



Provider Application and Enrollment Validation (PAVE): Next-generation Operational Intelligence Solution for Providers

Category: Cross-Boundary Collaboration & Partnerships

State: California

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Executive Summary

The California Department of Health Care Services (DHCS) invests more than \$ 90.1 billion towards funding health care services for about 14.1 million Californians. One of the most important activities is effective program integrity measures to ensure proper utilization of program funds and quality care for the beneficiaries enrolled. The Affordable Care Act (ACA) brought about several new requirements to the enrollment and oversight of providers. The DHCS decided to implement the next-generation **Provider Application and Validation for Enrollment (PAVE)** solution to address risks to program funds and quality care and also transforms the paper-based enrollment process to automation to comply with the new federal regulations

The Centers for Medicare and Medicaid Services (CMS) is encouraging states to move away from costly and high-risk big-bang system procurements and has expanded the definition of a Medicaid Management Information System (MMIS) to more explicitly cover modules or separate interconnected systems.

With the issuance in December 2015 of the Mechanized Claims Processing and Information Retrieval Systems (90/10) Final Regulation, the CMS stated that its goal is to incentivize states to leverage advanced technologies to support Medicaid programs and, by extension, to encourage private sector companies to develop those technologies. CMS makes possible the application of truly modern system development methodologies and system components to meet the demands of the Medicaid program. CMS has paved the way for this transformation by encouraging states to deploy modular systems, and has created the Medicaid Information Technology Architecture (MITA) as a guide.

Until today, providers have had to complete paper applications (average application is ~200 pages). It is processed using a manual process taking an average of six months (sometimes eighteen months) to enroll a single provider. The DHCS, Provider Enrollment Division (PED) manages over 160,000 providers and processes more than 2,400 applications per month.

The end-to-end digital PAVE solution is comprised of four major modules:

- **Collaborative Portal** which is the first implementation of “social forms” technology in the world. Advancing concepts from Turbo-Tax, Facebook and Google docs it allows providers to collaboratively fill out the complex application without any prior knowledge of department’s rules and policies. Portal even enables interaction with this complex application on all mobile devices.
- **Smart Enrollment** which provides the Department’s internal staff next-generation digital review tools and power to collaborate with peers/others using “social case” technology in order to make better decisions.
- **Paperless Screening** against 15,000+ state, federal and commercial databases which utilizes “social and predictive analytics” to ensure fraudulent providers don’t get into the system.
- **Continuous Monitoring** against 400+ watch lists which ensures that active providers are continuously vetted to ensure that they remain good to provide services.

The guiding philosophy while implementing PAVE solution was that it had to be a hallmark of innovation and best practices for the entire Department. The solution delivers a host of innovative capabilities/concepts noteworthy being:

- It is the first implementation of a “social enterprise” application within the government. It combines the best practices from social websites with its indigenous capabilities to deliver maximum collaboration and superior decision-making.
- It is the first true implementation of Web 3.0-based solution within the State and further includes ontology-based micro-services architecture (Service Oriented Architecture - SOA) and the concept of digital assistant which is becoming increasingly popular in modern smart devices.
- System intelligence delivered through analytics of structured (traditional) as well as unstructured data (like messages, notes) which supports better decision-making

Additionally, the Department has a goal to reach MITA maturity level 3, in alignment to CMS’ direction. The PAVE solution is the first module as part of the Department’s strategy to reach this goal. It was developed using a unique Public-Private partnership model and deployed as a customized SaaS solution in a Virtual Private Cloud (VPC).

The Concept

The goal of DHCS is to increase access to care by expanding the provider network while reducing program waste, fraud and abuse associated with providers.

The State decided to roll out the next generation for enrollment and management of its providers – **Provider Application and Validation for Enrollment (PAVE)** to address the above risk and accomplish other objectives as listed below:

- Transform prevailing provider enrollment processes which required significant time and effort - both for providers and State staff- that resulted in huge delays and provided limited visibility
- Ensure complete compliance with current ACA requirements for provider enrollment and screening while ensuring that the solution is geared to meet future changes to such regulations

Background and Challenges

The illustration below demonstrates the current processes for provider lifecycle management and the associated issues therein.



FIGURE 1: CURRENT PROVIDER PROCESSES AND CHALLENGES

Through its analysis, the Department concluded that an end-to-end automated solution is required to increase efficiencies while improving front-end fraud prevention.

The Solution – Provider Application and Validation for Enrollment

DHCS selected commercial-off-the-shelf (COTS) platforms to build and deploy PAVE solution through multiple phases of configuration, customization and deployment. The table below lists the products and the included capabilities that are part of the solution.

Product	Description
 Provider Portal	PAVE is using industry’s first ever dynamic provider portal based on an innovative “social forms” technology that transforms the way providers enroll and collaborate with enrollment analysts. This includes guided preparation which renders only relevant forms to the applicant, social collaboration supported via contextual chat and secure application sharing across user community, and context-based intelligence to support data auto-fill, field-level data validation to avoid errors.
 Enrollment	PAVE provides an electronic solution to review applications of all newly enrolling, re-enrolling, and revalidating Medicaid providers. It provides centralized application list of provider data, research outcomes and analyst-added data. It provides flexibility to collaborate with other users and supports electronic review of provider forms. Users can even annotate and chat within provider document attachments through “social documents” technology



Screening

PAVE makes screening of healthcare providers a completely “paperless” exercise while automating at least 70% of the activities and complying with applicable ACA requirements. It provides system intelligence by computing provider risk score and develops a 360 degree view of the provider including historical timeline analysis, link/relationship analysis, and geographical/spatial analysis while generating automated red-flags for inconsistent or high-risk attributes from independent source verification.



Monitoring

PAVE completely automates the monthly monitoring requirements through next-generation watch list management. The system generates alerts by continuous monitoring of providers and affiliated parties against 400+ federal and state watch lists and provides integrated investigative tools to triage and decision these alerts into possible administrative actions

Innovative Solution with Many Firsts

- Identity proofing of providers before they are able to see their accounts
- Linking all related accounts into a unified business profile
- Dynamic forms (like Turbo-tax)
- Embedded video tutorials for in-context help
- Responsive design with support for all leading smart devices
- Artificial intelligence through social help
- Provider risk scoring as the potential universal standard
- Social chat and collaboration (share, messaging etc.)
- Social documents by annotations and conversations within documents
- Rich case authoring through social tags and intelligent cross-referencing
- Link analysis showing various relationships of providers
- Red flags for potential issues with provider

FIGURE 2: PARTIAL LIST OF INNOVATIVE CAPABILITIES WITHIN PAVE

The Project Timeline and Costs

The rollout of the entire PAVE solution is being done in multiple phases. The first phase (monitoring module) was rolled out in February 2015, and second phase which provides the end-to-end solution is currently in beta with expected July go-live.

The illustration below depicts the milestones associated with deployment of PAVE solution.

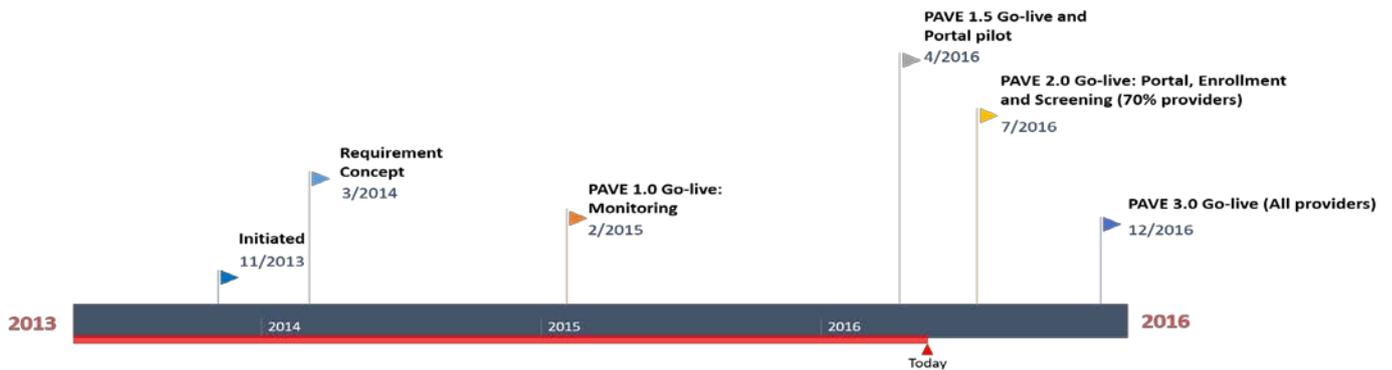


FIGURE 3: PROJECT TIMELINE

Significance

- **Unprecedented collaboration capabilities** – The PAVE solution is the first of its kind which truly fosters collaboration among its users.
- **Extreme focus on customer service** – Since the project inception, PAVE solution was designed keeping its end customers, i.e. the provider community in mind.
- **First of its kind “social enterprise” solution** – PAVE solution brings in the popular concepts from consumer world into enterprise applications (share, contextual conversations, consult peers/supervisors on application review process etc.).
- **System intelligence to augment human decision making** – PAVE solution includes built-in analytics to support better decision-making by enrollment users.
- **First project towards increasing MITA maturity** – PAVE project is an important step from DHCS towards increasing its MITA maturity. The robust, modern and scalable architecture of PAVE solution meets the State’s current and future requirements to expand provider enrollment to other Agency departments conducting Medicaid enrollment functions.
- **Community (Provider) Involvement prior to go-live** – DHCS held many stakeholder meetings and multiple “open house” sessions with the provider community in order to ensure maximum customer adoption. The providers were delighted with the ease of use, intuitiveness and powerful capabilities of PAVE solution.
- **Complete cloud-based and fully secure solution** – PAVE solution is cloud-based and minimizes the capital expenditure otherwise required in onsite deployments.
- **Future roadmap of value-add capabilities** – Towards the goal of making PAVE true “social enterprise” software, there are multiple future enhancements planned for the project including social voice for higher levels of interaction, social help, social dashboards where users can record conversation in context of report outcome, etc.

Impact

The table below includes the different metrics and their value before and after expected implementation of PAVE solution.

Metric	Before PAVE	After PAVE*	Remarks
Process turnaround time	180 days	<30 days	Actual human involvement with the application shall be approx. 1-2 days
% of application returns based on deficiencies	70%	<15%	PAVE completes lot of validation prior to application submission
Provider denied based on risk screening	<0.1%	0.3-0.6%	Automated 360-degree screening will prevent bad providers from getting in

* - Some of the values are anticipated and not yet realized

Measured ROI for Phase 1 – Monitoring

The Monitoring project/system costs are approximately \$ 1 million. The current net theoretical ROI is estimated at approximately \$2.5 million per month.

Anticipated impact from Phase 2 – Integrated Portal, Enrollment and Screening

Phase 2 of PAVE involves implementation of all planned modules with additional ROI expected.

Summary of benefits provided by PAVE solution

- **Indirect cost savings through non-processing of fraudulent claims** – By proactively identifying fraudulent providers and by taking swift action towards deactivating.
- **Do more with same – improved staff efficiency** – With automation, integration and superior collaboration, DHCS anticipates greater than 70% increase in both provider and staff productivity, accelerating enrollment timelines.
- **Superior customer experience and service levels** – PAVE promises to deliver unparalleled customer service and experience to its providers. PAVE portal has already received positive feedback from the provider community and the collective PAVE solution shall improve overall customer satisfaction levels.
- **Compliance with ACA requirements for screening and monitoring** – PAVE helps State comply with stringent new ACA requirements for provider screening and monitoring that cannot be effectively accomplished without PAVE automation.

Conclusion

The PAVE solution for managing the lifecycle of providers using intelligent, collaborative and social software solution is the first of its kind in the nation. The solution combines innovative technologies and capabilities to deliver the most advanced and capable solution for addressing fraud prevalent in government-run healthcare programs. DHCS has always strived to use tax dollars as effectively as possible while finding opportunities to improve Californians’ health and the health care delivery system of the state. In addition, PAVE will meet federal goals to increase MITA maturity through the deployment of modular systems with private sector companies to develop those technologies.

PAVE solution furthers DHCS’s and CMS’s goals.