



Actionable Strategies for Applying Data Analytics

Tools for the New Healthcare CMO:
Change Management Officer

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Today's Agenda

- + Healthcare Enters the Big Data Era
- + Data-Driven Marketing 101
- + Where to Start
- + 7 Steps to Success
- + Q & A



About KishHealth System

- + Serves greater DeKalb County in northern IL
- + 2 non-profit community hospitals
 - + Kishwaukee Hospital
 - + Valley West Hospital
- + **Other affiliated facilities/services**
 - + KishHealth System Cancer Center at Kishwaukee Hospital and Valley West Hospital
 - + KishHealth System Center for Family Health
 - + KishHealth System Physician Group
- + Voted “100 Great Places to Work in Health Care”



About True North Custom Media

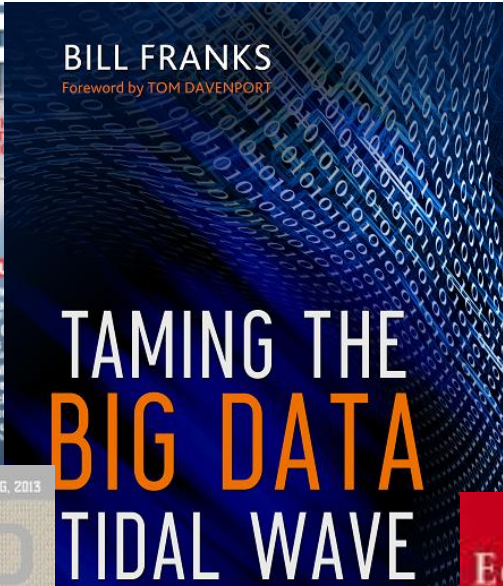
- + Established in 1988
- + Partners with more than 500 healthcare organizations nationwide to provide CRM/ data analytics, market research, and integrated content marketing services
- + Approach to strategy is built around three primary services—modeling, marketing, and measurement—that provide a comprehensive approach to healthcare marketing and communications.



Healthcare Enters the Big Data Era

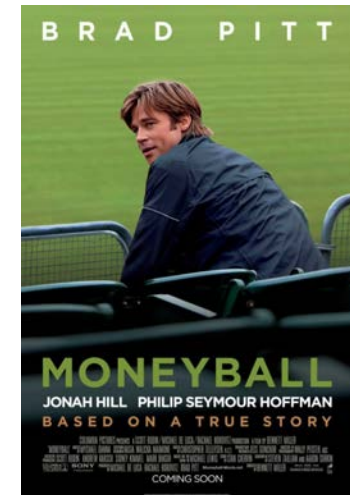


In Case You Haven't Heard... Big Data is HERE



Data Analytics: It's No Longer Just For Marketers in...

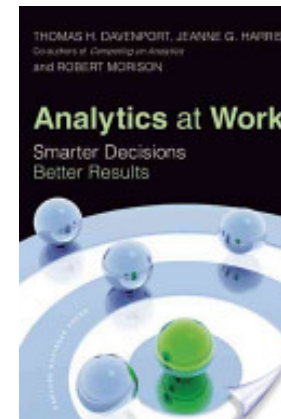
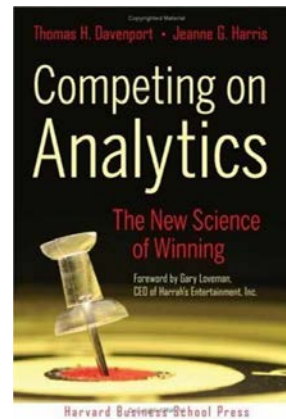
- + Retail
- + Finance
- + Hospitality
- + Automotive
- + Sports and Entertainment
- + Payer/Insurance Organizations



Expert Perspective on Data Analytics

“There is no industry more likely to be affected by analytics in the next five to 10 years than health care.”

— Jeanne Harris, co-author,
*Competing on Analytics: The
New Science of Winning* and
*Analytics at Work: Smarter
Decisions, Better Results*



Expert Perspective on Data Analytics

“The healthcare organizations that make the investments in analytics are going to be the ones who end up the winners.”

— Dr. Kevin Fickenscher, president and CEO of the American Medical Informatics Association, from *Modern Healthcare*, June 17, 2013

ModernHealthcare



Expert Perspective on Data Analytics

“Ten years ago, few would have thought marketing departments would be running hospitals. Thanks to smart marketers who are leveraging data to glean key insights and grow their organizations, that is exactly where we are today.”

— American Hospital Association



Expert Perspective on Data Analytics

*“The expanded marketing toolset — including **CRM systems, predictive modeling, digital marketing, market and claims data,** marketing automation, web content management systems, and integrated contact centers — offers powerful resources to help improve clinical outcomes, reduce hospital admissions, and improve population health.”*

— Suzanne Sawyer, Chief Marketing Officer, Penn Medicine



Data Analytics: Get on Board... or Get Left Behind

- + More than 80% of marketers plan to use analytical tools over the next 5 years (*IBM CMO Study, 2012*)
- + 70% of hospitals and health systems with 201-400 beds — and 100% with 400+ beds — are measuring return on marketing investment (*SHSMD By the Numbers, 2012*)



Data Analytics: Get on Board... or Get Left Behind

- + 59% of hospitals with 200+ beds use consultants or outside agencies for customer relationship management (CRM) expertise (*SHSMD By the Numbers, 2012*)
- + 43% of hospitals/health systems have increased their CRM budgets in the past 2 years (*SHSMD By the Numbers, 2012*)



Data-Driven Marketing 101



Marketing Analytics Defined

- Marketing analytics closes the loop by combining multiple information sets that allow you to target, market, and measure with precision



Know Your Numbers: Core Healthcare Data Sets

- + **Internal:**
 - + Clinical data
 - + Financial data
 - + Marketing/opt-in lists
- + **External:**
 - + Consumer demographic/
psychographic data
 - + Competitive market data
 - + Market research



What questions does analytics answer?

- + **What and when do I market?** [Strategic Planning]
 - + Identify your best opportunities within service lines
 - + Performance analysis



What questions does analytics answer?

- + **Who do I market to and where are they located?** (Targeting)
 - + Find your ideal patients and prospects
 - + Predictive modeling



What questions does analytics answer?

- + **How do I market?** [Channel Selection & Messaging]
 - + Create the most effective tactics for your service area
 - + Overlay with research



What questions does analytics answer?

- + **How do I know it's working?** [Measurement]
 - + Measure response and downstream revenue impact
 - + Tracking



Actionable Strategies for Applying Data Analytics

1. Drive higher service line volume and profitability
2. Develop and deploy population health strategies
3. Identify untapped opportunities and shape your marketing plan
4. Demonstrate the effectiveness of your marketing campaigns (retroactive) and defend your future plans/budget (proactive)



Drive Profitable Service-line Growth

- + KishHealth Joint Center
- + Joint Replacement
- + Looked at 2-plus years of consumer data on joint replacement at the hospital



Introduction: Center for Joint Care Analysis

TOP LINE FIGURES

Number of Patients Analyzed	408	Total Profit (estimated)	\$3,990,250.73
Revenue per Patient (Overall)	\$24,396.01	Profit Margin (Overall)	40%
Total Revenue	\$9,953,571.67	Percent of Patients that were Profitable (based on profit estimate)	47%
Total Cost (estimated) *	\$5,963,320.95		



Profitable Segments

BREAKDOWN BY AGE

Age Range*	Patient Count	Percent of Total Volume	Revenue	Total Profit	Profit Margin [%]	Profit Per Patient
40 - 44	2	0.5%	\$33,640.65	\$7,106.36	27%	\$3,553.18
45 - 54	36	8.8%	\$1,389,005.63	\$881,223.92	174%	\$24,478.44
55 - 64	107	26.2%	\$4,574,717.10	\$3,041,178.83	198%	\$28,422.23
65 +	263	64.5%	\$3,956,208.29	\$60,741.62	2%	\$230.96
Total	408	100.0%	\$9,953,571.67	\$3,990,250.73	67%	\$9,780.03

Notes: The age ranges between 45 - 64 contain 35% of total volume. The average profit margin for this group is 192%, with an average profit per patient of \$27,429.39. Although the age range of 65+ contains 65% of total volume, the profit margin for the group is barely above break-even, likely due to low Medicare reimbursement rates. The best prospective patients to target are those between the ages of 45 and 64.

*There were no patients under the age of 40.



Profitable Segments

BREAKDOWN BY GENDER

Gender	Patient Count	Percent of Total Volume	Revenue	Total Profit	Profit Margin [%]	Profit Per Patient
Female	260	63.7%	\$6,113,601.83	\$2,283,725.07	60%	\$8,783.56
Male	148	36.3%	\$3,839,969.84	\$1,706,525.65	80%	\$11,530.58
Total	408	100.0%	\$9,953,571.67	\$3,990,250.73	67%	\$9,780.03

Notes: Females account for 64% of total volume, while males account for 36%. However, males are more profitable [60% margin vs. 80% margin respectively]. Neither gender is clearly favorable from a combined utilization and profitability perspective, so both genders should be targeted.



Profitable Segments

BREAKDOWN BY ANNUAL HOUSEHOLD INCOME

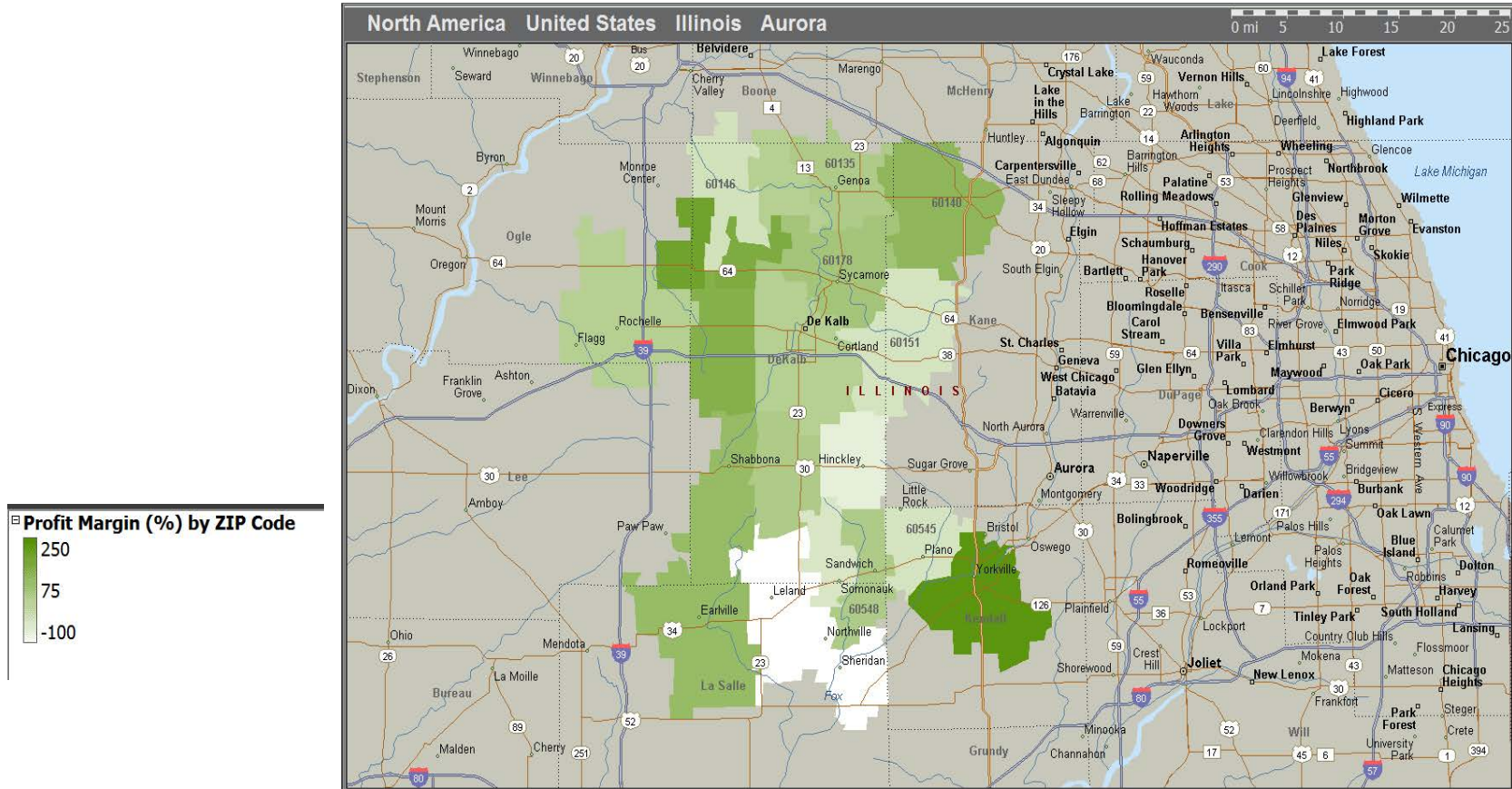
HH Income Bracket	Patient Count	Percent of Total Volume	Revenue	Total Profit	Profit Margin [%]	Profit Per Patient
\$0 - \$20,000	41	10.0%	\$647,502.23	\$17,242.10	2.7%	\$420.54
\$20,001 - \$30,000	26	6.4%	\$384,757.06	\$(2,046.80)	-0.5%	\$(78.72)
\$30,001 - \$40,000	39	9.6%	\$916,283.61	\$308,010.83	50.6%	\$7,897.71
\$40,001 - \$50,000	36	8.8%	\$645,311.28	\$81,540.44	14.5%	\$2,265.01
\$50,001 - \$75,000	77	18.9%	\$2,345,281.46	\$1,291,867.42	122.6%	\$16,777.50
\$75,001 - \$100,000	77	18.9%	\$1,881,055.31	\$773,531.53	69.8%	\$10,045.86
\$100,001 - \$125,000	59	14.5%	\$1,450,308.21	\$599,627.19	70.5%	\$10,163.17
\$125,001 - \$145,000	27	6.6%	\$817,340.54	\$432,034.35	112.1%	\$16,001.27
\$145,001 +	26	6.4%	\$865,731.97	\$488,443.66	129.5%	\$18,786.29
Total	408	100.0%	\$9,953,571.67	\$3,990,250.73	66.9%	\$9,780.03

Notes: Volume is spread fairly evenly across the household income spectrum. The average profit per patient jumps substantially above \$50K per year. This increase is maintained throughout the upper income brackets, so we recommend targeting all income brackets above \$50K per year.



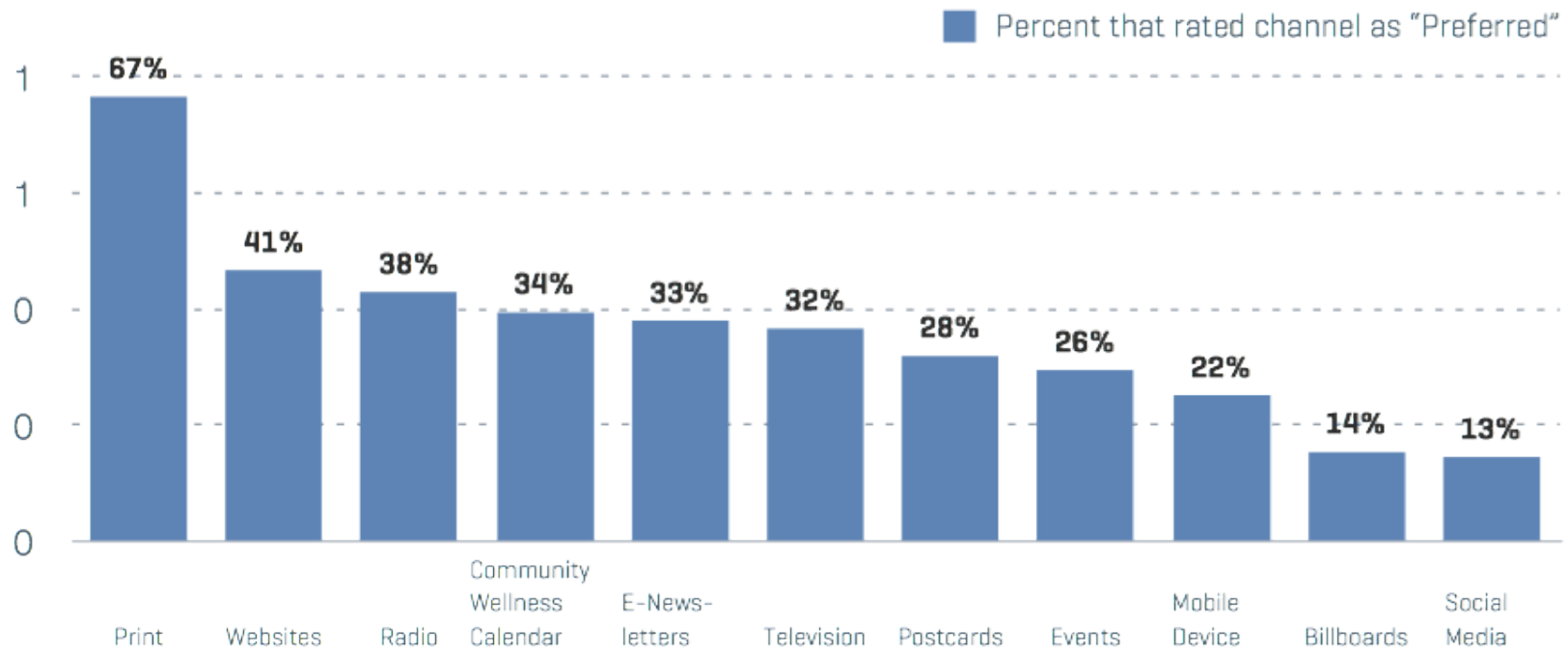
Profitable Segments

BREAKDOWN BY GEOGRAPHY (ZIP Table, sorted by Patient Count)



Channel Preferences

Below is a chart that illustrates the channel preference among respondents to the client health system market research survey who were between the ages of 45 and 64 and had an annual household income of greater than \$50K. Print has the strongest preference among the demographic group, and most other channels performed within a similar range. Mobile Device, Billboards, and Social Media comprised the lowest performing tier.



Custom Profiling: Example

•Patient & Financial Data

- +Howard Lee
- +46 years old
- +Blue Cross Blue Shield insurance
- +Joint Replacement
- +Paid his bill in full



•Appended Consumer Data

- + Married
- + Income
- + Couple of Kids
- + Gym Membership
- + Magazine Subscriber
- + Recently responded to direct mail

Market Research

- + Does not attend community events
- +Prefers Magazines
- +Secondary preference for Internet



Custom Profiling: Example

- **The Propensity Model**

- + 46 year olds
- + Income
- + Married
- + Couple of Kids
- + Gym Membership
- + Magazine Subscriber
- + Recently responded to direct mail

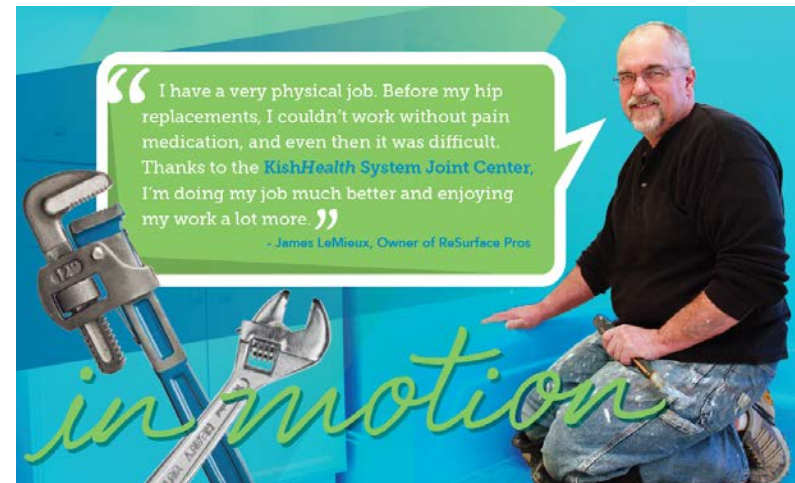
- **Media Habits/Preferences**

- + Magazines
- + Web



Joint Center Campaign

- + True North targeted a direct mail campaign promoting the client's Joint Center of 6 separate deployments to 21,000 HHs total. 3 separate lists of 7,000 HHs each were used.
- + Ideal recipients closely matched past profitable patients as determined through advanced modeling.
- + A 10% [2,100 HH] control group was randomly selected and withheld from the target group.
- + Analysis was performed on Inpatient Orthopedic patient records dated 3/12/13 - 7/3/13.



Joint Center Campaign

- + GetMovingonJointPain.com was also launched and traffic was promoted through direct mail and paid search.
- + The site includes an assessment and appointment scheduling functionality by both phone and site form completion.

KishHealth System
Joint Center

Call 888-972-8568
to schedule an appointment now

[Request an Appointment](#)
to help determine if you're a candidate

Poetry in Motion—The feeling you have when you can move without pain

Is knee or hip pain preventing you from enjoying the activities you love the most? Joint replacement surgery through the Kish-Health System Center for Joint Care might be your best solution.

[Take the Joint Pain Assessment](#)

If joint pain is affecting your quality of life, you're not alone—millions of Americans suffer from chronic joint pain. However, many are getting back to the active lifestyles they love thanks to joint replacement surgery. This could be the answer you're looking for. [Take our short joint pain assessment](#) to see if you might be a candidate for joint replacement surgery. Or, if you know you're ready to take this next step, go straight to the [Request an Appointment](#) form and make an appointment with a Center for Joint Care orthopedic surgeon at Kish-Health System.

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Joint Center Campaign: 90-Day Report

+ GetMovingonJointPain.com

+ Visits: 905

+ Unique Visits: 854

+ Page Views: 2181

+ Total Calls: 21
[postcards and landing page]

+ Total Form
Submissions: 5

+ Visitors who started
assessment: 93

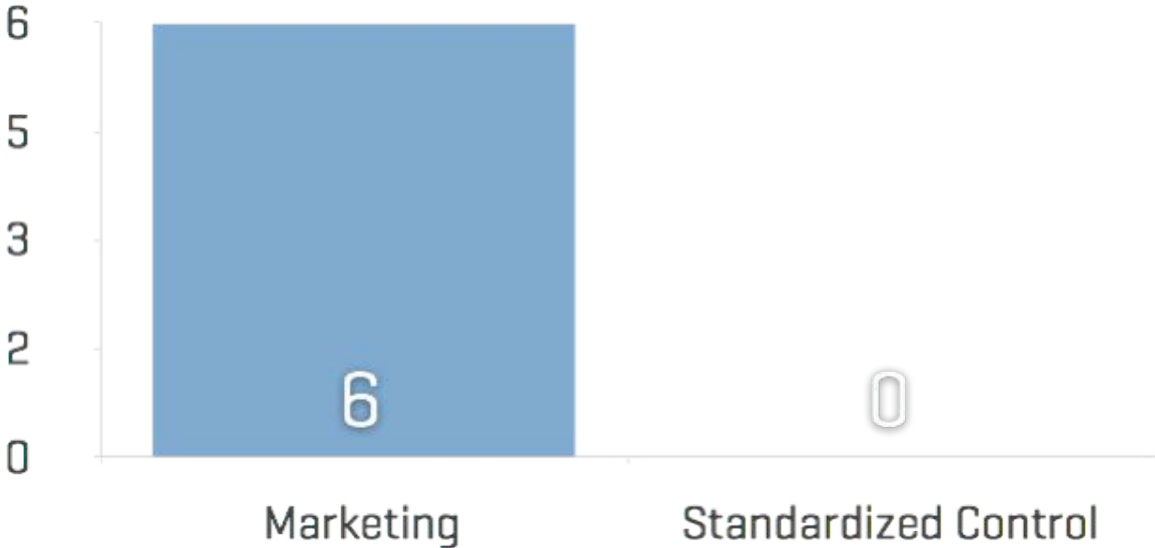
+ 65% assessment
completion rate



The screenshot shows a landing page for the Kish Health System Joint Center. The top left features the logo for Kish Health System Joint Center. The top right has a yellow banner with the text "Call 888-972-8568 to schedule an appointment now" and a button that says "Request an Appointment to help determine if you're a Candidate". Below this is a large image of an older man and woman riding a green motorcycle, both wearing helmets and smiling. To the right of the image is the headline "Poetry in Motion—The feeling you have when you can move without pain" and a sub-headline "Is knee or hip pain preventing you from enjoying the activities you love the most? Joint replacement surgery through the Kish/Health System Center for Joint Care might be your best solution." Below the sub-headline is a blue button that says "Take the Joint Pain Assessment". At the bottom of the page, there is a small copyright notice: "© 2013 Kish-Health System Terms & Conditions".

Joint Campaign: 90-Day Response Analysis

Figure	Marketing Group	Control Group	Standardized Control Group
Number of Households	21,000	2,100	21,000
Patients	6	0	0



Note:

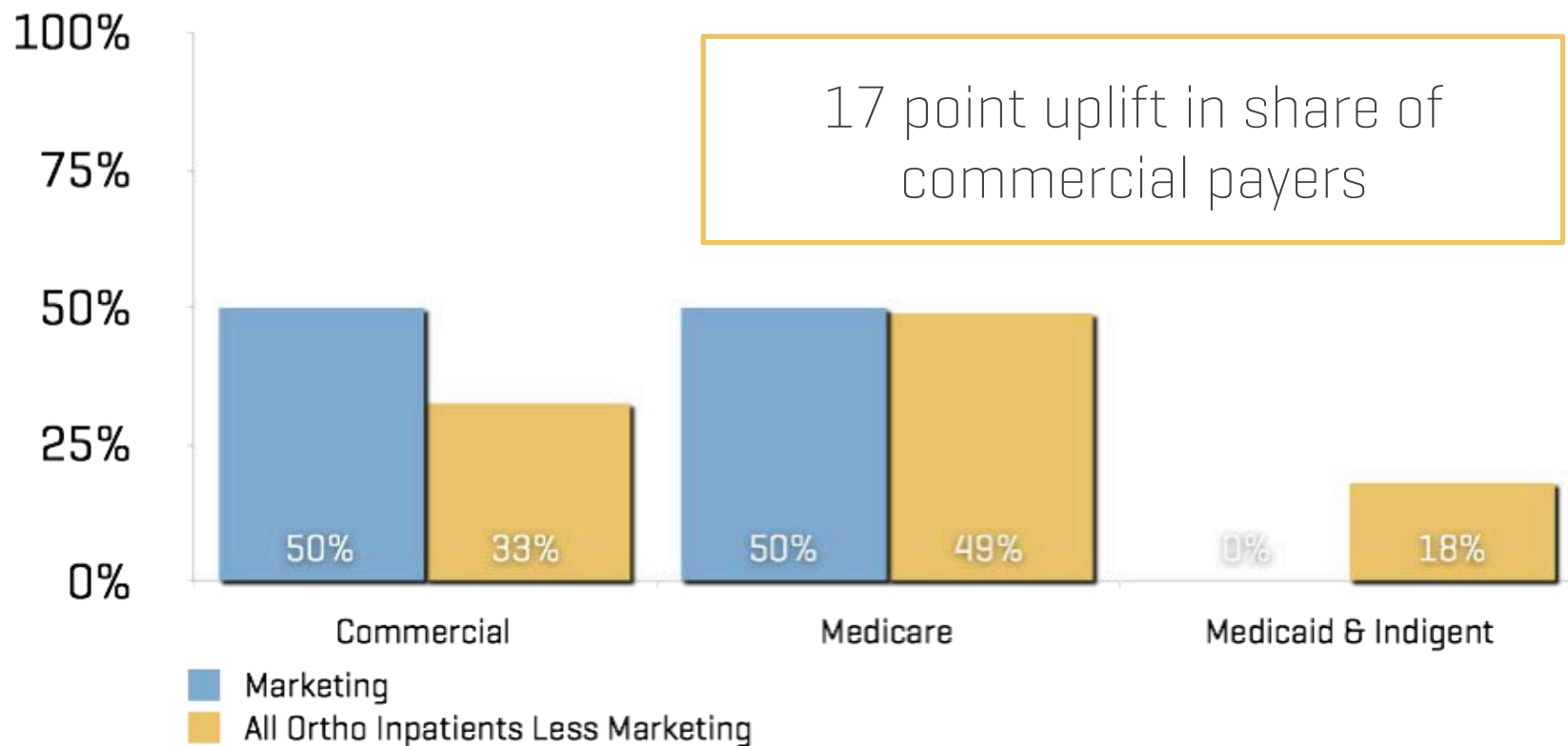
$$\text{Standardized Control} = \left(\frac{\text{Control Patients}}{\text{Control Households}} \right) * \text{Marketing Households}$$

$$\text{Uplift} = \left(\text{Marketing Patients} - \text{Standardized Control Patients} \right) / \text{Standardized Control Patients}$$



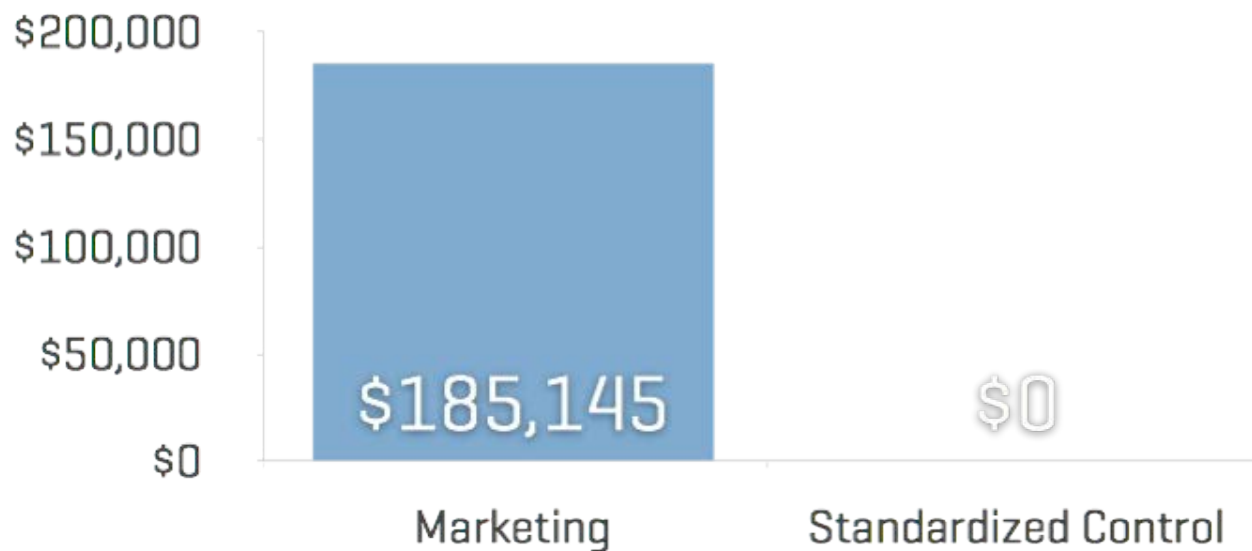
Joint Campaign: 90-Day Payer Mix Analysis

% of Encounters by Payer Type



Joint Campaign: 90-Day Revenue Analysis

Figure	Marketing Group	Control Group	Standardized Control Group
Number of Households	21,000	2,100	21,000
Total Revenue	\$185,145.40	\$0	\$0

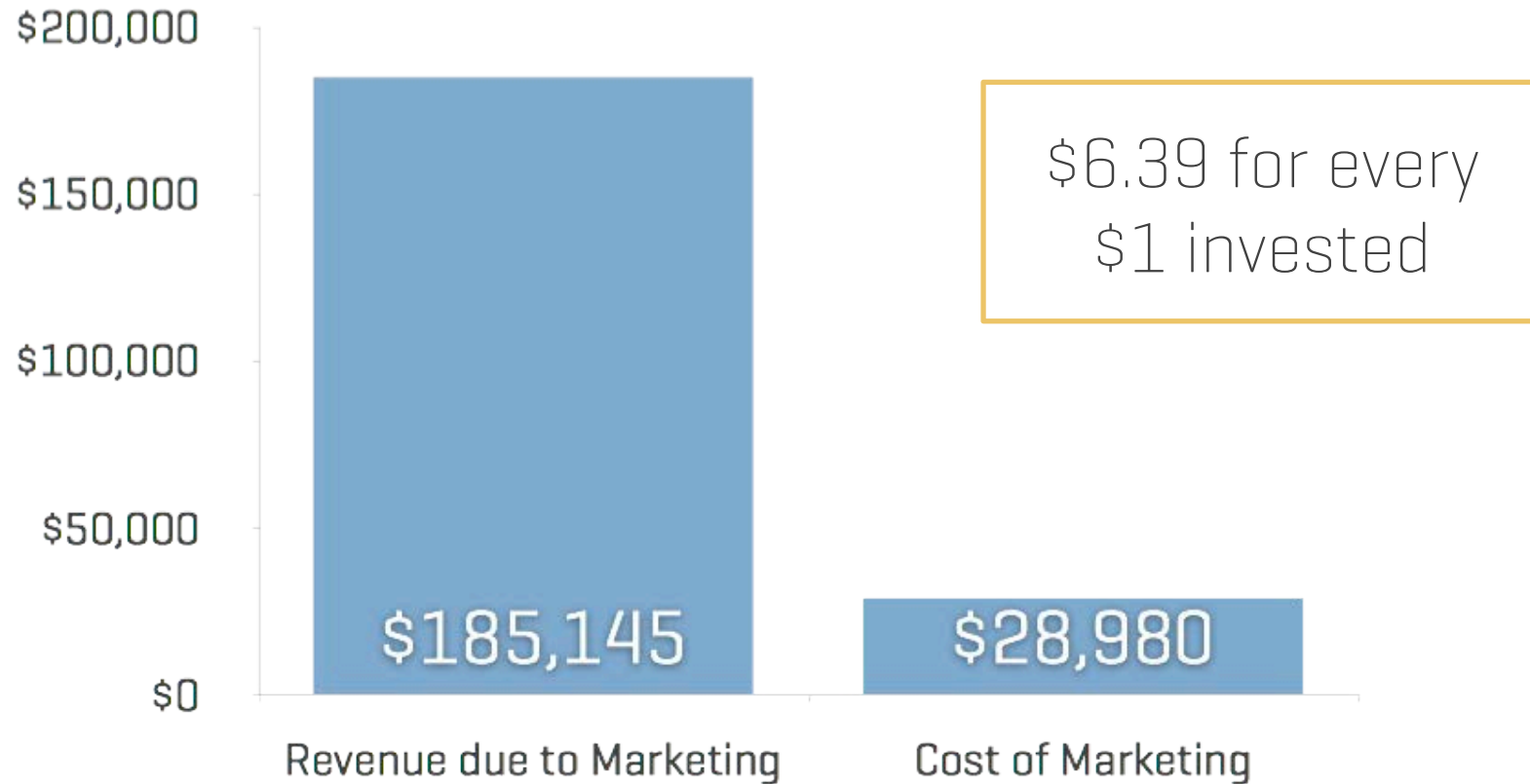


Note:
 $Standardized\ Control = \frac{[Control\ Revenue]}{[Control\ Households]} * [Marketing\ Households]$

$Uplift = \frac{[Marketing\ Revenue - Standardized\ Control\ Revenue]}{Standardized\ Control\ Revenue}$



Joint Campaign: 90-Day ROI Analysis



Note: *Revenue due to Marketing* = Marketing Group Revenue minus Control Group Revenue
Control Group Revenue is standardized to the size of the Marketing Group

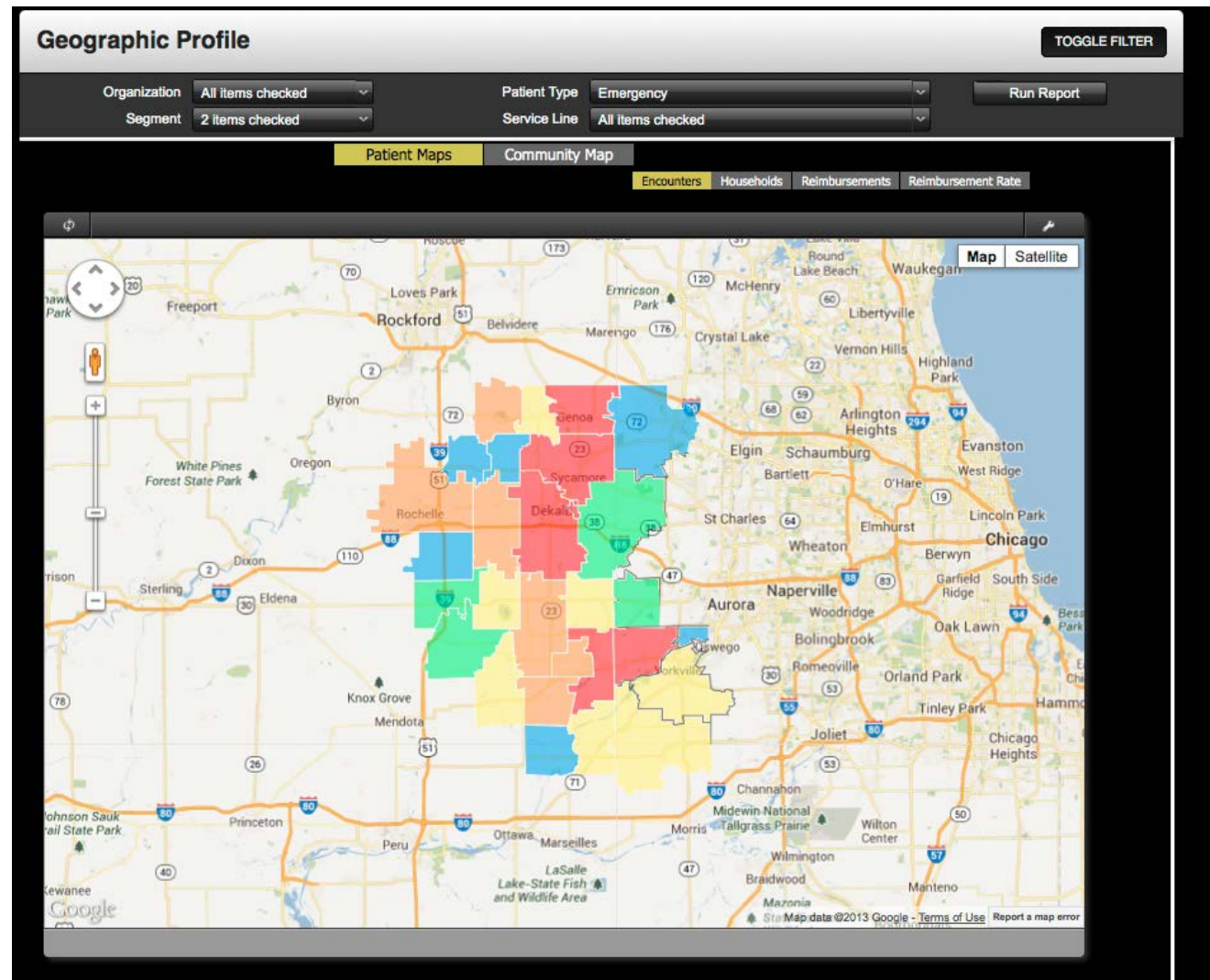


Develop and Deploy Population Health Strategies

- + Same methodology as service line growth
- + Different goal
- + Excellent opportunity to mine your customer data



Audience Evaluation



Encounters

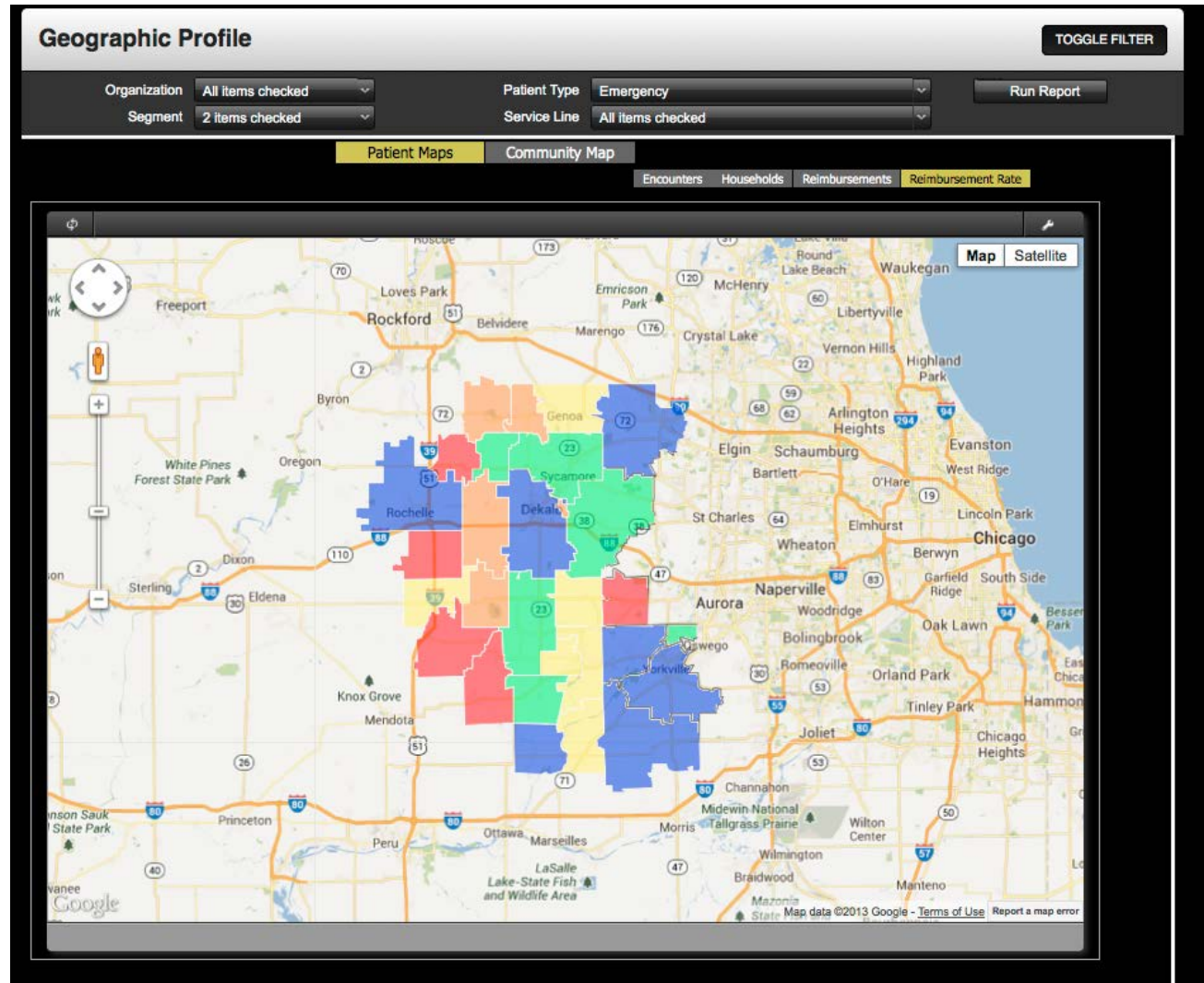


Highest

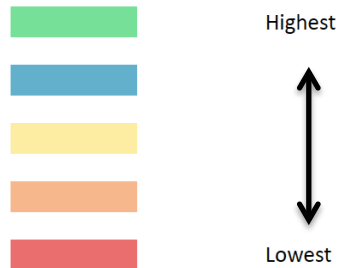


Lowest

Audience Evaluation



Reimbursement Rate

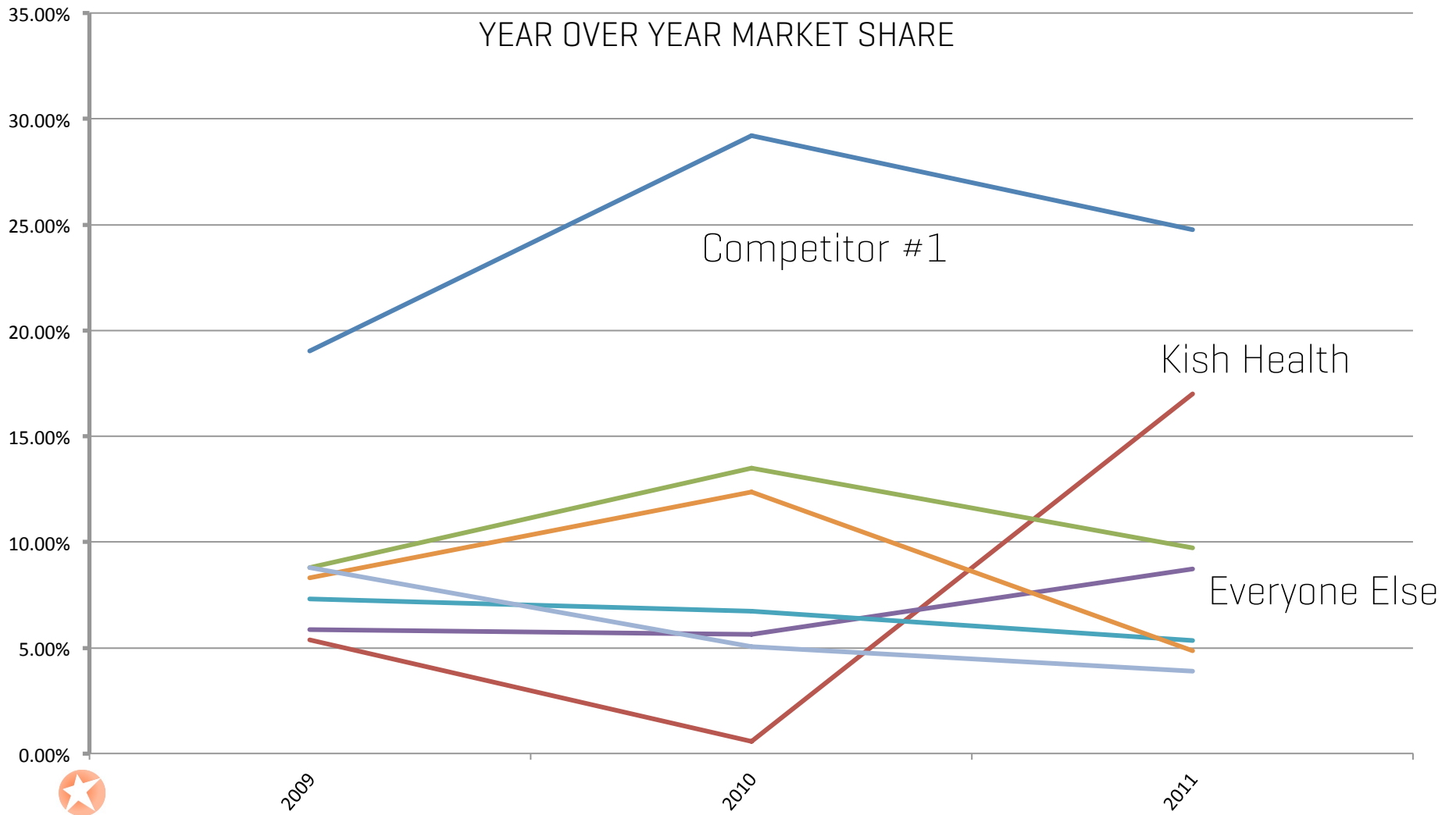


Shaping Your Marketing Plan

- + Bringing data sets together to determine opportunities
- + Building a data driven business case for marketing



Spine Center: Inpatient Analysis



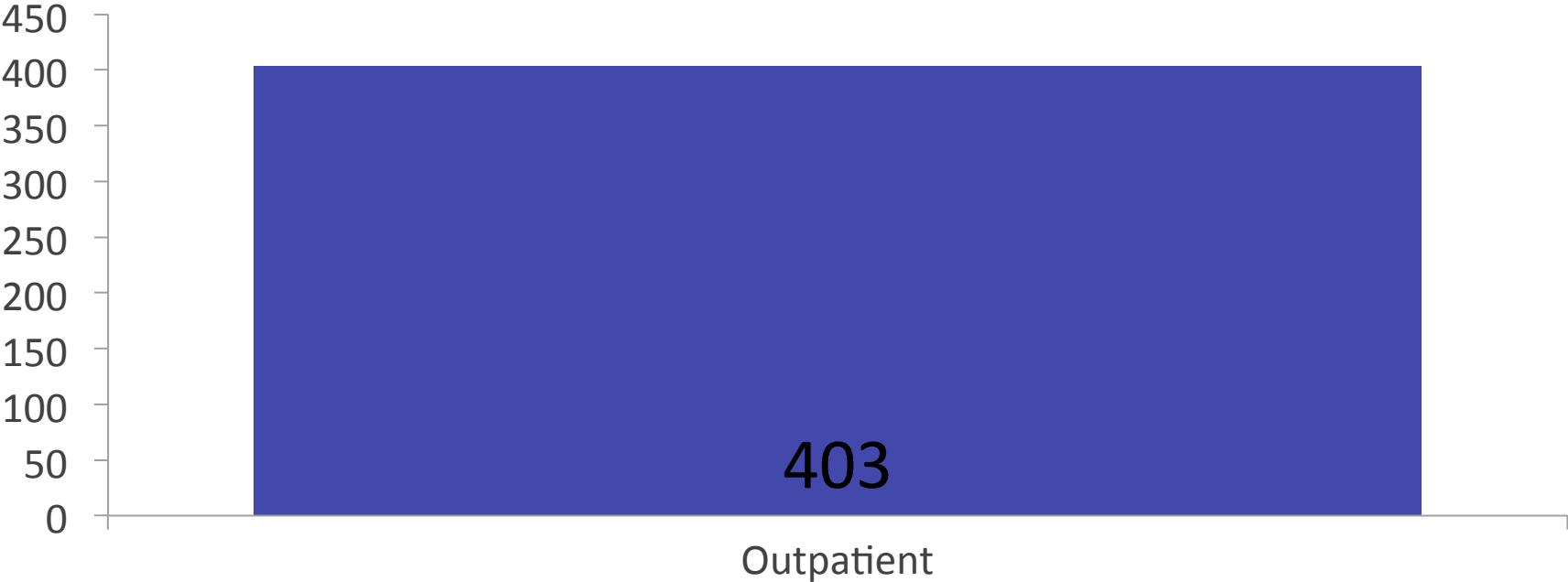
Shaping Your Event Strategy

- + Using full circle data on event performance
- + Past performance data shapes
 - + Event strategy
 - + Communication channels



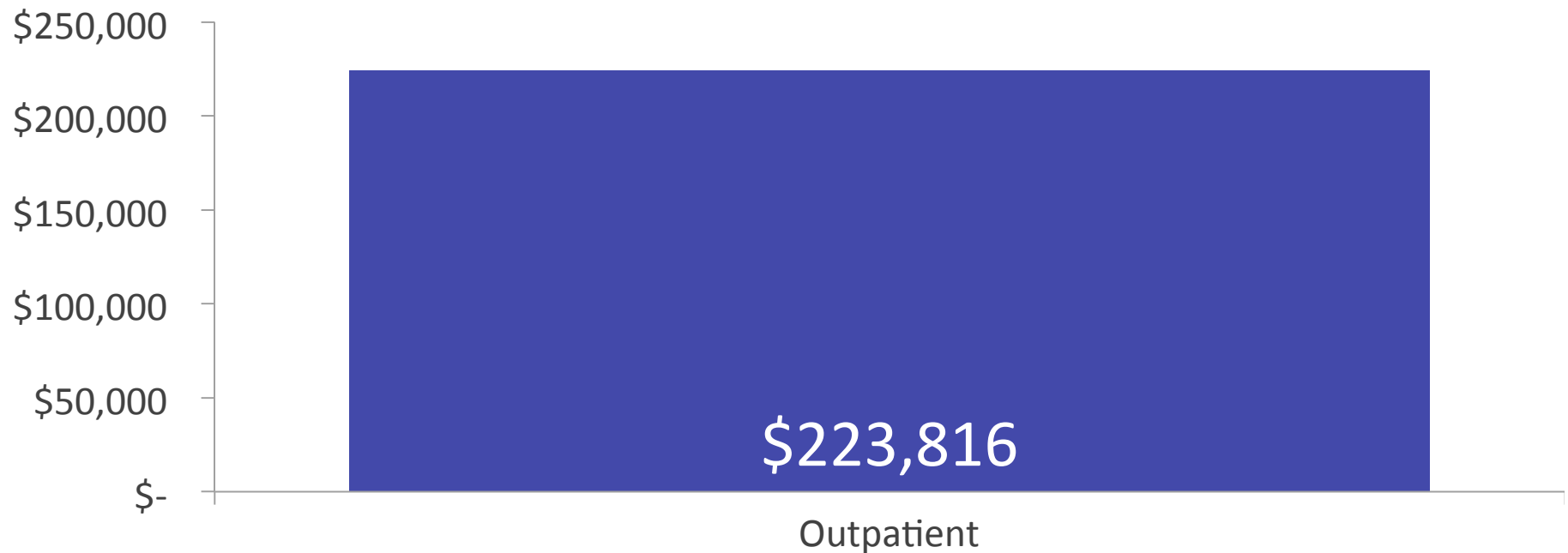
This One's for the Girls: Response Analysis

Figure	Tracked Event Participants	New Patient Encounters	Existing Patient Encounters
Outpatient	523	389	14



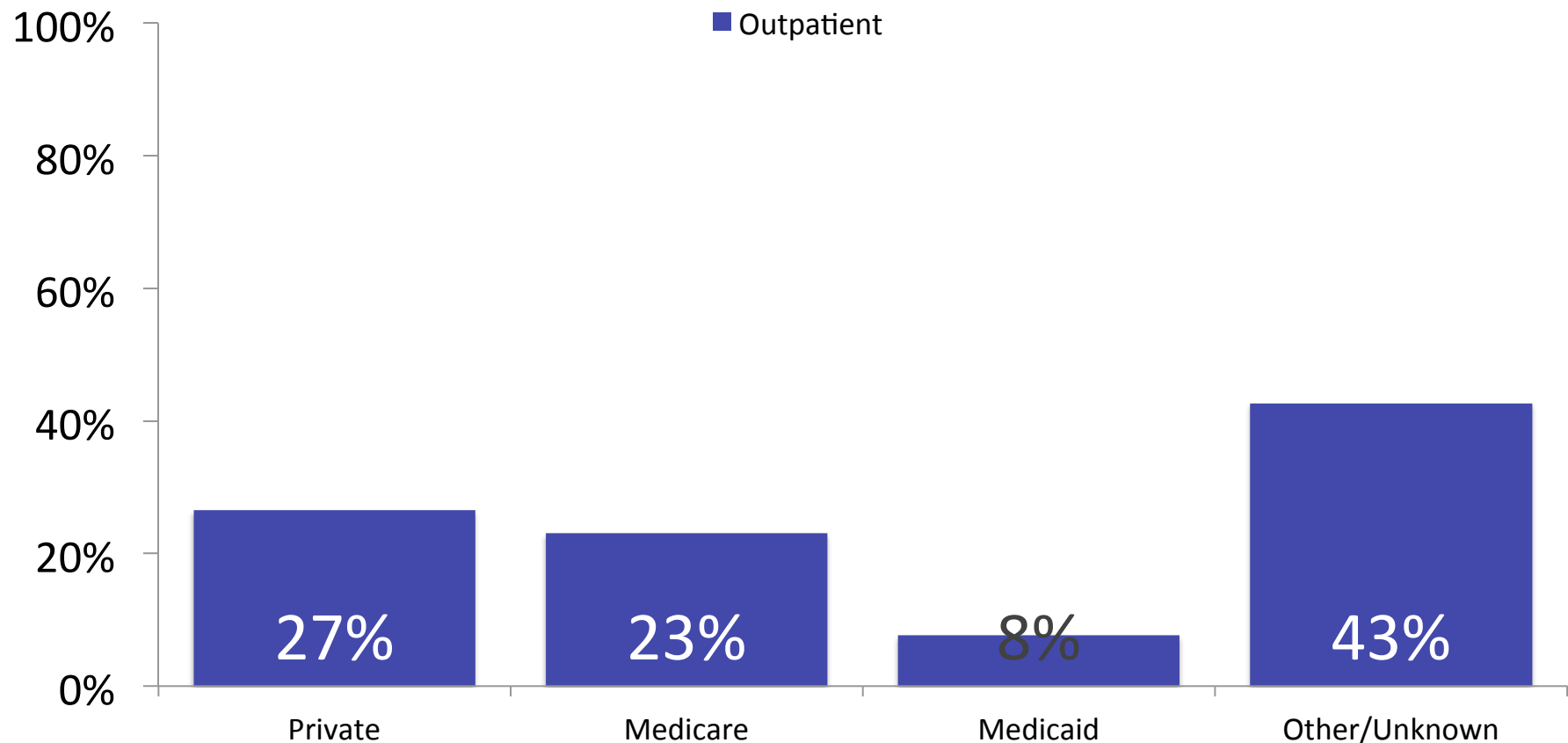
This One's for the Girls: Revenue Analysis

Figure	New Patient Revenue	Existing Patient Revenue	Average Revenue per Encounter
Outpatient	\$4,845.63	\$218,970.80	\$555.38



This One's for the Girls: Payer Analysis

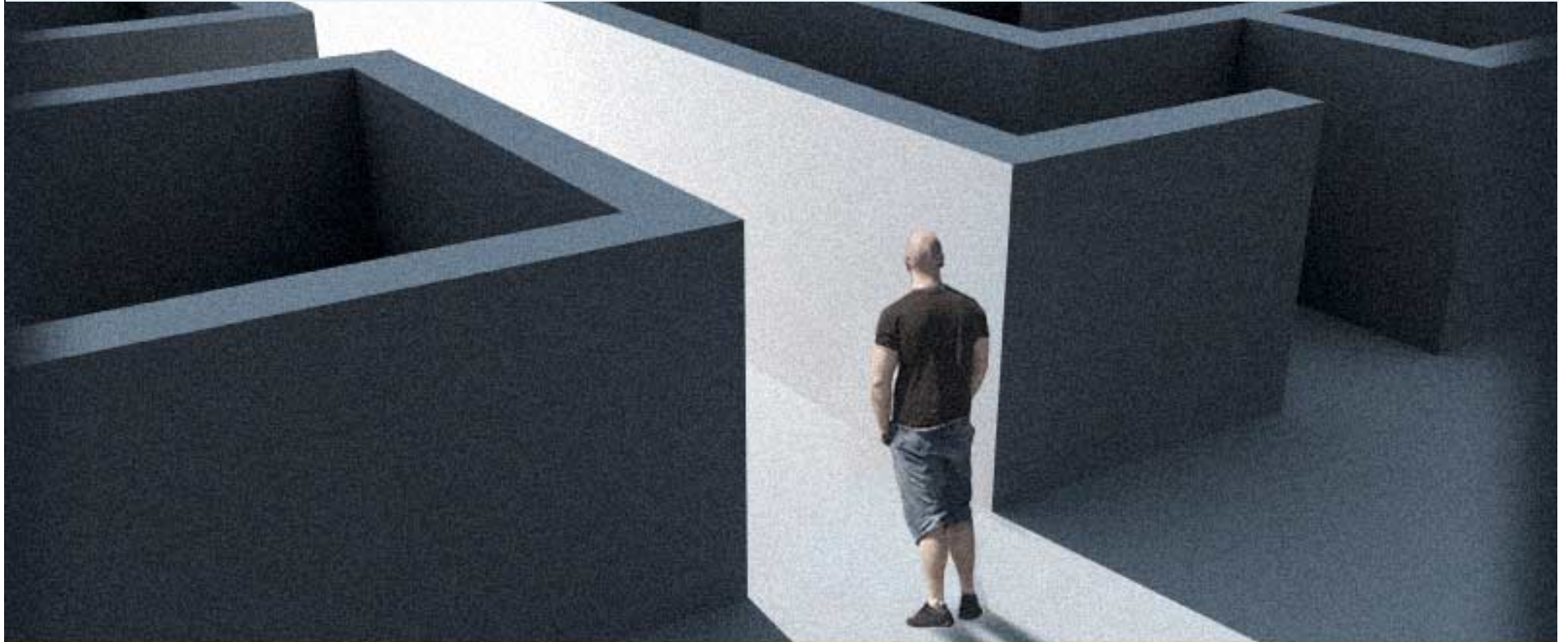
% of Encounters by Payer Type



Where to Start



I GET IT. DATA IS COOL. SO...



where do I start?

How to Build a Business Case: Quantify the ROI of Marketing Smarter without Spending More

+ Before: \$100K budget

- + \$75K TV/radio/billboard (untargeted/untracked)
- + \$25K direct marketing (untargeted/untracked)
- + ROI questionable

+ After: \$100K budget

- + \$50K: direct marketing (highly targeted/tracked)
- + \$25K: CRM/analytics tools
- + \$25K TV/radio/billboard
- + ROI measurable for 50% of marketing activities



How to Build a Business Case: Deliver Insights Beyond Marketing

- + Payer performance
- + Market opportunities
- + Financial performance
- + Population health management
- + Physician support
- + Community wellness



How to Build a Business Case: Support Key Leaders/Departments

- + Educate the squeaky wheels on your medical staff: Mass marketing gets ignored. Targeted marketing gets results.
- + Delivering new patients proves that just because they can't drive by a billboard or see a full-page newspaper ad, you're still marketing their practice.



7 Steps to Success



7-Step Action Plan

1. Keep it simple
2. Get buy-in from influential peers
3. Insert yourself into strategic discussions
4. Be prepared to defend your data
5. Share the wealth
6. Achieve quick wins
7. Test and learn



7-Step Action Plan: #1: Keep it Simple

- After conducting the analysis, provide reports that:
 1. highlight key data points
 2. need no further analysis by the C-team
 3. are easily digestible in a dashboard format
 4. offer recommendations based on the data



7-Step Action Plan: #2: Get Buy-in from Peers

- Deliver business insights for department heads, service line managers, or other key individuals who can serve as “Analytics Ambassadors” and help advocate to leadership on your behalf.



7-Step Action Plan: #3: Insert Yourself into Strategy Discussions

- DON'T: Simply generate reports and hand them to your leadership.
- DO: Schedule time to meet with your leadership to review analytic reports and identify specific areas of interest.



7-Step Action Plan: #4: Be Prepared to Defend Your Data

- Anticipate challenges and avert disaster by:
 1. Reviewing the report with an analytically minded colleague in advance.
 2. Ask him/her to poke as many holes as possible in the data.
 3. Include disclaimers and key assumptions in the final report.



7-Step Action Plan: #5: Share the **Wealth**

- Collaborate with departments throughout the organization to help them better understand:
 - + Financial performance of key service areas
 - + Patient demographics/psychographics
 - + Patient satisfaction [e.g. HCAHPS]
 - + Employee satisfaction
 - + Market opportunities
 - + Industry trends



7-Step Action Plan: #6: Achieve Quick Wins

- Before investing significant time and budget dollars into a large-scale CRM or data analytics system, experiment with one or two service lines to ensure viability and mitigate risk. This can be accomplished by collaborating with your IT and finance departments to gain access to the right data sets, as well as seeking outside expertise to fill any gaps in analytic talent or technology.



7-Step Action Plan: #7: Test and Learn

- Data-driven marketers constantly:
 1. Test new products, programs, and campaigns to validate assumptions, conserve costs, and confirm proof of concept
 2. Measure to evaluate effectiveness
 3. Refine strategies based on performance



Discussion

