EMSI HEALTH®

Utilizing Predictive Models to Target for Clinical and Diagnosis Gaps

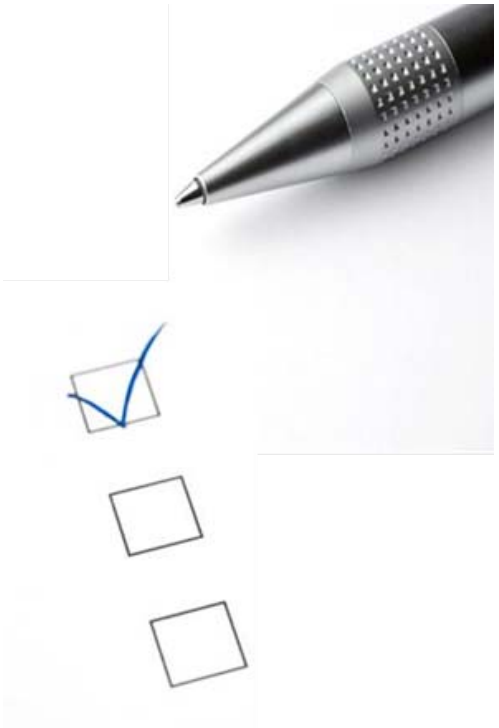
Predictive Modeling Summit

September 16, 2016

Presented by Scott Weiner

Agenda

- Who is EMSI?
- Risk Adjustment Primer
- Historical Predictive Approach



ABOUT EMSI

Solutions Designed to Get Results

Across two operating divisions, we customize and design information solutions to empower our customers to grow and improve profitability.

Healthcare Services

- **Health Plan Services**
  - Risk Adjustment Services
    - Medicare Advantage
    - Commercial
    - Managed Medicaid
  - Data Analysis and Targeting
  - Healthy House Calls®
  - Chart Retrieval
  - HCC Coding
- **Employer Services**
  - Workplace Services
  - Wellness Services
  - Clinical Services

Insurance Services

- Medical Record Retrieval
- Mobile Paramed Exams
- Electronic Application Processing / Teleinterviews
- Underwriting Services
- Inspections
- Litigation Record Retrieval

We empower Health Plans with comprehensive services for the most appropriate reimbursements, member care coordination, and to improve the lives of those they serve.

EMSI Annual Snapshot

EMSI HEALTH®

Medical Information Solutions for:

Health Plans | Life Sciences | Life Insurers | P&C Insurers | TPAs / Employers

40 YEARS of Gathering Information

Headquarters Irving, Texas

3600+ employees

Annual Transactions

10+ million
calls handled at call centers

2.0+ million
medical records retrieved

250K+
risk analytics, charts and home visits

1.5+ million
in-home assessments and in-person collections

7400+
credentialed, trained providers in our networks

600K+
chart reviews

400K+
drug and alcohol screenings

75K
claims investigations

300K+
underwriting transactions

POWERFUL INFORMATION. IMPROVED OUTCOMES.

RISK ADJUSTMENT PRIMER

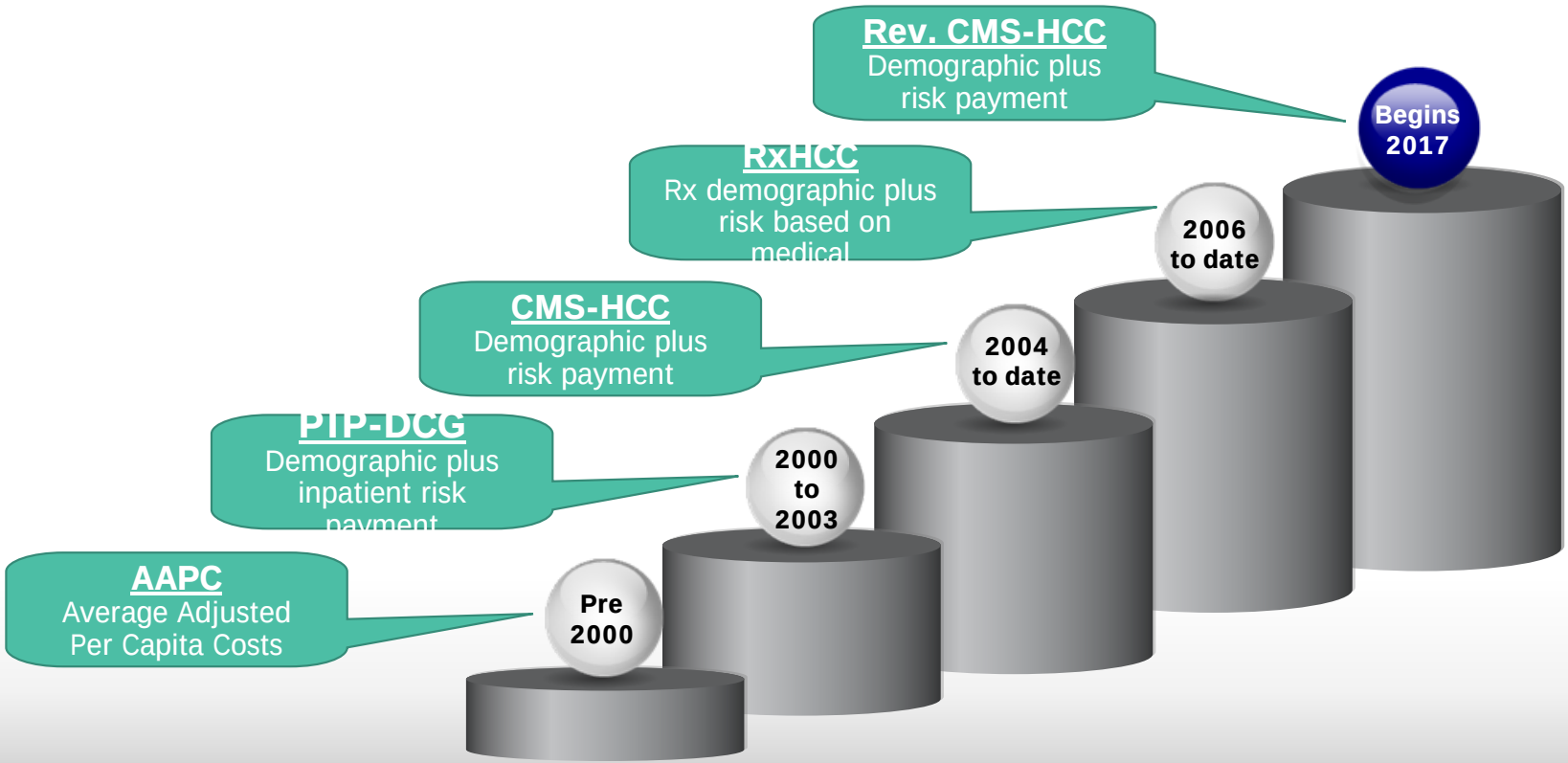
What is Risk Adjustment?

- A method used to adjust bidding and payment based on the health status and demographic characteristics of an enrollee
- Pay appropriate and accurate reimbursement for subpopulations with significant cost differences
- Purpose: to pay plans accurately for the risk of the beneficiaries they enroll
- Why: access, quality, protect beneficiaries, reduce adverse selection, etc.

Types of Risk Adjustment

- **Prospective/Future Prediction:**
  - Uses historical diagnoses as a measure of health status and demographic information to predict **future** expense
  - Data from 2014 used to predict expected costs in 2015
  - **Example: CMS Medicare HCC Model**
- **Concurrent (aka Retrospective):**
  - Uses historical diagnoses as a measure of health status and demographic information to predict **expected** expense for the current period done from a retrospective perspective
  - Data from 2014 used to **retroactively** predict expected costs in 2014
  - **Example – HHS-CC model for the Health Insurance Marketplace**

Historical Medicare Advantage Models



Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA)

- The new 50/50 rule, limiting Medicare and Medicaid enrollment to no more than 50 percent of total enrollment, a provision that could be waived by the Secretary of Health and Human Services.
- Plans paid 95% of Medicare Fee-for-service rate, Adjusted Average Per Capita Cost (AAPCC), in county.
- Government kept 5% as savings.
- Belief was the plans were “Cherry-picking” members under AAPCC since the rate did not account for sickness of member, only demographics.

Balance Budget Act of 1997 (BBA)

- Created Medicare+Choice (M+C) Part C Program
- Mandated CMS to implement risk adjustment payment methodology to M+C (now MA) organizations beginning in 2000 based on inpatient diagnoses – Principal Inpatient Diagnostic Cost Group (PIP DCG)
- Payment based on the health status and demographic characteristics of an enrollee
- Idea was to keep plans from “Cherry-picking” members
- Mandated frailty adjustment for enrollees in the Program for All-Inclusive Care for the Elderly (PACE)

Beneficiary Improvement Act of 2000 - BIPA

- Mandated CMS to implement risk adjustment payment methodology to M+C organizations based on both inpatient and ambulatory data beginning in 2004 (CMS-HCC)
- Established the implementation schedule to achieve 100% risk adjustment payments by 2007
- Mandated introduction of risk adjustment to End Stage Renal Disease enrollee payments.
  (Separate model from non-ESRD model)

Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA)

- Created Medicare Part D - new prescription drug benefit program which was implemented beginning in 2006
- Created new program called Medicare Advantage (MA) that replaced M+C program.
- Introduced bidding into the MA program and amended the MA payment methodology – plans no longer received a flat 95% of Fee-For-Service.
- Retained most M+C provisions.
- Included risk adjustment as a key component of the bidding and payment processes for both the MA program and the prescription drug benefit.

Medicare Advantage Part C

- Combined the Part A (Hospital Benefit) and Part B (Physician Services)
- Medicare Advantage Plan Sponsors could offer
  - 3 types of local plan options
    - Coordinated care plans (HMOs, PPOs, PSO);
    - PFFS plans; and
    - MSA plans.
  - Created MA regional coordinated care plans;
  - 26 MA regions announced in December 2004
- Replaced Average Adjusted Per Capita Costs (AAPCC) proposal with bidding process

Medicare Prescription Drug Benefit

- Pharmacy benefit offered for the first time in 2006 as part of standard Medicare benefit
- Two types of sponsors:
  - Stand alone prescription drug plan (PDP)
  - MA plans that offer original Medicare Advantage benefits plus the Part D prescription drug benefit (MA-PD)
    - Each MA organization must provide basic drug coverage under one of its plans for each service area it covers
    - Can offer additional benefit plans beyond that
- Established reinsurance option and risk corridors to limit risk for participating plans – still in place today
- 34 Part D regions announced in December 2004

Part D Changes 2012

- Added new payment models based on actual Part D experience
  - Community, Non-Low Income, Age>=65
  - Community, Non-Low Income, Age<65
  - Community, Low Income, Age>=65
  - Community, Low Income, Age<65
  - Institutional
- Broke Out New Enrollee Model for additional factors
  - ESRD Factor
  - Original Entitlement Reason (Disability Add-on over 65)
  - Low Income/No-Low Income
  - Institutional vs. Community
  - Revamped RxHCC Model removing some RxHCC and adding other RxHCC based on experience.

Affordable Care Act (ACA) - Obamacare

- Significant changes made to Medicare Advantage program payment models
  - Counties put into 4 Quartiles (95%, 100%, 107.5%, 115% of FFS)
  - Phased in over 2-6 years based on change
  - Payments partially based on quality – Medicare Quality and Performance Ratings (Medicare “STARS”)
    - Rebates adjusted based on ratings 50%-70%
    - Plan can receive a bonus of 3%-5% in 2012-14
    - Only 4 star plans and above can receive a bonus in 2015 and beyond (5%)
  - 5-star plans have ability to market their plan on a year-round basis vs. annual election period only
  - New plans for new parent organizations will be considered a “3-star” plan for bonus and rebate calculations.

Recent Changes to Medicare Advantage

- Updates to CMS-HCC model – moved to version v22 from version v12 for 2016
- Changes to Part C segments similar to changes in Part D in 2012:
  - Full benefit dual aged
  - Full benefit dual disabled
  - Partial benefit dual aged
  - Partial benefit dual disabled
  - Non-dual aged
  - Non-dual disabled
  - Institutional

Why Complete Coding Is Necessary

- 60-year-old male
- Originally disabled
- Medicaid
- Community
- HCC 17 – Diabetes w/Acute Complications
- HCC 19 – Diabetes w/o Complications
- HCC 80 – Congestive Heart Failure
- HCC 92 – Specific Heart Arrhythmias
- Interaction DM_CHF

HCC Calculation

Variable	Accurate	Missing
60-year-old male	0.411	0.411
Originally disabled	0.000	0.000
HCC 17 – Diabetes w/Acute Complications	0.339	0.000
HCC 19 – Diabetes w/o Complications	0.162	0.162
HCC 80 – Congestive Heart Failure	0.410	0.000
HCC 92 – Specific Heart Arrhythmia	0.293	0.293
Interaction for Diabetes and CHF	0.154	0.000
Total Hierarchical HCC weight	1.607	0.866
Annual payment (assumes $800/mo.)	$15,427	$8,314
Payment Difference	$7,113	
Medical expense (85% MLR)	$12,960	$12,960
Profit/Loss	$2,467	**($4,646)**

HISTORICAL METHODS OF PREDICTIVE ANALYSIS

Historical Approach to Risk Adjustment

- Suspecting for risk adjustment has historically focused on a couple areas:
  - Year-over-year
  - Pharmacy gaps

Year-Over-Year Gaps

- Plans have historically looked at what chronic conditions were coded in previous years to see what should be captured this year.
  - If a member had diabetes last year, we expect them to continue to have the condition again.
  - Persistency capture runs at about 85%
  - Most plans do not look at the other side of the data to see which conditions were incorrectly coded.

Pharmacy Gaps

- Many prescriptions identify conditions directly (or close to direct)
  - Diabetics take Insulin, Metformin, etc.
- Other drugs may point to multiple conditions and are harder to use to predict conditions:
  - Topomax – could be indicative of Migraines, Headaches, Seizures, or even weight loss

Wave Two of Suspecting

- As risk adjusted revenue became a larger percent of overall revenue, suspecting got slightly more advanced.
  - + Lab Data
  - + Comorbidity

Lab Data Usage

- Logical Observation Identifiers Names and Codes (LOINC) – identify specific lab tests that are conducted and results.
- 4548-4 Hemoglobin A1c/Hemoglobin.total in Blood
- Values out of normal range indicate conditions (A1c > 6.5% indicates diabetes)

Lab Data

4548-4 Hemoglobin A1c/Hemoglobin.total in Blood

NAME

Fully-Specified Name:

Component	Property	Time	System	Scale	Method
Hemoglobin A1c/Hemoglobin.total	MFr	Pt	Bld	Qn	

PART DEFINITION/DESCRIPTION(S)

Part: Hemoglobin A1c

Currently (2010), four standardization protocols exist for measuring Hgb A1c:

1. IFCC - designated as a Reference Method or RM (http://www.ifcchba1c.net/)
2. NGSP - the long standing protocol used in the US and most other countries since the DCCT study (http://www.ngsp.org/factors.asp)
3. JDS/JSCC - a protocol used in Japan, Spain and possibly other countries
4. Swedish - used in Sweden at least

Protocols 2-4 are known as Designated Comparison Methods (DCM) and have been connected to the Reference Method and each other through various regression equations.

Because of the high degrees of standardization within protocol it should no longer be necessary to specify a LOINC code with a method such as "HPLC", "electrophoresis" or anything else. Analytical instruments will be designed so that an Hgb A1c result can be traced back to a specific standardization protocol, so the important distinction will be the standardization protocol as described above and which will be carried in the method field.

A meeting of instrument manufacturers (presumably including Japanese) in Milan, Italy, December 12, 2007, agreed (among other items) that:

-All manufacturers should implement worldwide the traceability to the IFCC reference system for Hgb -A1c.
-All new instruments sold after January 1st, 2011 will report (as a result of an Hgb A1c test) both SI (mmol/mol – no decimals) and NGSP derived units (percentage – one decimal), in agreement with the Consensus Statement.
-Note they only committed to supporting protocol (1) and (2)

Different countries are adopting the international harmonization recommendations in different ways. We have information from the NGSP that the US will continue to report only Hgb A1c/NGSP, with the unit percent – i.e., no change. In Great Britain, labs have already started to report all results both as Hgb A1c (NGSP) in % and Hgb A1c (IFCC) in mmol/mol. In Canada, they are awaiting a recommendation from an expert panel. Any of these measures could be reported in the same units, but the convention for the reporting Hgb A1c under the new IFCC protocol will be to use units of mmol/mol to avoid confusion between the DCCT/NGSP and the IFFCC protocol.

LOINC has defined 59261-8 (Hemoglobin A1c/Hemoglobin.total in Blood) by IFCC protocol.

These protocols produce different results when expressed in the same units. For example, the equivalent of Hgb A1c (NGSP) of 6.5% is Hgb A1c (IFCC) is 4.8%.

The NGSP web site (http://www.ngsp.org/factors.asp) suggests the use of alternate measures, such as glycated albumen, for patients with severe iron deficiency, dialysis patients, and those with SS SC CC because of over or under reading that can occur with these interferences. It also describes the effect of abnormal hemoglobins on results of HbA1c by instrument.

Source: Regenstrief Help

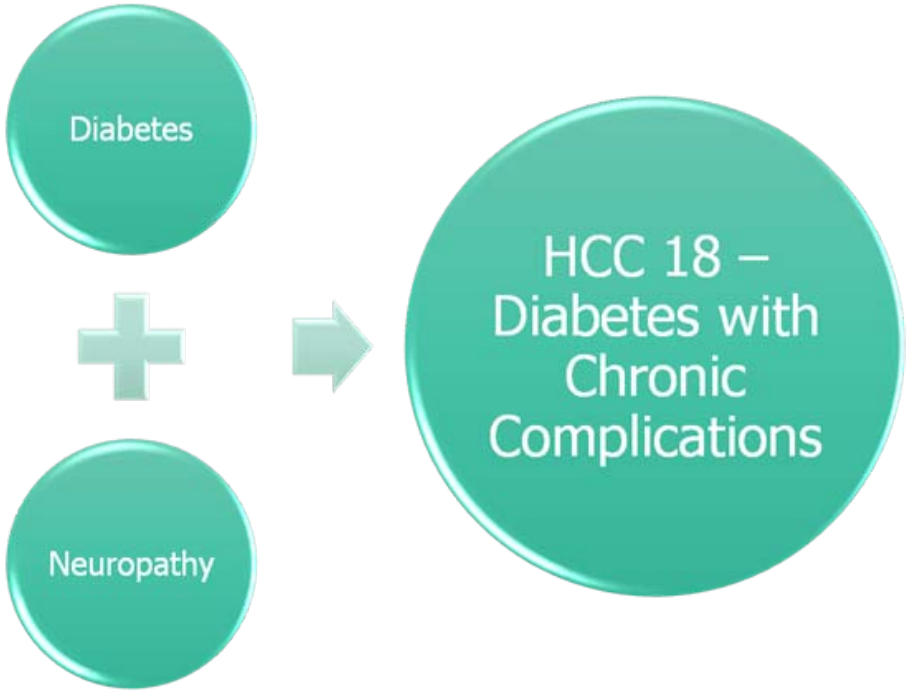
MAPPING GUIDANCE

Description: Today, all US HbA1c measurements reported in the US and many other countries are standardized to the NGSP protocol and that has been true for years. This code [LOINC: 4548-4] should be used for reporting the HbA1c in the US. Other countries may report HbA1c measured by the IFCC protocol [LOINC: 59261-8] , a protocol with results reported in units of mmol/mol. In Japan and parts of Spain it may be measured using the Japanese protocol. All three protocols produce different numeric values.

Source: Regenstrief Help, URL: Mapper's Guide for the Top 2000 plus LOINC Laboratory Observations

Comorbidity

- Some conditions receive payment on their own plus have impact on other HCC.
- By identifying the separate conditions, the suspect HCC can be identified.
- Similarly, when a combination HCC is identified, suspect separate HCC can be identified



EMSI HEALTH®

Powering Up Risk Adjustment

Predictive Analytics = Power

- Predictive analytics has brought new methods and improved results to suspecting for gaps not only in coding but quality and care gaps as well.

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