SUCCESSFUL LABORATORY BENEFIT MANAGEMENT STRATEGIES

from Avalon Healthcare Solutions

ABSTRACT

Avalon Healthcare Solutions (Avalon), founded in 2013, is a clinical and information technology company helping physicians, consumers, and payers maximize the cost-effective use of diagnostic laboratory tests. Leveraging well-established laboratory science, Avalon has developed and deployed a comprehensive Laboratory Benefit Management (LBM) solution to manage laboratory testing quality and spend on behalf of payers. Avalon's solutions help payers transform their lab benefit from the old fee for service model to a Value Based Care model, delivering improved quality and significant laboratory cost reduction. Further, Avalon serves as a valuable resource for payers, providers, and patients as they navigate an increasingly complex and clinically challenging testing landscape.

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AVALON'S PROGRAM RESULTS

Through a robust solution which entails both Genetic Testing Management and Routine Testing Management, Avalon has demonstrated the ability to successfully decrease the utilization of unnecessary laboratory procedures and drive the continual reduction of inappropriate testing and coding over time. Members also benefit from the improved alignment to the laboratory science standards as they receive high-quality care and avoid costs associated with unnecessary testing. Currently serving health plans representing over 21 million members, Avalon's Laboratory Benefit Management (LBM) solution commonly delivers 10-18% savings across all outpatient laboratory services.

IN 2019, AVALON HELPED COMMERCIAL PLANS SAVE BETWEEN

$1.75 – $2.35

PER MEMBER PER MONTH (PMPM) IN UNNECESSARY LAB TESTING SPEND

CURRENT INDUSTRY CHALLENGES

A growing problem exists in the field of laboratory medicine which continues to cause unnecessary waste and medical spend. At the forefront of this issue is the increase and unnecessary utilization of laboratory testing, as well as the high variance in cost of testing.

INCREASING LAB UTILIZATION

Laboratory tests can be defined as medical devices which utilize biological samples such as blood, urine, or tissue to help diagnose a condition. Across Avalon's book of health insurance payer business, laboratory expenses represent 6-10% of total healthcare costs and are often increasing at a rate greater than growth in overall medical expense. Many researchers have found that the demand for laboratory testing is increasing disproportionally when compared to medical activity[1]. Studies show that approximately 29% of all outpatient encounters are associated with laboratory tests; further, among specialist encounters such as encounters with oncologists or cardiologists, the percentage associated with laboratory tests is even higher at 88%[2,3]. To control this testing excess, physicians must be able to appropriately order tests, results must be provided in a timely manner, and findings must be interpreted correctly.

UNNECESSARY LAB UTILIZATION

When used appropriately, laboratory procedures inform care pathways and guide treatment decisions. However, a recent meta-analysis showed that over 20% of all laboratory utilization is not medically necessary[4]; others estimate this number to be as high as 33%[5]. Overtreatment or low-value care in the medical field, including low-value screening, testing, or procedures, has led to excess spend between $17.2 and $27.9 billion in the United States annually[6].

20% - 33%

OF LAB UTILIZATION IS NOT MEDICALLY NECESSARY

Inappropriate laboratory testing may include overordering tests not necessary for adequate patient care, and failing to order the appropriate diagnostic test (which may account for approximately 50% of avoidable laboratory orders)[7]. The unnecessary utilization of tests not only leads to overutilization, but also lead to an increased risk of incorrect diagnosis and treatment, unnecessary follow-up visits, an increase in resource utilization, increased length in hospital stays, and unnecessary patient stress[7]. As inappropriate laboratory utilization has amplified over time, the need for identifying and managing inappropriate laboratory procedures has become increasingly evident. Integral to the management of inappropriate testing is the further understanding of provider behavior and the factors that impact the utilization of laboratory testing.

From a member perspective, several studies have identified and evaluated inappropriate laboratory testing as a source of increased financial burden[8,9], delayed diagnoses and subsequent treatment[10], hindered quality of care, and decreased patient satisfaction[11]. At the same time, the extremely high laboratory test volume, complexity of the science, and increasing number of commercially available tests has precluded most health plans from fully managing the laboratory segment of spend. Over the last 20 years, the number of laboratory tests available to clinicians has increased significantly; currently, more than 75,000 genetic tests are on the market, with approximately 10 new tests introduced daily[12].

THERE ARE

75,000+

GENETIC TESTS ON THE MARKET

Laboratory testing may be divided into genetic tests, such as single gene testing and panel testing, and routine tests, such as complete blood count, lipid panels, or urinalysis. Both types of testing have led to unnecessary lab utilization.

APPROXIMATELY

13% - 30%

OF GENETIC TESTS ARE ORDERED IN ERROR

Genetic Testing: Approximately 13%-30% of genetic tests are ordered in error[13,14]. Further, these tests are expensive, complex, the science is changing rapidly, and number of tests are exploding.

Routine Testing: This represents >90% of lab spend with a high volume of unnecessary tests, inappropriate billing, and price discrepancies.

HIGH COST VARIANCE

Further, high variances in cost for the same test also impact the laboratory testing community. The American Medical Association (AMA) has created Current Procedural Terminology (CPT®) codes and Proprietary Laboratory Analyses (PLA) codes to standardize medical procedures performed in

inpatient and outpatient settings. Other coding types include the Healthcare Common Procedural Coding System (HCPCS) developed by the Centers for Medicare and Medicaid (CMS), and the International Classification of Disease (ICD) coding system developed by the CMS and the National Center for Health Statistics (NCHS). These procedure codes are used by providers to order laboratory tests, as well as for billing and tracking purposes. **Figure 1** below shows the pricing arbitrage of two CPT codes (83036 and 82306), exposing how the same test experiences a wide variance of cost across place of service (POS). Several types of POS exist including physician offices (11), outpatient services including hospital laboratories (19 and 22), and independent laboratories (81). Regarding CPT codes 83036 and 82306, up to 31% of outpatient laboratory spend could be avoided through POS optimization, as shown in the figure below.

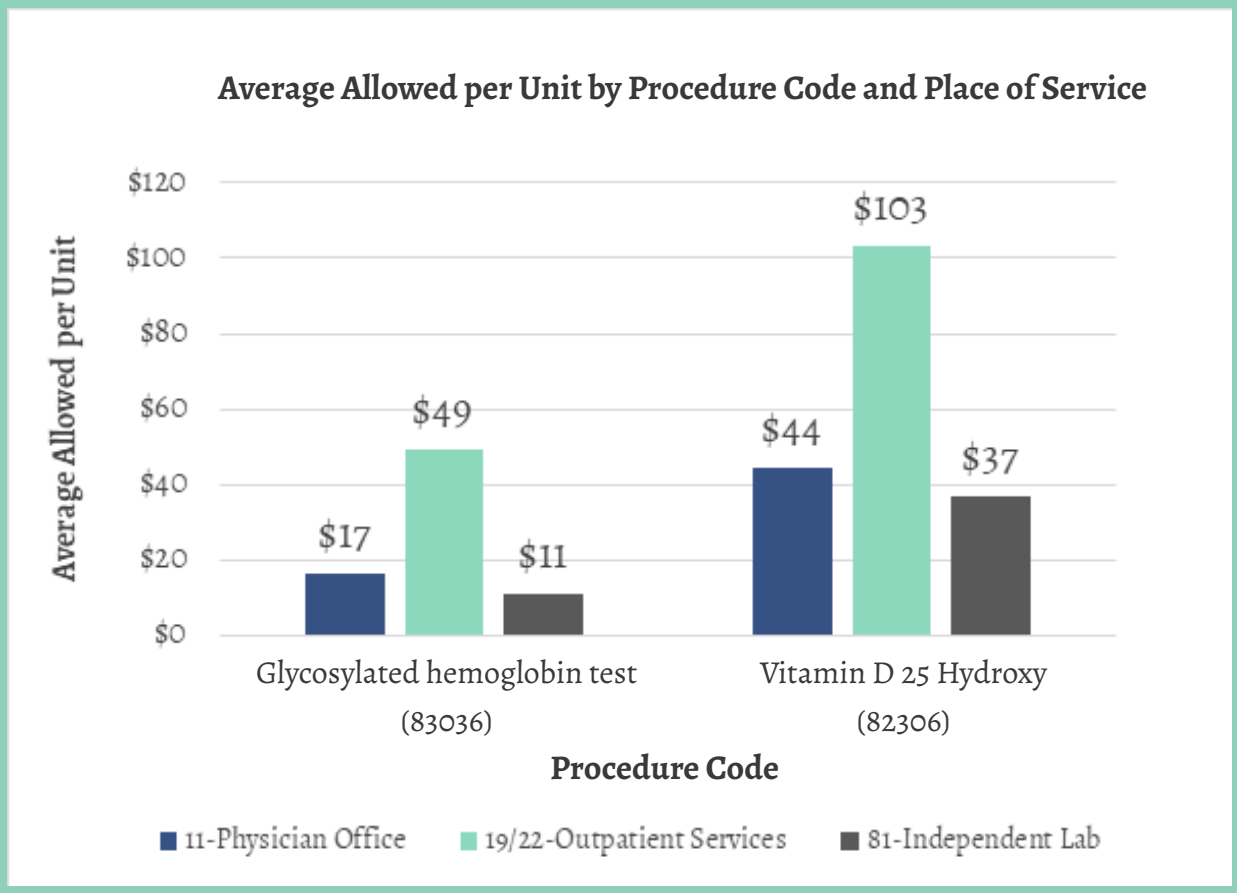

Figure 1: *Pricing arbitrage of CPT codes 83036 and 82306 categorized by place of service.*

INAPT METHODS TO RESOLVE THE PROBLEM

Several methods have been developed to combat the aforementioned problems. These methods include prior authorization, individual provider contracting, and clinical laboratory editor software. Unfortunately, each method has also introduced new impediments to the laboratory testing field.

INEFFICIENT PRIOR AUTHORIZATION PROCESSES

Prior authorization (PA) is a process requested by a health insurance company that requires a physician to obtain approval from the health plan before the cost of specific tests, medications, or medical procedures will be paid. These requests are approved or denied based on medical necessity. This process was developed for many reasons including to stop patients from being prescribed medication that they do not need, to check for potential drug interactions, and to determine if a more cost-effective generic alternative is available. However, many complain about current PA practices stating that this technique often causes patients to experience delays and restrictions in necessary care[15]. A survey completed by the AMA showed that 90% of physicians surveyed claimed that the PA process delayed patient access to necessary care; further, 26% of physicians had waited three or more business days, on average, for PA decisions to return from health plans in the previous week alone[15].

90%

OF PHYSICIANS CLAIMED THE PA PROCESS DELAYED PATIENT ACCESS TO NECESSARY CARE

Many current health plan systems lack the foundation for data exchange, resulting in time consuming manual methods. It has been suggested that healthcare providers would benefit tremendously from an automated PA system for screening and verification. PA is a very expensive process, typically costing $35-$100 per occurrence; this is much more expensive than electronic processing of claims which can cost as low as $0.6615. Total PA costs for the healthcare system are between $21 billion to $31 billion annually[16].

ANNUAL PA COSTS FOR THE HEALTHCARE SYSTEM ARE BETWEEN

$21 BILLION -$31 BILLION

INDIVIDUAL PROVIDER CONTRACTING

The key metric for most health plan contracting activities is cost/test. Historically, the achievement of a reduction in lab services expense involved a narrow network and an exclusive relationship with one of the large national labs. This contracting philosophy can

result in increased expenses due to out of network lab leakage, ordering provider dissatisfaction associated with limited choice in lab services, especially with respect to specialized labs (e.g. genetic testing), and a general lack of access to lab services for the plan's members. These issues have driven members to seek lab services at the higher cost laboratories associated with integrated health systems where there is a perception of higher quality. In addition, there is a lack of education of the rendering labs with respect to the plan's medical policies. This results in the over-utilization of common tests and therefore high-cost, backend processes to recoup these expenses. Finally, the rapid emergence of new testing technologies combined with limited resources to review and assess these new tests results in either the addition of testing with limited clinical utility, or a blanket moratorium in the adding of important advances in technology. The consequence is higher cost due to unnecessary testing or in member appeals to the plan for coverage for needed testing services.

MINIMAL EDITING

Various software-based claim editors have been developed which create automated rules to improve accuracy, increase medical and administrative savings, and reduce appeals. Some claims editors focus primarily on front-end edits to prescreen claims for potential billing and coding errors[17]. Examples of common claim editors include ClaimsXten™, Cotiviti, and Optum. A common theme with the currently available claims editors is that they exhibit difficulty in the administration of policy adherence. Similarly, health plans tend to focus on payment and coding but not on the medical policy itself. This may lead to gaps in enforcement that current claims editors cannot mend.

AVALON'S COMPREHENSIVE SOLUTION

To combat current limitations in the healthcare field, Avalon has redefined the way health plans, physicians, and laboratories coordinate laboratory care for millions of patients by developing and deploying a comprehensive Laboratory Benefit Management (LBM) solution to manage laboratory spend on behalf of payers. The comprehensive solution, detailed below, was developed to deliver the best-in-class laboratory services to patients while also delivering annual outpatient laboratory savings. Avalon's solution helps payers move from the old Fee for Service model based on volume, to a Value Based Care Laboratory. This increases access to the right tests, improves clinical outcomes, and reduces outpatient laboratory costs.

CLINICAL ADVISORY BOARD AND MEDICAL POLICY

Avalon's independent Clinical Advisory Board (CAB) stands at the forefront of laboratory technology assessment. The CAB, as depicted on the following page in **Figure 2**, is comprised of five prominent individuals in the medical community located across the country.

Avalon provides scientific lab policies to be reviewed by the CAB experts on a quarterly basis. The approved and finalized policies are offered to payers for adoption. These policies may be adopted in total or adopted with variance(s), depending on the client's needs or preferences.

Avalon's medical policy catalog encompasses approximately 140 evidence-based lab policies, each reviewed and revised at least annually or when the science changes. These medical policy reviews also include an evaluation of procedure codes to ensure the appropriate testing and medical necessity of testing are utilized. Further, new policies are also introduced depending on client or scientific community needs. Policies are managed through our Routine Testing Management or Genetic Testing Management solutions.

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Figure 2: *The independent CAB featuring affiliated and practicing laboratory clinicians representing leading medical center laboratories across the United States.*

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ROUTINE TESTING MANAGEMENT (RTM)

Avalon's Routine Testing Management (RTM) solution is powered by the proprietary cloud-based clinical lab editing application known as the Automated Policy Enforcement Application (APEA). Approximately 70 of Avalon's medical policies are partially or fully managed by APEA. In real-time, APEA provides decision advice codes to deny, reduce, or approve claim lines along with references to specific policy detail supporting the decision. APEA may be integrated with the payer's adjudication system to automate the review of fixed criteria from lab claims to ensure compliance with the payer's policies.

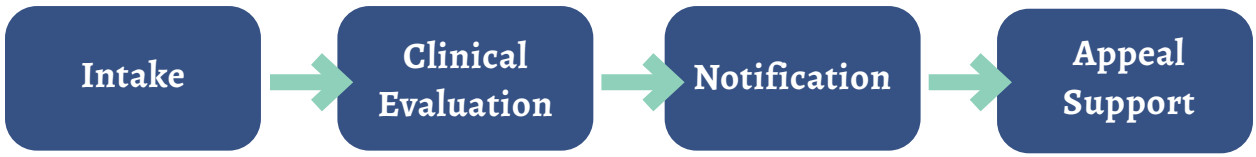
- PROVIDES REAL-TIME CLINICAL LAB EDITING
- RUNS ON CLOUD-BASED AMAZON WEB SERVICES
- PROVIDES ADVICE TO DENY, REDUCE, OR APPROVE CLAIMS IN <1 SECOND
- HANDLES 2 MILLION+ AUTOMATED EVIDENCE -BASED LAB EDITS

Avalon's proven APEA solution is highly configurable and can support exemptions by various filters such as line of business, place of service, and provider. APEA savings have proven to be incremental and additive.

For health plans who are not yet equipped to implement the APEA system, a solution has been developed to adequately support claims. This solution, known as APEA-Pre, was established by Avalon as a temporary measure to provide savings before the health plan completes its integration with APEA. This tool allows Avalon independent laboratory provider claims to be reviewed in APEA by pre-editing claims prior to submission to the health plan. This APEA alternative has proven to be successful with clients.

GENETIC TESTING MANAGEMENT (GTM)

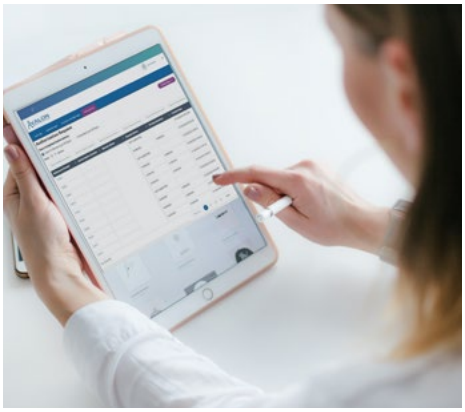
Avalon has a robust program that oversees Genetic Testing Management (GTM), as depicted in **Figure 3** below. The four principle steps of the GTM process consist of intake, clinical evaluation, notification, and appeal support.



Key Features

1. **Test Identification:** Analyte-specific evaluation of molecular panel and unlisted codes
2. **Panel Evaluation:** Promotes appropriate use of lab-specific molecular panels (elimination of unsuitable code stacking and/or excessive panels)
3. **Decision Detail:** Accessible and easy to understand

Figure 3: *Avalon's GTM process. The four broad phases of the GTM process include intake, clinical evaluation, notification, and appeal support.*



In the initial intake phase, a request is received for Prior Authorization (PA) review. During the clinical evaluation, the nurse or physician reviews testing that the ordering physician has requested, along with the clinical information and records provided, to see if the prescribed test or panel is medically appropriate. Proactive outreach may also occur if clarity is needed in order for the reviewing physician or nurse to evaluate a request. The reviewing nurse or physician, for quality assurance, also reviews the request submitted by the rendering provider to ensure that it matches the test or panel ordered by the initial provider and that the coding follows AMA guidelines.

For an approval notification, both the ordering and rendering provider receives a notification. If a claim is denied, the member, the ordering provider, and the rendering provider all receive detailed notifications. A clear, readable description of why an adverse determination was given is included within the notification. This notification will contain the reason(s) why the ordered test is not considered medically necessary. If the denial is solely due to a coding discrepancy, then as part of the education process, the rationale includes how the member may be able to receive approval for testing if the correct procedure codes are supplied on resubmission. Appeal Support includes educational endeavors to help abate abrasion that health plan clients may receive as well as internal provider and network lab education. This often includes peer-to-peer consultation.

Avalon has also integrated genetic counseling into the current GTM process to reduce inappropriate genetic test utilization, decrease the number of adverse determinations due to lack of genetic counseling, and ensure that patients are receiving the most appropriate test. Avalon focuses on the utilization of physicians and nurses for peer to peer education and integrates genetic counseling when appropriate. Genetic counseling is promoted by Avalon prior to testing when warranted.

Further, a portion of the GTM system can be automated through an Avalon-based proprietary self-service Prior Authorization System (PAS). PAS was implemented in April 2019 as an on-demand, 24/7 tool for providers to submit or check the status of existing preservice review requests (PSR). Approximately 86% of PSR requests are submitted through PAS and about 100 CPT, HCPCS, and PLA codes have the capability of being automatically approved when submitted through PAS via its built-in clinical rules engine. If PAS is unable to automatically approve the PSR request, the request is reviewed by Avalon's clinical staff.

Ordering and rendering providers are notified of all PSR determinations, approvals, and denials via an electronic notification and have immediate access to their determination letters via PAS. Avalon's focus on provider education and high-touch model helps the provider and member get the right test approved, leading to greater physician and member satisfaction.

INDEPENDENT LABORATORY NETWORK

Avalon partners with over 60 independent laboratories creating a broad network that supports client health plans in all medical areas. Leveraging 50+ years of leadership experience in the laboratory industry, Avalon can increase the scope of network management while acting as an adjunct to the health plan's current resources. Avalon's ability to capitalize on the merging of 60 individual vendor relationships and fee schedules and incorporate these into a single standard reimbursement mechanism brings greater access and satisfaction for members and providers. Avalon's broad network philosophy provides expanded advanced diagnostic resources through national laboratories as well as in the specialty focus lab space. We have the ability to manage the myriad of new and emerging laboratory technologies while also aligning the utility of medical policy, coding, and appropriate reimbursement. This allows plans to better focus on their business, mission, and member engagement.

AVALON'S SUCCESS IN REDUCING UNNECESSARY LAB UTILIZATION

Avalon has demonstrated the ability to successfully decrease the utilization of unnecessary laboratory procedures and drive the continual reduction of inappropriate testing over time. This has led to a positive impact for providers and members by avoiding unnecessary testing with the added benefit of reduced costs.

As shown in **Figure 4**, in 2019 Avalon helped commercial population-based plans save between $1.75 and $2.35 Per Member Per Month (PMPM) in unnecessary outpatient laboratory testing spend through RTM and GTM.

This $2.35 PMPM savings can be further categorized by GTM and RTM. **Figure 5** shows that in 2019, $0.55 of the $2.35 PMPM savings can

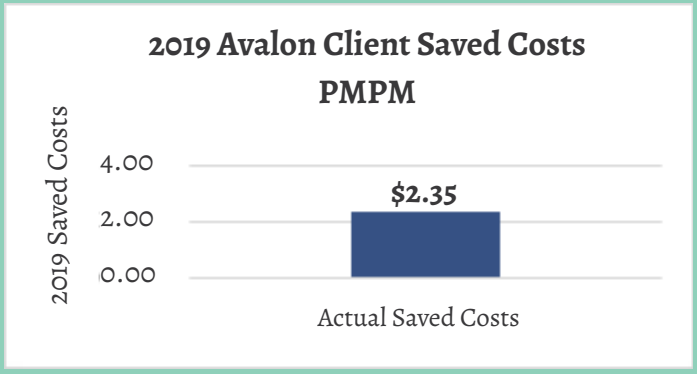


Figure 4: *In 2019, Avalon helped commercial plans save between $1.75 and $2.35 PMPM in unnecessary laboratory testing spend. RTM saved costs occurred because claims did not meet coverage criteria and laboratory policy specifications, and GTM saved costs occurred because the requests were not considered medically necessary.*

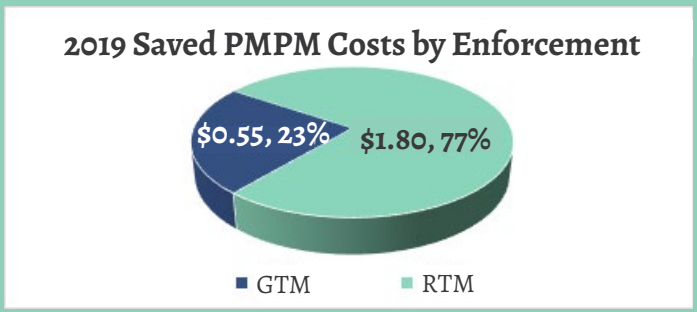


Figure 5: *The PMPM savings that Avalon helped plans achieve in 2019, split between GTM and RTM. Of the total $2.35 PMPM savings in 2019, $0.55 was due to GTM enforcement and $1.80 was due to RTM enforcement.*

be attributed to GTM enforcement, and $1.80 can be attributed to RTM enforcement.

GENETIC TESTING MANAGEMENT (GTM)

Avalon has achieved great success with their Genetic Testing Management (GTM) program as it effectively prevents unnecessary and low-quality, high-cost tests prospectively. The GTM program also helps to ensure that labs are inputting codes correctly and appropriately.

Incorrect coding of laboratory tests for a grander payout was identified as a common occurrence by Avalon. For example, many laboratories were found to be coding lab tests erroneously, particularly tests that should have been listed as part of a panel test. Instead, they were coded under CPT 81479 (unlisted molecular pathology procedure) for higher payment. Avalon's GTM review has successfully prevented this incorrect coding practice from moving forward. **Figure 6** below lists the top five CPT code denials through Avalon's GTM program. These denials accounted for a large portion of 2019 GTM related savings.Additional data in **Figure 7** below show how Avalon's GTM managed population successfully lowered costs compared to health plan populations that were not managed by Avalon. Utilization and associated costs were 45% higher in populations without Avalon GTM programs as compared to populations with Avalon GTM programs in 2019.

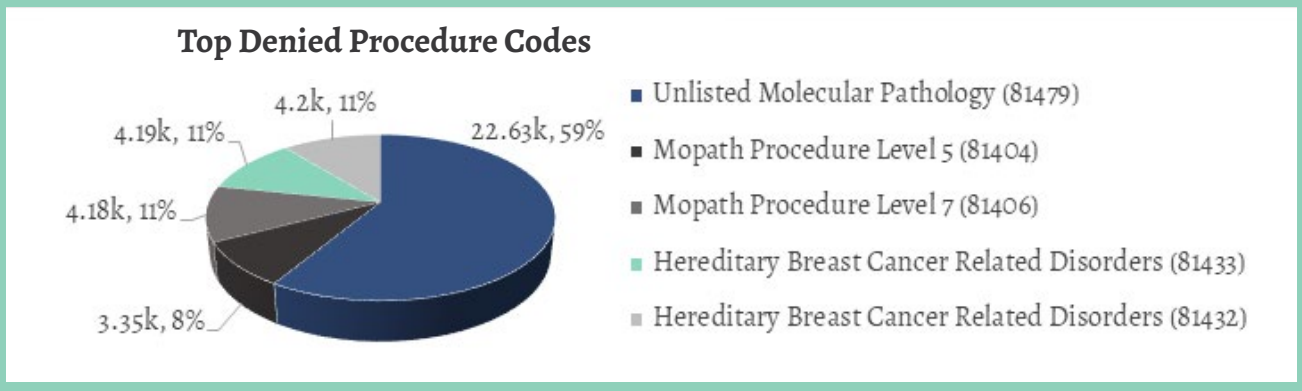


Figure 6: *The top denied procedure codes through GTM. Unlisted molecular pathology code 81479 accounts for a majority of the denied units.*

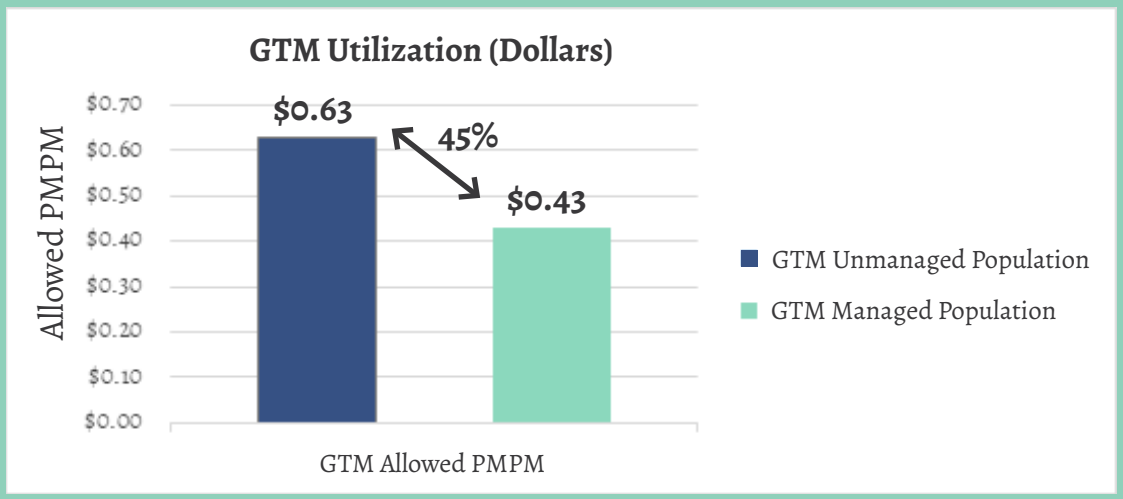


Figure 7: *GTM utilization in dollars between Avalon GTM managed and Avalon unmanaged populations.*

ROUTINE TESTING MANAGEMENT (RTM)

Avalon has also achieved great success with their Routine Testing Management (RTM) program powered by the Automated Policy Enforcement Application (APEA). This program effectively provides real-time clinical lab editing through the utilization of cloud-based Amazon Web Services. Advice to deny, reduce, or approve claims is provided to clients in less than one second. Avalon's APEA solution decreases the volume of inappropriate tests and increases compliance with policies. Members also benefit from the improved alignment to the laboratory science standards as they receive high-quality care and avoid costs associated with unnecessary testing. An example of APEA's success is revealed below in **Figure 8**. The compound annual growth of units ordered PMPM in populations without APEA (green) is increasing at 4.9%, while the compound annual growth of units ordered PMPM in populations with APEA (blue) is decreasing at -2.7%. The utilization of APEA has also led to a decrease in billed units

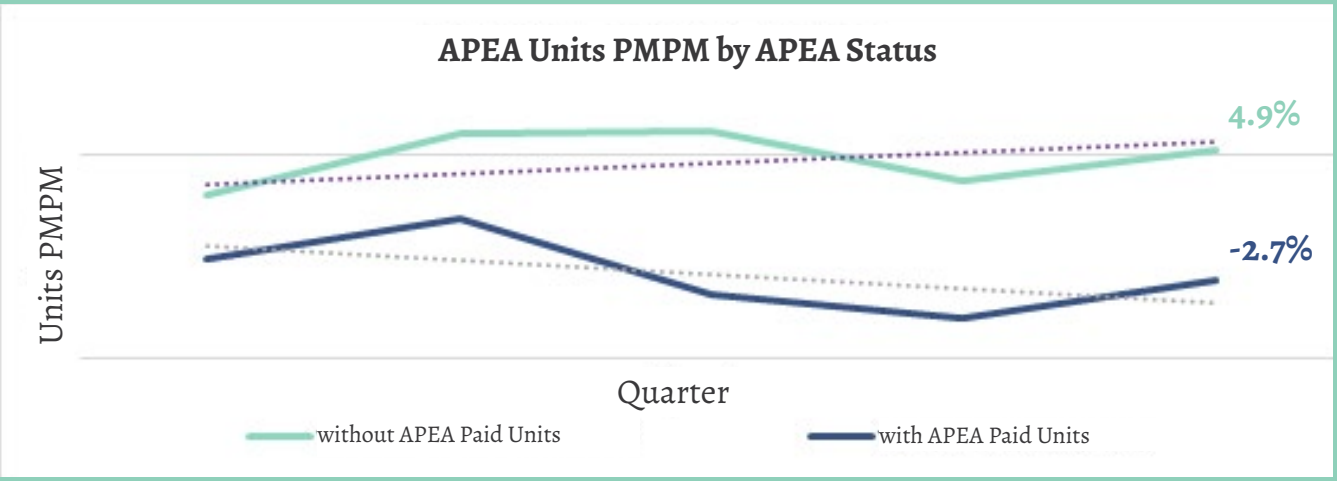


Figure 8: *RTM, powered by APEA, bends the healthcare trend by showing a negative drift in compound annual growth for populations with APEA.*

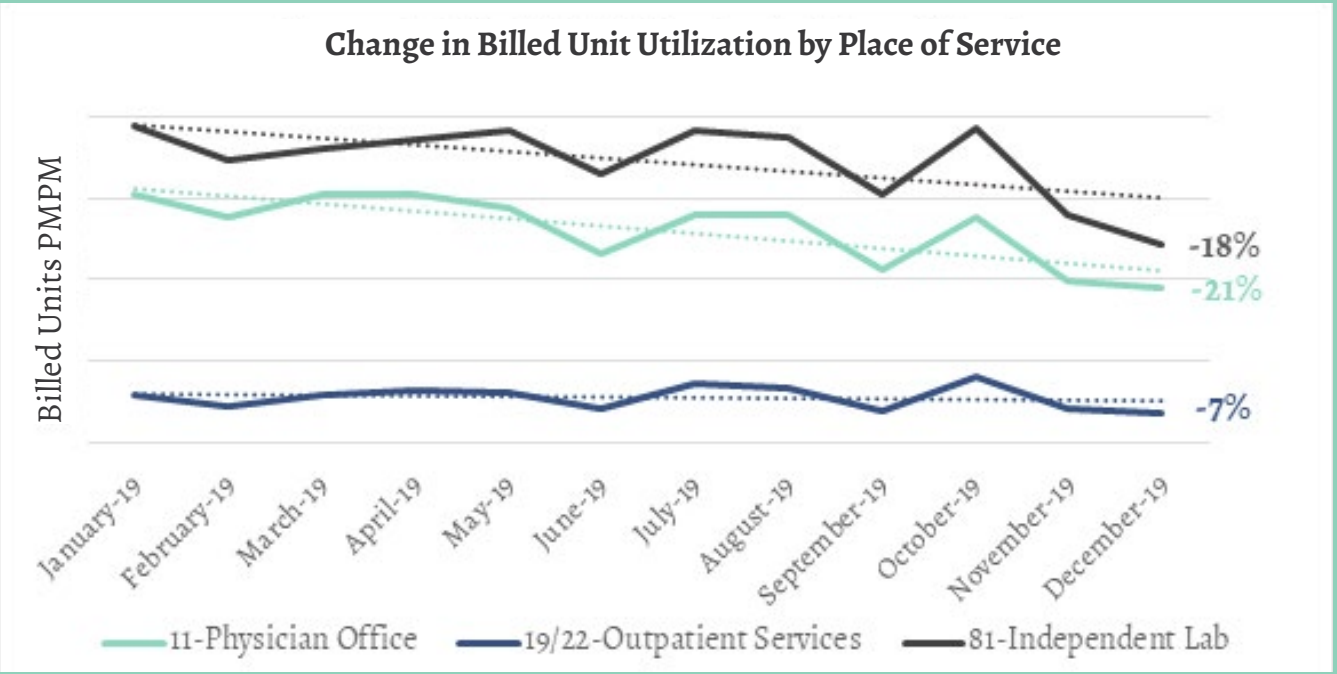


Figure 9: *Billed units across place of service are decreasing after APEA implementation.*

across POS. Decreased units can be attributed to provider education and more appropriate billing practices. As noted in **Figure 1**, the same test may experience a wide variance of cost across POS. **Figure 9** shows that the ordering of labs in physician offices (11) and independent laboratories (81) has decreased significantly after APEA implementation; further, outpatient hospital laboratory (19/22) ordering is modestly decreasing as well.

Many additional examples of APEA's impact on correct coding can be found throughout Avalon's large portfolio of medical policies. For example, vitamin D testing is commonly overutilized and is experiencing increased utilization. Many health plans have adopted a medical policy supporting screening for Vitamin D deficiency in individuals considered high risk for vitamin D deficiency, while limiting coverage for screening in healthy populations. Avalon's APEA system was set up to enforce these complex criteria on behalf of payer clients. The results were impressive and are depicted below in **Figure 10**. In this case study, Vitamin D testing was 2.4 times more likely to be compliant with the established science. Prior to APEA implementation, over 40% of all vitamin D tests billed to the health plan were not aligned with the established science. Following APEA implementation, the health plan stopped paying for the inappropriate tests and experienced a significant costs savings. At the same time, the number of non-compliant claims decreased in the months following APEA implementation as laboratory providers modified their test menus to support on-going policy compliance. Many payers have a vitamin D policy, and other policies, but their systems are not able to enforce them. APEA ensures the payers policies are administered and enforced correctly.

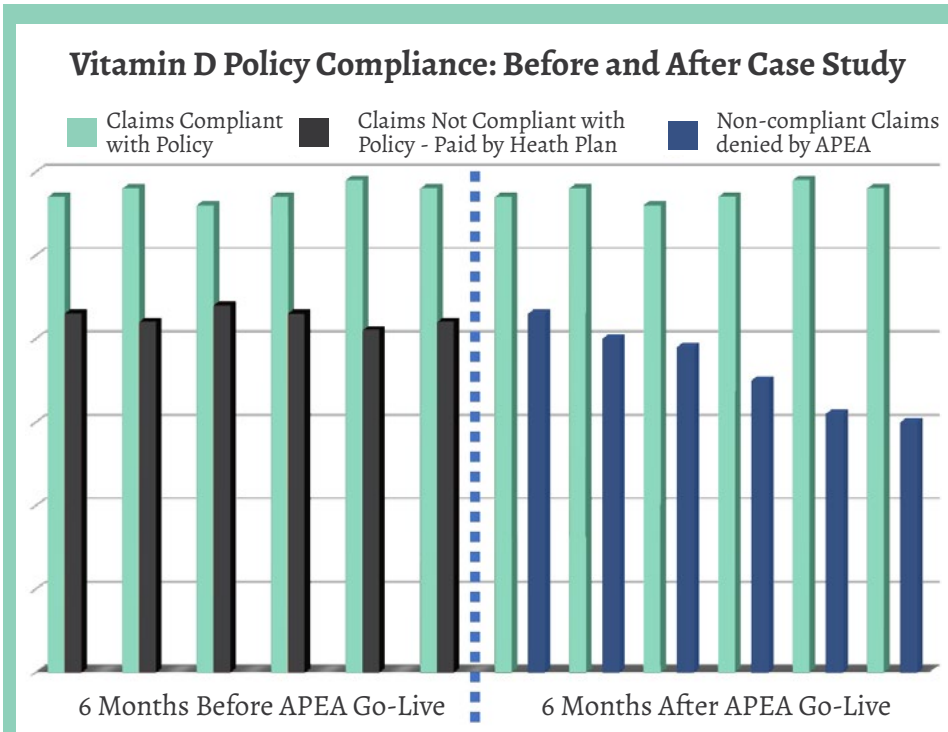


Figure 10: *RTM, powered by APEA, bends the healthcare trend by showing a negative drift in compound annual growth for populations with APEA.*

CONCLUSION

Avalon has successfully provided the best-in-class laboratory services to patients while also delivering annual outpatient laboratory savings. Avalon's independent Clinical Advisory Board (CAB) ensures that all medical policies are current and relevant. Further, both the Routine Testing Management (RTM) and Genetic Testing Management (GTM) programs have improved outcomes, increased provider and member satisfaction, and provided substantial savings to clients. These programs have also positively impacted correct coding practices and have led to a decrease in billed units across place of service which can be attributed to provider education and more appropriate billing practices.

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