NASCIO Awards CT (2023)

Getting the Digital Jab:
Connecticut empowers residents with digital tools to achieve record vaccination rate (*Top 5 in nation*)

<u>Title</u>: **Getting the Digital Jab:**
Connecticut empowers residents with digital tools to achieve record vaccination rate (*Top 5 in nation*)
<u>Category</u>: State CIO Office Special Recognition
<u>State</u>: Connecticut
<u>Contact</u>: Mark Raymond, CIO
<u>Project Start</u>: August, 2021
<u>Project Completion</u>: August, 2022

The Problem:

In 2021, at the height of the pandemic, the Connecticut Department of Public Health (DPH) had their backs against the wall. They were facing a two-pronged threat: swelling demand for real-time vaccine support and a clunky manual process for validating customers' immunization status.

But like most problems facing government, what we see on the surface often hides the iceberg lurking underneath. For Connecticut and our neighboring New England states, our icebergs took the form of rampant new virus variants, an erratic jobs recovery, and an influx of new refugees from Central America and Ukraine.

DPH agents soon found themselves staring over a cliff. At stake was the fragile bond of trust that our residents put in their government. Not to mention the very real threat to people's health, their livelihoods, and their ability to find hope in this new normal.

But time was the real villain. We needed a solid optimization strategy that was nimble, impact-driven, and lean on resource demands. And it had to be built in the middle of real-time demand. With the problem identified, two teams locked arms to drive forth a solution: the DPH Immunization division and the CT Bureau of Information Technology Solutions (BITS).

The Opportunity:

The CT Immunization division, known as CT WiZ, needed a customer-facing public portal. And residents needed clear pathways to succeed in their vaccination journeys. Beyond that, we had to try to protect residents' jobs through a revamped vaccine validation process.

These digital improvements would impact 3.5 million people. CT residents could soon realize the relief they desperately needed so they could focus on more important matters - like protecting the most vulnerable in their families and shoring up their financial security.

Our IT teams assessed the need and turned their eye to three areas of opportunity: technology, customer service, and new digital tools. This focus would ultimately help reduce case management logjams, employee burnout, and exploding budgets.

The Journey:

DPH, along with DAS/BITS), defined three targets for a solution:

- A new Immunization portal and revised information architecture
- Virtual assistant technology (chatbot)
- QR code integration for vaccine status validation

Over a 12-month period, teams prioritized and planned out the delivery of each element and aligned it to specific customer needs and agency goals. Clear objectives and strong collaboration between departments allowed for rapid development of tools and fully scalable service journeys.

Project plans were put in place and executed using agile methodology. Cross-functional teams applied the latest standards of UX, content, user-focused design, digital wayfaring, data modeling and analysis, human-computer interactivity, and service design in creating these assets.

The definition of success? Higher engagement with vaccine journeys, greater adoption of validation technology, and a reduction in help desk burden.

Timeline summary:

Prequel: **Summer 2021** - Connecticut Digital Service begins assimilating the State's COVID-19 and Vaccine hubs. Testing and Vaccine locator tools are consolidated. Virus data trackers are updated, manual reports are deprecated, and the State's COVID-19/Vaccine chatbot expands its footprint. Governor Lamont releases the State's new incentive program - "Rock the Shot," encouraging vaccinations by offering free concert tickets (Including the Jonas Brothers!).

August 2021 - CT WiZ, the Immunization division of DPH, released its first public portal to capture and address Immunization support needs. Immunization record requests would be delivered through an authenticated process.

December 2021 - Connecticut leads the region by releasing new QR Code functionality on COVID-19 records. Vaccination history can now be stored securely on a user's phone, allowing for seamless record matching and validation with health card scanners.

March 2022 – DAS/BITS deploys new chatbot on Immunization portal, bringing relief to agency help desks with a 24/7 support channel. Customers now have access to direct answers to critical questions around vaccine needs and record requests.

August 2022 – DAS/BITS helps CT WiZ re-imagine their Immunization portal with a brand new design system, with improved architecture and knowledgebase assets. This completes the final piece in the State's enterprise Vaccine response.

Key Stakeholders included: DPH, DAS/BITS, Office of the Governor. Project was undertaken for $192,000 and included the use of Sitecore, Salesforce Einstein , Google Mapping Data Wrapper, Jira, Google Analytics and Power BI

The Process:

An optimized vaccine journey could only be accomplished by following strict business processes and development guidelines. BITS, along with CT Digital Service and DPH, broke ground by first defining the *actual problem*.

- What is our current landscape?
- Who are our defined audiences?
- What are the baseline traffic and behavior metrics?
- What's the help desk load?

- What's the case management load?
- What are the biggest customer pain points?
- What are the biggest agency pain points?
- What are customers' critical path journeys?

Once we isolated the core problem, our teams started assessing the data, identifying patterns, and white-boarding solutions. We identified small improvements that would have the most impact on customers and agency employees.

☹️ Info that's difficult to find ------> 😀 New public portal with improved Architecture

☹️ Manual process for record verification ------> 😀 Digital Smart Health cards with QR Codes

☹️ Wait times for customer support ------> 😀 New 24/7 chatbot to handle repetitive questions

Development had to be robust and rapid. But ballooning demand for the state's IT and Digital services threatened the process. That's why we integrated agile methodologies and built flexibility into our team structures so we could ride these waves and deliver an MVP product on time and aligned to goals.

Project Outcomes:

Portal. [Connecticut's new vaccine and immunization hub](#) gave residents, health providers, and schools a clear path to find crucial health information, navigate point-of-time needs, and quickly validate vaccination status. We did this by improving the user journey, updating information architecture, optimizing design components, implementing GIS mapping tools, and applying new Smart Health card integrations.
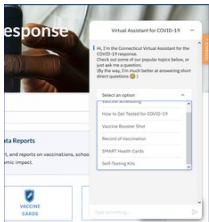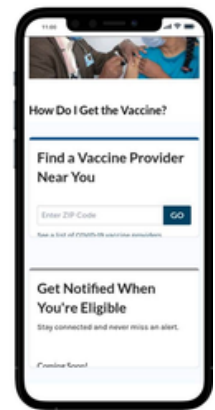
AI. A critical piece of these outcomes was the new vaccine/Immunization chatbot. The State's chatbot prioritized immunization journeys and opened the door to much-needed after-hours support. This gave customers quick answers to their most pressing questions while reducing burden on agency support teams.

Code. QR Code integration on Smart Health cards supported instant validation of immunization status for CT residents and workers. This removed a time-killing manual process, replacing it with a modernized experience that could be launched from your phone. This enhancement provided a seamless digital interaction similar to airline boarding tickets or attending concert/sporting events. Customers could validate vaccine status from their mobile device, fostering stronger compliance levels and greater security in the workplace.
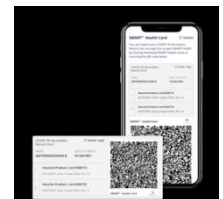
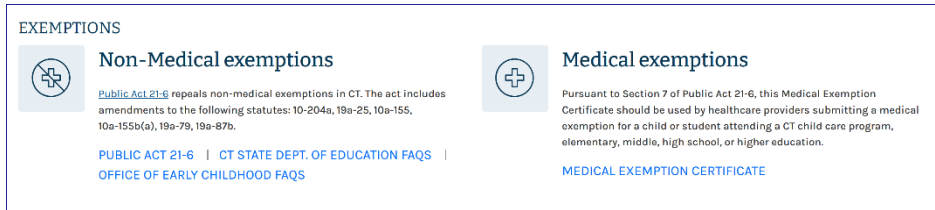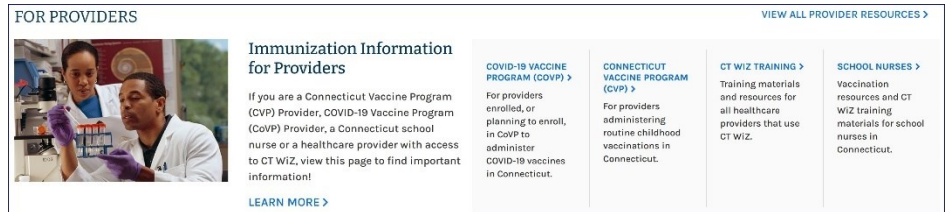# Streamlined User Journey, Better User Interface, Powerful User Outcomes
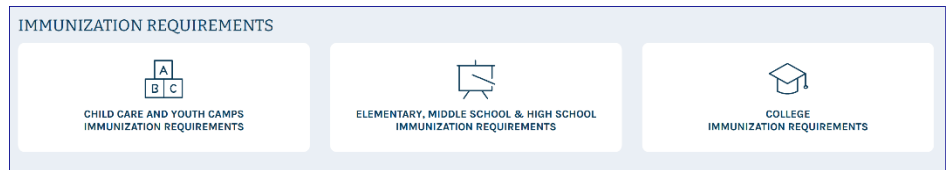
Old Website:
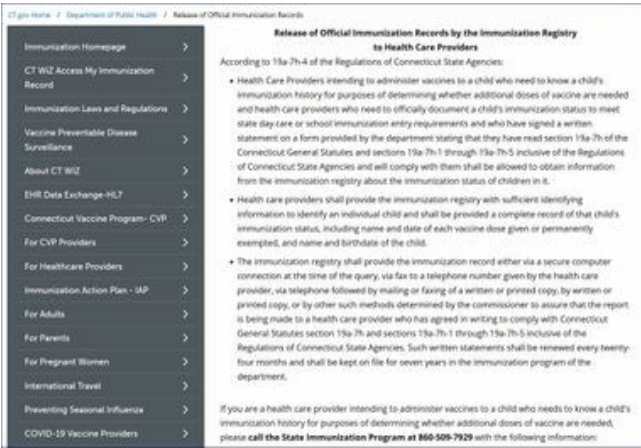
New Portal:

The portal's optimized information architecture and new design system allowed for simpler navigation and more direct access to information for both residents as well as providers of vaccines.

FOR PROVIDERS

VIEW ALL PROVIDER RESOURCES ›

Immunization Information for Providers

If you are a Connecticut Vaccine Program (CVP) Provider, COVID-19 Vaccine Program (CoVP) Provider, a Connecticut school nurse or a healthcare provider with access to CT WiZ, view this page to find important information!

LEARN MORE ›

COVID-19 VACCINE PROGRAM (COVP) ›
For providers enrolled, or planning to enroll, in CoVP to administer COVID-19 vaccines in Connecticut.

CONNECTICUT VACCINE PROGRAM (CVP) ›
For providers administering routine childhood vaccinations in Connecticut.

CT WIZ TRAINING ›
Training materials and resources for all healthcare providers that use CT WiZ.

SCHOOL NURSES ›
Vaccination resources and CT WiZ training materials for school nurses in Connecticut.

EXEMPTIONS

Non-Medical exemptions
Public Act 21-6 repeals non-medical exemptions in CT. The act includes amendments to the following statutes: 10-204a, 19a-25, 10a-155, 10a-155b(a), 19a-79, 19a-87b.

PUBLIC ACT 21-6 | CT STATE DEPT. OF EDUCATION FAQS | OFFICE OF EARLY CHILDHOOD FAQS

Medical exemptions
Pursuant to Section 7 of Public Act 21-6, this Medical Exemption Certificate should be used by healthcare providers submitting a medical exemption for a child or student attending a CT child care program, elementary, middle, high school, or higher education.

MEDICAL EXEMPTION CERTIFICATE

Exemption information could now be easily found.

Immunization requirements were clear and navigable.

IMMUNIZATION REQUIREMENTS

| CHILD CARE AND YOUTH CAMPS IMMUNIZATION REQUIREMENTS | ELEMENTARY, MIDDLE SCHOOL & HIGH SCHOOL IMMUNIZATION REQUIREMENTS | COLLEGE IMMUNIZATION REQUIREMENTS |

Ideate - Develop - Test - Release
Rinse & Repeat

With the release of each feature, teams would test usability and accessibility, fix bugs, and track consumption. We iterated off small wins and scaled our optimization efforts. The goal? Think big. Aim small.

Data-Driven Decisions

We used data to understand user needs, pain points, and where the breakdowns were happening between customers and state health agencies. Here's a quick snapshot of the metrics we used.

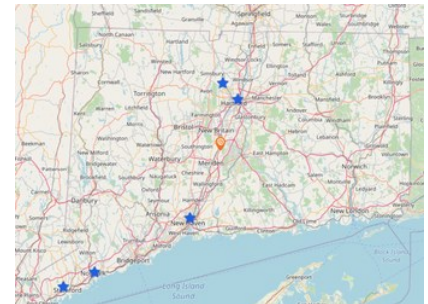# Immunizations Data

Top Pages & Traffic Sources

Google Analytics revealed tremendous direct and organic search traffic coming through the CT WiZ public portal tool. We followed click-paths for greater understanding.

Traffic Chart

Page	Default Channel Grouping	Pageviews	Unique Pageviews
/immunization/Public-Landing-Page/CT-WiZ	Direct	77,954	46445
/immunization/Public-Landing-Page/CT-WiZ	Organic Search	54912	35224
/immunization/Knowledge-Base/Articles/General-Public/Vaccine-Information-by-Population/What-are-the-vaccine-requirements-for-individuals-who-moved-to-CT-from-Ukraine	Direct	9318	8309
/immunization/Laws-and-Regulations	Organic Search	7338	6326

Geographical Data

Data showed the top locations in the State that were sending the most traffic to vaccine information. This helped CT WiZ understand and predict localized areas of emergent need.

Google Search Queries

Search engine results pages data helped isolate what was top of customers' minds during stages of vaccine rollout. This included:

- Where to get immunizations
- Laws and regulations around immunizations
- Where immigrants from Ukraine can find information about getting vaccines or updating their vaccination status

Data also showed the portal and QR code service being searched **by name** in 50% of top queries, illustrating solid public engagement.

Top queries	Clicks	Impressions	Position
ct WiZ	10934	62201	1.14
ct WiZ public portal	2612	15682	1.72
vams qr code	2000	24832	5.72

ct WiZ login	1792	25806	2.58
ct vaccine records	1099	5061	1.12

Success Metrics

After launching the new CT Immunizations portal, integrating a new chatbot, and layering QR code capabilities into our validation processing system, we saw significant impact in both customer experiences and agency help desk response.

These data points in particular helped confirm the success of our optimization efforts:

- Total help desk calls peaked in Aug. 2021 at 7,278 and then dropped to low 4000s - high 5000s between September and December 2021. Email volume plummeted as well.
- During this time, new website traffic increased dramatically in parallel to the significant drop in help desk call volume.
- Amount of help desk agent time spent per-call also decreased during this period.
- Since the launch of the public portal in Aug 2021, total calls dropped by an average of 10% Month-over-month.
- The absolute % change in total calls, compared between Aug 2021 and Jan 2023 is 88%.
- Hundreds of thousands of residents adopted the new digital validation process and continue to use it daily.

Beyond the visceral real-time impact of these improvements, Connecticut DPH and the CT WiZ Immunization program enjoyed additional benefits. Agencies now had a powerful asset to use for conducting trainings and upskilling agency resources. And it supported continual improvements. As one DPH agent put it:

"We use our webpages as the 'go to source' of current information for the public and providers and so it is important that our webpages be user-friendly and easily searchable. When we have received any complaints that something was difficult to find or navigate, we have taken that feedback and made improvements to our webpage, submissions portal, or training materials."

– Kaitlin (Carafa) Roberts, MPH

Final Thoughts

In conclusion, Connecticut residents rely on seamless access to services and the skilled expertise of their public servants. Our state has and always will prioritize the strong bond between residents and their government. Maintaining that bond requires bold thinking and future-proof digital strategies. But more importantly, it requires putting people first; to understand their ever-changing needs, so we can provide equitable support systems and ensure everyone has the strongest opportunity to achieve success.