Michigan OCS delivers great service to citizens.

Natural language call steering IVR solution decreases call volume and cuts response times.

Challenge
– Reduce case backlog
– Eliminate phone tag and delays in assistance
– Improve response time to Clients' phone inquiries
– Decrease number of cases falling into noncompliance
– Better enable clients to receive assistance benefits without interruption

Solution
– IVR with Nuance Natural Language Call Steering
– Main menu determines caller intent based on conversational speech
– IVR routes calls to first available support specialist
– IVR prompts caller for case information and sends it to specialist via CTI screen pop

Results
– Significantly cut response time
– 45% reduction in call volume
– Reduced escalations to case managers by 90%
– Mailed 53% fewer noncompliance letters
– Received 66% fewer requests for administrative hearings due to noncompliance

Background
The Michigan Office of Child Support (OCS) is dedicated to enhancing the permanent well-being and self-sufficiency of Michigan families. Part of the Michigan Department of Human Services, the OCS works with parents and guardians to ensure children and families receive court-ordered financial and medical assistance. Child support services include locating a parent, establishing paternity, and establishing, modifying and enforcing court orders for child support and health coverage. The Michigan OCS employs more than 100 child support specialists to assist citizens and

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Erin Frisch
Director, Michigan Office of Child Support

partners with the goal of establishing child support for families so children can thrive and reach their full potential.

The Michigan Office of Child Support (OCS) is dedicated to helping families become and remain self-sufficient. This commitment motivated OCS to make organizational and infrastructure changes, including case intake process improvements and implementation of a new Interactive Voice Response (IVR) phone system, in order to deliver more responsive service to citizens. The new IVR system, which leverages Nuance Natural Language Understanding (NLU) call steering technology, allows citizens to describe the reason for their call in their own words and respond to prompts for personal and case information using conversational speech for fast, efficient service and high first-call resolution rates. These improvements not only save time and money for the OCS, but more important, they enable Michigan families to obtain necessary financial support — to help ensure the health and well-being of their children.

The challenge
Prior to 2014, the Michigan OCS had fallen behind in serving citizens due to a high case volume, inefficient processes, and lack of adequate technology. Citizens would receive a letter in the mail with instructions to call a designated child support specialist. Too often, however, they were unable to reach their specialist in a timely manner. More than half of the calls would go to voicemail, and in some cases, citizens were unable to leave messages because specialists' mailboxes were full. Citizens would have to call back repeatedly over the course of days or weeks before connecting with their specialist. Frustrated with delays and desperate for help, citizens frequently escalated cases to OCS managers in an effort to achieve faster resolution.

OCS specialists were processing only 55 percent of the incoming cases on average; the rest became backlogged and many fell into noncompliance. As a result, many families were denied public assistance benefits through no fault of their own. Citizens were angry over the lack

"When citizens call the OCS today, the new IVR solution greets them, asks why they're calling, gathers pertinent information and transfers them to a child support specialist who can help them right away. As a result, we've been able to manage our case load, minimize case backlog and better enforce order compliance. Our new processes and technology infrastructure are empowering our support specialists to do their job well and help more families. That's a real morale booster."

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of responsiveness and specialists were discouraged that they could not keep up with caseloads. The time had come to update OCS processes and technology to address growing inefficiencies and provide more effective assistance to families.

The solution
In January 2014 the Michigan OCS went live with an improved case intake model and a new IVR system for handling incoming calls. Child support specialists no longer maintain separate caseloads; they now specialize in tasks and share cases across the staff population. When citizens call OCS, the IVR verifies their identity, collects pertinent information via an effortless, conversational interaction and transfers the call to the first available specialist. Case data is passed along to the support specialist via a screen pop to speed and streamline the interaction.

What is Natural Language Understanding?
NLU enables callers to interact with an IVR in a conversational manner without being constrained by a fixed set of automated system responses. NLU allows the IVR to be more forgiving and understand a wider range of conversational input, resulting in higher automation rates and a more satisfying and effortless service experience. The Michigan OCS's IVR leverages NLU to:

– Recognize the meaning of spoken input, determine caller intent, gather personal identifying information and case data, and route the call to the first available child support specialist
– Ask the caller follow-up questions to clarify ambiguous intent or confirm responses
– Handle corrections and verifications by dynamically embedding confirmations in the next prompt for a smooth conversational flow

The Michigan OCS's natural language IVR solution facilitates first-call resolution, resulting in a 90 percent reduction in case escalations and a 45 percent decrease in incoming call volume.

The Michigan OCS chose to implement a NLU-based IVR system to enable stress-free interactions and maximize first-call resolution. "Our primary goals for the new IVR system were improved case intake efficiency and a fast, easy caller experience," explained Erin Frisch, Director of the Michigan OCS. "Citizens call us when they're in need, so we wanted to make it as effortless as possible to connect with someone who can help them. Natural language technology enables citizens to interact with the IVR in a conversational manner, allowing them to describe their request in their own words and prompting them for the information child support specialists need for first-call resolution."

The IVR greets callers, "Thanks for calling Michigan's Office of Child Support. In a few words, tell me what you're calling about today. For example, 'I need to set up child support' or 'I'm responding to a letter.'" Unlike traditional IVRs that present a fixed set of pre-defined options, the Nuance solution allows callers to make requests using natural, conversational speech for a superior service experience.

Based on the spoken request, the IVR determines whether the call is from a citizen or a partner (prosecuting attorney, friend of the court, DHS caseworker, etc.) and prompts accordingly for caller authentication and case identification purposes.

Before transferring the call, the IVR also prompts for a phone number so the specialist can call back if they get disconnected — a critical step to ensure that no inquiry falls through the cracks. What's more, integration with OCS back-end systems provides specialists with the case knowledge they need to start helping citizens right away.

The IVR design features advanced error handling to help clarify data and keep the conversation on track. For example, when citizens have difficultly articulating their requests, the IVR employs a fallback dialog with a few more scripted questions to determine their specific needs. Similarly, if the system doesn't understand

what the caller said, it asks clarifying questions until it recognizes the spoken input. The IVR system can even address failures on the backend, such as an inability to locate the citizen's Social Security number in the DHS database, by prompting for other identifying data. These error handling features help to ensure that IVR interactions proceed smoothly and deliver a satisfying service experience.

OCS benefits
The new IVR system is helping the Michigan OCS operate more efficiently and serve citizens more effectively. Since the IVR automatically determines caller intent and accurately routes citizens and partners to the appropriate specialist, the average inquiry response time has decreased from two weeks to just five minutes on average. In addition, because citizens are being served on the first call, OCS has seen its incoming call volume decrease by more than 45 percent, enabling specialists to spend more time on core priorities instead of just chipping away at case backlog.

Thanks to the new IVR technology and improved intake process, OCS is mailing 50 percent fewer noncompliance letters for significant time and cost savings. The OCS improvements are also enabling OCS child support specialists to be more proactive in helping families. The number of case referrals to the prosecutor's office is up 44 percent, which means action is being taken to establish paternity and court-ordered child support.

The benefits, however, extend beyond quantifiable efficiencies to an improved sense of accomplishment for OCS child support specialists. "Our new processes and technology infrastructure are empowering our support specialists to do their job well and help more families," added Frisch, "That's a real morale booster."

Citizen benefits
Michigan OCS's natural language IVR system has received overwhelmingly positive feedback from citizens. Call wait times are now below five minutes on average and inquiries are typically resolved on the first call.

Citizens no longer have to call back repeatedly and wait days or weeks just to connect with a specialist. As a result, escalations to case managers have declined by 90 percent.

Most important, the OCS improvements are enabling Michigan families to get help faster. With the new IVR system in place, requests for administrative hearings due to noncompliance with child support requirements have dropped by an impressive 66 percent. "Before implementing our new IVR solution, citizens frequently complained about their inability to reach a child support specialist in a timely manner," commented Frisch. "Now, when citizens call OCS, they typically wait no longer than a few minutes to speak to a support specialist. The quality of service we provide to citizens has improved dramatically."

A collaborative partnership
Nuance partnered with Michigan OCS at every phase of the project — from requirements definition and voice user interface design to application tuning and optimization — to ensure the IVR solution delivered exceptional results.

"Nuance offered us state-of-the-art Natural Language Understanding and call steering technology along with unparalleled experience in deploying customer service solutions for the government sector," concluded Frisch. "Nuance Professional Services brought together a top-notch team of industry-leading experts — from voice user interface designers to speech technologists — to deliver an IVR solution that meets all of our operational requirements and provides an exceptional service experience."

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