AVALON HEALTHCARE SOLUTIONS
SEPTEMBER WEBINAR

September 14, 2021
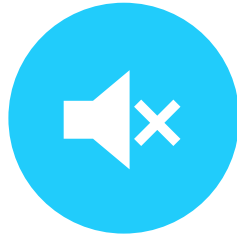
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OVERVIEW & INTRODUCTIONS

Barry Davis, Chief Growth Officer, Avalon

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Before we start

This meeting is being recorded

We will be **MUTING** everyone except the presenter to make sure the AUDIO is clean and clear

Q&A will be done by using the **"Questions" feature**

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Agenda

OVERVIEW AND INTRODUCTIONS

Barry Davis, Chief Growth Officer, Avalon

WASHINGTON, D.C. POLICY UPDATE

Julie Barnes, Principal, Maverick Health Policy

LAB NETWORK UPDATE

Mike Snyder, EVP Network Operations, Avalon

DELIVERING VALUE-DRIVEN CARE USING LAB TEST RESULTS

Rahul Singal, M.D., Chief Medical Officer, Avalon

CLOSING REMARKS

Bill Kerr, M.D., Chief Executive Officer, Avalon

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POLICY UPDATE

Julie Barnes, Principal, Maverick Health Policy
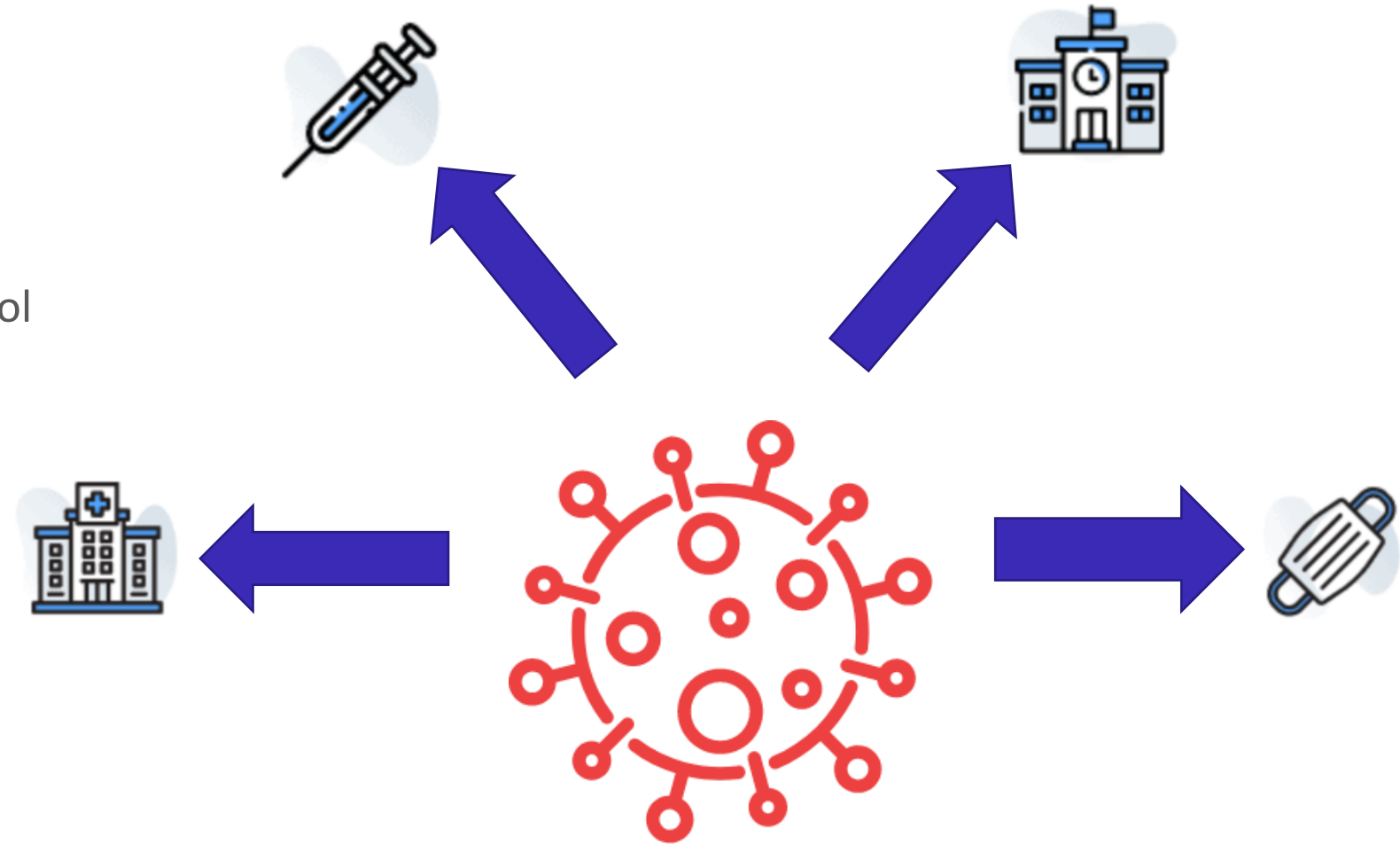
Confidential

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Overview

- COVID-19 Update

- New National COVID-19 Strategy

- Future COVID-19 Strategy

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COVID-19 Status

- Cases
- Hospitalizations
- Deaths
- Vaccines
- Back to work and school
- State and local rules

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Path Out of the Pandemic – President Biden's Latest Plan

Vaccinating the Unvaccinated

Further Protecting the Vaccinated

Keeping Schools Safely Open

Increasing Testing & Requiring Masking

Protecting Our Economic Recovery

Improving Care for those with COVID-19

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Pandemic Plan

Private Sector Mandate
- Department of Labor OSHA rulemaking coming soon
- Emergency temporary standard for businesses with 100+ employees
  - Fully vaccinated or regular testing
  - Paid time off to get vaccinated

Health Worker Mandate
- CMS / CDC announced Interim Final Rule expanding on nursing home mandatory vaccinations will be issued in October
  - Employees of facilities that receive federal funding (Medicare, Medicaid) must be vaccinated

Federal employees, contractors and employees of federal contractors must be vaccinated.
- "If you want to do business with the federal government you must be vaccinated."

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Pandemic Plan

Increasing Testing and Requiring Masking

Using Defense Production Act to accelerate production of and access to rapid and at-home COVID-19 tests

- Procure 280 million tests for long-term care facilities, community testing sites, etc.
- Expand pharmacy testing
- Amazon, Kroger and Walmart will sell at-home tests at cost—a 35% consumer discount for the next 3 months
- 25 million free at-home tests will be sent to community health centers and food banks
- TSA has extended its mask mandates for air and ground travel through January 18, 2022, double fines for violators

Increasing Testing & Requiring Masking

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FUTURE Pandemic Plan

Jake Sullivan
National Security
Advisor

Eric Lander
Assistant to the President
for Science and Technology

September 3, 2021
American Pandemic Preparedness: Transforming Our Capabilities

$65.3 billion to overhaul pandemic preparedness infrastructure
I.   Transforming our Medical Defenses
I.   Ensuring Situational Awareness about infectious-disease threats, for both early warning and real-time monitoring
III. Strengthening Public Health Systems
IV. Building Core Capabilities, including PPE, stockpiles and supply chains, biosafety and biosecurity, and regulatory improvement.
V.   Managing the Mission

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Questions?

Contact:

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Maverick Health Policy

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# LAB NETWORK UPDATE

Mike Snyder, EVP Network Operations, Avalon

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Avalon Network COVID-19 Capable Labs

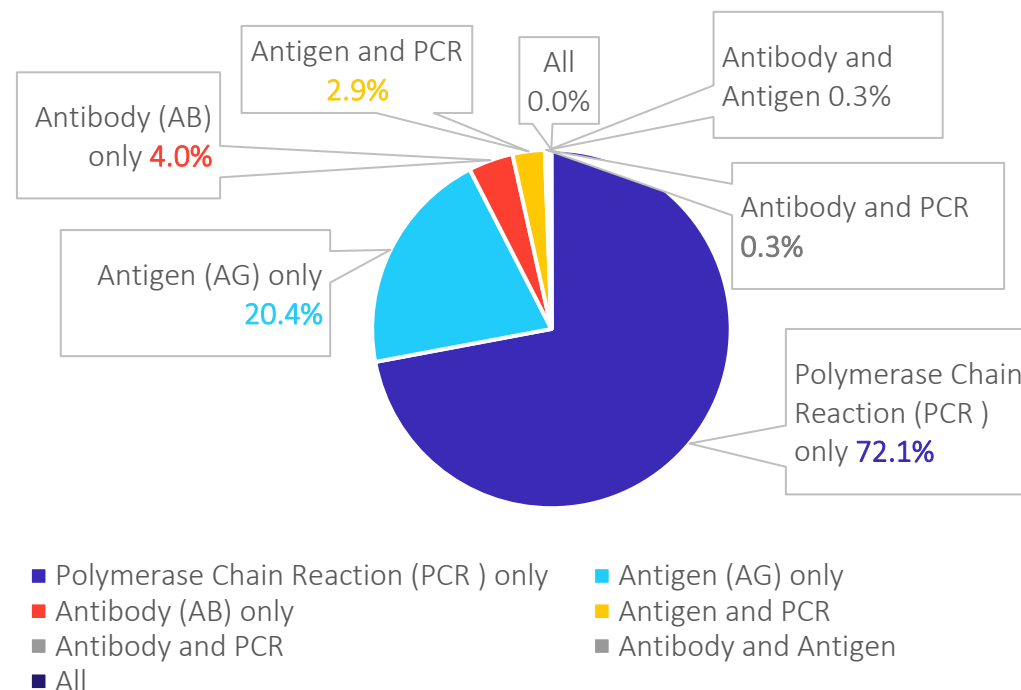| Lab	RT-PCR Y/N	Multiple Platforms	Capacity (per day)	TAT
Quest	Y	Y	300,000	1-2 days
LabCorp	Y	Y	275,000	1-2 days
Mako Medical Lab	Y	Y	150,000	1 day
Aegis	Y	Y	110,000	1-2 days
BioReference	Y	Y	100,000	1 day
Premier Medical Lab	Y	Y	100,000	1-2 days
Eurofins-Diatherix	Y	N	60,000	1-3 days
PathGroup	Y	Y	50,000	1-2 days
GenetWorx	Y	Y	40,000	2 days
AIT (American Institute of Tox)	Y	Y	20,000	1-2 days
Sonic-CPL	Y	Y	20,000	1-3 days
MDL (Medical Diagnostic Lab)	Y	N	12,000	1 day
AccuReference	Y	N	10,000	2 days
LabTech	Y	Y	10,000	2 days
Precision Genetics	Y	N	10,000	1-2 days
Inform Diagnostics	Y	N	7,000	1 day
Genesis DX	Y	Y	5,000	1 day
Luxor	Y	Y	5,000	1 day
Transplant Genomics	Y	N	5,000	1-2 days
BAKO	Y	N	2,500	1-2 days
Radeas	Y	Y	2,400	1-2 days
NephronPharm	Y	Y	2,000	2-3 days

Sept 7, 2021

Avalon Network – COVID-19 Volume and Member Centric Data

Monthly Member Count by COVID-19 Testing Encounters per Month, 2021

Legend:
- 8 +
- 7
- 6
- 5
- 4
- 3
- 2
- 1
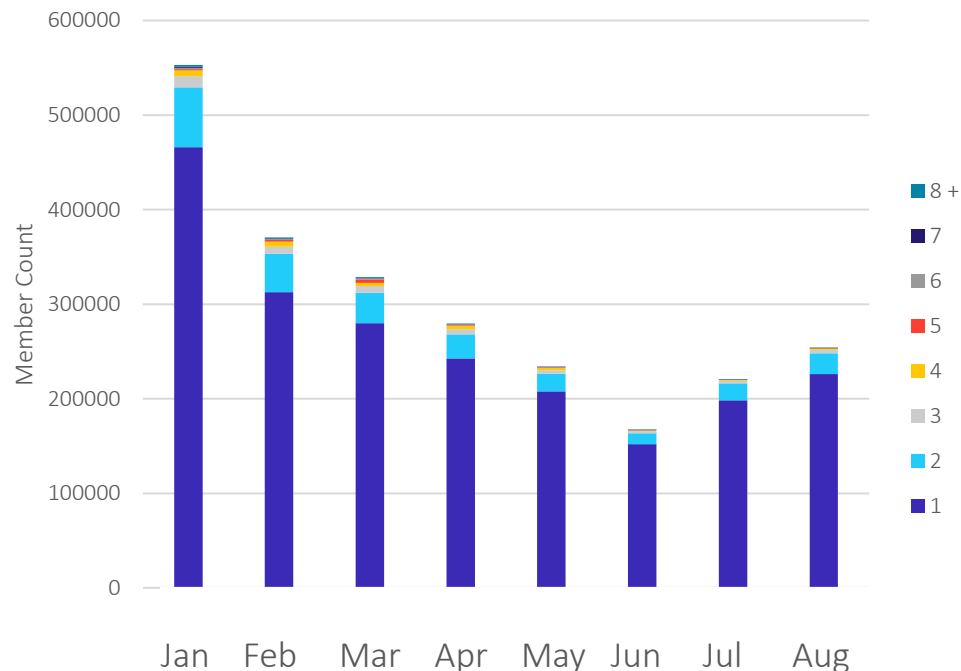
- 2,407,430 total tests in first 8 months of 2021
- 3.8% of members had 3+ tests/month

Percent of Members by COVID-19 Tests in a Single Encounter

- Antigen and PCR **2.9%**
- All **0.0%**
- Antibody and Antigen 0.3%
- Antibody (AB) only **4.0%**
- Antibody and PCR **0.3%**
- Antigen (AG) only **20.4%**
- Polymerase Chain Reaction (PCR) only **72.1%**

Legend:
- Polymerase Chain Reaction (PCR) only
- Antigen (AG) only
- Antibody (AB) only
- Antigen and PCR
- Antibody and PCR
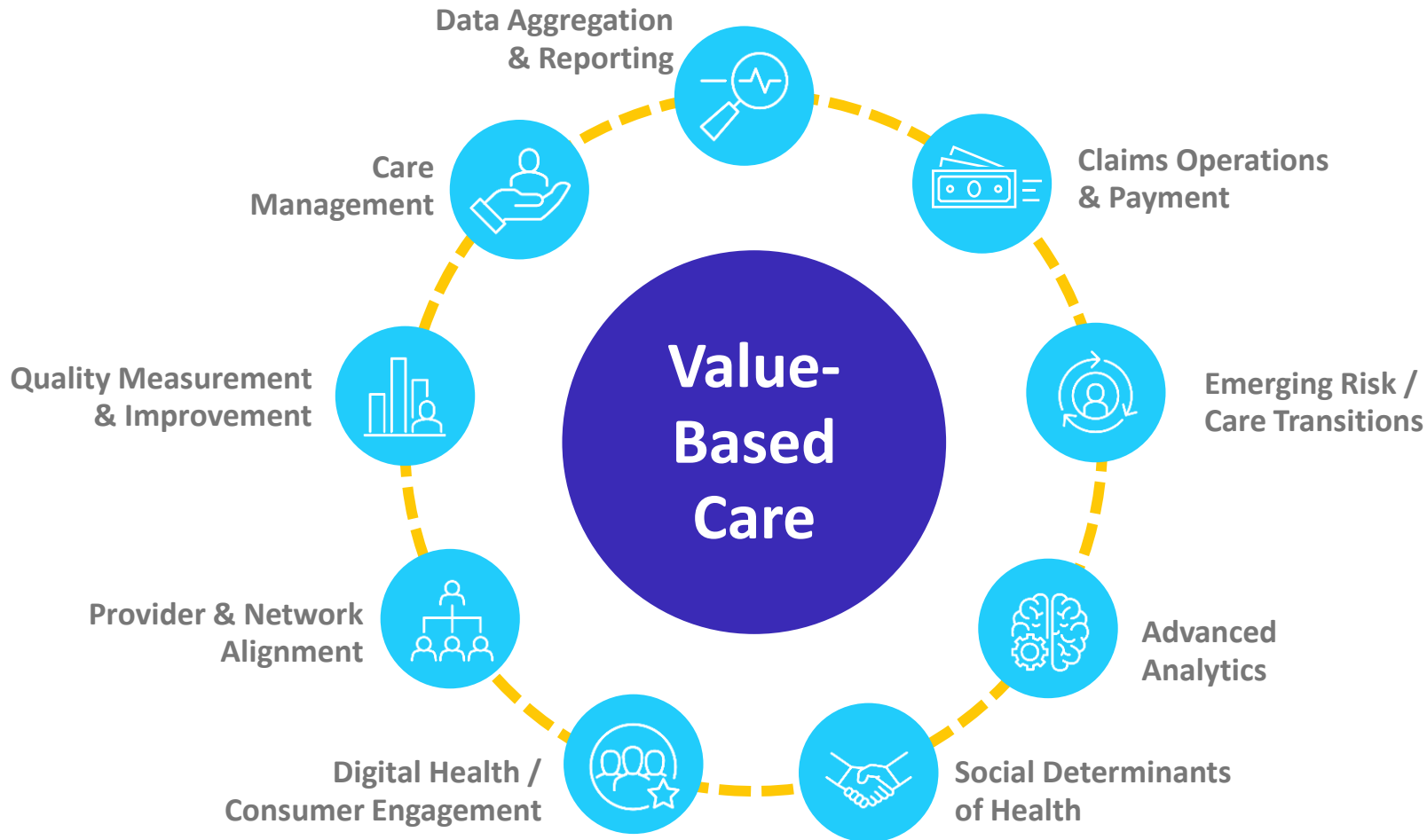- Antibody and Antigen
- All

- 20.4% Antigen only–low sensitivity and specificity
- 3.5% of members had 2 tests/same day

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DELIVERING VALUE-DRIVEN CARE USING LAB TEST RESULTS

Rahul Singal, M.D., Chief Medical Officer, Avalon

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Value-Based Care is Multi-Faceted

Value-Based Care

- Data Aggregation & Reporting
- Claims Operations & Payment
- Emerging Risk / Care Transitions
- Advanced Analytics
- Social Determinants of Health
- Digital Health / Consumer Engagement
- Provider & Network Alignment
- Quality Measurement & Improvement
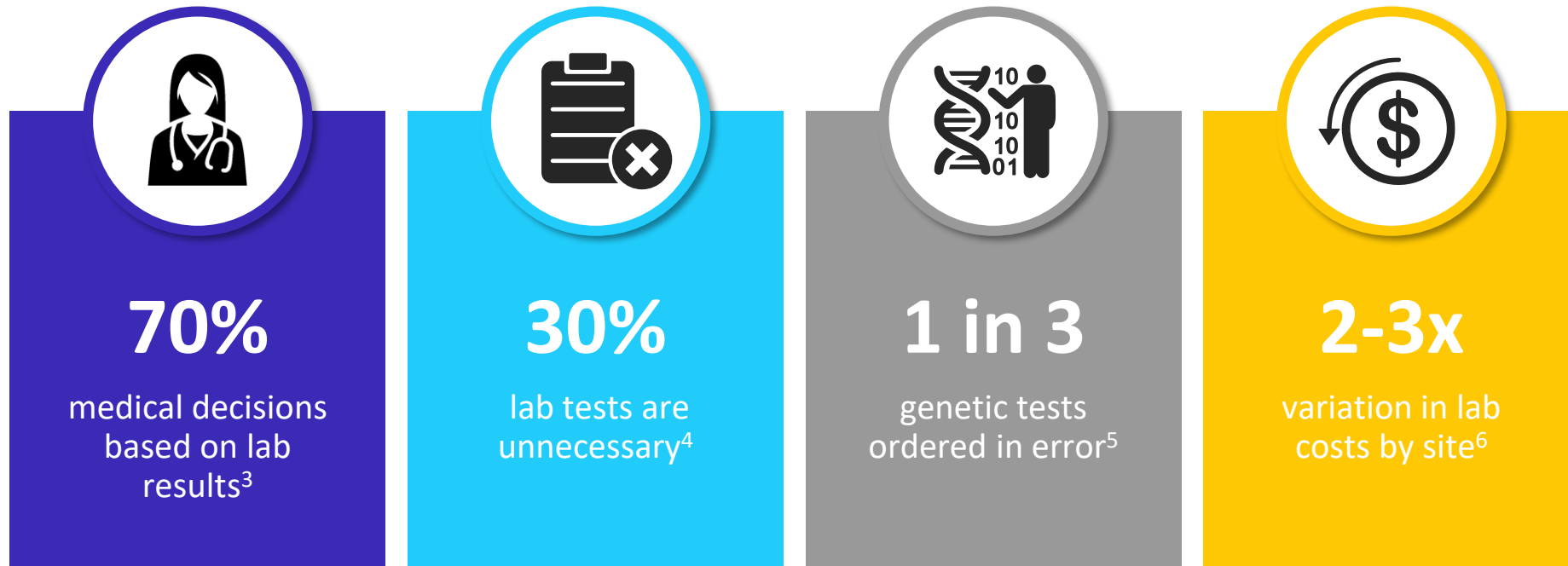- Care Management

- Priorities vary widely between health plans

- Solutions may be integrated (in- vs. out-sourced)

- Measures of success range on a spectrum

- Initiatives report to various c-suite leaders

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The Unrecognized Power—and Exposure—of Lab Testing

> 13 BILLION LAB TESTS PERFORMED IN THE US EACH YEAR COSTING $82B[1,2]

70%
medical decisions based on lab results[3]

30%
lab tests are unnecessary[4]

1 in 3
genetic tests ordered in error[5]

2-3x
variation in lab costs by site[6]

1. https://www.aacc.org/health-and-science-policy/aacc-policy-reports/2015/laboratory-medicine-advancing-quality-in-patient-care
2. U.S. Clinical Laboratory Industry Forecast & Trends 2018-2020, www.laboratoryeconomics.com
3. Forsman, RW . Why is the laboratory an afterthought for managed care organizations? Clin Chem 1996;42:813–6
4. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0078962
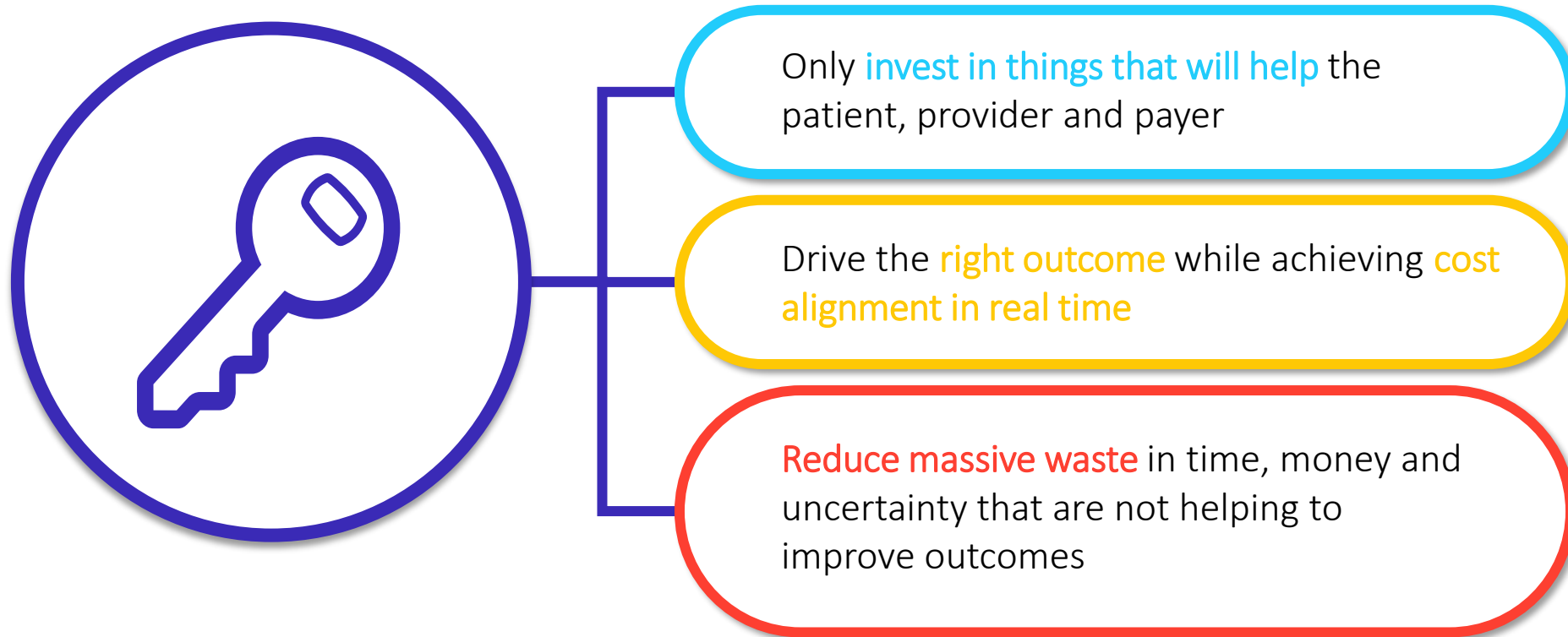5. The Landscape of Inappropriate Laboratory Testing: A 15-Year Meta-Analysis
   Zhi M, Ding EL, Theisen-Toupal J, Whelan J, Arnaout R (2013) The Landscape of Inappropriate Laboratory Testing: A 15-Year Meta-Analysis. PLOS ONE 8(11): e78962. https://doi.org/10.1371/journal.pone.0078962
6. Shrank WH, Rogstad TL, Parekh N. Waste in the US Health Care System: Estimated Costs and Potential for Savings. JAMA. 2019

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The Pathway to Value-Driven Care: Start at the Source

LAB TESTING IS THE GATEWAY FOR APPROPRIATE DIAGNOSIS AND TREATMENT CARE PLAN

Only invest in things that will help the patient, provider and payer

Drive the right outcome while achieving cost alignment in real time

Reduce massive waste in time, money and uncertainty that are not helping to improve outcomes

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Avalon's Lab Insights System

CRITICAL INSIGHTS AT EACH STEP TO DELIVER VALUE-DRIVEN CARE

RIGHT TEST

RIGHT DATA

RIGHT INTEL

RIGHT CARE

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Avalon Lab Values Management

| Data Assets | Lab Insights Platform | Actionable Insights | Stakeholders |

From Health Plan

Lab claims

From Avalon

Lab results (values)
Payment decisions
PA decisions

OPTIONAL from Health Plan

Eligibility, Medical, Rx claims

LAB VALUES MANAGEMENT

LAB BENEFIT MANAGEMENT

Exception Targeting
- Emerging Risk
- Care Opportunity

Performance Reporting
- Report Card
- Network Management

Clinical Decision Support
- Pathway Adherence
- Enhanced Care

Health Plan

Care Manager | Plan Admin | Network Admin

VBC Partners | SIU | Specialty Rx

Provider

Physician | Lab | Hospital

Individual

Member

Examples: Cancer, diabetes mellitus, chronic kidney disease, liver disease, high-risk pregnancy, mental health, pharmacogenomics

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Criteria for Lab Values Management Condition

CANCER, DIABETES, CHRONIC KIDNEY DISEASE, LIVER DISEASE, HIGH RISK PREGNANCY, MENTAL HEALTH

- Prevalence:
  - Each condition has at least a 2% prevalence
  - Conditions represent at least 20% of a population
- Higher Cost: Each condition add at least 50% to the baseline PMPM cost
- Variation of care
  - Conditions have care variations that lead to wide differences in cost and quality outcomes
  - Variations occur within same community and across communities (disparities, SDOH)
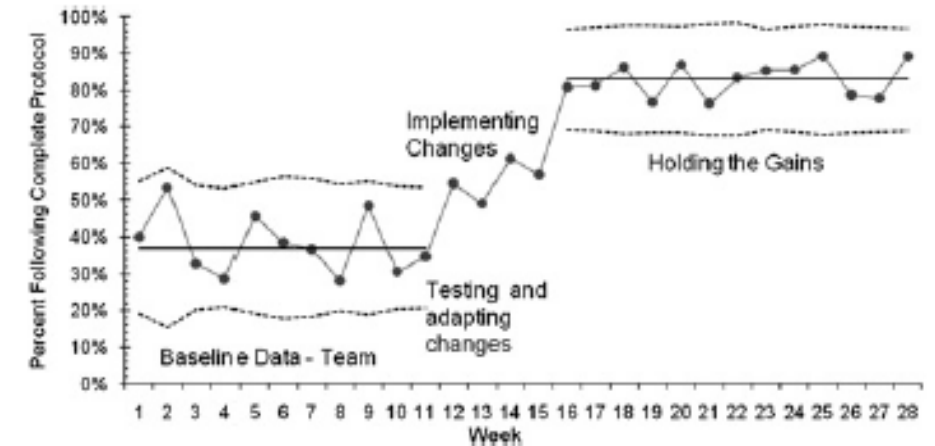- Lab results are essential for treatment decisions

Figure 1 Annotated Shewhart control chart—using protocol.

BMJ Qual Saf 2011;**20**(Suppl 1):i36—i40. doi:10.1136/bmjqs.2010.046334

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USE CASES

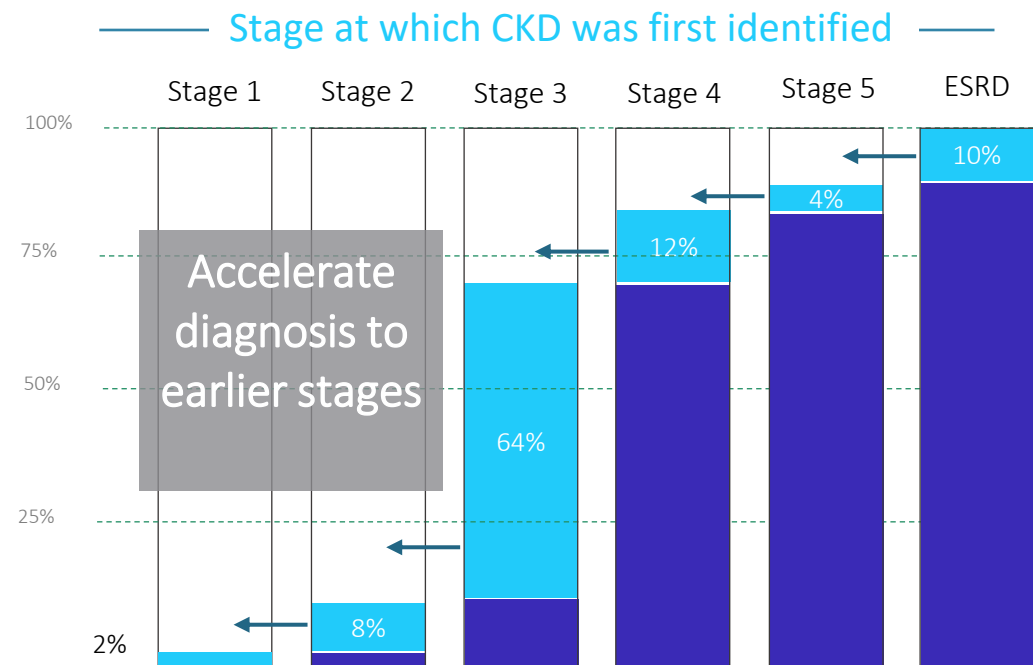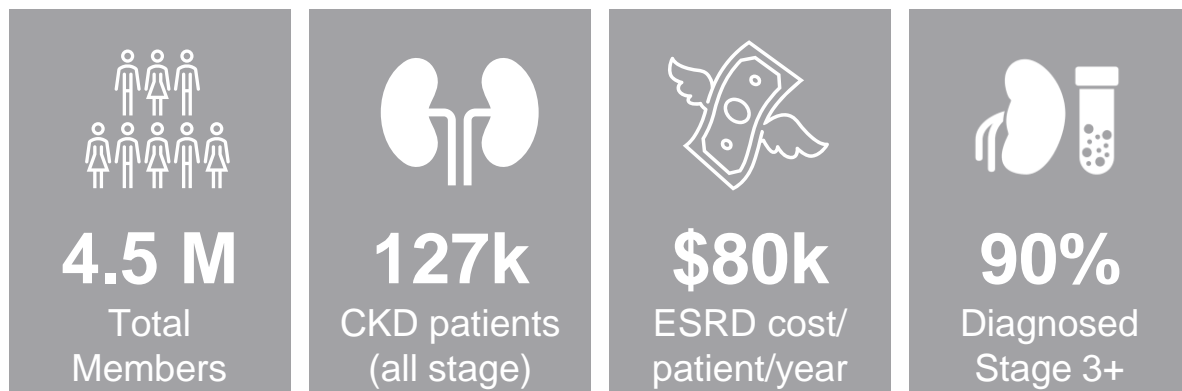Chronic Kidney Disease (CKD)

Breast Cancer

Diabetes

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Lab Values Management: Early Detection of CKD

U.S. Data (from CDC):

- **37 million** CKD cases in US adults
- **90%** of them are unaware
- **9 of 10** CKD patients diagnosed at Stage 3 or later

Avalon Data:

4.5 M	127k	$80k	90%
Total Members	CKD patients (all stage)	ESRD cost/ patient/year	Diagnosed Stage 3+

Stage at which CKD was first identified

Accelerate diagnosis to earlier stages

- Stage 1: 2%
- Stage 2: 8%
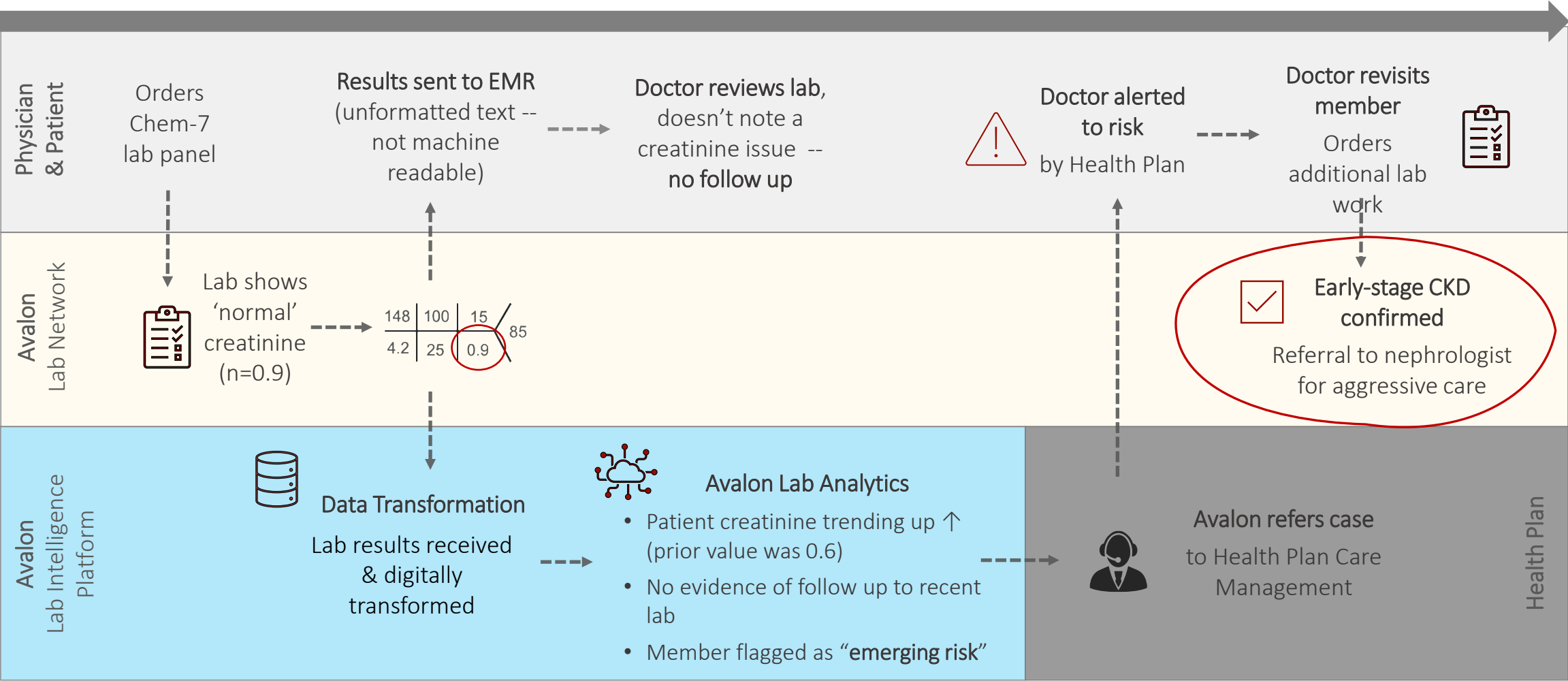- Stage 3: 64%
- Stage 4: 12%
- Stage 5: 4%
- ESRD: 10%

Using lab data for earlier detection can delay ESRD by years

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Member Journey: Early Detection of CKD

Member: 58-YO Female; 104 pounds; no history of CKD

Physician & Patient

Orders Chem-7 lab panel

Results sent to EMR (unformatted text -- not machine readable)

Doctor reviews lab, doesn't note a creatinine issue -- **no follow up**

Doctor alerted to risk by Health Plan

Doctor revisits member

Orders additional lab work

Avalon Lab Network

Lab shows 'normal' creatinine (n=0.9)

148	100	15	85
4.2	25	0.9	

Early-stage CKD confirmed

Referral to nephrologist for aggressive care

Avalon Lab Intelligence Platform

Data Transformation

Lab results received & digitally transformed

Avalon Lab Analytics

- Patient creatinine trending up ↑ (prior value was 0.6)
- No evidence of follow up to recent lab
- Member flagged as "**emerging risk**"

Avalon refers case to Health Plan Care Management

Health Plan

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CKD Population

CKD Cases by Stage

- Stage 1 (5%)
- Stage 2 (17%)
- Stage 3 (39%)
- Stage 4 (5%)
- Stage 5 (8%)
- Unspecified (26%)
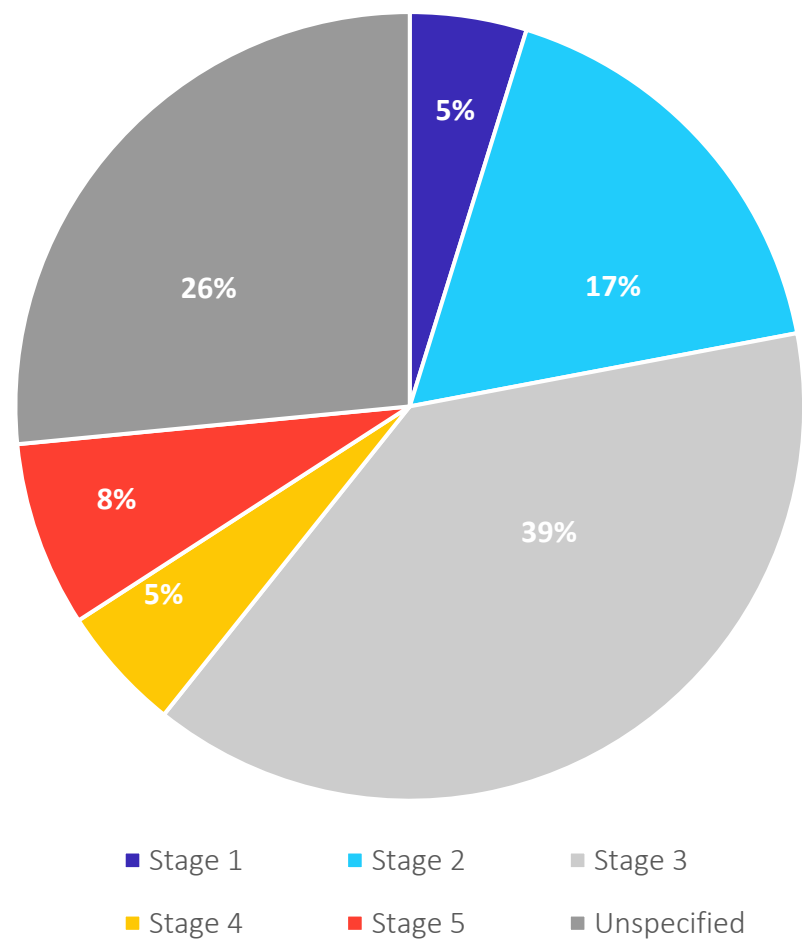
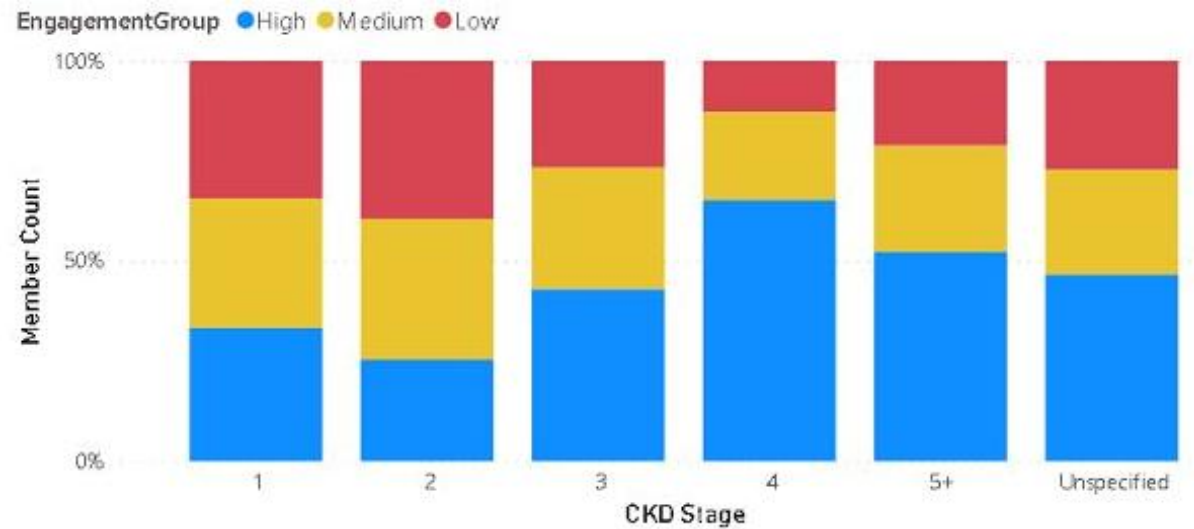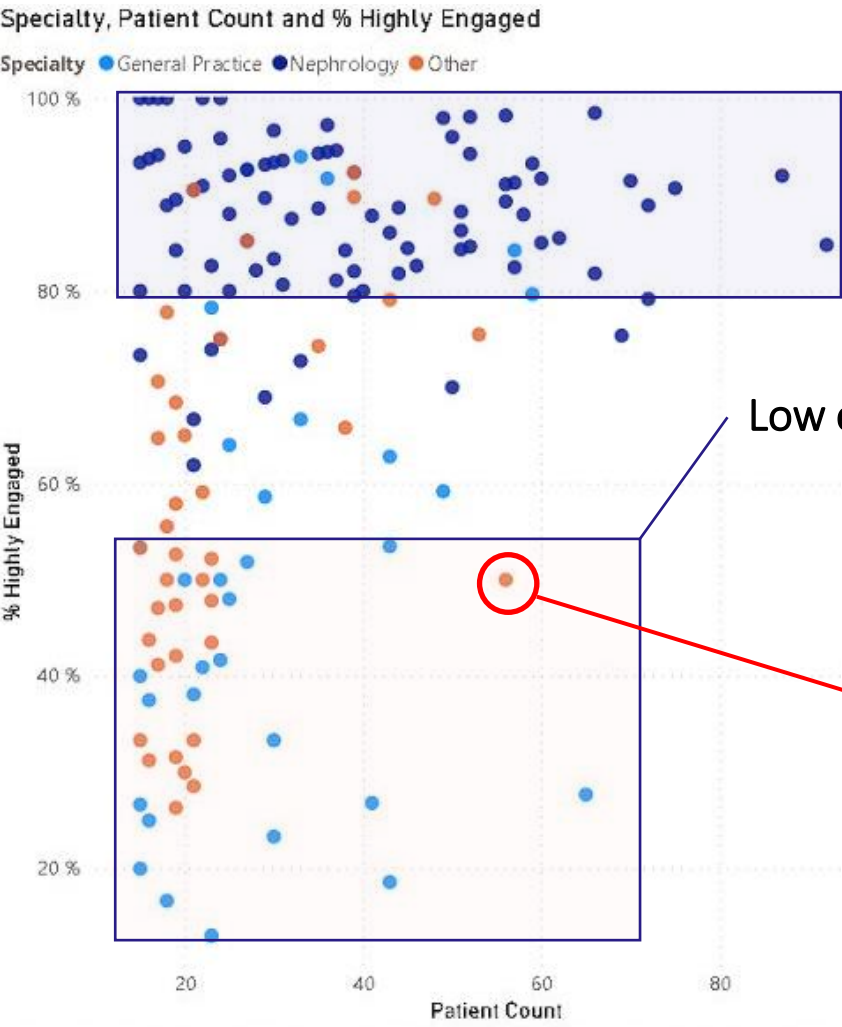**Avalon Engagement Score measures CKD quality of care - scoring attributes include:**

- Annual Urine Albumin Creatinine test
- Annual Comprehensive profile
- At least 3 annual visits (labs)
- Visit to nephrologist

HIGH = 3+ attributes / MED = 2 attributes / LOW = 1 or 0

Provider CKD Performance

Specialty, Patient Count and % Highly Engaged
Specialty ● General Practice ● Nephrology ● Other

High engagement = Compliance with Process Measures

**Low engagement** = Care Improvement Opportunity

General practice/Nurse practitioner-xxxxxx5086

First Initial	Last Initial	Avalon ID	Masked Zip	Age	Stage	Engagement	DIAB	HTN	Neph	CMP	HBA1c	Lipid
K	E	780666	XXX4	49	2	Low	No	No	No	No	No	No
S	W	585929	XXX01	60	2	High	Yes	Yes	Yes	No	Yes	Yes
J	B	612733	XXX01	44	3	High	No	Yes	Yes	Yes	No	Yes
R	B	238177	XXX03	49	3	High	Yes	Yes	Yes	Yes	Yes	Yes
V	V	581790	XXX64	55	3	High	Yes	Yes	Yes	No	Yes	Yes
C	F	466698	XXX01	55	3	Medium	Yes	Yes	No	Yes	Yes	Yes
F	M	249772	XXX05	57	3	Medium	No	Yes	No	Yes	No	No
M	Y	946954	XXX47	63	3	High	No	Yes	No	Yes	No	Yes
V	W	824752	XXX05	62	4	Low	Yes	Yes	No	No	Yes	Yes
V	W	855903	XXX05	62	4	Low	Yes	Yes	No	No	Yes	Yes
R	J	138574	XXX03	63	4	High	Yes	Yes	No	Yes	Yes	No
R	J	276536	XXX03	63	4	Low	Yes	Yes	No	No	Yes	No

Early Detection of CKD: + Protein in Urine

Member Count with Lab Values by ACR Grouping

ACR Grouping

- ■ Normal
- ■ Microalbuminuria
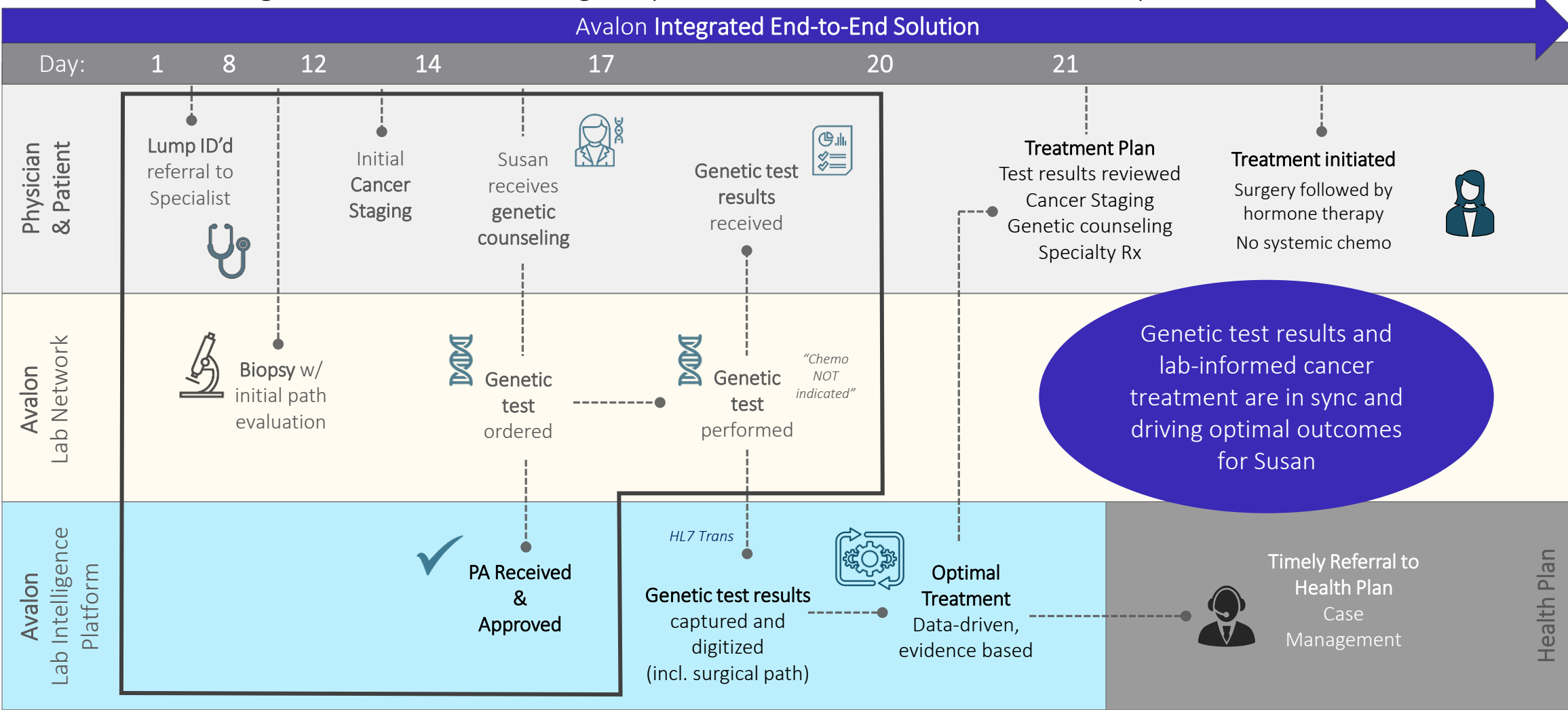- ■ Macroalbuminuria

16%
3%
81%
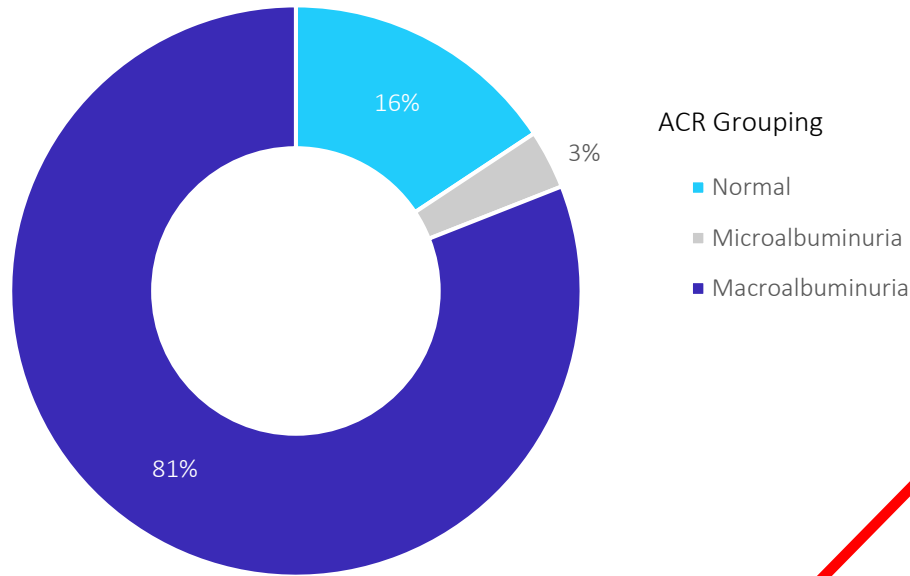
- Approximately 20% of diabetes population has positive protein detected in urine

- Target list is "suspicious" for early CKD and warrants further follow up

Avalon ID	Age	Masked Zip	DiseaseGrouping	EngagementGroup	NephYN	DIABYN	HTNYN	HbA1cValue	SerumCreatineValue	ACRValue
496309	43	XXX36	DIAB no CKD	Low	No	Yes	Yes	9.50	0.99	998.500000
208995	42	XXX88	DIAB no CKD	Medium	No	Yes	Yes	6.50	0.54	99.000000
992020	42	XXX30	HTN No DIAB, CKD	Medium	No	No	Yes	6.10	0.88	99.000000
821417	46	XXX15	DIAB no CKD	Medium	No	Yes	Yes	14.00		99.000000
660112	48	XXX43	DIAB no CKD	Medium	No	Yes	Yes		1.11	99.000000
676479	48	XXX74	DIAB no CKD	Medium	No	Yes	Yes	6.00	1.05	99.000000
761760	52	XXX23	HTN No DIAB, CKD	Medium	No	No	Yes	5.70	1.01	99.000000
73807	63	XXX61	DIAB no CKD	Medium	No	Yes	Yes		0.80	99.000000
306611	23	XXX60	HTN No DIAB, CKD	High	Yes	No	Yes		1.10	988.000000
491341	35	XXX92	Other	High	Yes	No	No		1.26	983.000000
485797	53	XXX20	DIAB no CKD	High	Yes	Yes	Yes		0.70	981.500000
852203	48	XXX27	DIAB no CKD	Medium	No	Yes	No	7.25	1.06	98.000000
466841	51	XXX53	HTN No DIAB, CKD	Low	No	No	Yes	5.90	0.68	98.000000
81941	57	XXX88	DIAB no CKD	Low	No	Yes	No	8.70		98.000000
389159	58	XXX18	DIAB no CKD	Medium	No	Yes	Yes		1.19	98.000000
411771	45	XXX85	DIAB no CKD	Low	No	Yes	Yes	6.50	0.75	97.000000
46336	47	XXX69	DIAB no CKD	Medium	No	Yes	Yes	8.70	1.04	97.000000
620537	47	XXX42	HTN No DIAB, CKD	Medium	No	No	Yes	6.30	1.17	97.000000
268653	51	XXX30	DIAB no CKD	Medium	No	Yes	Yes	9.60	0.65	97.000000
90532	51	XXX30	DIAB no CKD	Low	No	Yes	Yes	9.60	0.65	97.000000
450938	52	XXX15	DIAB no CKD	Medium	No	Yes	Yes		0.99	97.000000
947377	54	XXX88	DIAB no CKD	Medium	No	Yes	Yes	11.65	0.79	97.000000
206875	56	XXX05	DIAB no CKD	Medium	No	Yes	Yes		1.12	97.000000
144514	44	XXX35	HTN No DIAB, CKD	Low	No	No	Yes		0.92	965.000000
88582	57	XXX30	DIAB no CKD	Medium	No	Yes	Yes	7.70	0.87	961.000000
649648	35	XXX32	HTN No DIAB, CKD	Medium	No	No	Yes	5.40	0.91	96.000000
315225	46	XXX10	DIAB no CKD	Medium	No	Yes	No		0.75	96.000000
634909	56	XXX14	DIAB no CKD	Medium	No	Yes	Yes	6.60	0.75	96.000000
638297	57	XXX06	DIAB no CKD	Medium	No	Yes	Yes		1.17	96.000000
608749	36	XXX44	HTN No DIAB, CKD	Medium	Yes	No	Yes		0.65	959.500000
168736	50	XXX61	DIAB no CKD	Medium	No	Yes	Yes	7.35	1.24	956.000000
890341	62	XXX22	DIAB no CKD	Medium	No	Yes	Yes		1.27	955.700000

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Member Journey: Stage II Breast Cancer

Susan is a 45-YO single mother of two teenage boys, and her GYN has discovered a lump...

Avalon Integrated End-to-End Solution

| Day: | 1 | 8 | 12 | 14 | 17 | | 20 | 21 | |

Physician & Patient

Lump ID'd referral to Specialist

Initial Cancer Staging

Susan receives genetic counseling

Genetic test results received

Treatment Plan
Test results reviewed
Cancer Staging
Genetic counseling
Specialty Rx

Treatment initiated
Surgery followed by hormone therapy
No systemic chemo

Avalon Lab Network

Biopsy w/ initial path evaluation

Genetic test ordered

Genetic test performed

"Chemo NOT indicated"

> Genetic test results and lab-informed cancer treatment are in sync and driving optimal outcomes for Susan

Avalon Lab Intelligence Platform

PA Received & Approved

HL7 Trans

Genetic test results captured and digitized (incl. surgical path)

Optimal Treatment Data-driven, evidence based

Health Plan

Timely Referral to Health Plan Case Management

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Measuring Adherence to Lab-Informed Treatments

Susan is a 45-YO single mother of two teenage boys, and her GYN has discovered a lump...

Successful surgery and results of a genetic test (Oncotype DX) are consistent with: "Chemo does not provide benefit"

	Oncology Center #1	Oncology Center #2	Oncology Center #3
Patients w/ Oncotype DX score <25*	200	150	240
# treated with chemotherapy	9	15	36
% treated with chemotherapy	4.5% ✓	10%	15%

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Use Case: Population Profile – Diabetes

Process Measures

Each member earns one ✓ for each of the following (max of ✓✓✓):

    Annual A1c test

    Annual lipid profile

    2 PCP visits per year

Members segmented into:

    ✓ = only 0 or 1 of 3 measures

    ✓✓ = 2 of 3 process measures

    ✓✓✓ = 3 of 3 process measures
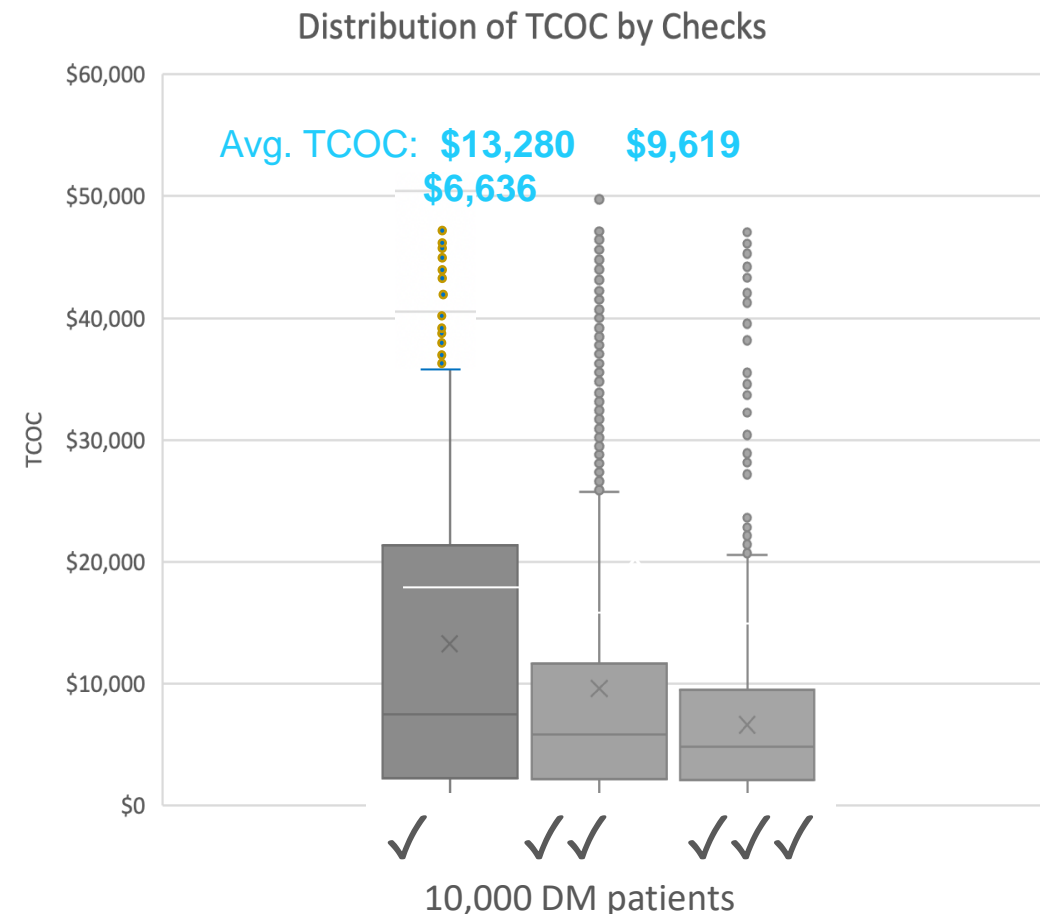
Distribution of TCOC by Checks

Avg. TCOC: **$13,280**   **$9,619**
$6,636

TCOC axis: $0, $10,000, $20,000, $30,000, $40,000, $50,000, $60,000

✓   ✓✓   ✓✓✓

10,000 DM patients

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Use Case: Physician Quality Profile - Diabetes

Process Measures

Physician network stratified by Process Measures
(Ratio ✓✓✓ / ✓) and Panel Size

Process Measures

- Analysis based on claim data

- Measures consistent with HEDIS and Star Metrics

- Normally we would focus efforts on lower portion of graph with goal of improving process metrics . . .

- . . .but what if we look at higher quality process docs? Are they the same?

Use Case: Physician Quality Profile – Diabetes

Process Measures

Physician network stratified by Process Measures **(Ratio √√√ / √) and Panel Size**

Outcome Measures – A1c results
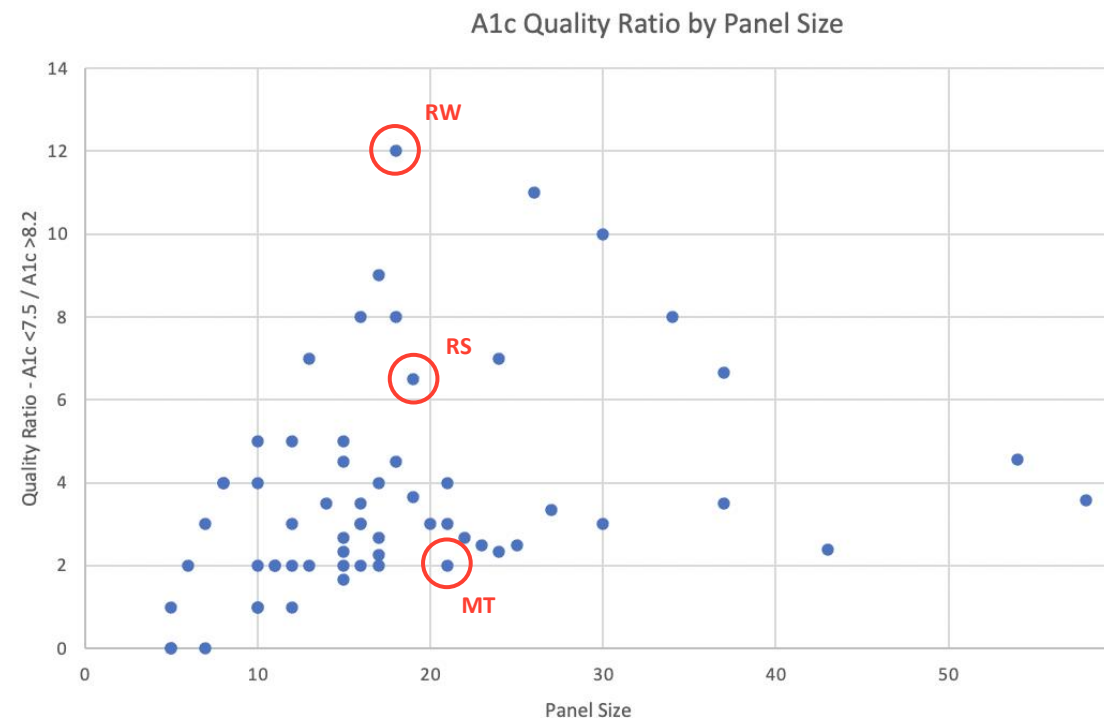
Quality Ratio:
 # members A1c<7.5% / # mem > 8.2%

Use Case: Physician Quality Profile – Diabetes
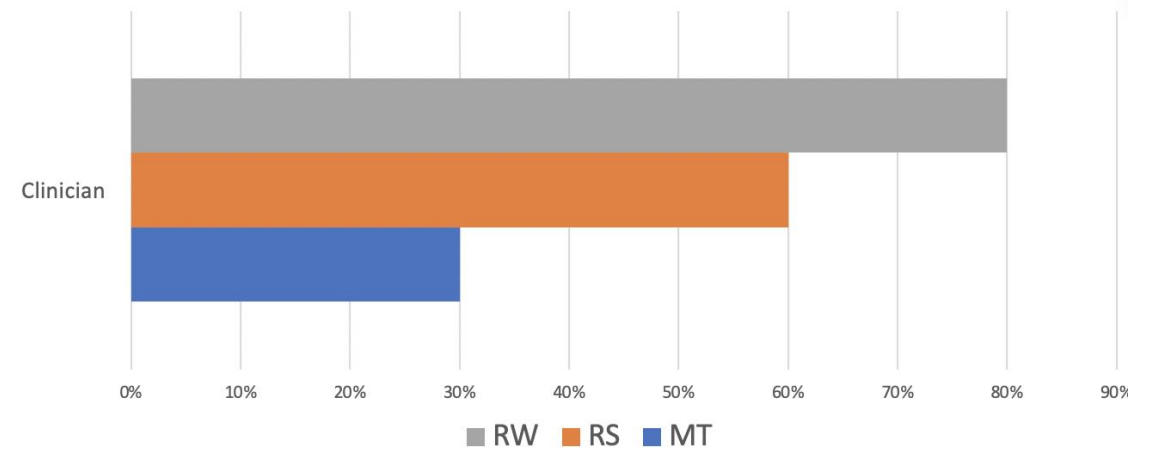
Outcome Measures – A1c results
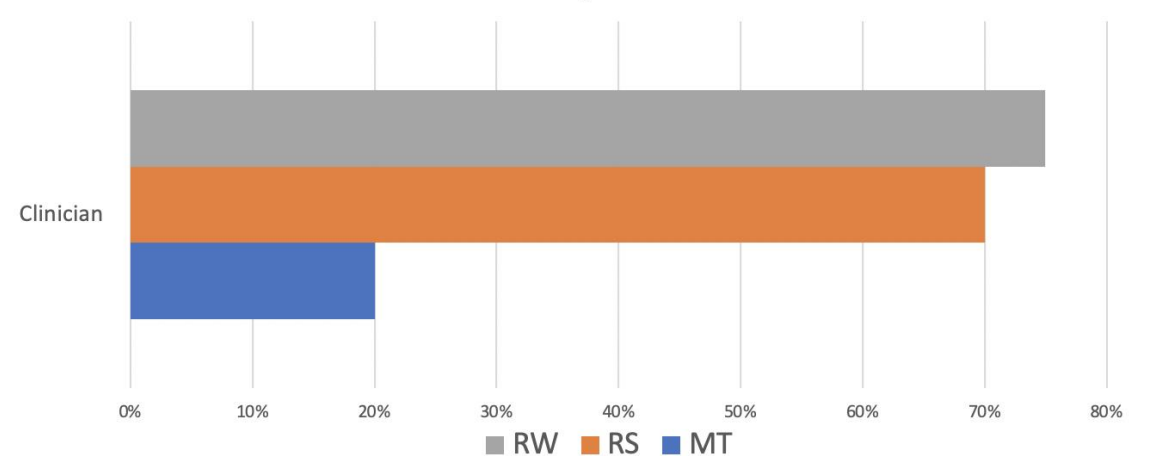

A1c Quality Ratio by Panel Size
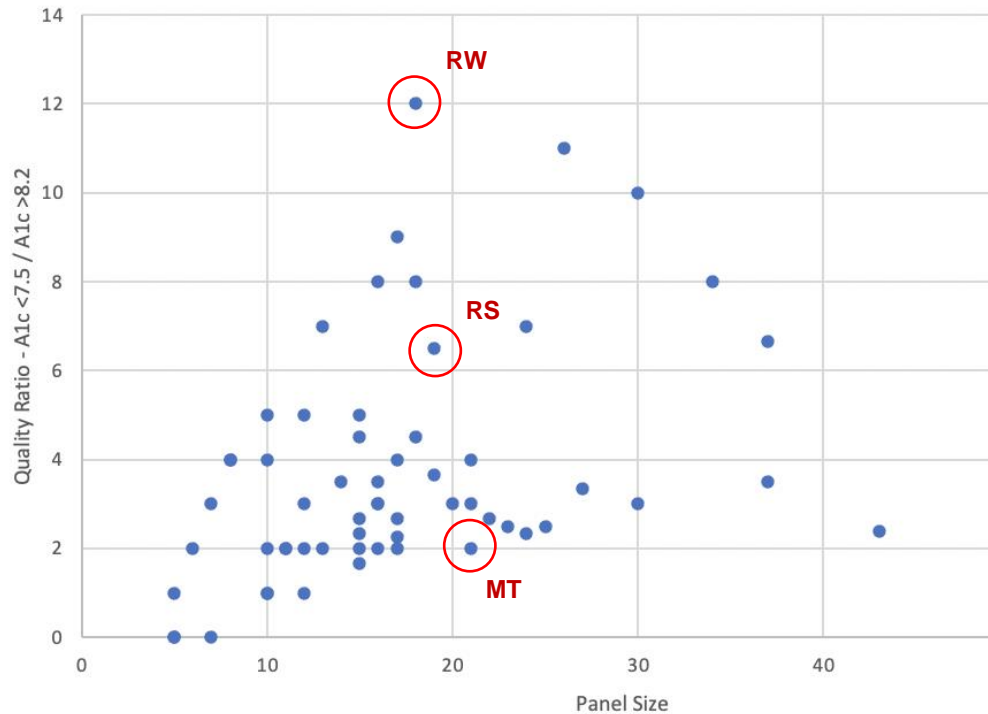
Quality Ratio:

 # members A1c<7.5% / # mem > 8.2%

Intention to Treat: % change Rx if A1c > 8.2%

% Re-test A1c w/ in 4 months

Summary

- Lab Values when digitized at scale provide unique insights into a population

- Lab Values are leading indictors for identifying emerging risk in an individual (contrast with hospital admission which is a lagging indicator)

- Quality of care and performance by providers can be improved by leveraging the right data and insights

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CLOSING REMARKS

Bill Kerr, M.D., Chief Executive Officer, Avalon

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Thank you

Clients Contact:

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