

Opportunities in the Evolving Health Landscape

12th Annual Healthcare Conference



Rachel Debes



Two Factors are Driving the Market Opportunity

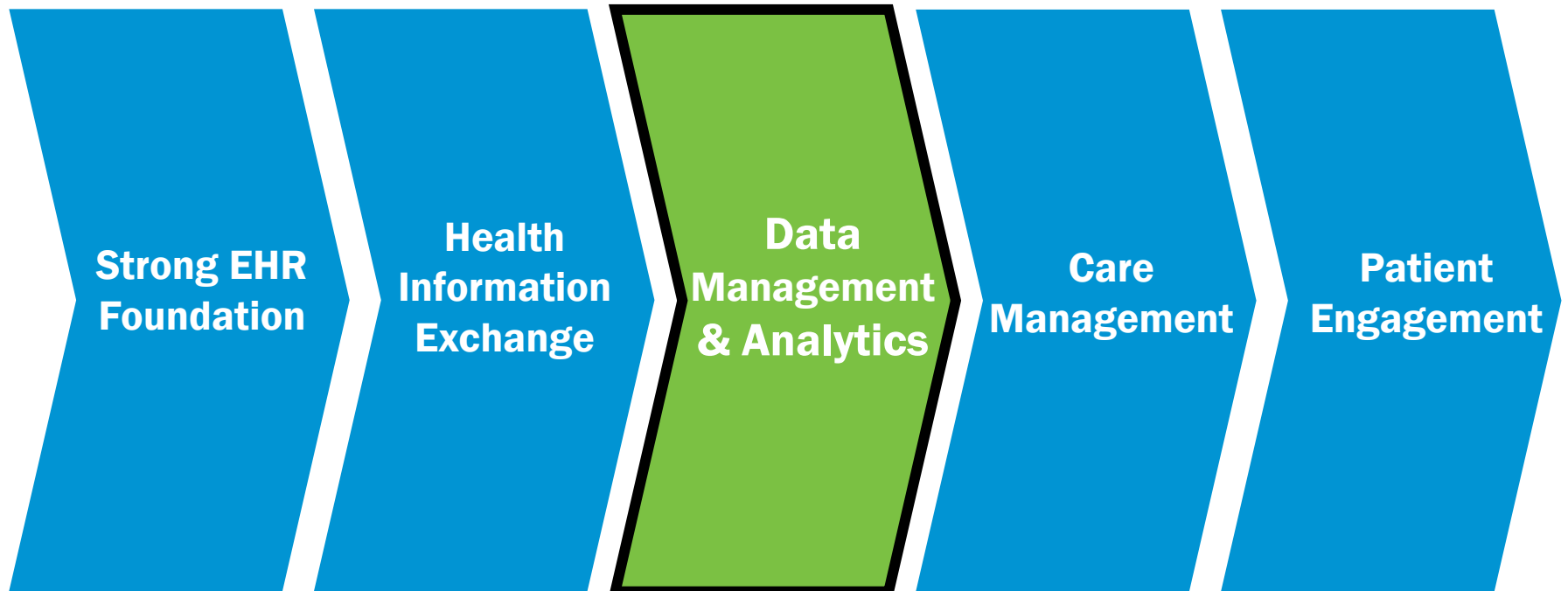
■ Digitization of Healthcare:

- Resulting in the proliferation of Electronic Medical Records
- Enabling the interoperability of data
- Promoting the information-based management of care and
- Encouraging health of communities

■ Emergence of the Accountability Framework

- Risk management is shifting from insurers to providers
- Accountable Care Organizations (and their variants) are here to stay
- Shift from Safety and Quality to Outcomes and Value
- Big Data and Analytics will be the next foundation system

What's Required to manage in the new framework?



Aligning Persons, Payers, and Providers
Driving Accountability for Outcomes and Value



Big Data Tools to Inform Care: Health Facts

Health Facts

- **Multi-client data warehouse with available information from 2000-present**
- **35 million patients (currently US only)**
- **Data from 4 major areas**
 - Pharmacy
 - Labs
 - Billing/Administrative
 - Physiologic measures
- **Integrating predictive models will allow for individually-tailored real-time interventions**

Managing Diabetes with Predictive Modeling

Utilizing Large Databases to Build New Content



Diabetes Potentially Avoidable Complication (PAC)

- **The DM PAC model is built using analysis of clinical data from Health Facts® observational data set**
 - Able to leverage hundreds of data inputs to derive the model
 - Population of over 200,000 diabetics identified to build and validate the algorithm
 - Output: Individualized predictive model to better manage disease
 - *Help to focus efforts on the behaviors that will have the biggest return on investment*
 - *Small steps for the patient, targeted points for the provider*
- **Once a model has been externally validated (prospectively) in clinical setting, it can be utilized to inform and guide both clinicians and consumers on potential complications**

PAC Probability Calculator

Home >> PAC Probability Calculator

Result

Overview

One or more PACs: 82%
Two or more PACs: 59%
Three or more PACs: 41%
Four or more PACs: 28%
Five or more PACs: 20%

Top PACs

PAC	Probability
Hypoglycemia	77%
General Symptoms	30%
Acid Base & Fluid Electrolyte Disturbances	13%
UTI	13%
Abdominal Pain	12%

Patient: Miller, Christine

General Information

Race: Black or African American
Gender: Female
Age (years): 45
Medical Home: Other
Insulin Ordered?:

PAC Visits:
Typical Care Visits:
Other Visits:
Total Charges (\$):

Diagnoses

Available

Acute Myocardial Infarction
 Bacteremia
 Chronic Kidney Disease
 Chronic Lung Disease
 Congestive Heart Failure
 Diabetes with Ketoacidosis
 Diabetes with Neurologic Manifestations
 Diabetes with Ophthalmic Manifestations



Current

Depression
 Hypoglycemia
 Liver Disease
 Type 2 Diabetes

Labs

Submit Labs

Glucose on 12-02-2011
 HgbA1C on 12-02-2011
 LDL on 12-02-2011
 Serum Creatinine on 12-02-2011

Add

Labs

Name	Value	Units	Date	
Glucose	125	mg/dL	12-02-2011	Remove
Glucose	20	mg/dL	2-02-2011	Remove
Glucose	95	mg/dL	5-02-2011	Remove
HgbA1C	8	%	12-02-2011	Remove
HgbA1C	6.1	%	2-02-2011	Remove
HgbA1C	7.5	%	8-02-2011	Remove

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Case for Prevention

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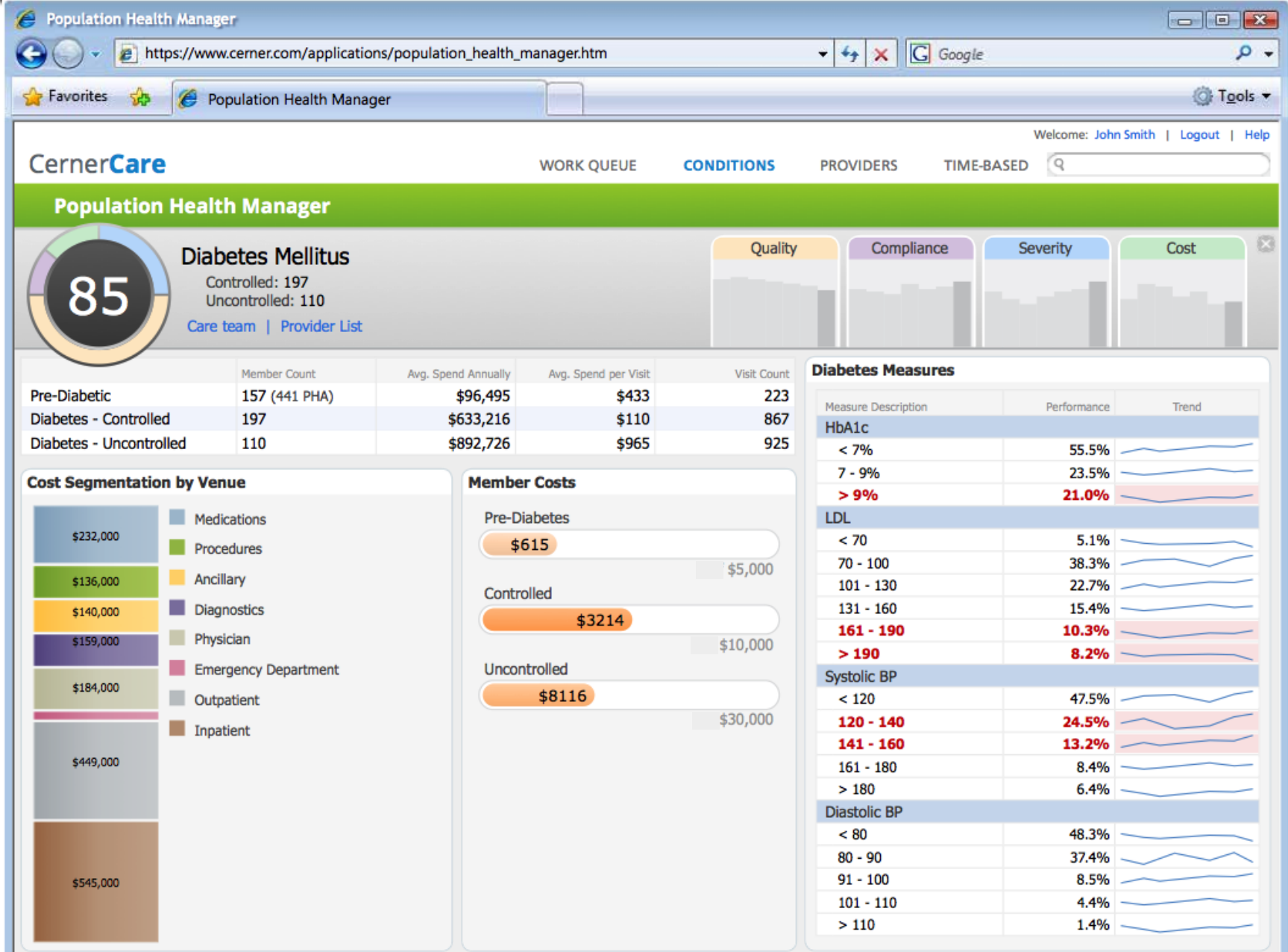
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Condition Prospectus – Cost and Risk Segmentation



Future Directions

- **Make patients more engaged in wellness**
 - Alerts and predictive models
 - Personal health records
- **Increased interoperability**
- **Health Information Exchanges**
 - Mobilizing healthcare information electronically across organizations
 - Leads to increased patient wellness, reduced provider spend