CARROT HEALTH

transforming consumer data & analytics into intelligent action

Removing Barriers to Health

Kurt Waltenbaugh | kurt@CarrotHealth.com | @Carrot_Health | +1-612-208-1705

OUR PURPOSE – A MORE EFFECTIVE SYSTEM OF HEALTH

CARROT HEALTH

WHY We believe in enabling a future with no barriers to better health

HOW We curate & analyze consumer data to provide a 360-degree view of the individual

WHAT We provide actionable insights to inform Growth, Health and Quality

A STORY OF TWO PATIENTS – MEASURING VARIATION IN CONSUMER BEHAVIOR

Same zip code

63 years old, female

Overweight

Pre-diabetic

High blood glucose

High blood pressure

Poor eating habits

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A STORY OF TWO PATIENTS – MEASURING VARIATION IN CONSUMER BEHAVIOR

TABITHA

Married, 3 adult children
Education: High School
Household income: $18k
Household net worth: $50k
Fitness level: Medium
Vehicle
Regular voter
Tech savvy & online shopper
Preferred channel: email or web
Negative channel: landline phone
Pet owner: Dog

Likely2™ Scores:
- ✓ **High Patient Engagement**
- ✓ **High Survey Responder**
- ✓ **Regular Primary Care Visits**

<$2,000

Same zip code

63 years old, female

Overweight

Pre-diabetic

High blood glucose

High blood pressure

Poor eating habits

BETTY

Divorced, 1 adult child
Education: High School
Household income: $18k
Household net worth: $10k
Fitness level: Low
No Vehicle
Sporadic voter
Catalog shopper
Preferred channel: direct mail
Negative channel: web, social
Pet owner: None

Likely2™ Scores:
- ✓ **Low Patient Engagement**
- ✓ **Negative Experience Risk**
- ✓ **No Primary Care Physician**

>$18,000

← **Annual Health Spend** →

900% Difference

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MEMBER SDoH SCORECARD AT THE POINT OF CARE

SRG Risk Scores, COVID Index & Predicted Outreach Modality provided at individual level

Betty Williams

Preferred Outreach Modality

	RISK LEVEL	SCORE
Food Insecurity	Very High	4.06x
Loneliness	High	2.34x
Housing Insecurity	Low	1.04x
Health Literacy	Med	1.88x
Transportation Needs	High	1.99x
COVID19 Risk Index	High	3.02x

80

SRG SCORE

265M American Adults

0-99

Predicts risk of Adverse Outcome due to SDoH

Unique finger-print of risk under every score

Longitudinal Risk Tracking

MARKETVIEW™ HEALTH | SOCIAL RISK GROUPER™

The following Social Risk Groups are examples of the primary inputs into the overall Social Risk Grouper Score

Social Risk Group	Definition
Loneliness	Poor connection and low contact between individual and friends, family, community
Housing Instability	Lack of permanent form of housing or presence of housing quality risks (lead paint, mold, inadequate cooling or heating, radon)
Health Literacy	The impact that comprehension of health-information has on health outcomes
Food Insecurity	Inability to pay for or access healthy foods
Financial Insecurity	Level of financial volatility due to bankruptcy, short-term loans, or high debt to asset ratio
Discord at Home	Indicators of discord/stress at home
Unemployed	Likelihood to be unemployed
Uninsured	Likelihood to be uninsured
Low Socioeconomic Status	Low income, assets, home value, purchasing power
Transportation Needs	Inability to pay for or access a reliable source of transportation
Unacculturated	Not absorbed or integrated into a wider society or culture due to language or cultural barriers

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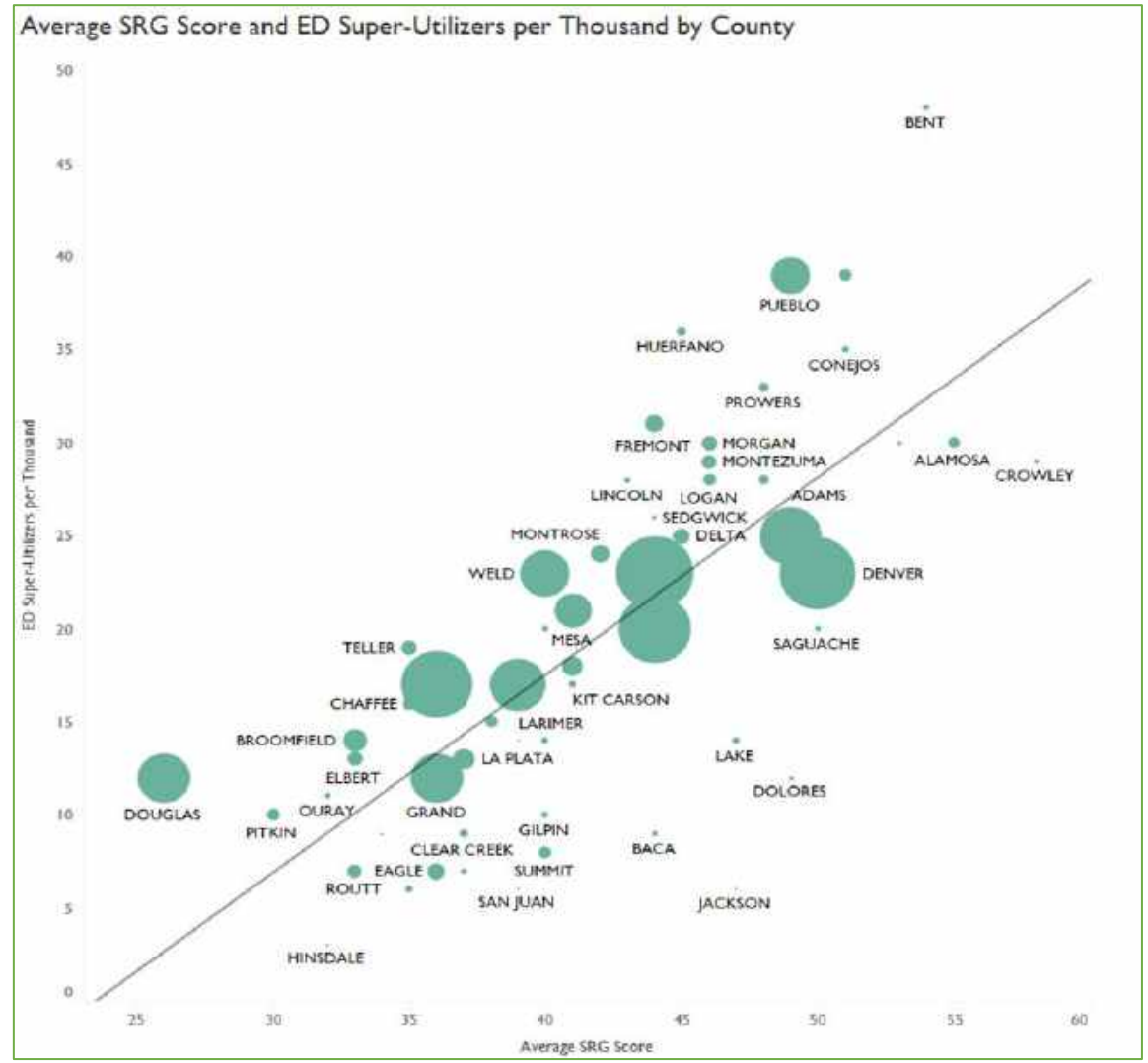
Why is Social Risk, SRG important?

SRG identifies individuals & communities in need

- State-wide analysis in Colorado
- Each one unit increase in SRG implies ED super-utilizer rate increase of 6.2%

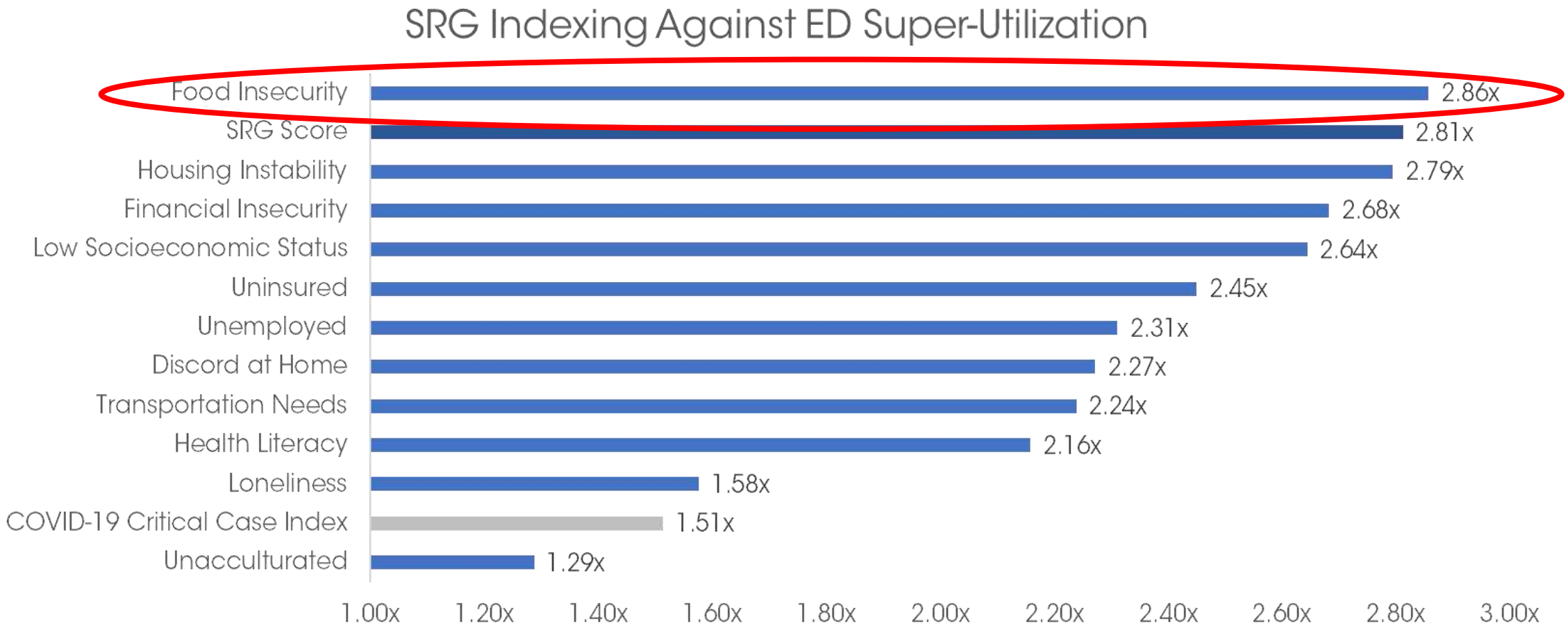


Source: Carrot Health

R^2 = 0.53, P-value < 0.0001

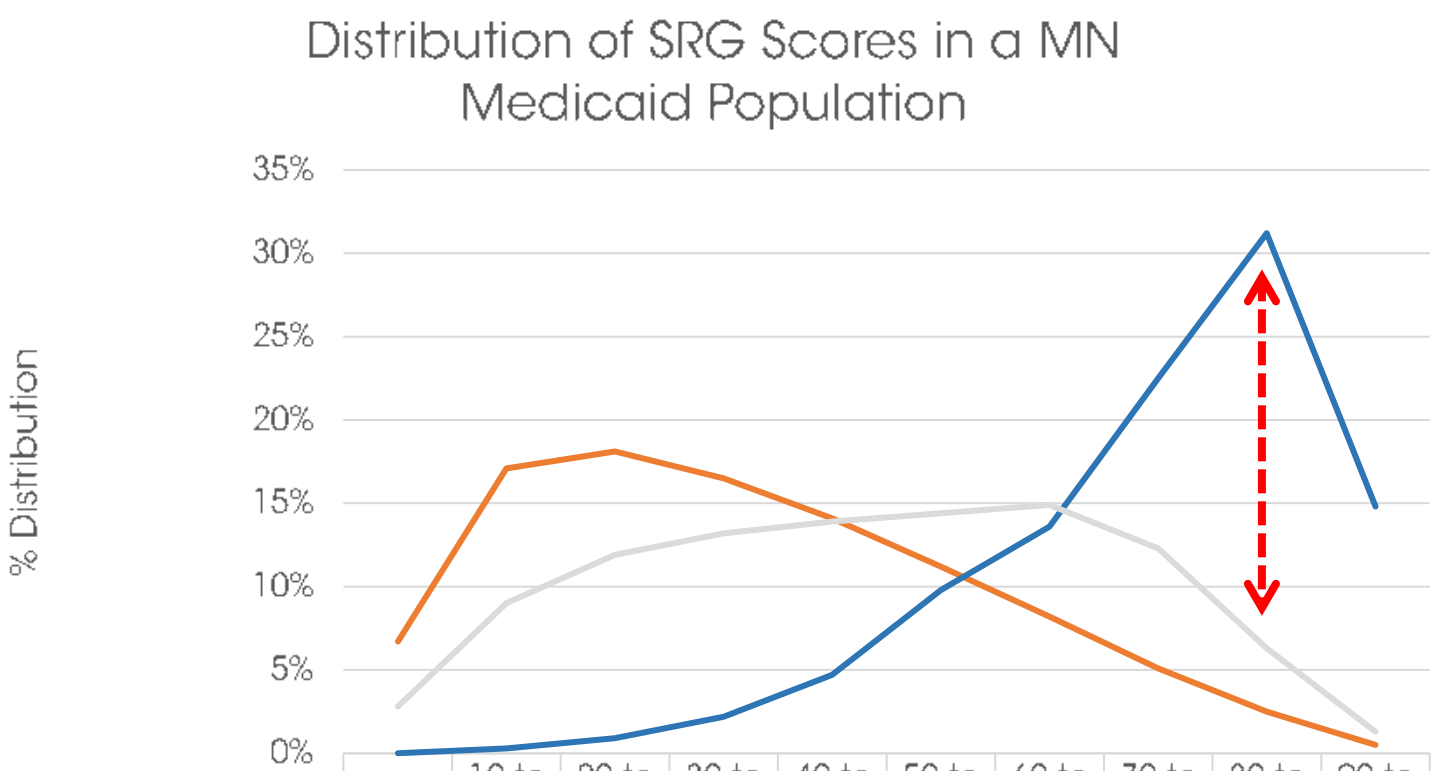
Detail: Which factors matter most?

The "fingerprint of risk" helps identify most impactful interventions



FLATTENING A DIFFERENT KIND OF CURVE

MarketView Summary of the Medicaid Population in Minnesota

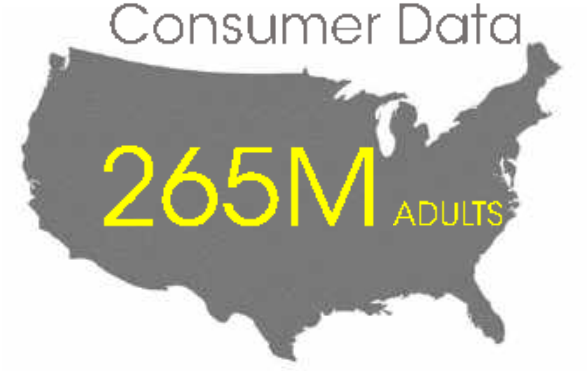


	0 to 9	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to 89	90 to 99
State Average	7%	17%	18%	17%	14%	11%	8%	5%	3%	1%
'Black' members	0%	0%	1%	2%	5%	10%	14%	23%	31%	15%
'White' members	3%	9%	12%	13%	14%	14%	15%	12%	6%	1%

- SRG Score represents the risk that SDoH risks pose towards an individuals adverse health outcomes
- Black & white population risk are skewed disproportionately
- 46% of Black adults have an SRG Score between 80 & 99
- In contrast, only 7% of white adults have an SRG score between 80 & 99

FIRST, LARGEST & MOST COMPLETE CONSUMER + HEALTH DATASET

Consumer Data



Claims/Clinical

317M
ENCOUNTERS & CLAIMS

Public Data

1,000+
Health Indicators
Census, CDC, USDA, etc.

CARROT HEALTH DATA & ANALYTICS

80+ DATA SOURCES
5,000 VARIABLES
24.5M MEMBERS

410+
PROPRIETARY PREDICTIVE MODELS

Market Data

7
YEARS PLAN ENROLLMENT NATIONWIDE

Proprietary Geospatial

125M
HOUSEHOLDS
35 LOCATION TYPES

Voice of Consumer

1.3M
UNIQUE SURVEY RESPONSES

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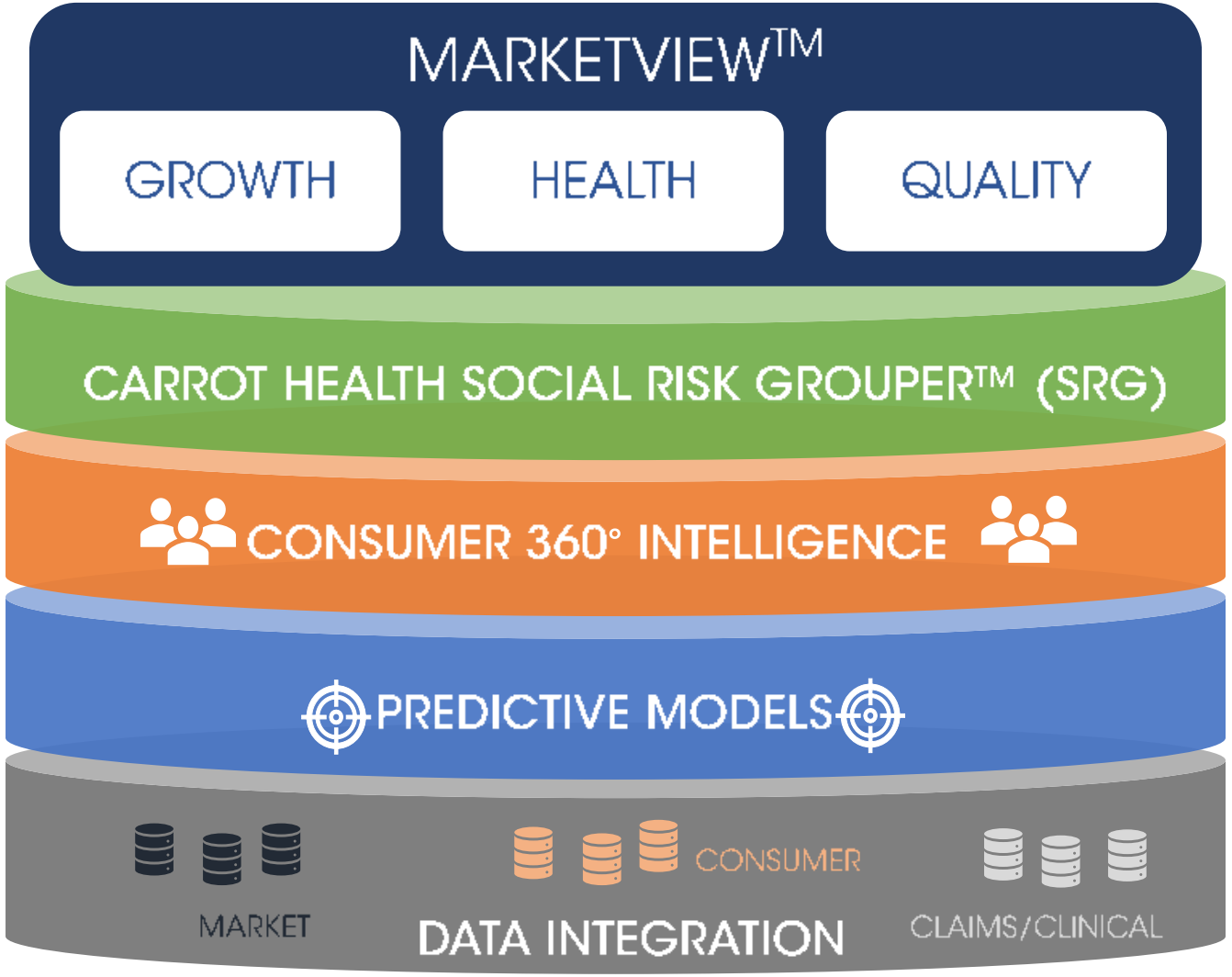
CARROT HEALTH MARKETVIEW™ LEVERAGES COMBINED DATASETS TO BRING INSIGHTS THROUGH A DYNAMIC & INTERACTIVE PLATFORM



MARKETVIEW™ HEALTH | EMERGENCY DEPARTMENT UTILIZATION

74.9% total future Emergency Department super-utilizers (4+ visits per year) were captured in top 10% of predicted members

GOAL

Predict members most likely to be ED super-utilizer to inform outreach and intervention

APPROACH TO MODELING

Identify members that possess characteristic super-utilizer members

CARROT HEALTH OUTPUT

Model lift, key drivers of prediction, model pe baseline performance

RATE OF ED SUPER-UTILIZER BY DECILE

Propensity Decile	ED Super %	Not ED Super %	
1 – Most Likely	31.7%	68.3%	
2	6.8%	93.2%	
3	2.1%	97.9%	
4	0.9%	99.1%	
5	0.4%	99.6%	
6	0.1%	99.9%	
7	0.1%	99.9%	
8	0.0%	100%	0.0x
9	0.0%	100%	0.0x
10 – Least Likely	0.0%	100%	0.0x

than bottom decile!

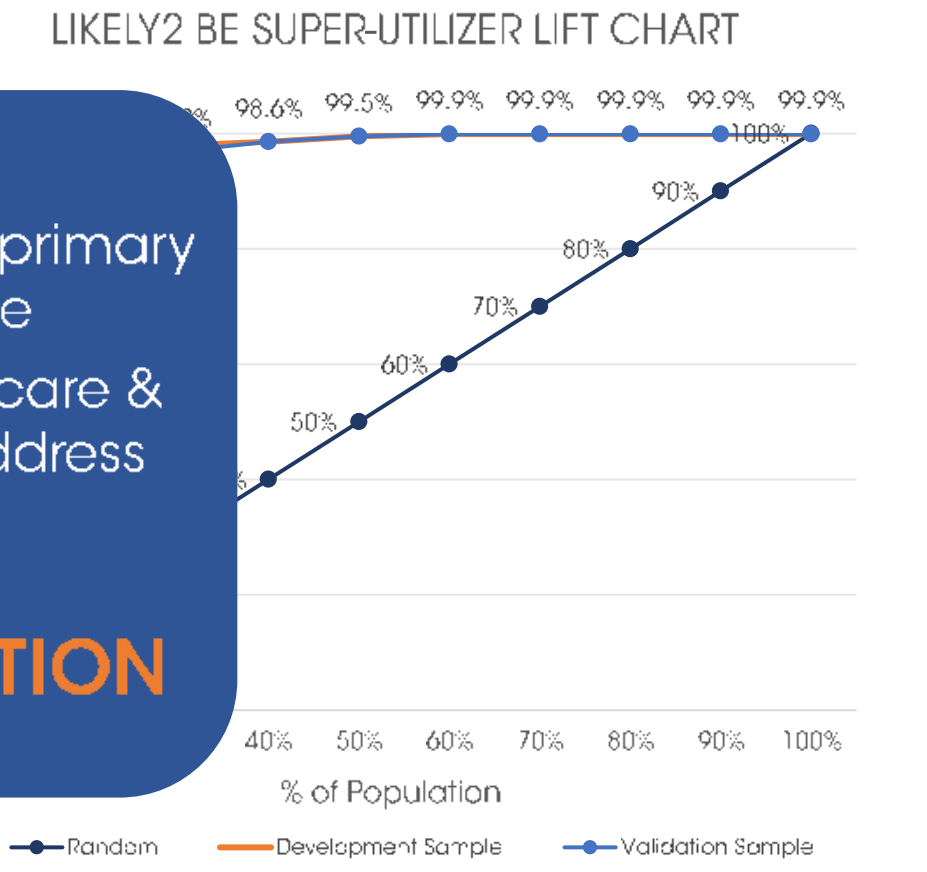
INFORMING ACTION

Individual scores for members to inform prioritized intervention

RESULTS

- ✓ Identified two cohorts as primary drivers of increased usage
- ✓ Deployed mobile urgent care & pop-up urgent care to address

SIGNIFICANT SHIFT IN ED UTILIZATION



- ✓ Likely2 be socially isolated
- ✓ Likely2 use drugs
- ✓ Likely2 have high transportation needs
- ✓ Likely2 have a mental health condition

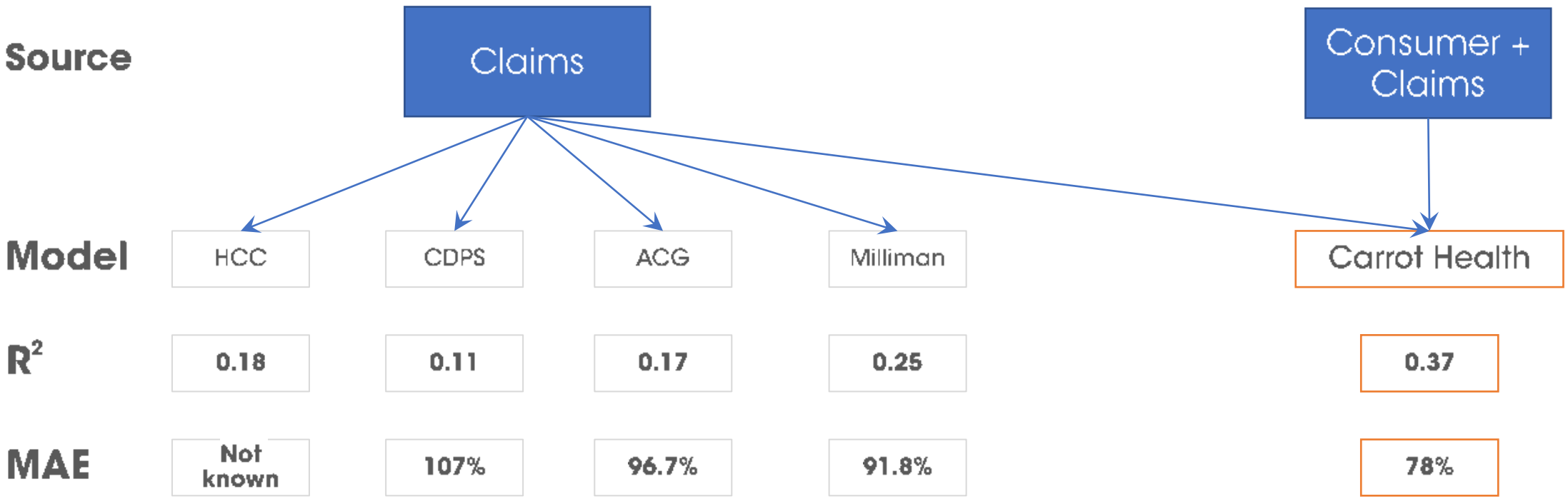
CARROT LIKELY2 MODELS vs CLAIMS MODELS

One size does NOT fit all for Clinical Risk Models

Legacy

- Standard algorithms used for all regions & populations
- No consumer or SDoH factors
- No benchmarking insights – how are drivers of risk different in your population vs. others?

- Localized algorithm
- Adds Consumer & SDoH factors
- Benchmarking insights & localized drivers of risk



CARROT MARKETVIEW™ | OUR APPROACH TO ASSESSING OPPORTUNITY

Identifying **WHO** to target in your population….

- Future projected utilization
- Social, behavioral, environmental, economic needs
- Gaps in care
- Program engagement propensity

…and **HOW** to reach these consumers:

- Patient clinical and social profile
- Channel preferences
- Intervention Matching
- Program preferences
- Behavior change motivators

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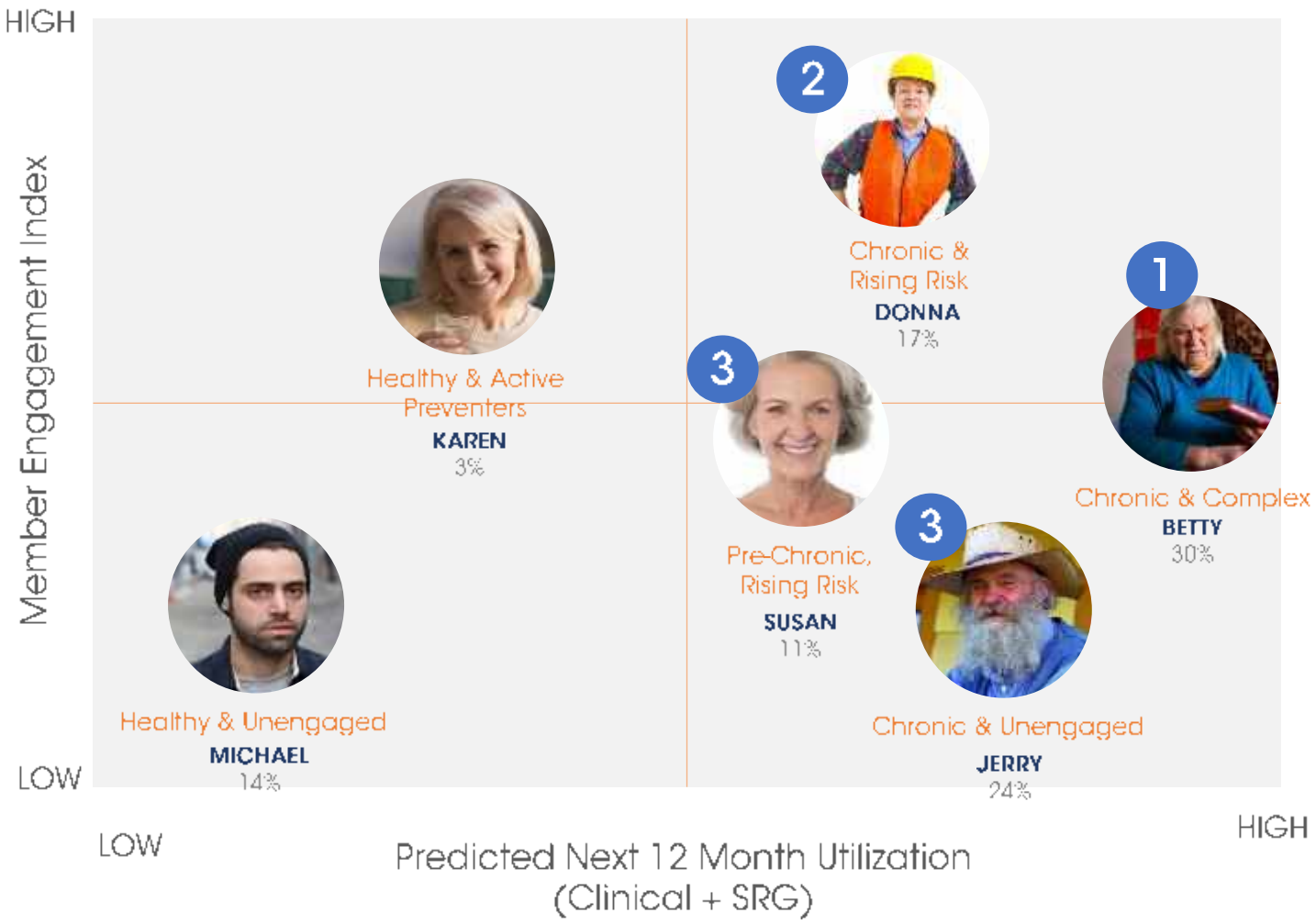
CARROT MARKETVIEW™ | CONSUMER SEGMENTS

Characteristics inform balanced case-loads



1 PRIMARY TARGET

Chronic & Complex

This population is the riskiest lot and would need frequent touchpoints for better accountability. They are fairly engaged and taking advantage of this could drive results for Assessment, Care-Plan completion. Service referrals can be made to address SDoH needs like transportation, food insecurity, health literacy and housing insecurity- this should mark a shift in adverse health outcomes.

2 SECONDARY TARGET

Chronic, Rising Risk

While this population has above average risk, they are extremely engaged, making them good candidates to mitigate & address their rising risk. Success can be demonstrated for this segment as there is a tenacity to change - a quality critical to programs like smoking cessation. This population also over-indexes for the risk of being a care-giver & would benefit from community-based programs.

3 TERTIARY TARGET(S)

Pre-Chronic, Rising Risk; Chronic & Unengaged

Multiple segments can be included in this cohort- both these populations are fairly unengaged, and efforts will be focused around improving engagement. While mobile-clinic programs with on-site Care Managers will have to be leveraged for members like Jerry, Susan should be engaged with light-weight health coaching focused around healthy eating and physical activity.

CARROT MARKETVIEW™ | CONSUMER PERSONAS INFORM ACTIONS

	Healthy & Active Preventers	Healthy & Unengaged	Pre-Chronic, Rising Risk	Chronic & Rising Risk	Chronic & Unengaged	Chronic & Complex
% of Population	**KAREN** 3%	**MICHAEL** 14%	**SUSAN** 11%	**DONNA** 17%	**JERRY** 24%	**BETTY** 30%
	*Karen shares traits with the slightly older, pre-chronic & in control population. Karen is a 'frequent-fliers' in the **primary care setting** and though generally healthy…*	*Michael seems **Healthy but Unengaged**. Efforts towards this population should be around making them compliant with annual wellness visits and…*	*Karen is in her late-60s & lives the "good-life"- above average socioeconomic status, wealthy, retired professional. Members like Susan…*	*Donna is hard-working strong-willed woman who has worked jobs that have typically been male-dominant. Due to the excessive exposure to dust…*	*A 75-year old retired man, in his younger days, Jerry worked in a nearby ranch. has chronic comorbidities and **poses a high risk** due to **unengaged nature…***	*A 77-year old homemaker, lives in a Trailer Park. SDoH Comorbidities include low socio-economic status, physical activity is limited, smoking & drug use problems.…*
SEGMENT HIGHLIGHTS	• Asthma, Anxiety & Depression • Poor Nutrition due to Grocery Access	• Lack of Claims Data • Unacculturated, Recreational Drug Use & poor eating	• Wealthy but financially insecure • Alcohol Use & Poor Nutrition	• Tobacco Use, Rising Risk • Asthma & COPD • Caregiver	• Hyperlipidemia, Hypertension, COPD & CHF • Social Isolation	• COPD, Depression & Diabetes • Smoking, Prescription Drug Abuse, Low SES
MOTIVATION & INFLUENCES	• Continued Self-development • Cooking & Travel	• Local Sports • Video games • Comic Books	• Grandchildren • International Travel • Gourmet Cooking	• Local Community & Politics • Hunting	• Handy/DIY • Vegetable Gardening	• Country Lifestyle, Natural Remedies • Food-Incentives
NEXT BEST ACTION	• Health Coaching • Community Fitness Program	• Incentivize Annual Wellness Visit	• Health Coaching: nutritional gourmet & exercise prescription	• Smoking Cessation • Adult Activity Program	• Mobile Clinics • Community Fitness Program	• Smoking Cessation • Mobile Clinics • Chronic Case Mgmt
OUTREACH CHANNELS	• Web, Text	• Web, Text, Email	• Email, Text	• Text, Mobile App, Web	• Snail Mail, Home Phone	• Home Phone, Snail Mail

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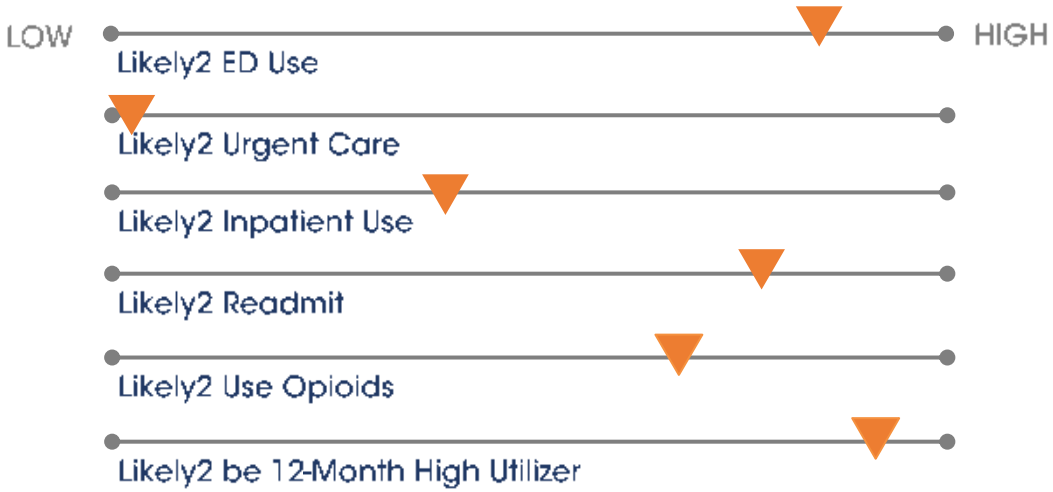
CARROT MARKETVIEW™ | SEGMENT PROFILE INFORMS TARGETING STRATEGIES

BETTY
Chronic & Complex

A 63-year old homemaker & lives in a Trailer Park. Betty spends her time at home quilting, scrapbooking and knitting. She also likes to read romance novels and country lifestyle magazines. Oftentimes she'll make homecare purchases based on what she sees in the magazine. Betty likes to smoke cigarettes and watch television.



- **Technology Affluence:** Betty owns a Satellite TV.
- **Media Influence:** Betty likes to read about natural health remedies in her Country Lifestyle Magazines- she swears by them!
- **Healthcare Management:** Betty has poor habits that makes her chronic and complex. She needs Care Coordination to help her live a better quality of life.
- **Motivations & Influences:** Country Lifestyle Magazine.

- **Social Risk:** Betty tries hard to make ends meet with her low income. Her socio-economic status is low and therefore it's necessary for her care-providers to establish trust with her.
- **Behavioral Risks:** Betty is dependent on drugs that she purchases from one of her trailer-park neighbors. This also adds to her financial woes. Additionally, she has low physical activity and smokes cigarettes.
- **Environmental Risks:** Betty's neighborhood has limited access to clinics and grocery stores. However, there's easy access to restaurants and fast-food.
- neighborhoods have
- **Condition Risks:** Betty is at increased risk from COPD, Depression & Diabetes.

Intervention Program Matches:

- Community based social support for physical activity
- Smoking Cessation
- Mobile Clinics
- Regular touchpoints with Case Managers & Health Coaches

2.73 HCC SCORE

$16,232 AVG. SPEND PMPY

12% NATIVE

62% FEMALE

55% FOOD INSECURITY

59% HOUSING INSTABILITY

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ROI CASE STUDY

10,000 lives
chronically ill
$20,000 PMPY (avg)

Population screened for social & behavioral barriers to health

20% with high Food Insecurity

Enrolled in 52-week home food delivery program

$2,520 PMPY reduction, net (after food & delivery costs)

(other studies have shown up to $6,840 PMPY savings)

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THANK YOU!

info@carrothealth.com | 612.208.1705 | @carrot health

Contact Me

kurt@carrothealth.com

@KurtWaltenbaugh

https://www.linkedin.com/in/waltenbaugh/