DIGITIZED LAB RESULTS:
The Untapped Opportunity to Accelerate Value-Based Care Success

By Rahul SIngal, MD and
Rhonda Willingham, RN, BSN

WHITE PAPER | NOVEMBER 2021

avalon

INTRODUCTION

As the greater healthcare community continues to grapple with the coronavirus pandemic, the scope and nature of this crisis' longer-term impact on the future of value-based care, including care delivery, policy, and technology, are rapidly becoming clear.

COVID-19 changed the way in which healthcare is perceived and delivered. For example, the fee-for-service reimbursement model failed many providers as in-person care shut down. As a result, there's growing interest in accelerating the adoption of value-based care models. At long last, it also ushered in the acceptance of telemedicine as a service that delivers enormous efficiencies, clinical quality, and financial value. The pandemic accelerated and emphasized the need for information and communication in a way never experienced.

Through adoption and integration of innovative solutions, health plans and providers can benefit from innovations following COVID-19. Some of these were already under development while others were a direct response, but these solutions are being catalyzed coming out of the pandemic. Now, the ability to drive preventive and proactive patient care is coming to fruition—shifting from promise to practice.

This paper will explore how lab test results can now unlock a new source of value-based care success on an individual and population level.

THE PRESSURE AND PACE TO EMBRACE VALUE-BASED CARE ARE INCREASING

The COVID-19 pandemic exposed the risks and limitations of a fee-for-service reimbursement model. New changes in care delivery models and regulatory flexibility, combined with lessons learned from the pandemic, indicate a renewed focus on value-based care. This is a real opportunity for health plans and health care providers to take advantage of this silver lining and move forward with a value not volume approach. The question is how to achieve it.

Whether it is the reduction of unnecessary imaging and the real-time tracking of preventive care to the insight and integration necessary for aligning services with better outcomes at lower costs, **the success of value-based healthcare hinges on having the right data.**

Let's consider laboratory testing.

Over 13 billion clinical lab tests are performed each year. It's the number one most utilized medical procedure to make a diagnosis.[1] An estimated 70% of clinical decisions are based on lab testing.[2]

When you consider that lab testing is the gateway for diagnosis and treatment of many conditions, it transforms each test from being a passive event to the critical data point for proactive value-based care success.

The most common breakdowns in delivering value-based care are failure to order an appropriate diagnostic test, incorrect interpretation of diagnostic tests, and failure to create a proper follow-up plan.

Let's examine this more closely:

- Adults in the United States are receiving only 55% of recommended preventive care, 54% of recommended acute care, and 56% of chronic care recommendations.[3]
- 30% of lab tests performed are unnecessary which contributes to waste—in money, time—and can delay accurate diagnoses and care plans.[4]
- There is a 2 to 3 times variation in lab test cost depending on testing location.[5]
- As a result of advancements in precision medicine, there is an increase in genetic testing but 1 in 3 genetic tests are ordered in error.[6] Many of these patients do need a genetic

test—just not the one that was ordered. This translates to additional costs, but, more importantly, delays lab results, diagnoses, and treatments for patients.

- Provider actions and recommendations are not always in lockstep with evidence-based medicine.[7]

A value-based approach could eliminate unnecessary tests in favor of the right tests at the right time to better inform diagnoses and care plans, reduce waste in time and treatments that are not helping patients, and achieve cost alignment that drives the right outcomes. The ultimate impact is for patients to receive the care they need, while reducing cost drivers that contribute to debilitating burdens on the healthcare system.

But how can lab data bring this from idea to transformative innovation?

LEVERAGING LAB DATA TO ACHIEVE THE TRIPLE AIM

Health plans pay for broad lab testing for their members but have never unlocked and used lab data to its full potential to broadly inform care and improve outcomes. **It was never possible—until now with Avalon pioneering a new category called Lab Insights.**

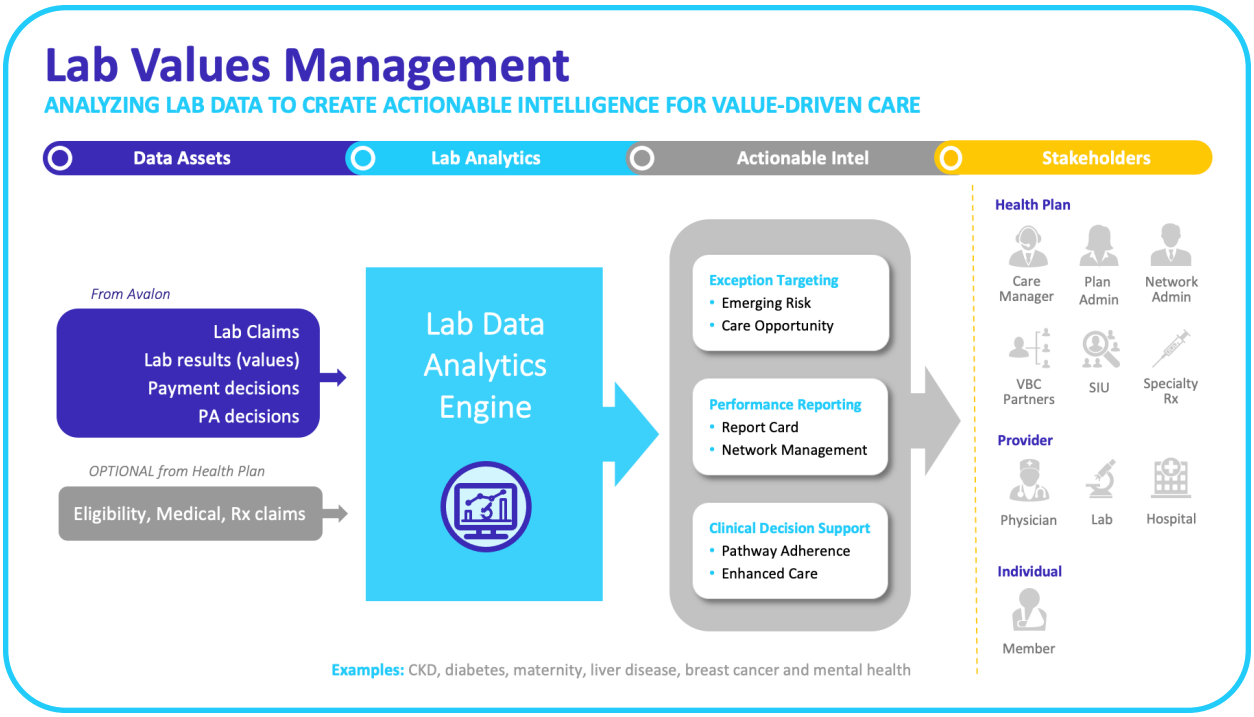
Avalon is poised as a key contributor to deliver better health outcomes through data and lab-driven insights. But how exactly does Avalon contribute to this mission? The answer is the Avalon Lab Insights Platform which captures, digitizes, and analyzes lab results in real time.

Because we receive lab claims from health plans in the very midst of a health transaction, we're able to make the greatest contribution at this critical juncture. This data might include CPT codes, member and ordering information, and lab results from our outpatient lab partners.

We can then use this data to help:

1) Ensure the right test is ordered
2) Digitize the lab values
3) Apply algorithms to gain meaningful intelligence
4) Deliver the insights to key stakeholders.

The result: Meaningful and actionable data that supports diagnosis and treatment.



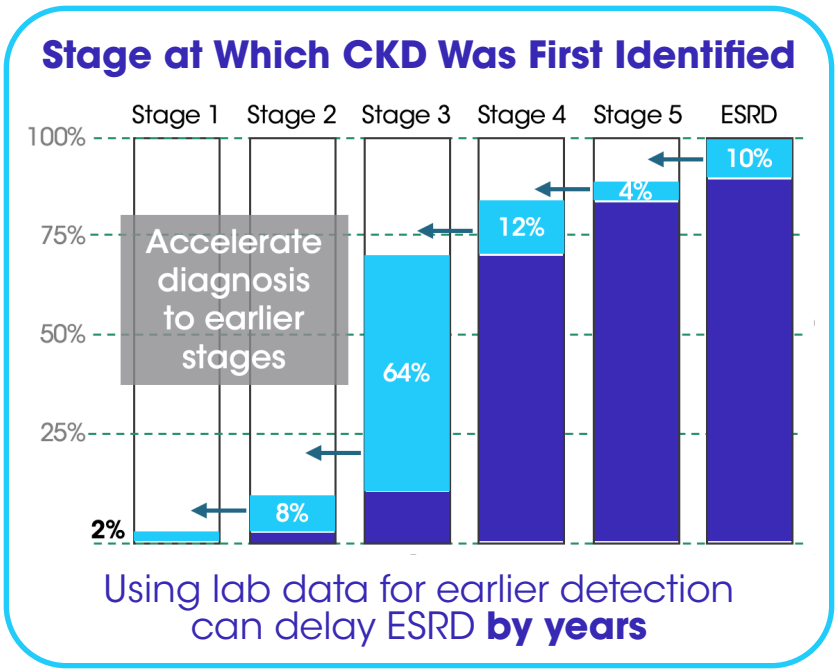
This is the first-of-its-kind solution to help health plans achieve the Triple Aim of improving the patient experience of care, improving the health of populations, and reducing the per-member cost of healthcare.

We have initiated pilots with health plans to deliver these lab-driven actionable insights in real time for the management of complex conditions, such as chronic kidney disease, cancer, diabetes, liver disease, high-risk pregnancy, and mental health. These are conditions with wide variability in treatment and outcomes. We looked at three conditions where insights could potentially drive such results.

USE CASE I: Chronic Kidney Disease (CKD)

The Centers of Disease Control (CDC) estimates that 37 million people[8] have chronic kidney disease (CKD). Ninety percent of people with CKD are unaware, and when patients are diagnosed, it is usually at stage three or later. We analyzed Avalon data to assess the stage at which patients were first diagnosed. Our information closely matched CDC records on patient intervention points. The CDC flags important stages for intervention and Avalon's assessment of patient-level data similarly showed that 90% of patients were diagnosed in stage three or later.

Avalon leverages lab results earlier—improving identification of the health parameters that



diagnose patients—and effectively slowing the progression of CKD in later stages.

For example, let's consider a 58-year-old female. A physician orders a routine complete blood count (CBC) test and chemistry panel, and the results come back with the lab values appearing to be normal. The results are sent to the electronic medical record. In clinical decision-making, what is a "normal" value for a person when it comes to creatinine clearance is determined by a person's weight. Now, Avalon may not know a person's weight, but data may show that her previous lab value was a .5 mg/dL for creatinine, while she is currently showing a lab value of .9 mg/dL, evidencing an increase that is clinically notable when it comes to this patient. Avalon's Lab Insights Platform flags that value and shares it with the medical group. This creates the opportunity to diagnose the patient and send her to a nephrologist for more aggressive intervention and care—thereby delaying end-stage renal disease (ESRD) by years.

USE CASE II: Breast Cancer

Another area of impact is breast cancer. Cancer, as we all know, is a life changing event. Fortunately, the molecular understanding of cancer has improved over the last few years.

Let's take the case study of a 45-year-old female who goes to her doctor where a lump is discovered during a routine breast exam. A biopsy is sent to the hospital pathology lab for analysis of the tissue. It indeed reveals stage 2 breast cancer. In addition, the cancer biopsy tissue is sent to a genetic lab provider for genomic testing of the cancer tissue.

The provider refers her to genetic counseling, Avalon receives the result of the genetic test, and the genetic test result is consistent with "chemotherapy does not improve outcomes." For patients that have this particular result, chemotherapy is not indicated for the tumor because there is a very low recurrence of metastasis.

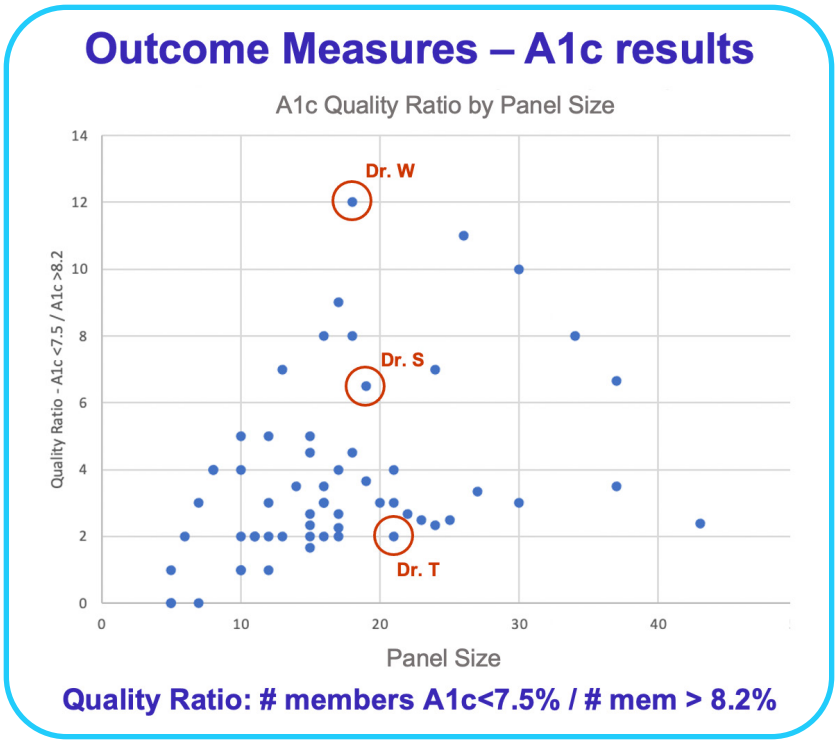
Avalon's Lab Insights Platform can accelerate value-based care with actionable insights to help inform the treatment course for her breast cancer diagnosis. Partnering with the health plan and the network to inform and manage trends is a way to meaningfully impact patient care in ways that matter:

- Making care patient-centered
- Knowing what is and isn't appropriate healthcare for our patients
- Identifying and closing gaps between current clinical practice and optimal practice
- Diminishing clinical uncertainty

USE CASE III: Diabetes

Our last use case study involves type 2 diabetes (T2D) care. When it comes to T2D, there are key process measures that improve outcomes such as: an annual A1c test, annual lipid profile, and biannual health checkups. Each of these process measures serves as a quality-of-care indicator.

Healthcare providers ideally perform these activities during patient visits. When we look at healthcare visit data, we can view quality of care indicators such as whether providers are performing all three process measures for T2D, or just one or two of them. Drilling down into the lab data allows us to examine the high-quality providers and how they are delivering patient care. We can even examine the true outcomes of that care when we look at practice patterns. We are able to see whether the provider adjusts treatment decisions based on lab values when we look at prescription-level data.



This is more than data. It's actionable lab-driven insights. As a result, we build momentum for value-driven care.

MOVING THE VALUE-BASED CARE NEEDLE WITH LAB VALUES

By connecting traditional process reviews with lab values and outcomes, we believe health plans can dramatically move the needle on realizing value-based care success. Lab values are leading indicators. They may help modify disease progression before it happens. Previously in healthcare, the flag for identifying risk was prior hospitalization(s) which is a good performance measure for a program but not a proactive or leading measure. Lab results are quite unique in this manner, in that they are emergent indicators.

Value-based care has the potential to transform healthcare, improving quality and access for millions of people. Digitized lab values and real-time lab insights represents a meaningful opportunity for health plans to drive value-based care forward—using the lab values available today.

Learn how you can unlock the potential of lab insights to proactively drive appropriate care and enhance clinical outcomes. Visit www.avalonhcs.com or contact avalon-info@avalonhcs.com.

ABOUT THE AUTHORS

Rahul Singal, MD joined Avalon Healthcare Solutions as its Chief Medical Officer in 2021. Dr. Singal has more than 20 years of healthcare experience as a scientist, practicing internist, health plan medical director and healthcare information technology entrepreneur.

Prior to joining Avalon, Dr. Singal was CMO of ZeOmega, a population health management (PHM) and advanced analytics platform company. From 2013 to 2015, he was Chief Medical Officer of DST Health where he led product innovation and clinical oversight for the company's two healthcare divisions.

Dr. Singal earned his undergraduate degree at University of Southern California, medical degree at Stanford Medical School and completed his residency in Internal Medicine at the Washington University School of Medicine. During his years at Stanford, he also conducted 3 years of molecular biology research in an HIV vaccine laboratory where he learned the value of questioning the status quo and dogma based upon superficial analysis.

Rhonda Willingham, RN, BSN joined Avalon Healthcare Solutions in 2020 as the Senior Vice President of Product and Marketing. Rhonda has more than 25 years of experience partnering with health plans and provider organizations with a focus on driving clinical, financial, and operational value-driven results for populations.

Prior to joining Avalon, Rhonda served in executive roles leading growth strategies and teams focused on reducing cost while improving outcomes at healthcare delivery and technology organizations, including New Century Health, Medecision, VRI, Alere (now Optum), and Onlife Health.

Rhonda earned a Bachelor of Science degree in nursing from the University of Florida.

ABOUT AVALON HEALTHCARE SOLUTIONS

Avalon Healthcare Solutions is the world's first and only Lab Insights company, bringing together our proven Lab Benefit Management solutions, lab science expertise, digitized lab values, and proprietary analytics to help healthcare insurers proactively inform appropriate care, reduce costs, and improve clinical outcomes. Working with health plans across the country, the company covers more than 25 million lives, and delivers 7-12% outpatient lab benefit savings. Avalon is pioneering a new era of value-driven care with its Lab Insights Platform that captures, digitizes, and analyzes lab results in real time to provide actionable insights for earlier disease detection, ensuring appropriate treatment protocols, and driving down overall cost.

ENDNOTES

1 https://www.aacc.org/health-and-science-policy/aacc-policy-reports/2015/laboratory-medicine-advancing-quality-in-patient-care

2 https://www.cdc.gov/csels/dls/strengthening-clinical-labs.html

3 McGlynn EA, Asch SM, Adams J, and others. "The quality of health care delivered to adults in the United States." N Engl J Med. 2000, 348:2635-45

4 https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0078962

5 Avalon Healthcare Solutions data available on file.

6 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.

7 M Ebell, A Shaughnessy, D Slawon, "Why Are We So Slow to Adopt Some Evidence-Based Practices?" Am Fam Physician 2018 Dec 15, 709-719

8 https://www.cdc.gov/kidneydisease/publications-resources/CKD-national-facts.html

avalon

Avalon Healthcare Solutions
3405 W. Dr. Martin Luther King Jr. Blvd., Suite 200
Tampa, FL 33607
813-751-3800