

Analytics for Breakfast

Integrating Care and Other Analytics Insights for a Whole Member View

Chris Scheib

Senior Healthcare Analyst

SAS Center for Health Analytics and Insights



**THE
POWER
TO KNOW.**

Agenda

- **Research Results**
- **The Opportunities and Responsibilities for Managing Care**
- **Leveraging Health Analytics to Deliver Insights and Transform Care**

Surveys Never Lie

'Green Fields' for Business Intelligence in Health Care

Greg Gillespie

HDM Breaking News, August 31, 2011

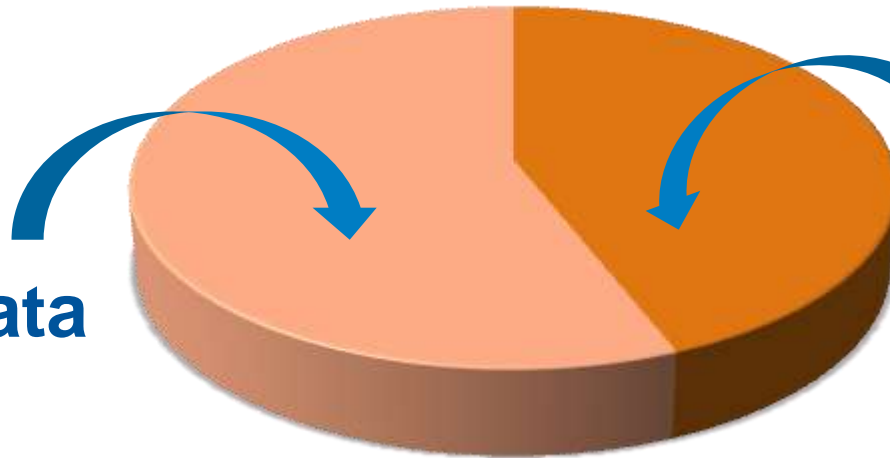
The health care business intelligence market is starting to take off, but even in an increasingly crowded marketplace there's plenty of "green fields" for both enterprise and focused software, according to Lorin Bird, strategic operations manager at vendor research firm KLAS Enterprises and one of the authors of the recently released "*Business Intelligence: Making Cents of Performance*."

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Fifty-six percent of organizations surveyed say they are moving to an enterprise strategy for BI use, and many report doing so because they're tired of having internal arguments about data, Bird says.

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Tired of arguing about data



Want to have more internal arguments about data?

How We Conducted The Research

In-depth interviews were conducted with 40 healthcare executives across the leading health plans. This analysis was supplemented with additional secondary research.

Who participated



What was asked

What are the most critical concerns faced by managed care firms due to rapidly evolving healthcare landscape and pending roll-out of the healthcare reform?

Who was interviewed

Senior Executives Leading:

- Commercial Markets
- Individual Markets
- Health Management
- Marketing and Strategy
- Information / Analytics
- Actuary
- Consumerism / Retail

3 Major Issues Facing Health Plan Executives

**Manage the Challenges
of Health Care Reform**



**Move from
Wholesale to Retail**



**Bending the
Cost Curve**



Reform Impact

Manage the Challenges
of Health Care Reform

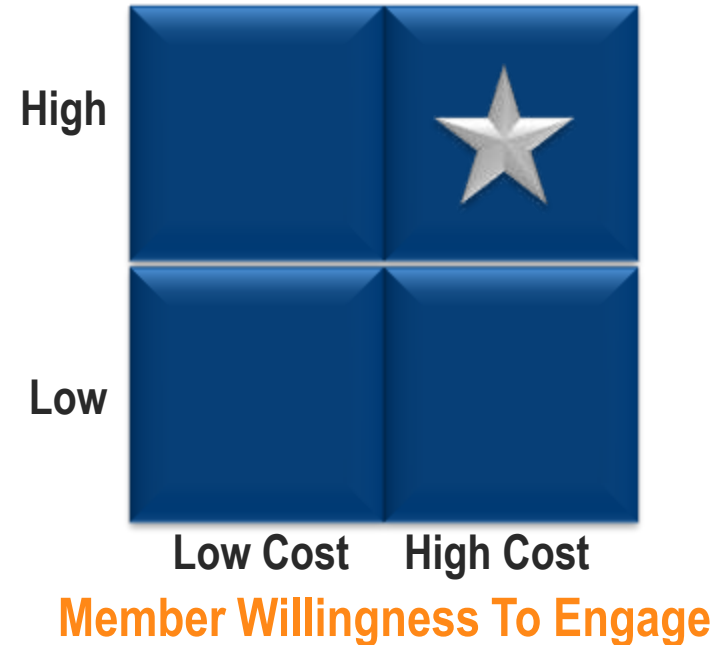


Wholesale to Retail

Move from
Wholesale to Retail

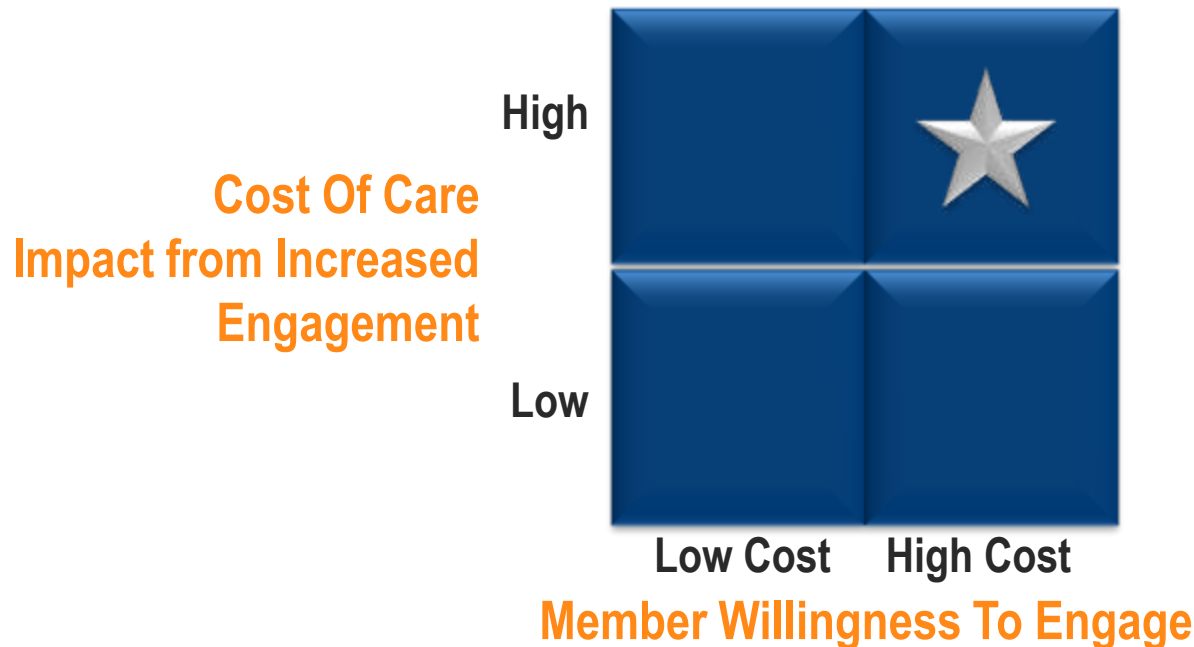


Cost Of Care
Impact from
Increased
Engagement



Understand likelihood to engage and change

- You must assess the degree to which a **member's cost of care can be impacted** using health and wellness engagement programs, together with their **willingness to engage** in these programs.
- Next, determine the **best incentive, communication vehicles and messaging required to engage members and sustain engagement** long enough to drive behavior change and impact the cost of care.



3 Major Issues Facing Health Plan Executives

Bending the Cost Curve



Reduce the cost of care for targeted members

Reduce your administrative expenses by better tailoring your member engagement and outreach programs

Demonstrate and maximize your return on investment for medical management programs

Targeting the right members for the right intervention is key



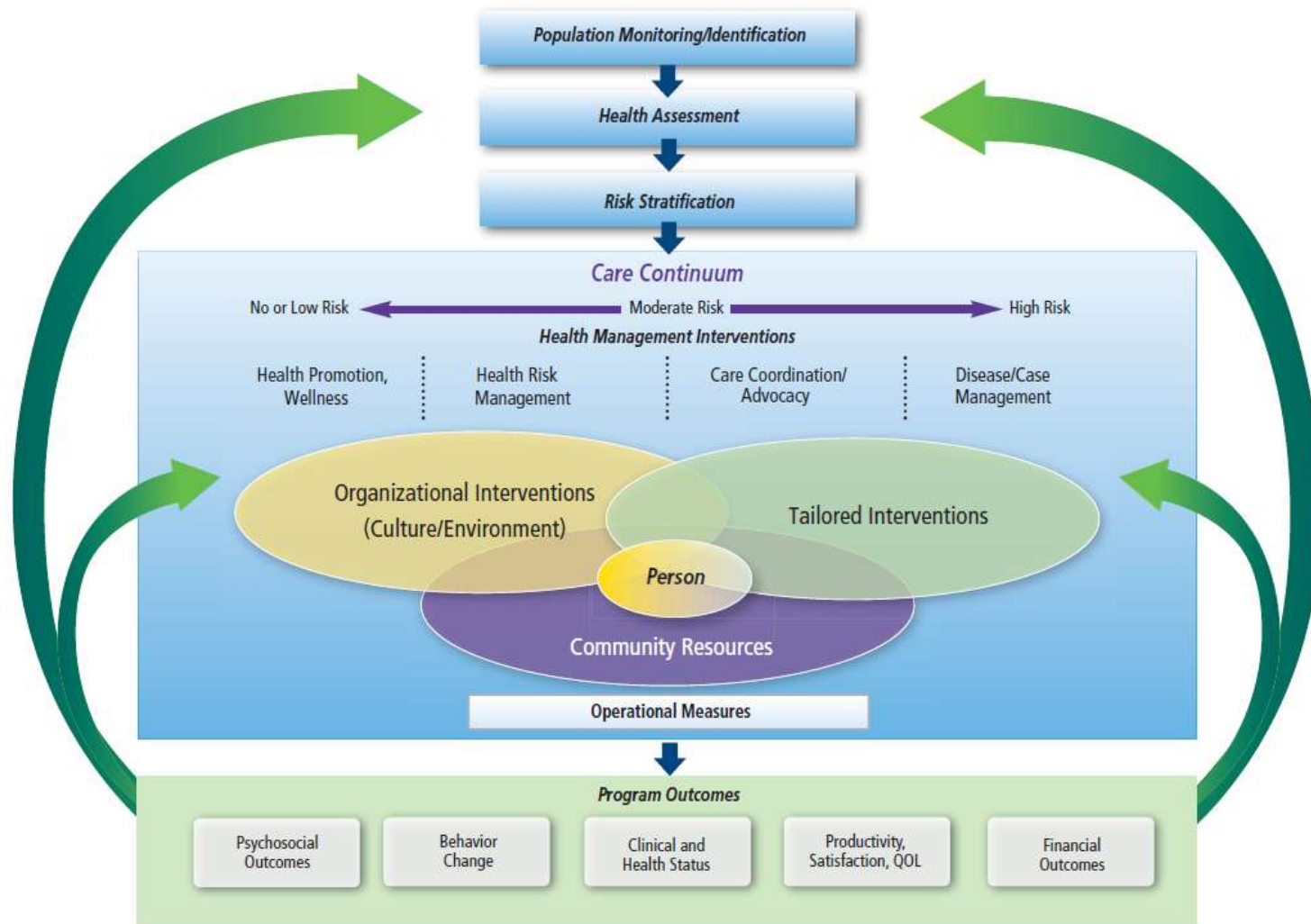
- Identify your key medical expense concern areas
- Determine which members to target based on:
 - Opportunity for savings
 - Willingness to engage Create engagement / steerage programs
- Deploying engagement / steerage programs
- Measuring program effectiveness and ROI

Desired State



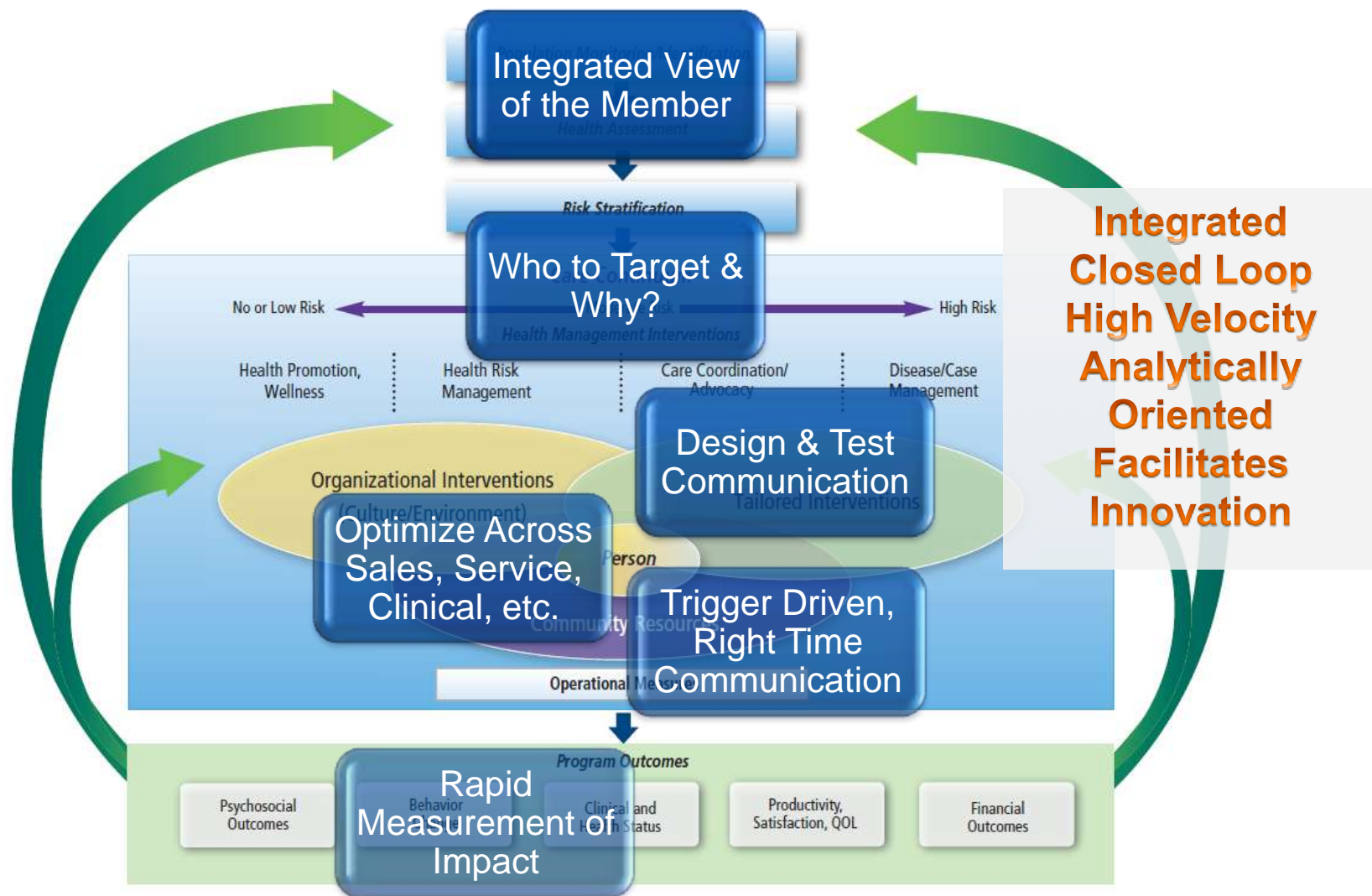
Population Health Management Framework

Published by Care Continuum Alliance in "Outcome Guidelines Report Volume 5"

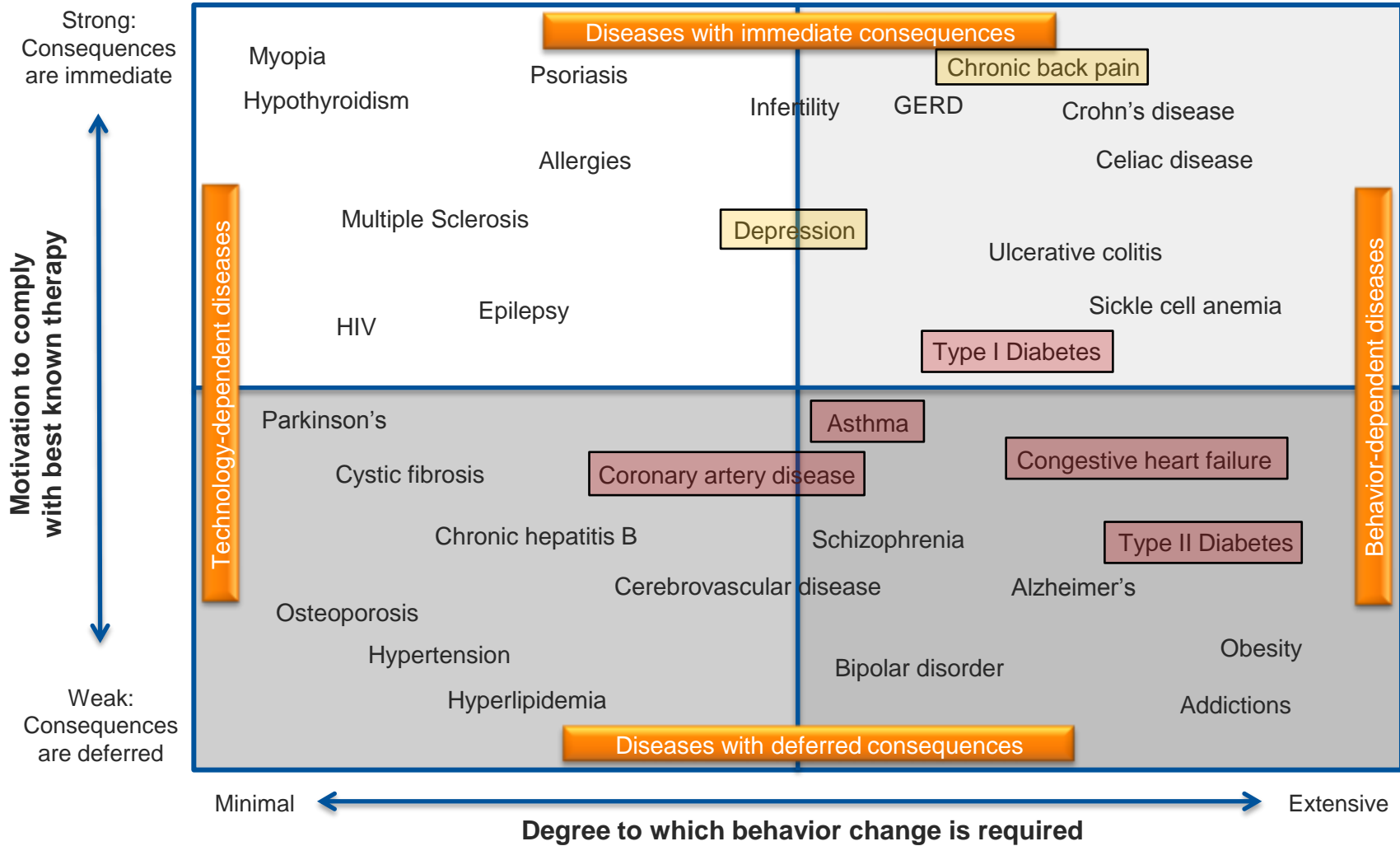


Population Health Management Framework

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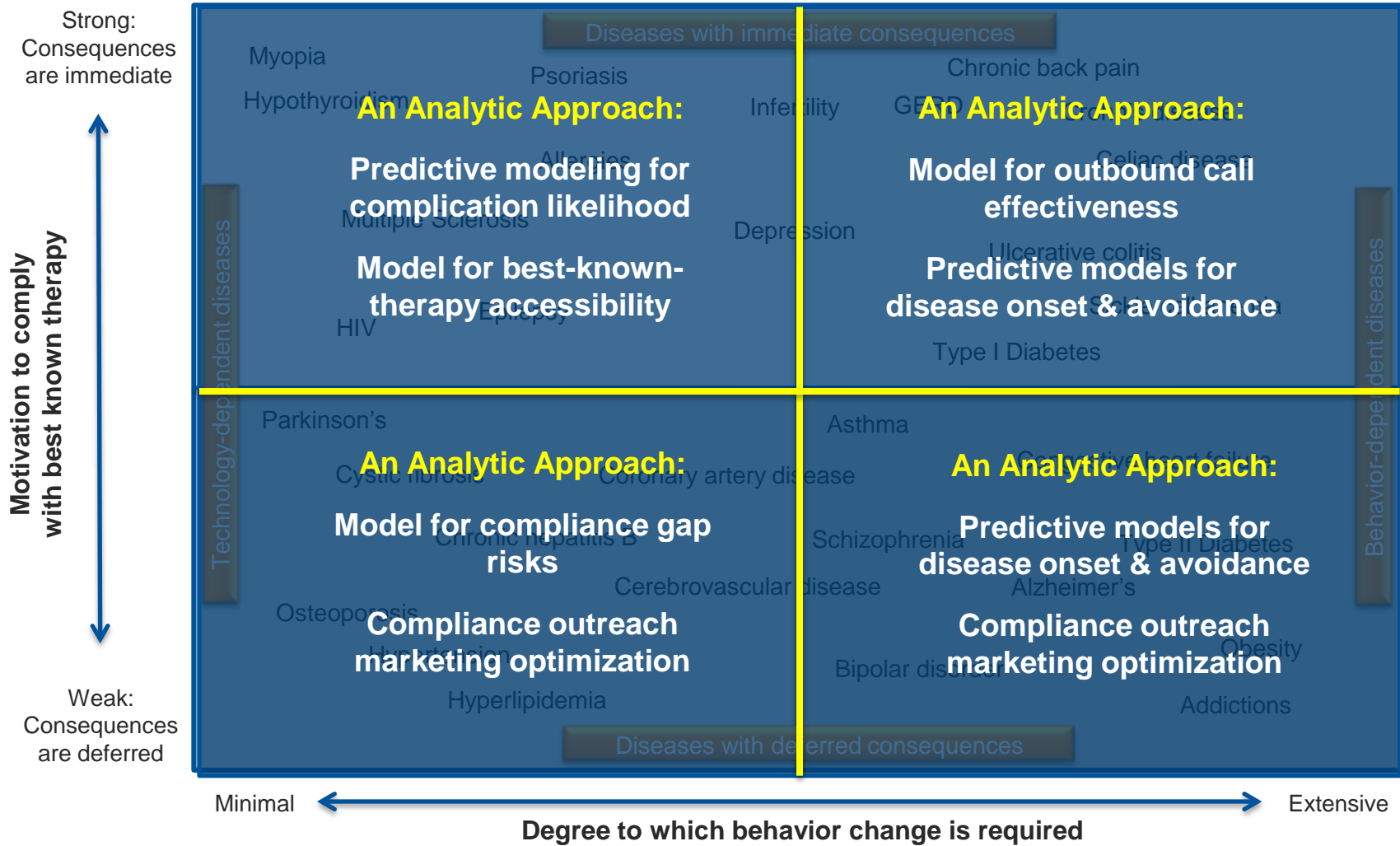


Chronic Quadrangle



Source: Christensen, Clayton M., Jerome H. Grossman M.D. and Jason Hwang M.D. The Innovator's Prescription: A Disruptive Solution for Health Care

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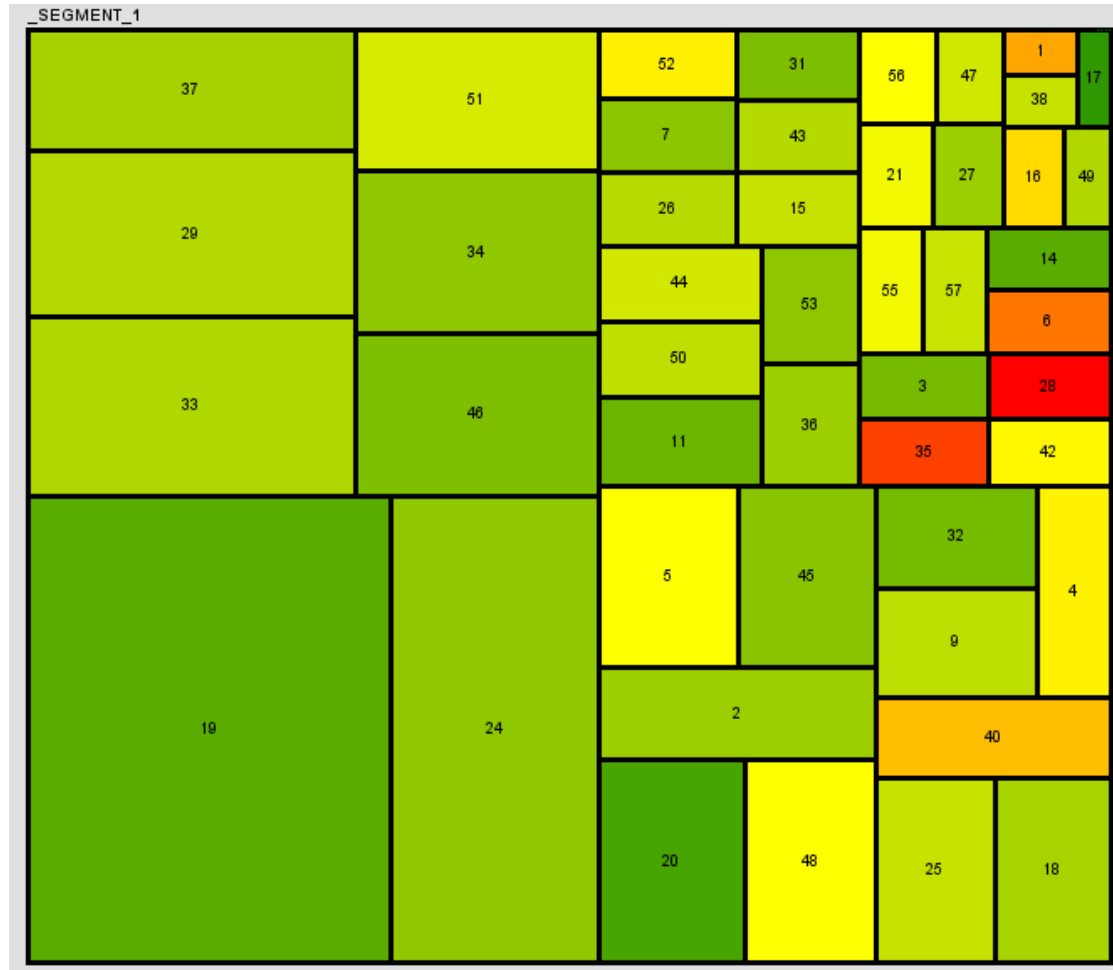
Target Expansion

- Condition Risk Stratification
- Event Risk – ex. Readmission, Diabetic shock
- Utilization Risk – ex. Excessive ER visits
- Intervention Opportunities –
 - » Who is most likely to enroll
 - » Which engagement strategy is best method to use
 - » Who will be compliant/Prevent Non-Compliance
- Engagement Strategy
 - » Which Campaign – ex, CHF, COPD, Wellness, HRA?
 - » Which Channel, Message is best
 - » Timing / "Noise" Reduction of all member communications
- Optimization -Strategy, Interventions, Communications, Resources

Segmentation

- Segmentation put members into homogenous groups. This is an exploratory mining exercise as a step towards developing a predictive model
- Members in each segment are not exactly alike rather they have some similar factors
- The description of each segment is subjective using the empirical evidence and knowledge of the business
- Each segment is described by variable importance where they have a higher incidence than the other peer groups

Population Discovery – Segment & Stratify



Green – Low Risk

Red – High Risk

Dig into the Stratification

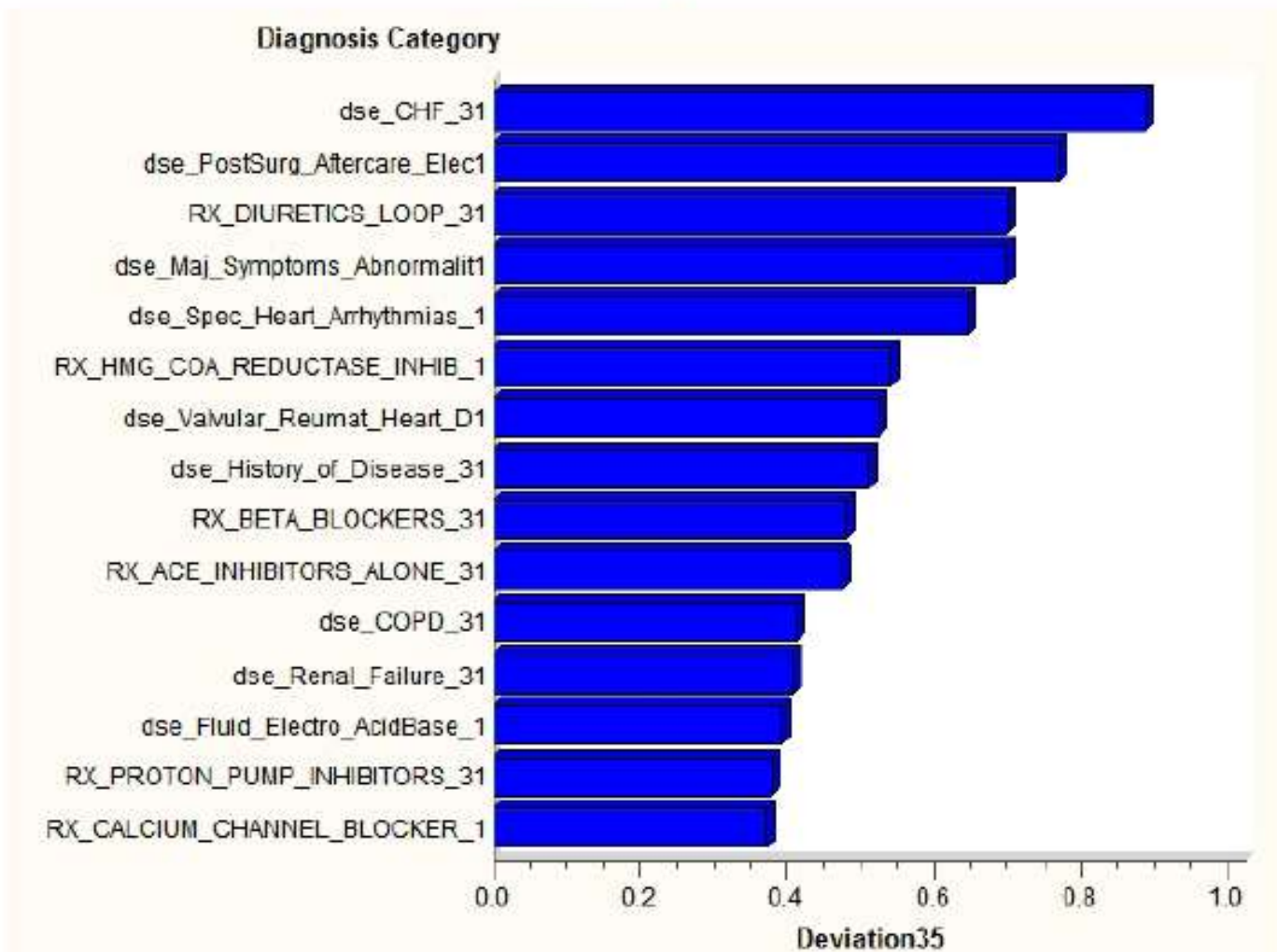


Green – Low Risk

Red – High Risk

Segment Example

Segment 35 Drivers



Engagement Management – Industry State

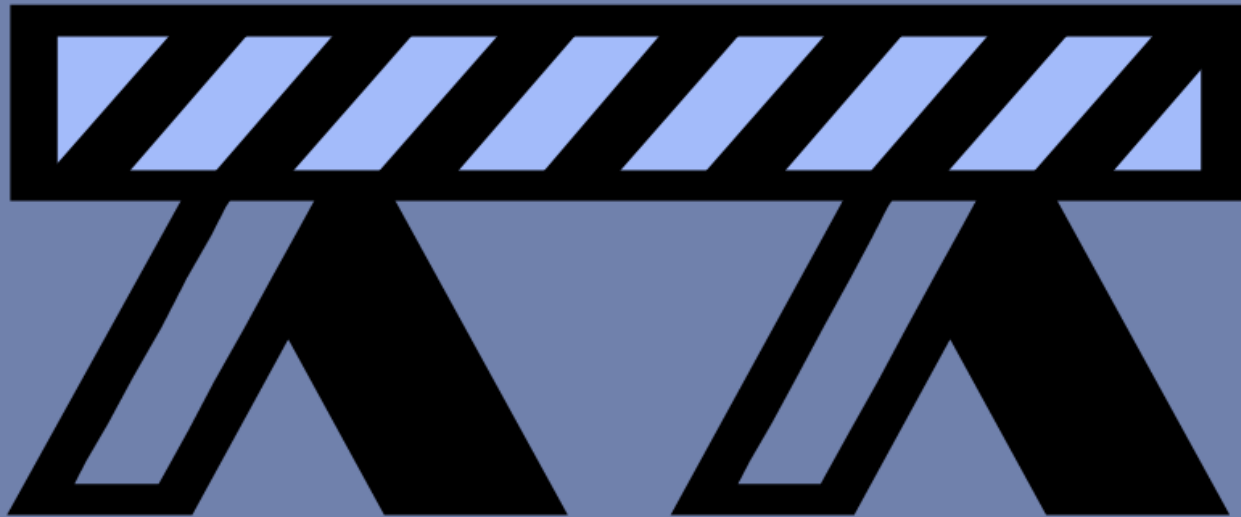
Data is Claims Centric
vs. Member Centric

Member Inbound &
Outbound
Disconnected

Weeks/Months to
Design & Execute
Outreach

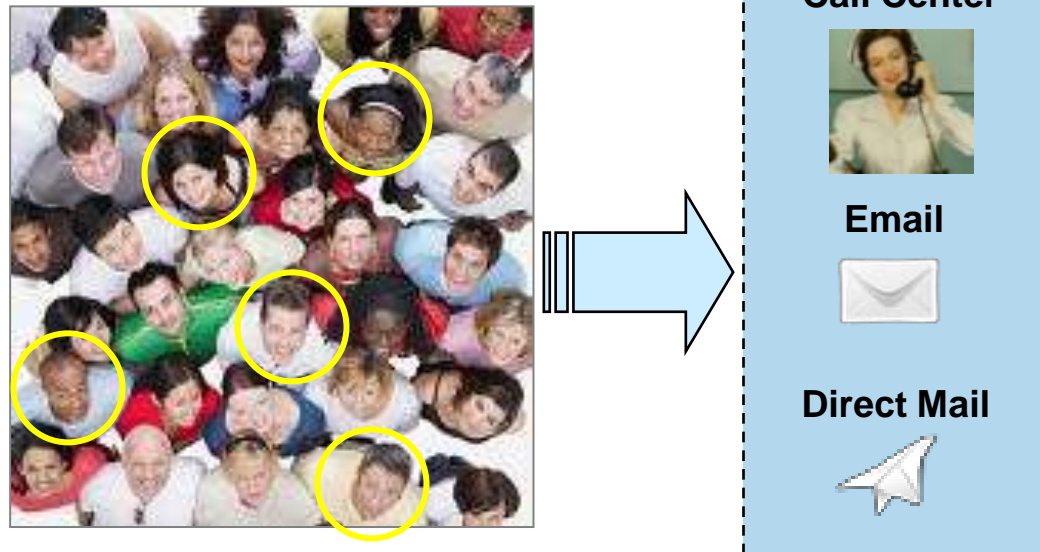
Clinical/Sales/Ops
Disconnected in
Communication Strategy

Limited Integration &
Use of Channels



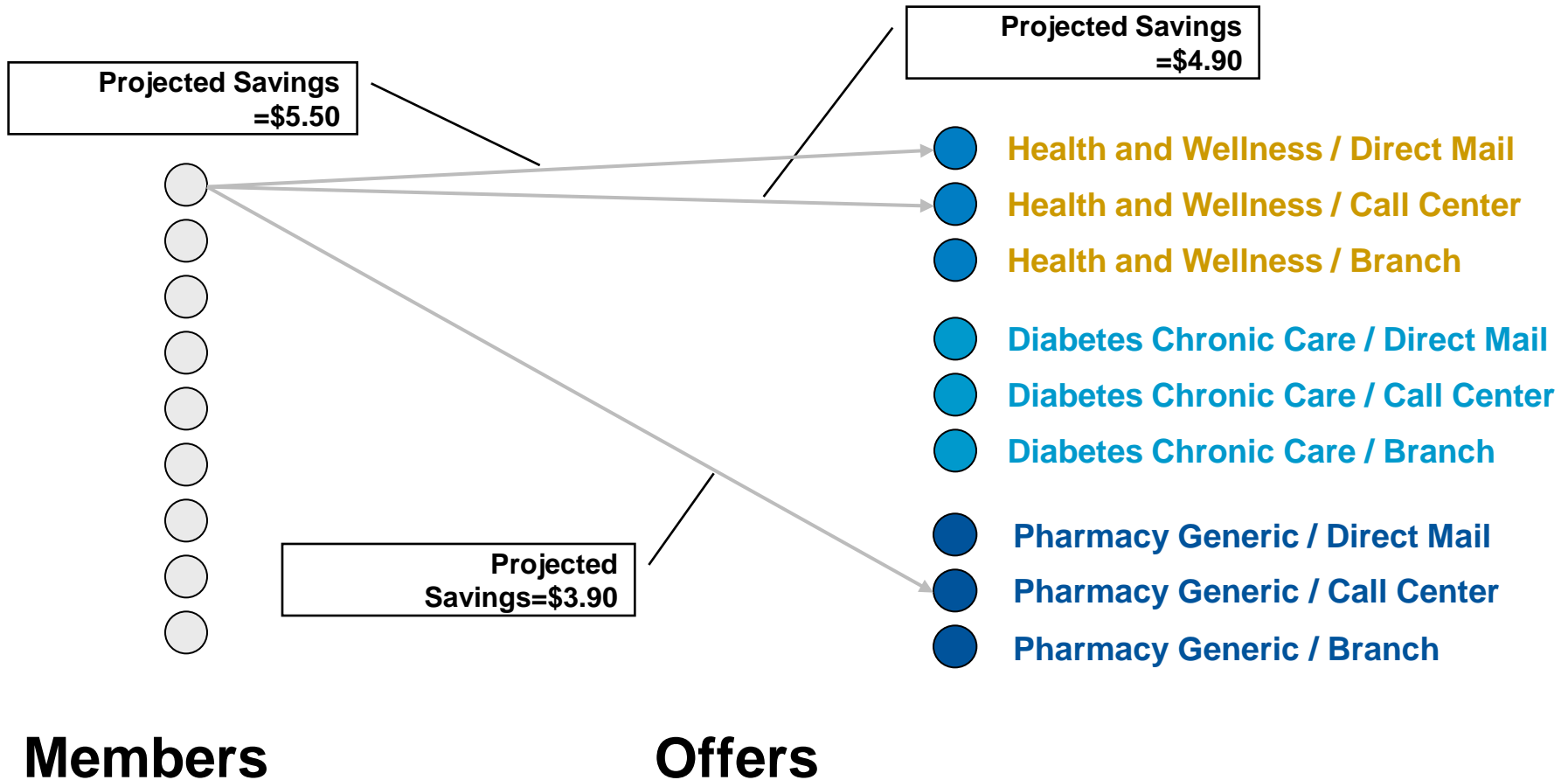
Develop Campaigns and Optimize Member Selection

- Identify the members with the highest probability of responding to a beneficial intervention
- Approach them with messaging through the most appropriate channel
- Ensure program compliance



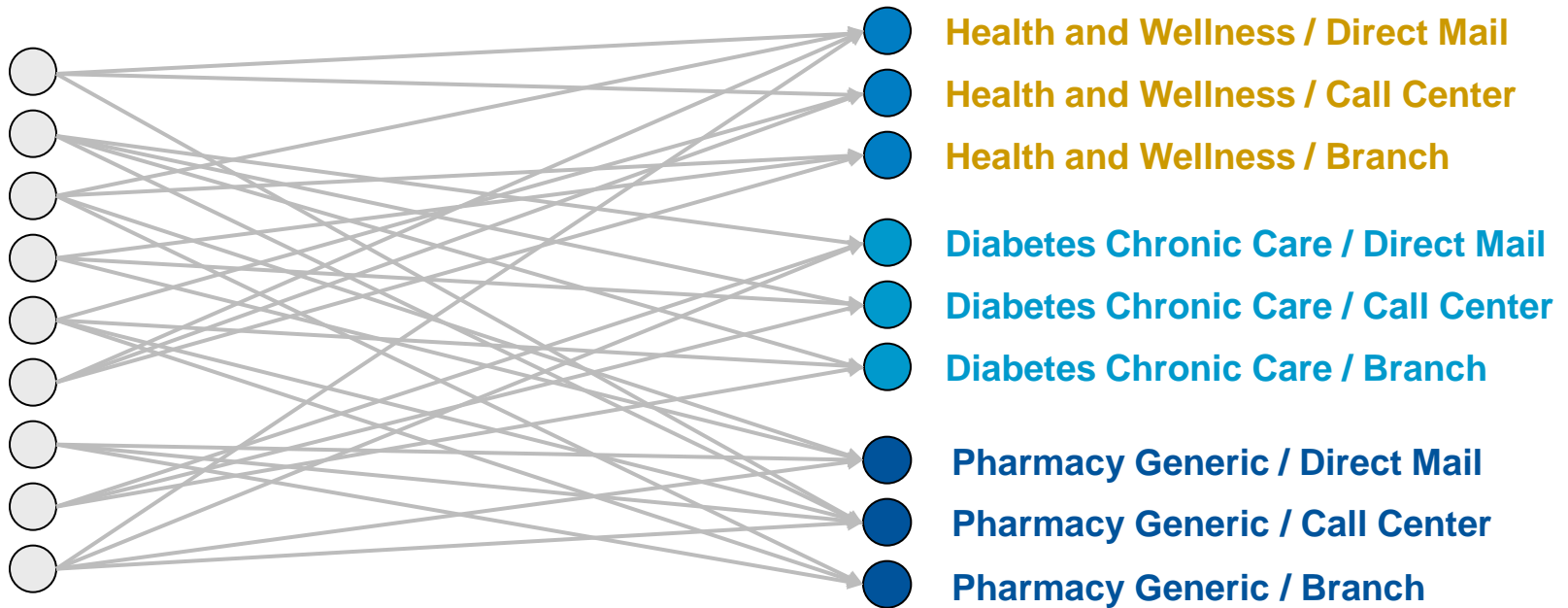
Optimizing your communications

How do you assign the optimal communication to your participants?



Optimizing your communications

How do you assign the optimal communication to your participants?



Members

Offers

An example of communication optimization

Expected Values

Member	H&W	Diabetes	Pharmacy
1	100	120	90
2	50	70	75
3	60	75	65
4	55	80	75
5	75	60	50
6	75	65	60
7	80	70	75
8	65	60	60
9	80	110	75

A Simple Example: Communication Prioritization

Constraints:

1. Each member must get an offer from at most one campaign
2. Each campaign must target at most three members

Member	H&W	Diabetes	Pharmacy
1	100	120	90
2	50	70	75
3	60	75	65
4	55	80	75
5	75	60	50
6	75	65	60
7	80	70	75
8	65	60	60
9	80	110	75

Objective = \$655

A Simple Example: Customer Prioritization

Constraints:

1. Each member must get an offer from at most one campaign
2. Each campaign must target at most three members

Member	H&W	Diabetes	Pharmacy
1	100	120	90
2	50	70	75
3	60	75	65
4	55	80	75
5	75	60	50
6	75	65	60
7	80	70	75
8	65	60	60
9	80	110	75

Objective = \$715

A Simple Example: Optimization

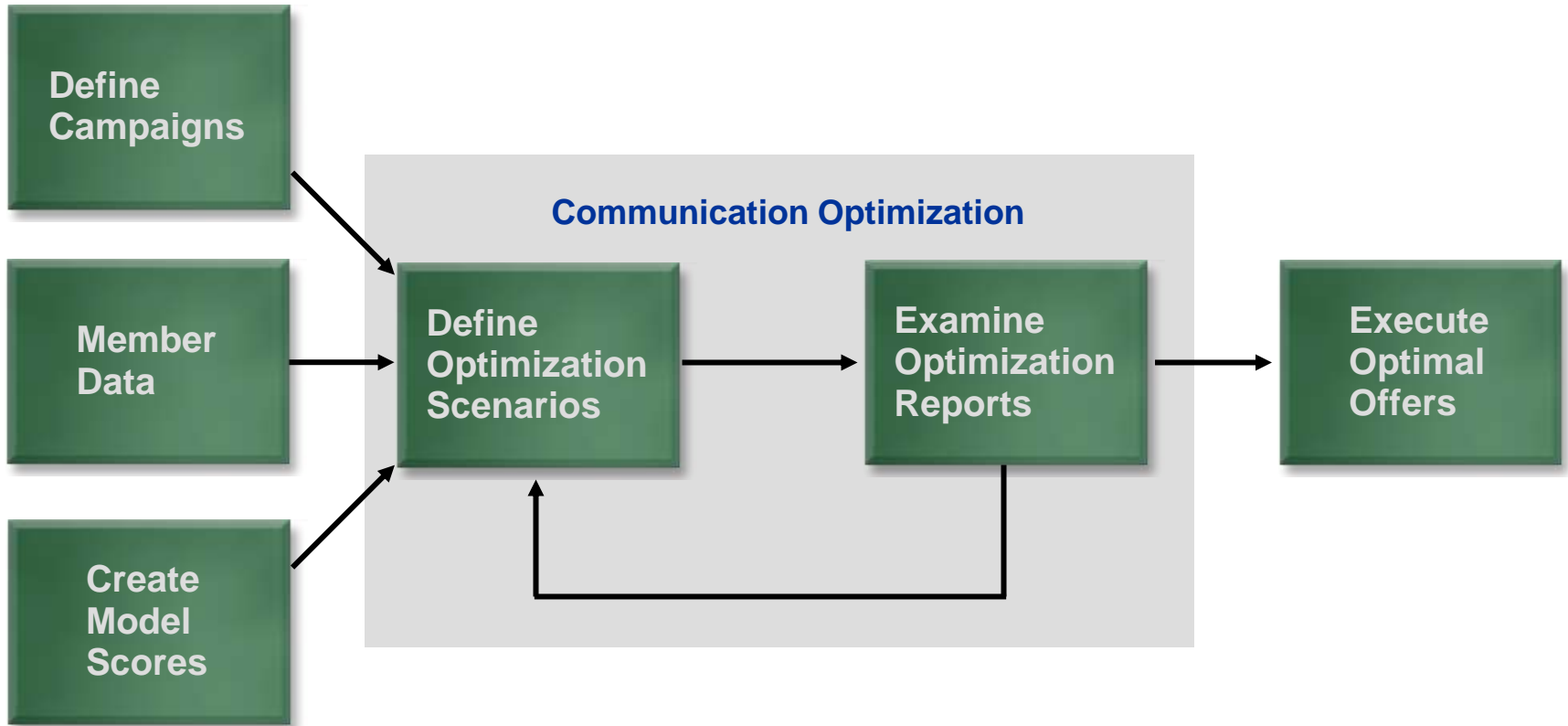
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1	100	120	90
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5	75	60	50
6	75	65	60
7	80	70	75
8	65	60	60
9	80	110	75

Objective = \$745

Communication Optimization Process



Manage Constraints

The screenshot shows the 'Marketing Optimization 5.1' interface. The 'Projects' table lists several scenarios, including '1 Base Scenario' and '2 Base Scenario with free Calls Sensitivity Analysis', all marked as 'Optimized'. The 'Constraints' configuration window is open, showing a list of constraints with the following data:

Type	Prepopulated	Name	Operator	Limit	Computation	Communication Filter
Miscellaneous	No	Average Risk for Credit	At least	670.00	Average(Credit_score)	campaign_cd IN [Credit_Card_1, Credit_Card_2]
Budget	No	Credit Card ACT Budget	At most	\$20,000.00	Sum(comm_unit_cost)	campaign_cd IN [Credit_Card_ACT_1]
Budget	No	Credit Card Xsell Budget	At most	\$40,000.00	Sum(comm_unit_cost)	campaign_cd IN [Credit_Card_1] AND campaign_cd IN [Credit_Card_2]
Budget	No	Equity Activation Budget	At most	\$20,000.00	Sum(comm_unit_cost)	campaign_cd IN [Equity_Line_ACT_1]
Budget	No	Insurance Budget	At most	\$25,000.00	Sum(comm_unit_cost)	campaign_cd IN [Auto_Insurance_1] AND campaign_cd IN [Auto_Insurance_2]
Budget	No	Line X-sell Budget	At most	\$40,000.00	Sum(comm_unit_cost)	campaign_cd IN [Equity_Line_1] AND campaign_cd IN [Equity_Line_2]
Channel	No	Month 1 Call Center	At most	4,200.00	Sum(unit_usage)	channel_cd IN [Call Center] AND time_cd IN [Month 1]
Channel	No	Month 2 Call Center	At most	4,200.00	Sum(unit_usage)	channel_cd IN [Call Center] AND time_cd IN [Month 2]
Channel	No	Month 3 Call Center	At most	4,200.00	Sum(unit_usage)	channel_cd IN [Call Center] AND time_cd IN [Month 3]

A callout box points to the 'Average Risk for Credit' constraint, stating: "Budget, channel, risk score constraints can be populated".

Manage Contact Policies

The screenshot displays the SAS Marketing Optimization 5.1 interface. The main window is titled "Scenario Analysis - Projects" and shows a list of projects. The selected project is "SE Bank Campaigns Phase 1", and the specific scenario is "2 Base Scenario with free Calls (Optimized)".

The "Max/min contact policies" section is active, showing a table of policies. A callout box points to this section with the text: "Set contact policies by participant, by channel, by employer preferences".

Name	Operator	Limit	Time Based	Start Period	End Period	Rolling Length	Communication Filter
<input checked="" type="checkbox"/> One Call every 2 months	At most	1	Yes	Month 1	Month 3	2	channel_cd IN [Call Center, agent_nur
<input checked="" type="checkbox"/> One Credit Card Offer	At most	1	No				campaign_cd IN [Credit_Card_1, Cred
<input checked="" type="checkbox"/> One Deposit Offer	At most	1	No				campaign_cd IN [Deposit_1]
<input checked="" type="checkbox"/> One Equity Offer	At most	1	No				campaign_cd IN [Equity_Line_1, Equit
<input checked="" type="checkbox"/> One Insurance	At most	1	No				campaign_cd IN [Auto_Insurance_1]
<input checked="" type="checkbox"/> One Investment Offer	At most	1	No				campaign_cd IN [Investments_1]
<input checked="" type="checkbox"/> Platinum client at least	At least	1	No				

Desired State

