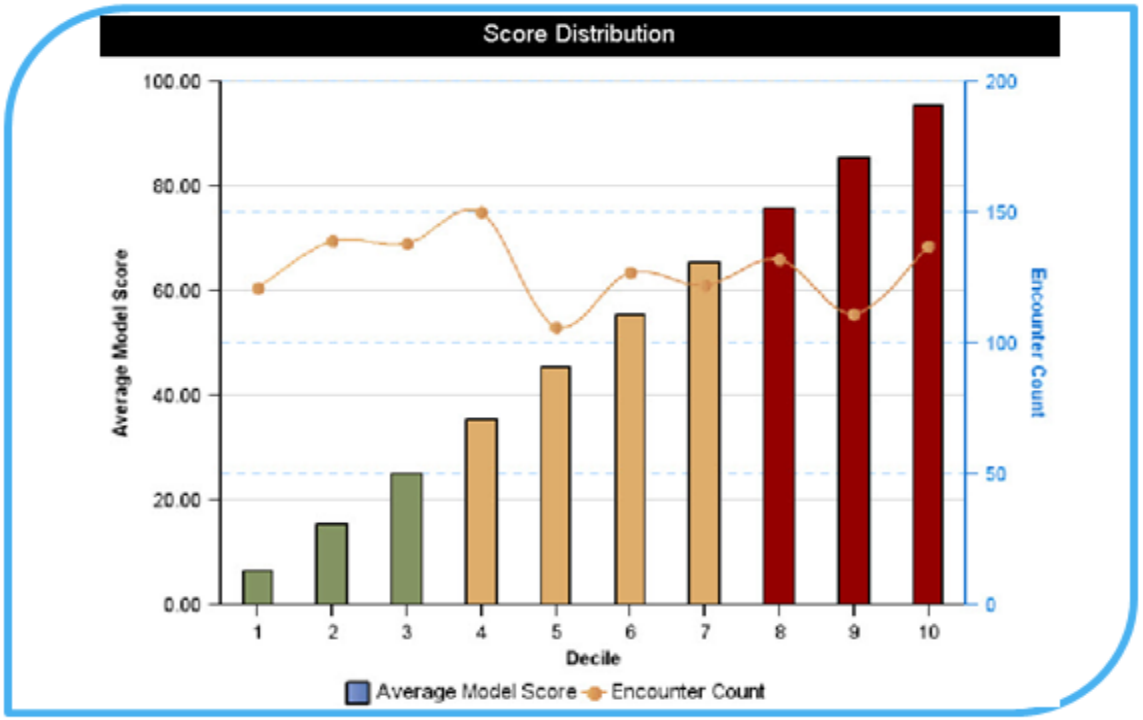
1. **Clinical Statistics:** admission count, readmission count and readmission rate
2. **Operational Statistic:** Counts of different length of stay periods
3. **Financial Statistic:** Total direct cost by total admission and by readmission
4. **Mortality:** mortality rate
5. **Average length of stay**
6. **Average direct cost by total admission** and by readmission only
7. **PA Model Score**: Distribution of propensity of readmission

ICPA

Visualizing Results

Managing the follow-up cases through Cognos

Each discharged patient is scored by the predictive model to anticipate the propensity of readmission. The pool of patient is divided into 10 groups according to model risk score. The colored bar represents the average model score (0-100) of each group. The higher the model score, the higher the priority of case management.

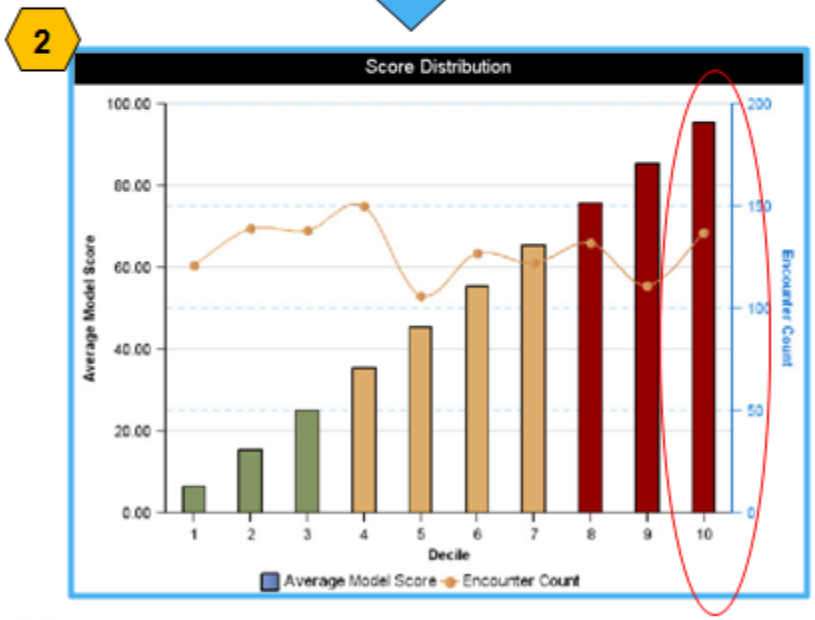


- The colored line above the colored bar represents the distribution of encounter count in each risk group (colored bar).
- The height of the colored bars represents the average model score of the group. The higher the model score, the higher the propensity of readmission. Case manager can start to focus on the early intervention effort from the high score groups.

ICPA

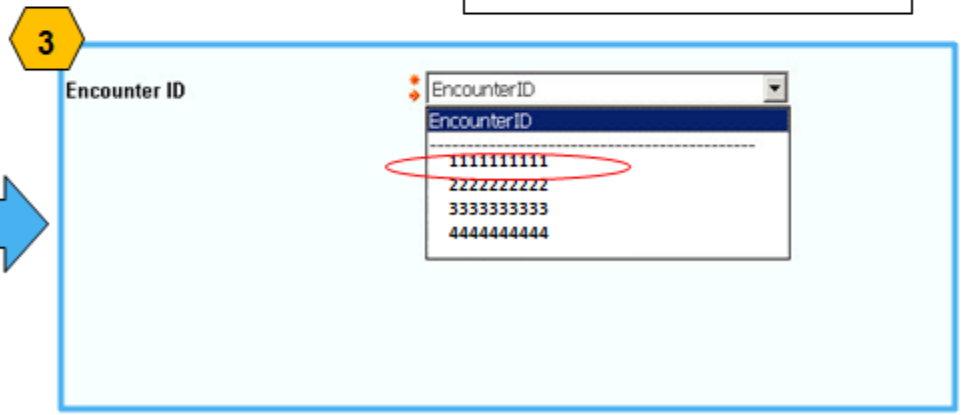
Visualizing Results

Steps to Navigate through Cognos Dashboard



Steps to navigate the Dashboard

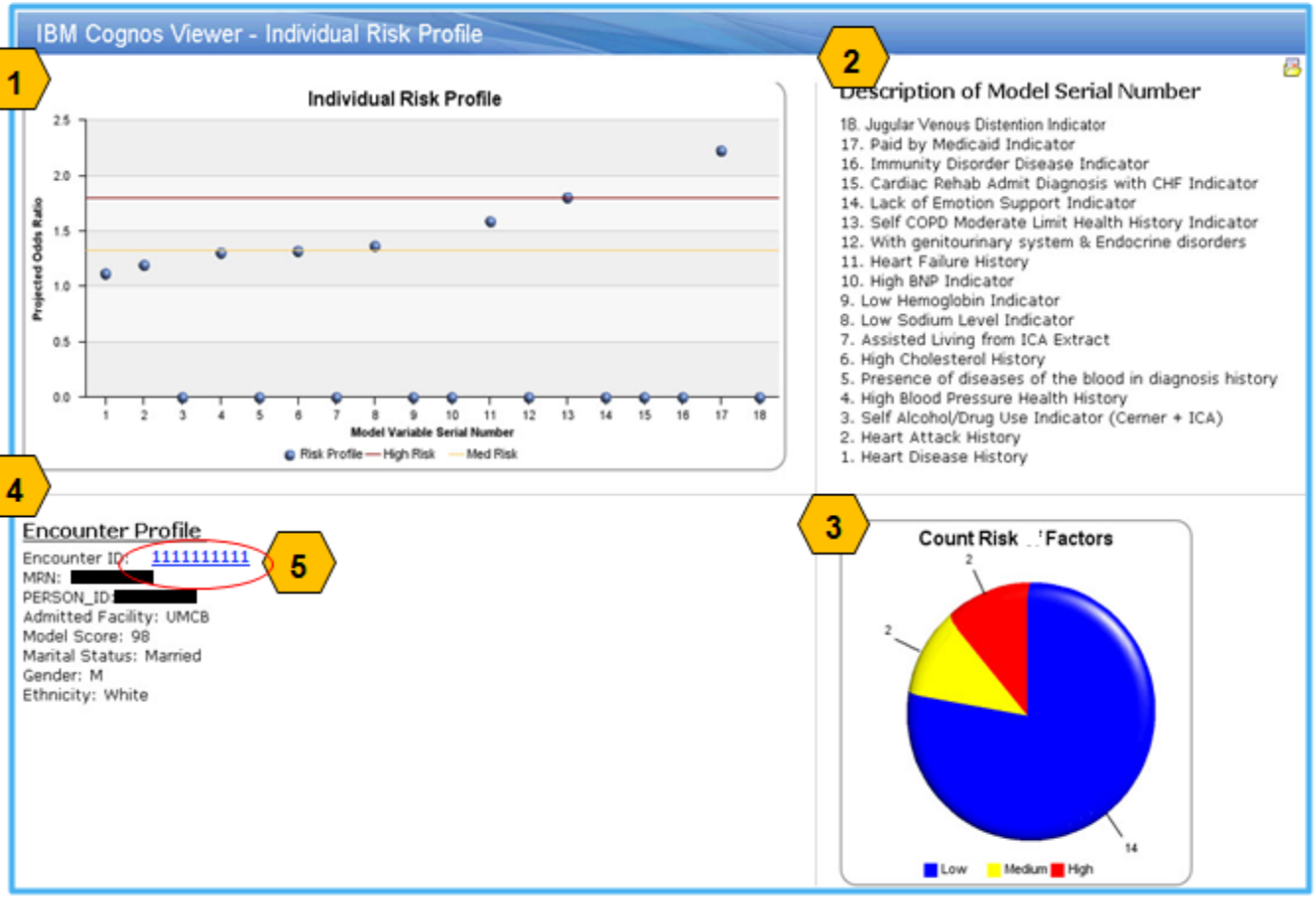
1. Select the date range for targeted focus group
2. Click on colored bar to find out the encounters/patients belong to that group.
3. Select the case to follow up.
4. The individual risk profile dashboard pops up on next page.



ICPA

Visualizing Results

Components of Individual Risk Profile Dashboard

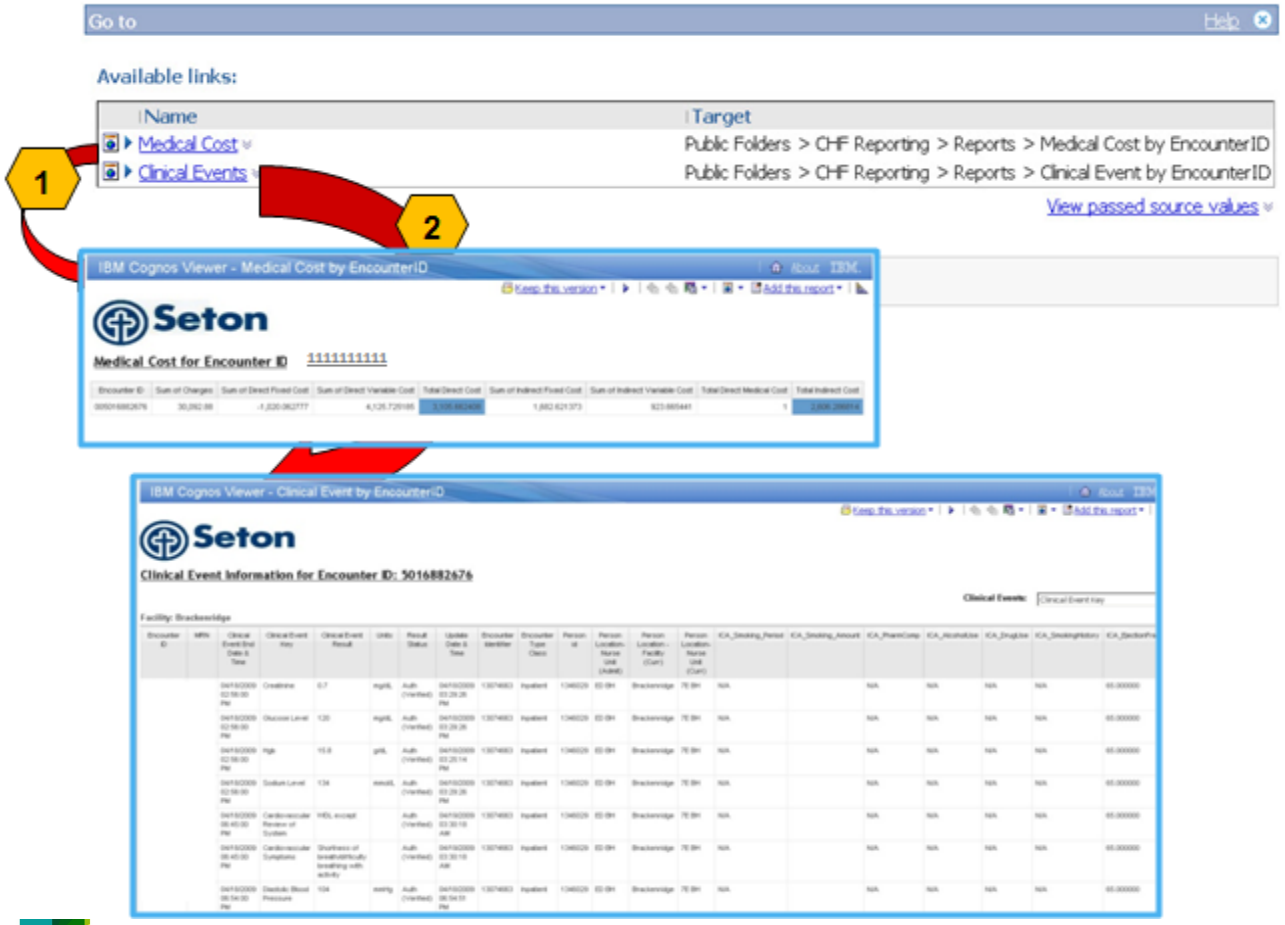


1. **Individual Risk Profile:** it displays the risk factors of patient that are flagged by predictive model.
   i. Red line is the reference line for high risk factors.
   ii. Orange line is the reference line for medium risk factors.
2. **Description of model variable serial number** on x-axis of chart on **(1)**
3. **Pie chart of count of risk factors**: gives quick overview of number of high/medium/low risk factors to follow up with.
4. **Encounter Profile**: provides basic profile of the encounter for case manager to follow up.
5. **Hyperlink to patient's longituditional record**

ICPA

Visualizing Results

Components of Individual Risk Profile Dashboard



Once clicked on the hyperlink of encounter, it will lead to options of viewing detail medical cost and clinical information.

1. Screen shot of Details of medical cost Information
2. Screen shot of details of clinical information (including NLP results)

Why IBM Content and Predictive Analytics?

IBM Content and Predictive Analytics for Healthcare

A synergistic solution to IBM Watson

- Uniquely applying multiple analytics services to derive and act on new insights in ways not previously possible
- The first "Ready for Watson" solution … designed to complement and leverage IBM Watson

IBM is helping to transform healthcare

Revealing insights in the high impact overlap between clinical and operational – enabling low cost accountable care

- Enhanced patient care and optimized outcomes
- Improved patient satisfaction and lower costs

IBM Innovation Continues

ICPA for Healthcare and IBM Watson for Healthcare

Evidence Based Learned Knowledge

Books, clinical guidelines, web resources, journals and other healthcare authoritative resources

IBM Content and Predictive Analytics for Healthcare

*Past, present and future analysis compliments Watson – with focus on customer data for **clinical** and **operational** outcomes*

Ready for Watson

IBM Watson for Healthcare

Leverage learned knowledge with QA-style interactions for clinical applications such as diagnosis

WellPoint and IBM Announce Agreement to Put Watson to Work in Health Care

"... clinical best practices to help a physician advance a diagnosis and guide a course of treatment"

IBM Innovation Continues

IBM Care Management

ICM Care Management extends **IBM Case Manager** with a patient-centric care management platform that empowers Care Coordinators

Healthcare Operations

- Patient Intake
- Patient Release
- Care Planning
- Patient Population Analysis
- Audits/Forensic Accounting
- Administrative Task Efficiency
- Collaborative co-ordination from release to prescription management to care plan
- Mobile Care Management access

Healthcare Imperatives

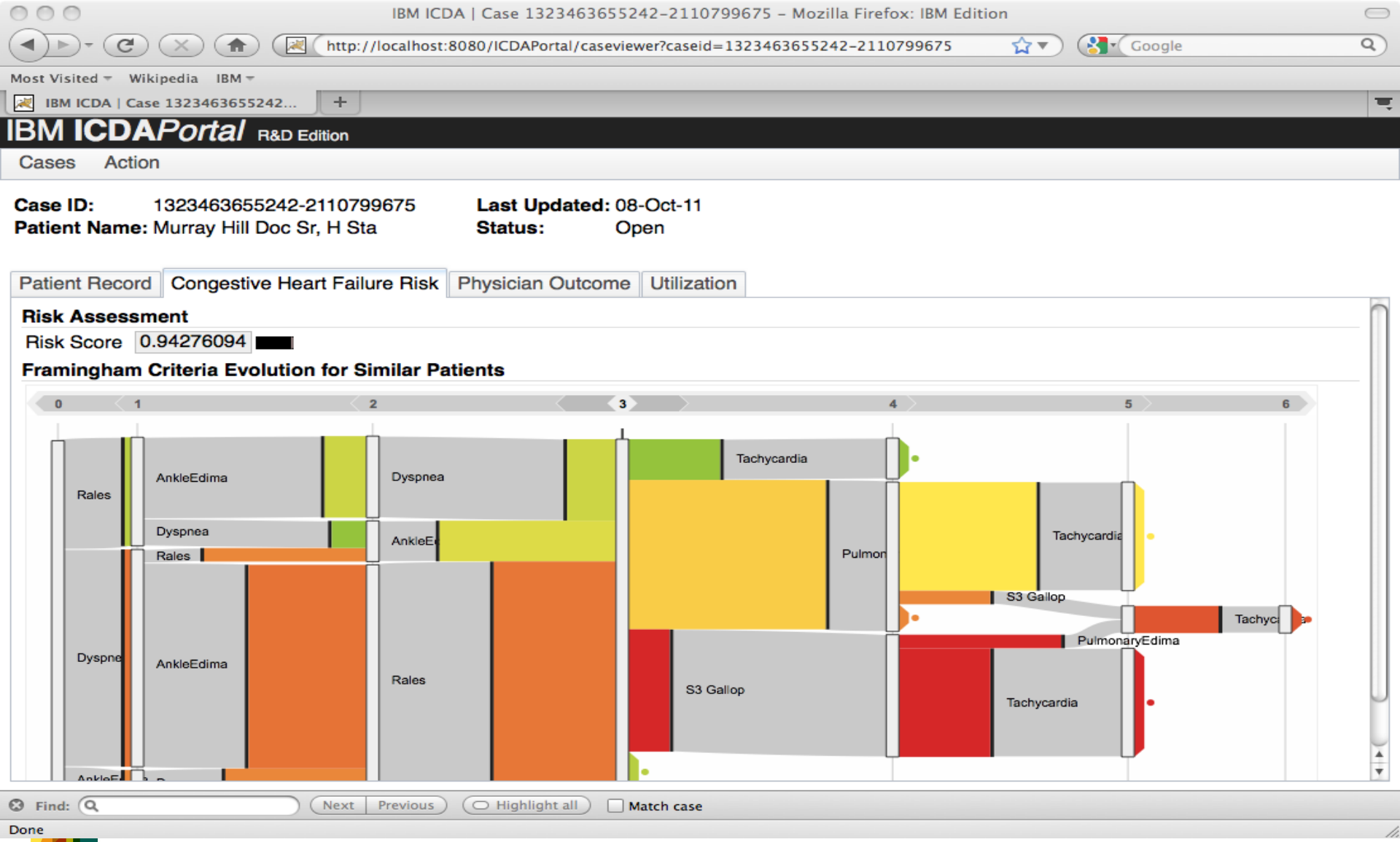
- Decrease the medical and administrative cost of patient care
- Enable care managers to focus on critical clinical tasks
- Improve care management quality by fostering guideline compliance
- Improve quality of patient care by improving clinical outcomes
- Improve member satisfaction thru a personalized care experience
- Provide a secure collaborative communications platform for the exchange of health information
- Reduce the number of avoidable hospital readmissions

Required Capabilities

- Case Aggregation
- Team Collaboration
- Care Plan Management
- Medical Text Analytics
- Care Plan Business rules
- Care Plan/Population Analytics
- Solution development and deployment
- Risk/Compliance
- Interoperability

IBM Innovation Continues

IBM Care Delivery Analytics: Built on ICPA

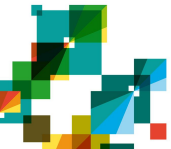


Next steps

Find out more about IBM Content and Predictive Analytics for Healthcare

http://www-01.ibm.com/software/ecm/content-analytics/predictive/healthcare.html

http://www-01.ibm.com/software/ecm/patient-care/



Thank You....