



Report to the State Legislature  
For Delaware Medicaid Fraud Control  
and Program Integrity

Prepared for the State of Delaware  
Division of Medicaid and Medical Assistance

By  
Health Integrity, LLC

October 1, 2015

**KEEPING THE TRUST**

# CONTENTS

Executive Summary of Pilot Project

Approach

*Background and Research*

*Analytics and Designing*

*Customized Algorithms*

*Development, Validation,*

*Coding, and Quality Assurance*

Monetary Findings

Implementation of *PLATO*®

Recommendations and Next Steps



*This material contains confidential, proprietary information of Health Integrity, LLC. It is to be accessed solely by authorized individuals who will safeguard the security and confidentiality of all Health Integrity confidential and proprietary information to which they are provided access. The information contained in this material (or any part thereof) shall not be used or disclosed for any purpose other than that for which it was furnished and shall be protected from unauthorized use and disclosure. This material shall not be distributed or disclosed to any individual(s) or entity other than the recipient(s) named in the transmitting correspondence without the express consent of Health Integrity, LLC.*

# EXECUTIVE SUMMARY

## of Pilot Project

The Delaware Medicaid program currently serves 230,000 clients. Enhanced efforts should be implemented to combat fraud, waste, and abuse and efficiently stop and recover improperly paid funds.

The State of Delaware created a pilot project to identify areas of concern that include:

- Appropriateness of recipient usage of services
- Verification of eligibility criteria
- Inefficient and overutilization of services and subsequent waste of program funds
- Increased oversight of Managed Care Organizations (MCOs)

Delaware contracted with Health Integrity—with extensive subject matter expertise in using advanced analytics systems to detect fraud, waste, and abuse—to create and administer this six-month pilot project. The pilot’s goal was to implement an innovative solution to identify fraud, waste, or abuse in order to recover inappropriate payments and reduce inefficient or over-utilized services.



Working closely with the State, Health Integrity designed, configured, tested, and deployed 50 customized algorithms, sometimes referred to as “edits.” These algorithms were customized with the aid of subject matter experts from Health Integrity and Delaware Medicaid to target potentially improper payments across numerous provider types, as well as potential overpayments tied directly to a misuse of client services. The criteria of each algorithm dictate which claims are identified as at-risk, as well as potentially vulnerable program areas.

The algorithms were carefully selected from over two hundred that Health Integrity and Delaware Medicaid vetted. These algorithms were chosen by Health Integrity and the State based on the possibility of the algorithms identifying provider or client fraud, and the expected dollar value of findings. The majority of algorithms focus on fee-for-service claims. Eight of the fifty algorithms also apply to Managed Care Data (MCO). In the future, Health Integrity plans to expand significantly in these areas.

Based on analyzing more than three years of data and \$226 million in claims—April 2012 to September 2015—Health Integrity identified over \$11 million in potentially inappropriate payments made to providers from Federal and State funds.

The identified overpayments are a combination of funds that could be recovered immediately without the need for medical review and cases where additional investigation/medical review of the potential improper payment is needed. Algorithm findings are in two categories: Immediate Recoveries and Potential Recoveries Pending Review. Immediate Recoveries are designed to apply Medicaid, MCO

policy or federal/state rules and medical guidelines to identify improperly paid claims. Overpayments associated with these claims are eligible for immediate recovery.

Potential Recoveries Pending Review are potential overpayments that require assessment before an overpayment can be determined. The level of review—and subsequent work involved—vary based upon the algorithm.

Following review and letters from the State requesting re-payment, some providers will submit appeals which may result in overpayment recalculation pending an Administrative Law Judge’s (ALJ) ruling. The outcome of these appeals will impact the final overall findings, which may decrease.

Per the original Request for Proposal and the Statement of Work for this pilot, Health Integrity is also tasked to provide the projected cost savings per client, per year. The project yielded approximately \$182 savings per client identified by pilot algorithms, per year, from April 2012 to September 2015. This number could rise as Health Integrity’s automated analytics system continues to identify more potentially improper payments.

**Figure 1—Mathematical Formula for Calculating Projected Cost Savings per Client per Year**

$$\frac{\text{(Potential Inappropriate Payment from the 50 Edits)}}{\text{(Number of Clients Identified by Pilot Algorithms} \times \text{Number of Years)}} = \frac{\$11,058,111}{(17,381 \times 3.5)}$$



The solution provided by Health Integrity included implementing a system of advanced analytics customized for the State, initially for post-payment. These analytics identify potentially improper billing and the resulting improper payment of Medicaid claims and encounters. The PLATO® application—developed and owned by Health Integrity—analyzes large amounts of data to continuously identify patterns and trends and provides a user-friendly interface for viewing data, conducting research, and tracking investigations as well as providing workflow management for review and investigations. PLATO® was licensed to the Delaware Division of Medicaid and Medical Assistance (DMMA) at no cost only for the duration of the pilot and resides in the State’s hosting environment.

In conjunction with PLATO®, Health Integrity teamed with the Delaware Health Information Network (DHIN), which allows DMMA PLATO® users access to clinical information for post-payment reviews. For some reviews, DHIN will enable DMMA to view relevant client information, medical records or discharge notes immediately rather than the traditional method of waiting for medical records from providers.

The initial potential monetary findings in PLATO® are based on:

- Three years of claims data (April 2012 to March 2015)
- Additional weekly updated claims data including fee-for-service and MCO encounter data from MMIS (April 2015 to September 2015)

Weekly data updates are automatically processed against the algorithms in PLATO®, so the identification of claims at risk is timely and ongoing.

Based on the initial findings of the pilot project, Health Integrity recommends DMMA:

- Continue to license PLATO®.
- Engage with Health Integrity to regularly refine current algorithms as trends and patterns in fraud, waste, and abuse evolve. Work with Health Integrity to develop new algorithms for PLATO® to ensure comprehensive and thorough analysis of all types of fee-for-service claims.
- Work with Health Integrity to develop new algorithms specifically related to MCO's unique business model and payment policies to augment the MCO's current fraud, waste, and abuse safeguard programs.
- Continue to identify program vulnerable areas with the goal of recommending policy changes.

Implementing these recommendations will increase the return on investment and create a robust and comprehensive system to safeguard Delaware Medicaid benefits.



*Weekly data updates  
are automatically processed  
against the algorithms in  
PLATO®, so the identification  
of claims at risk is timely  
and ongoing.*

# APPROACH

## Background and Research

Health Integrity worked with DMMA and the State's Fiscal Agent (Hewlett-Packard) to understand the data provided by the Fiscal Agent. This included a detailed review of data fields, formats, and data relationships. Health Integrity conducted data validation to confirm the data aligned with the fiscal agent's documentation and vice versa.

In order to identify areas of possible fraud, waste, and abuse in Delaware, Health Integrity conducted in-depth research including the review of Federal and State laws as well as Delaware Medicaid fee-for-service and MCO regulations and policies.

Additionally, Health Integrity made use of other resources, such as:

- Staff experience in developing policies and in investigating and auditing health care service delivery
- Outcomes from Federal and State law enforcement actions, program evaluation reports from oversight agencies (including the Office of Inspector General [OIG]), and research of industry analysis of trends in health care delivery and medical practices

Part of Health Integrity's work on this pilot project was to evaluate MCO encounter data to identify potential data inconsistency and potential overpayments. Health Integrity reviewed MCO policies and encounter data as part of the pilot project in order to enhance collaboration and oversight.

## Analytics and Designing Customized Algorithms

Creating algorithms involves research, development, and validation by specialized experts in each area of vulnerability, along with coding and quality assurance by data analysts prior to implementing algorithms in PLATO®.

Health Integrity's project team, led by the Director of Research and Development, includes staff with:

- Extensive experience in program integrity data analytics
- Knowledge of Medicaid data
- Knowledge of Medicaid policies and regulations
- Sampling and extrapolation expertise
- Auditing and investigative experience

Other Health Integrity team members include health care policy and reimbursement subject matter experts in specific areas of interest, business analysts, and software developers.

## Development, Validation, Coding, and Quality Assurance

An algorithm created by Health Integrity undergoes a thorough process of testing and quality assurance before being implemented. Health Integrity incorporates an algorithm in PLATO® only after it is vetted by data analysts, subject matter experts, and the State's own policy experts.

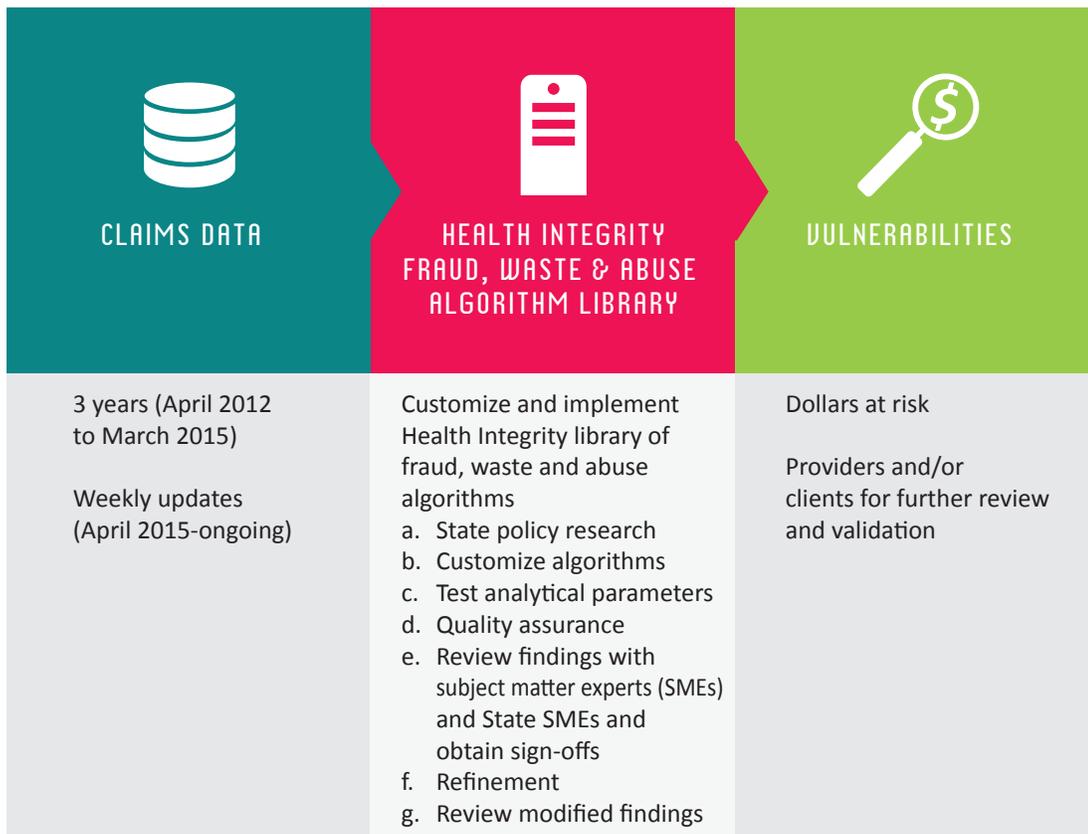
For each algorithm Health Integrity:

- Outlines the parameters of the algorithm based upon Health Integrity research and State policy discussions;
- Customizes programming code logic to automatically identify erroneous or potentially erroneous claims;
- Tests logic against State-provided data to determine initial findings;
- Reviews findings internally at Health Integrity to initially verify accuracy;
- Evaluates selected claims flagged by the algorithm;
- Vets the algorithm with State policy experts to provide a second level of validation, again verifying accuracy;
- Refines algorithm parameters and associated logic as a result of the vetting process; and
- Re-tests the algorithm against the data if necessary.

While some algorithms may remain unchanged over time, Health Integrity expects there to be a need for algorithms to evolve to stay current with both changes in policy and evolving provider or client schemes. All Health Integrity algorithms are designed to allow for future updates as the fraud, waste, and abuse landscape in Delaware changes and many can be configured to identify MCO claims at risk.

Once an algorithm has been vetted and approved, the logic and results are implemented in PLATO®. Findings associated with the algorithm are available for use by the State’s Surveillance and Utilization Review (SUR) team as well as other Medicaid staff members granted access by the State.

**Figure 2 – How an Algorithm Works**



## Types of Algorithms

During the course of the pilot project, Health Integrity explored over 200 possible algorithms and vetted and implemented 50 which are designed to identify claims potentially billed to Medicaid in error for a variety of reasons.

### Algorithms Focusing on Providers and/or Clients

The majority of algorithms identify claims associated with providers. Provider-focused algorithms identify improper billing on the part of a provider, such as algorithms designed to identify hospital claims paid at an inpatient rate that would have more appropriately been billed at an outpatient level of care.

Some algorithms, however, focus on situations of client misuse of Medicaid funds such as those in which clients “shop” between multiple pharmacies in order to receive a greater number of controlled substances than generally permissible.

### Algorithms on Fee-for-Service and/or Managed Care Claims

Based on the timeframe of the data Health Integrity was working with for the pilot, the majority of algorithms identify fee-for-service overpayments. For example, there are algorithms that identify clients inappropriately receiving prescriptions for large daily volumes of controlled substances. Some algorithms look at both MCO and fee-for-service clients together and others (9 out of 50) exclusively identify potential MCO overpayments, such as hospice clients who may be receiving services they are not eligible to receive.

### Immediate Recoveries or Potential Recoveries Pending Review

Some algorithms identify claims that deviate from State, Federal, or other policies, laws, or regulations. These claims do not need subsequent review by a medical or auditing/investigation professional and the State can move forward immediately to collect the overpayment.

Other algorithms identify claims at risk of incorrect billing. These claims require subsequent review by a medical professional, certified coder, or other audit/investigative staff prior to a determination of overpayment. Review requirements are specific to each algorithm.



*All Health Integrity algorithms allow for future updates as the fraud, waste, and abuse landscape in Delaware changes.*

# MONETARY FINDINGS

Health Integrity extensively reviewed Delaware Medicaid and MCO policy during the pilot project and subsequently identified a number of areas of concern. Due to the limitation of a six-month pilot period, Health Integrity focused efforts on analyzing policy and identifying algorithms associated with improper payment in specific areas of vulnerability. Findings pending review will require validation and the results of that validation, as well as appeals by providers, will decrease the total findings.

**Table 1—Potential Inappropriate Payment (by Type of Service from April 2012 to September 2015)**

 <p><b>Dental Services Findings to Date</b> \$3,223,317 <i>(Pending Review)</i></p>	<p>Improper Dental Service payments include providers billing for services not medically necessary, such as performing excessive steel crown placement in children, or for services not rendered, such as billing for services on a tooth that has previously been extracted.</p> <p>Health Integrity’s algorithms also look at dental work done on teeth likely to shed on their own and pre-orthodontic treatments.</p>
 <p><b>Durable Medical Equipment Findings to Date</b> \$16,604 <i>(Immediate Recovery)</i></p>	<p>Improper Durable Medical Equipment (DME) payments identified in the pilot include billing of services not actually rendered, such as enteral nutrition pumps billed to Medicaid without the billing of disposable supplies necessary to actually use the equipment. During the pilot, Health Integrity looked at billing for enteral nutrition, knee orthotics, and rental equipment.</p> <p>An example of another algorithm for future consideration is “upcharging”—supplying equipment to a client but billing for something more expensive.</p>
 <p><b>Eligibility for Services Findings to Date</b> \$497,787 <i>(\$491,876—Pending Review)</i> <i>(\$5,911—Immediate Recovery)</i></p>	<p>Health Integrity identified several algorithms for clients that may not be eligible for Medicaid services, such as non-emergency services rendered for non-citizens. Most findings related to eligibility require a traditional audit of provider documentation in order to determine appropriateness of services. However, Health Integrity also created an algorithm which identifies providers billing for services rendered after the client’s death. The findings for this algorithm do not require review.</p> <p>In the future, Health Integrity could create algorithms to identify additional improper payment issues, such as cases of stolen identity, where services were paid for an individual other than the one eligible to receive the Medicaid benefit.</p>
 <p><b>Evaluation and Management Findings to Date</b> \$1,240,973 <i>(Pending Review)</i></p>	<p>Health Integrity identified improper Evaluation and Management (E&amp;M) payments from “upcoding”—billing for a level of service higher than the care provided and medical record documentation actually warrant. Health Integrity also identified improper payments from billing for new patient levels of service for established clients.</p>

**Table 1—Potential Inappropriate Payment by Type of Service (Continued)**

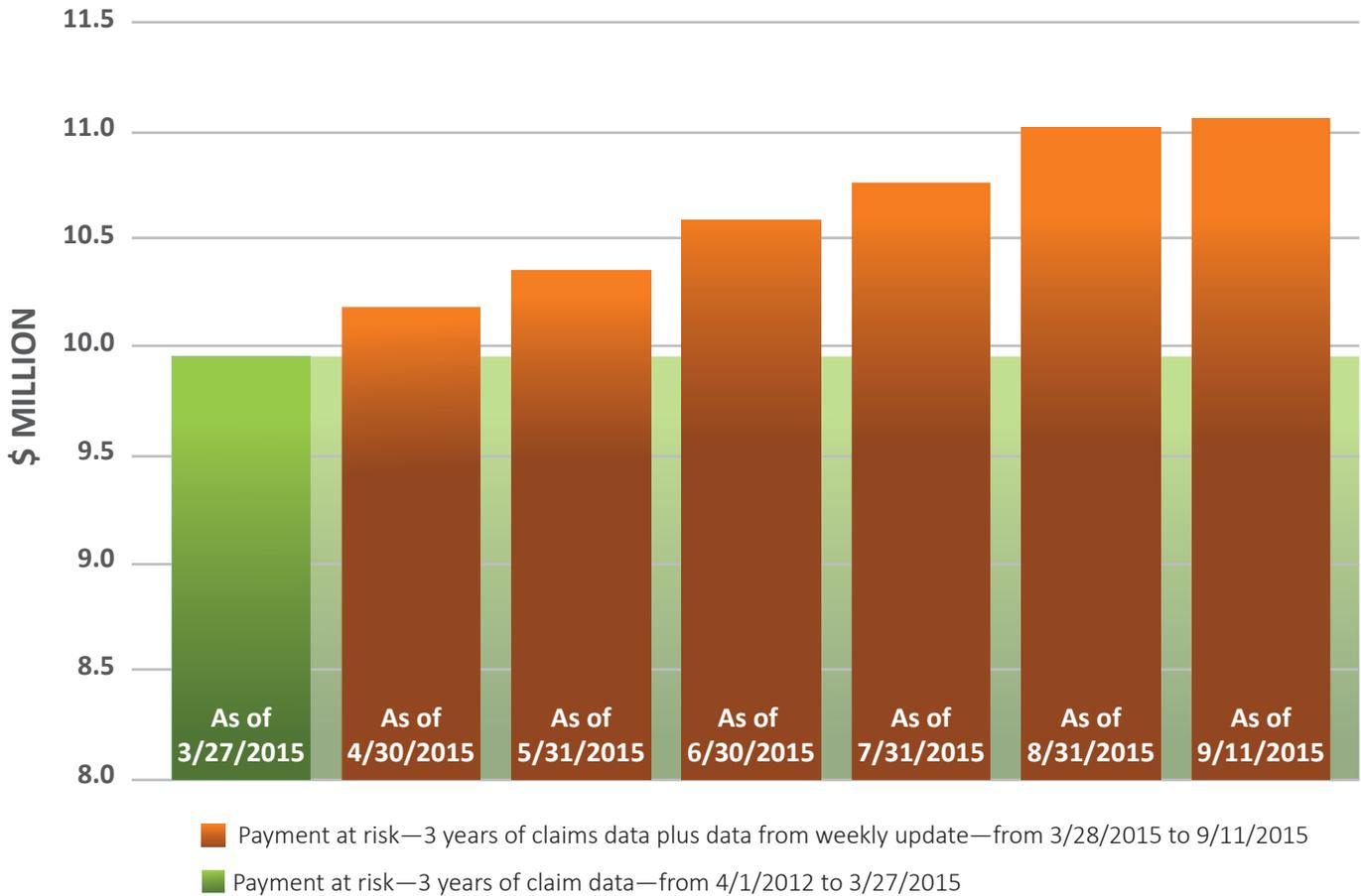
 <p>Hospice Findings to Date \$2,559,669 <i>(Pending Review)</i></p>	<p>Improper Hospice payment findings include hospice clients receiving hospice care that they are not medically eligible for based on their primary diagnosis.</p>
 <p>Inpatient Hospital Findings to Date \$2,598,523 <i>(Pending Review)</i></p>	<p>Improper payments identified during the pilot for Inpatient Hospital Claims include inpatient claims that should have been billed at an outpatient rate, which has a lower reimbursement rate.</p> <p>In the future, Health Integrity could create algorithms identifying inappropriate transfers among acute care hospitals.</p>
 <p>Pharmacy Findings to Date \$925,465 <i>(\$860,588 —Pending Review)</i> <i>(\$64,877 —Immediate Recovery)</i></p>	<p>Improper Pharmacy payments identified include pharmacies billing for improper amounts of controlled substances, billing for services without a prior authorization, and billing for unauthorized refills.</p> <p>Health Integrity also identified clients “doctor shopping” between multiple practitioners to receive excess medications.</p> <p>In the future, Health Integrity could create algorithms for other categories of medications prone to fraud, waste, and abuse such as excessive brand name drug usage.</p>

Notes:

The dollars identified are potentially inappropriate payments. Findings pending review are subject to review before a final recoupment can be determined. The final recoupment may decrease due to review results, provider appeal results and other factors.

Some claims overlap more than one algorithm. The sum of the claims by service type in the chart above is \$11,062,338. After factoring in the overlap, the adjusted value of the findings by type of service is \$11,058,111.

**Figure 3— Cumulative Potentially Inappropriate Payments at Risk**  
 April 1, 2012—September 11, 2015 for 50 Algorithms



The potential findings will grow as new and adjusted claims from MMIS are automatically processed in PLATO® on a weekly basis going forward. The state, through PLATO®, has a robust mechanism to continue to monitor the various programs and identify potentially inappropriate payments. For example, the system will continue to curb the schemes of “doctor/pharmacy shopping” for both fee-for-service and managed care encounters. This automated system and timely data results position PLATO® to use its advanced analytics and technology and stream results back to MMIS in the future to stop potentially inappropriately submitted claims from being paid, should this be the direction that the State and Legislature consider.

# IMPLEMENTATION of PLATO®

Health Integrity designed PLATO® to enhance oversight and operation of government health care benefit programs such as Delaware Medicaid. PLATO® shows advanced data analytics results in a Web-based interface.

PLATO® identifies new and emerging fraudulent schemes at both the provider and client levels, streamlines the claims review process, and facilitates audits/investigations. PLATO® is accessible only to users on the State network. Outcomes are tracked within PLATO® for ease of identifying patterns and trends on:

- Open-and-closed investigations
- Audit and medical review findings
- Improper claims recoveries
- Referrals to regulatory agencies
- Referrals to law enforcement

## Identification of Claims

Delaware staff can view the results of algorithms and efficiently identify patterns and trends indicative of improperly billed or paid claims without needing to review large amounts of payment data.

Claims identified as potentially erroneous can be viewed by provider or geographic area. PLATO® supplements State data with additional third-party information on licensure, bankruptcy, and possible criminal history, to provide insight and background information on suspect providers. PLATO® provides data on related entities, allowing investigative staff to easily see the connections and linkages between providers and beneficiaries—making provider vetting and investigation processes more efficient.

In conjunction with PLATO®, Health Integrity teamed with DHIN, which allows DMMA PLATO® users access to clinical information for post payment reviews. This can eliminate in some cases medical record requests from DMMA to providers to obtain medical records.

## Reviews

PLATO® can help streamline the State's review process. It is used to track the status and outcomes of investigations or audits. All claims identified by an algorithm as potentially in error can also be reviewed in PLATO®. The system provides detailed claims information and has the capacity to store findings from State investigations or audits.

Users enter findings directly into the PLATO® system and can export these findings to send to a provider along with notices of overpayment. As reviews are completed, findings can be reviewed and reported statistically to determine areas of particular concern for different providers or program vulnerabilities.

Tracking review findings and running reports in PLATO® on those findings can increase review efficiency and track and surface program vulnerabilities quickly.

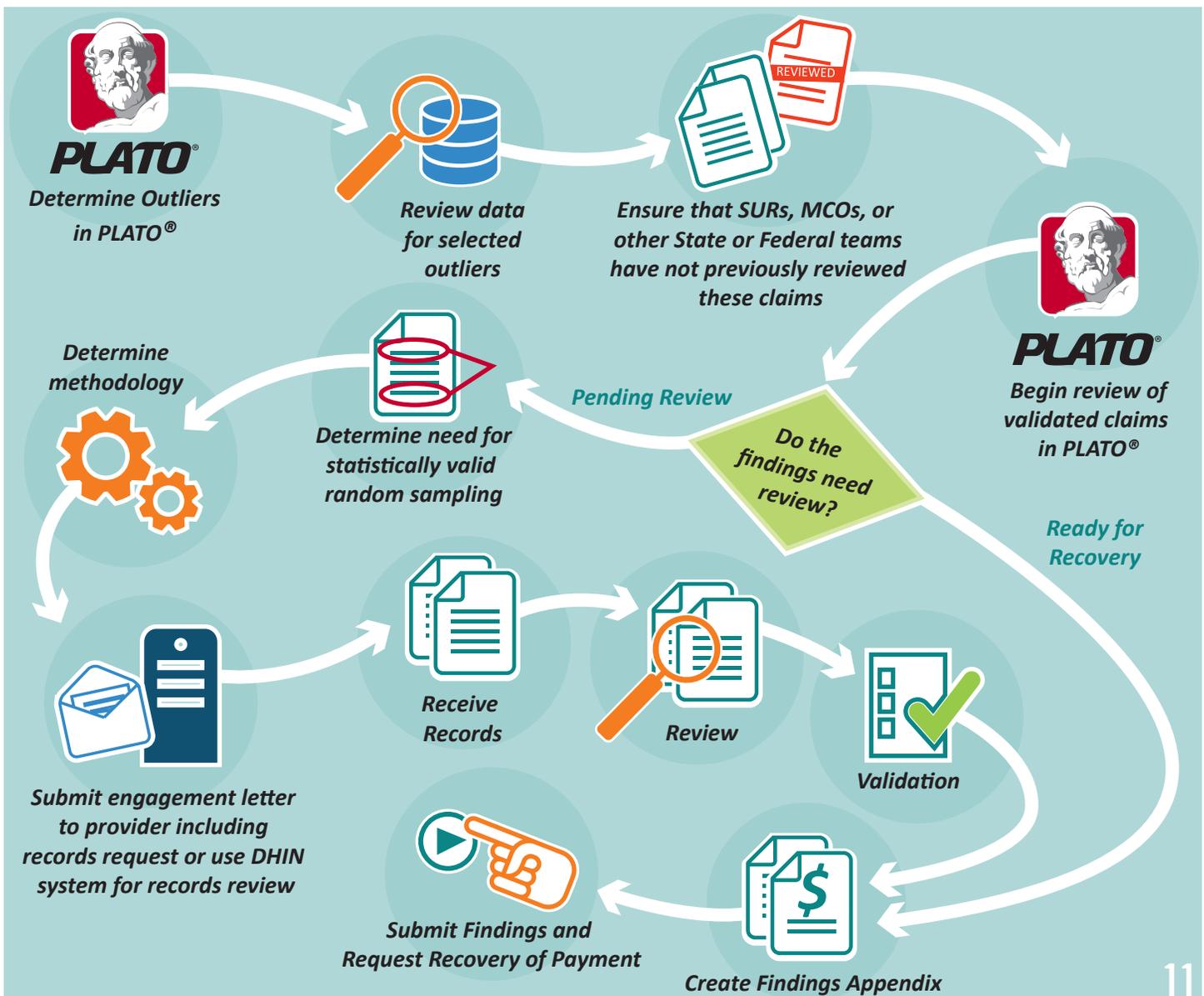
## Investigations

In addition to its audit support capabilities, PLATO® allows multiple users to monitor and investigate providers or clients. Investigative notes and insights can be tracked in PLATO® during an investigation.

## Training, Operations and Maintenance

Health Integrity provided four on-site PLATO® training sessions for Delaware users and provides continued support for users to facilitate their use of the application.

Figure 4—PLATO® as part of the SURs Team Workflow



## NEXT STEPS and Recommendations

There is a no-cost extension of the pilot project through December 2015. During this timeframe, the following will occur:

- PLATO® will automatically process weekly data updates of paid claims and encounters from the State's fiscal agent to continue to identify potentially inappropriately paid services for review and validation.
- The State will continue to send out provider notices of overpayment for findings that do not require review and conduct subsequent review and audit work to recover inappropriate payments identified through use of the Algorithms with Review. The State will also perform the review process for the outlier providers/clients and conduct statistically valid random sampling and overpayment extrapolation, if necessary.
- DHIN agreed to extend use of their system to DMMA for the duration of the no-cost extension. DHIN is initially being used for post-payment reviews.

As indicated in the executive summary, Health Integrity only used 9 algorithms directed at managed care vulnerability areas. Because 80% of the 230,000 enrollees in Delaware are enrolled in MCO programs, we recommend future funded years focus primarily on MCO operations. Directing future efforts to developing algorithms that incorporate the MCOs' unique business models and payment policies as part of the data analytics work will augment DMMA's and MCO's current fraud, waste and abuse safeguard efforts.

Based on the initial findings, Health Integrity recommends that a future funded contract include:

- Algorithms in PLATO® that look at provider sanction, suspension, and revocation history to eliminate providers without appropriate license from the Medicaid programs including MCO networks.
- Algorithms to monitor and augment the fraud, waste, and abuse programs MCOs have in place. Algorithms will take into account the business model used by the managed care company to ensure that network providers have properly served the Medicaid population. These results can be used to ensure that DMMA premium rate-setting for MCOs is accurate and reduces total costs.

- Engagement with Health Integrity to regularly refine developed algorithms as trends and patterns in fraud, waste, and abuse evolve.
- Work with Health Integrity to develop new PLATO® algorithms for use by DMMA to ensure comprehensive and thorough review of all types of services in the fee-for-service area.
- Continue to automate algorithms for weekly updates from the MMIS system so that PLATO® is automatically updated. Evaluate integrating advanced analytics within the MMIS so that inappropriately submitted claims can be identified before payment is made.
- Continue to identify vulnerable program areas that need Medicaid policy changes.

The pilot demonstrates the benefits to the State to continue using PLATO® and Health Integrity's analytics subject matter consulting services. A future funded contract will produce increased dollar recoveries as additional managed care areas are reviewed and as recommended efficiency changes are made for the Delaware Medicaid program.





Health Integrity, LLC  
28464 Marlboro Avenue  
Easton, Maryland 21601  
[www.healthintegrity.org](http://www.healthintegrity.org)