

A digital tunnel of green data points and binary code, creating a sense of depth and movement towards the center.

Digital Services Government to Business

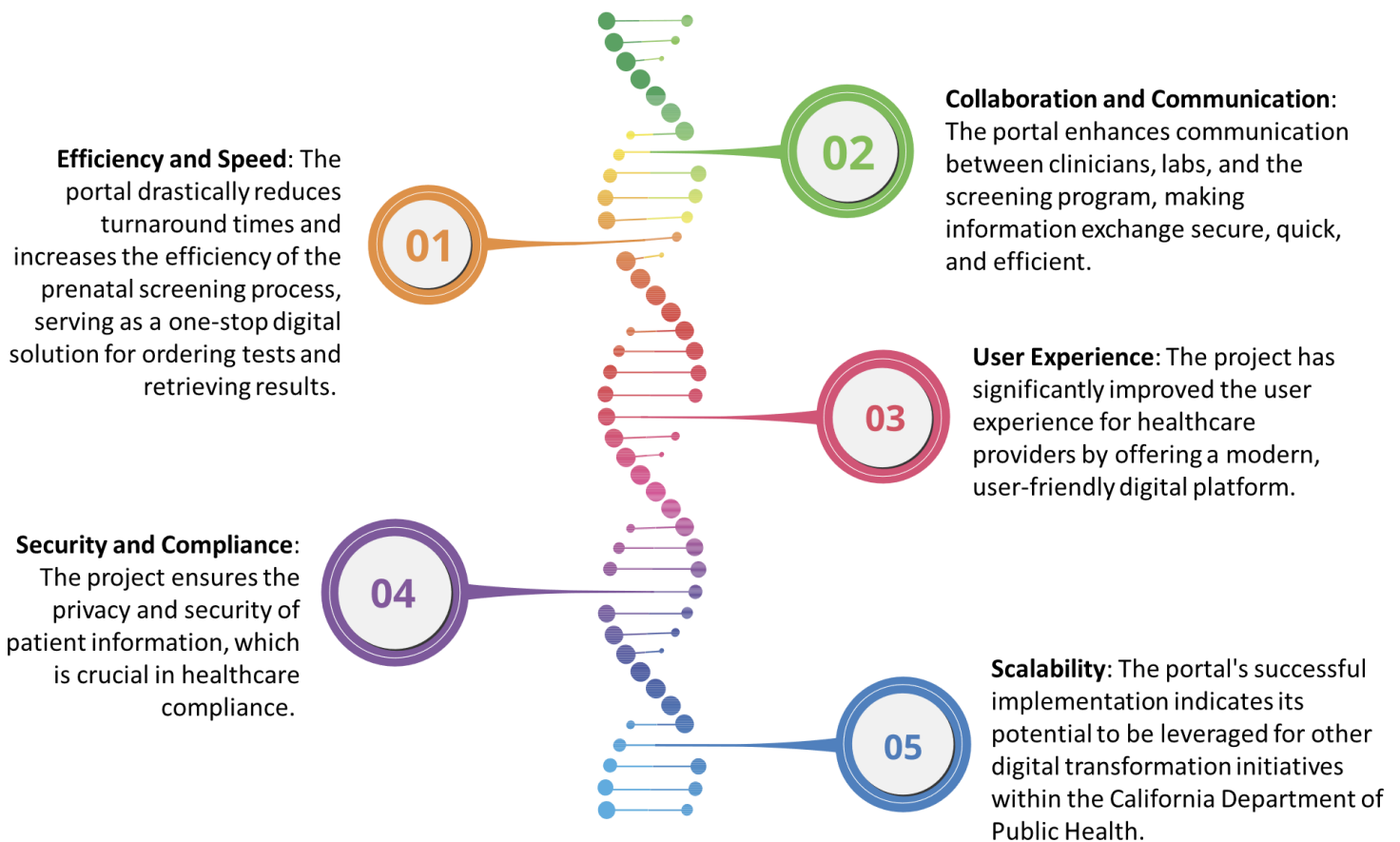
CalGenetic Portal – GDSP Program Portal for
Clinician Licensing & Prenatal Orders and Results

California Department of Public Health – Genetic Disease Screening Program (2022-2024)
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Executive Summary

The CalGenetic Portal project is an example of a digital service provided by the government to businesses, specifically within the healthcare sector. It significantly modernizes and optimizes the interaction between government-run genetic screening programs and healthcare providers and includes features for licensing of genetic counselors who help the State deliver care to patients of the program. This project has revolutionized the way prenatal screening tests are ordered and results are retrieved, transforming these interactions into a streamlined, digital process.

Key reasons why this project fits the "Digital Services: Government to Business" category include:



In summary, the CalGenetic Portal's impact on improving state services, enhancing user experience, and ensuring patient information security represents a significant advancement in government-to-business interactions.

The State of California's Department of Public Health (CDPH) Genetic Disease Screening Program (GDSP) supports the delivery of prenatal (PNS) and newborn (NBS) screening for genetic disorders in the State of California. GDSP runs the largest screening program in the world which provides high-quality and cost-effective services to all Californians.

GDSP has spearheaded the digital transformation of genetic disorder screening through the CalGenetic Portal. This multifunctional digital interface significantly enhances the efficiency of prenatal screening processes and the Genetic Counselor Licensing (GCL) workflow for the State.



In partnership with Deloitte, the CalGenetic portal was launched originally with GCL and PNS results available. The CalGenetic Portal was expanded in 2022 with PNS Orders features and improved results pull functionality for OBGYN's and clinicians in the state. The portal was expanded again with out of hospital birth registrations (OOH) for the newborn screening program in 2023. Its most notable achievements include the successful integration of a Prenatal Screening clinical orders and results portal and the addition of newborn screening out-of-hospital birth registrations in 2023. These enhancements have drastically reduced processing times, administrative costs, and improved data exchange and accuracy for the program.

Despite challenges such as limited stakeholder availability and aligning policy changes with project timelines, key lessons were learned around stakeholder engagement and training material development. The project has significantly improved government-to-business workflows and data exchange, aligning with the CDPH's mission to improve health outcomes for California's diverse communities.

The CalGenetic portal has made a considerable impact on clinicians in California by making genetic disease screening and licensing processes more efficient and accessible. It embodies CDPH's vision of a future with reduced paper, increased electronic order submissions, and a foundation for future GDSP use cases.

Idea

What problem or opportunity does the project address?

The CalGenetic Portal project addressed the need for a modern, efficient, and secure platform for genetic screening program stakeholders. The portal is a digital transformation initiative that allows over 15,000+ Health Care Providers to place Prenatal Screening Orders and view PNS test results 24x7. It also allows the 1700+ Genetic Counselors a streamlined and faster application process. And it helps more accurately capture the out of hospital births in the state.

Why does it matter?

This project matters significantly due to the critical role the CalGenetic portal plays in the genetic screening program where GDSP conducts over 453,000+ prenatal screening tests annually in California. By providing a single point of entry for orders and expedited results in the hands of the clinicians, the project reduces operational costs, improves data accuracy, and enhances patient care efficiency directly benefiting the families of California. Furthermore, the modernized solution supports the growth of the electronic ecosystem for labs, providers, and other entities, expediting the onboarding of new healthcare partners and establishing a digital transformation platform for other CDPH programs that can benefit from cloud migration via Microsoft Dynamics.

What makes it different?

The CalGenetic Portal is different from other State portals because it focuses on Government to Business exchanges, specifically Health Care Providers in California. The portal enables them to place Prenatal Screening Orders and view PNS test results 24x7. It has been designed to handle a high volume of interactions, with about 90% of orders being placed online. This has significantly reduced the manual workload for the agency, reduced the incidents of manual errors, improved follow-ups, and gets results back to providers and families faster.

Worth noting as well, is that our project differentiates itself as the first Microsoft Dynamics implementation in the State of California. It leverages multiple technologies, including Microsoft Dynamics, PowerApps, Power BI, Azure, and others. It introduces subtle UI and UX changes to modernize the clinician and program user workflows, integrates data and analytics across the CalGenetic Portal and the program's Screening Information System (SIS 2.0) applications through a centralized Common Data Services - Dataverse, and leverages core MSD features to simplify caseload management.



What makes it universal?

The CalGenetic Portal aligns with three of the State CIO's Top 10 Priorities: Digital Government / Digital Services, Cloud Services, Data Management. The MS Dynamics platform using PowerApps framework is the cloud-based solution that the portal is built on. It is low code and can be leveraged for future use cases, including Newborn Screening Results for California clinicians, and potentially Newborn Screening Online Specimen Tracking for California hospitals.

Implementation

1. What was the roadmap?

The CalGenetic Portal project fits into an enterprise view as it integrates multiple services, specifically for Health Care Providers, into a single cloud based digital platform for efficiency and ease of use. It enables 24x7 access to place prenatal screening orders and view test results. The project aligns with the broader goal of digital transformation, facilitating a seamless electronic ecosystem between labs, providers, and other entities.

The project management approach for the CalGenetic Portal was iterative and user-centric, focusing on creating a portal that meets the needs of the end-users, i.e., the health care providers. This involved agile steps like requirement gathering, designing with human centric concepts in mind, developing, end user validation and testing, and deploying the portal, with continuous feedback loops at each stage to ensure the portal aligned with user needs and provides a seamless experience.

The project's success is being assessed by metrics such as the reduction in manual workload, the number of orders placed online, the speed at which new Health Care partners are onboarded, and the efficiency of workflows. Most parental orders are now being placed online, streamlining workflows, and improving the clinical orders data for the program. The portal can support quick onboarding of new partners, expedite delivery of test results, and comes with positive user feedback. All measures of a successful project.

2. Who was involved?

The project success was attributed to our partners in the process. We worked with them collaboratively to produce the best fit solution for our program needs. This effort involved various groups that were key to its success, such as:

Technical Vendors: we partnered with Deloitte for the design, development, and implementation of the CalGenetic Portal to include the change management activities related to the project. Deloitte worked with Microsoft's support team to build the portal on MS Dynamics. Among other technical vendors that were part of the overall solution.

Agency Staff: from GDSP program we worked with the program logistics team, the program quality team, the program development and evaluation team, and operations. CDPH ITSD, ISO, CDT, DOF, and DGS provided oversight, governance, subject matter expertise, technical support, and approval for the project.

Healthcare Providers: healthcare providers interact with the system to place orders, view results, and provide follow-up services for the PNS program participants through the CalGenetic Portal and SIS 2.0 applications. We engaged the providers (OBGYN's and Genetic Counselors) and prenatal case coordinators through informational interviews during the design process and hosted follow-up sessions to take in their feedback.

Citizens: The expectant mothers and families of California that participate in the program benefit from the improved PNS services because of the more accurate and timely screening of birth defects.



Obtaining approval, buy-in, awareness, and adoption from stakeholders in a large State IT (Innovation & Technology) project requires a thoughtful and inclusive approach. We started by identifying key stakeholders such as project sponsors, partner laboratories, agency staff, super users, and clinicians from our end user community, etc. Once identified, we worked with Deloitte's change management team and our education branch to develop an integrated communications plan that helped guide stakeholder expectations, information needs, key messages, schedule of events, audiences, and integration points with existing communication channels.

Approval and adoption were obtained from these stakeholders throughout the lifecycle of the project and through various communication strategies, such as:

- Stakeholder analysis and engagement plan - identified the key stakeholders, their roles, interests, expectations, and communication preferences.
- Change management plan - assessed the impact of the change, developed the change readiness and adoption strategy, and executed the change management activities such as training, communication, and feedback.
- Communication plan - defined the communication objectives, messages, channels, frequency, and audience for the project.

3. How did you do it?

The CalGenetic Portal project required dedication from the program staff to help design and test the new portal. Engaging the clinicians in the healthcare community was key to identifying the best design but to also communicate the change to the program overall. Additionally, a team of Deloitte developers, designers, project managers, and testers were committed to bringing the program's vision to light.

The portal was built using minimally customized features of the Microsoft Dynamics Power Platform solution. This helped to create a robust digital platform offering an efficient solution for clinicians to communicate orders and retrieve results. It emphasizes human-centered design and ensures user needs are met with a modern user experience by providing heavily used options for services in a few clicks.

The portal's architecture is designed to be scalable to handle high volume of interactions and secure to protect sensitive health information. The project followed leading practices and technical data exchange frameworks including cybersecurity to ensure the security of data and privacy of users.

Impact

1. What did the project make better?

The CalGenetic Portal project brought about significant improvements to the environment for clinicians, labs, the program itself, and most importantly, expectant mothers in California. Before the implementation of the portal, the exchange of information, including sensitive identifiable details of mothers, was done on paper, leading to slow, inefficient, and error prone data capture. This traditional method posed a challenge in monitoring participation, predicting the volume of incoming samples, and most critically, in providing timely care to expectant mothers who needed it the most.

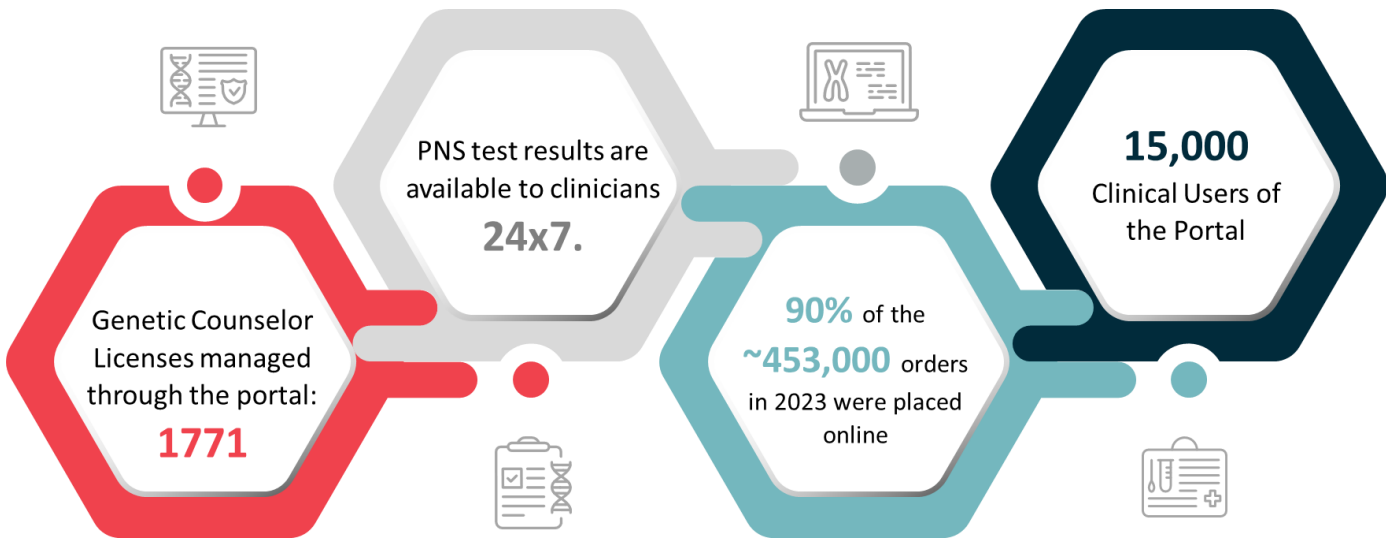
After the portal was introduced, the exchange of information between clinicians seeing the patients in their offices and the commercial labs where the blood was drawn or processed, as well as the program's information system, became secure and quick. This expedited flow of information drastically improved the delivery of care to expectant mothers.

In terms of impact, the project significantly reduced turnaround times, increased the efficiency of the prenatal screening process, and improved the overall user experience for health care providers. The real-time monitoring of participation offered by the data from the portal enabled labs to predict the volume of incoming sample draws accurately. From a broader perspective, the project aligns with the business rationale of enhancing the efficiency of state services, improving the user experience, and ensuring the privacy and security of patient information.

The benefits and impact of the CalGenetic Portal project for the nominating agency and constituents are substantial. They range from operational efficiencies and cost savings to improved health outcomes for expectant mothers and their babies due to timely care.

2. How do you know?

Portal Usage and Cost Savings are two ways for us to know the impact of the project. The implementation of the CalGenetic Portal has resulted in significant improvements in efficiency and cost savings. Since the portal's inception in late 2022, over 785,000 individual prenatal screening orders have been placed electronically which, in the old process would have all been paper order forms with handwritten data. Up to 10,000 PNS Results are viewed and retrieved from the portal monthly since its launch, pointing to the crucial role it plays in the prenatal screening process. This large volume of portal orders indicates adoption amongst the clinicians in the community and high acceptance among users. The portal handles up to 400+ out-of-hospital births reported each month and has managed 1700+ genetic counselor license submissions, demonstrating its wide-ranging capabilities.



The decision to implement Sex Chromosome Aneuploidies (SCA) as a screening could have been an expensive change to the portal and the SIS application if the program were operating in the older more complex portal and SIS 1.0. However, since the new CalGenetic Portal was built on MS Dynamics, and its low code features allowed for the efficient addition of SCA details to the ordering processes and the results reports. This resulted in money saved from not having to reprint paper forms and reduced the development time compared to the legacy information system.



3. What now?

In the longer term, the CalGenetic Portal will continue to evolve, with enhancements and updates based on user feedback and technological advancements. Maintenance of the project will be a continuous process, ensuring the portal operates smoothly and keeps up with the changing needs of the program, the clinical users, and the healthcare landscape.

The project is worthy of its investment for several reasons. Firstly, it has been proven to significantly streamline the process of prenatal screenings, demonstrating clear cost and time efficiencies. Secondly, the positive impact on expectant mothers' care, through quicker access to test results, cannot be understated. Lastly, the wide acceptance and usage of the portal by healthcare providers underscore its value and the need for such a solution.

In summary, the CalGenetic Portal has transformed interactions between clinicians in the community and the program. It has made the exchange of information quicker and more secure, enhancing the delivery of care. The project's success, as evident from the usage statistics and the improved efficiencies, signals a promising future for its continued evolution and impact. The project has significantly improved the GDSP, resulting in increased program participation rates, reduced operational costs, and streamlined workflows. The benefits and impact for the agency and constituents are considerable. The project's long-term plan includes maintenance and continuous improvement of the system. The project is worthy of the initial and ongoing investment due to the significant improvements it brings to the genetic screening program.