



Q&A Executive Viewpoint

A Conversation with

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A BuySmarter leader discusses how HHS is using artificial intelligence as part of a data-driven initiative to leverage the department's collective purchasing power

How is HHS using artificial intelligence to improve acquisition through its BuySmarter initiative?

The ReImagine HHS transformation effort launched the BuySmarter initiative with the mission to deliver a holistic capability that enables the U.S. Department of Health and Human Services to leverage its tremendous buying power as a singular buying entity. BuySmarter is based in an enterprisewide category management concept, which follows the group purchasing organization model used in the health care industry to bring the collective buying power of health care providers to deliver cost savings and optimal terms and conditions.

Given the size and complexity of the federal procurement process, the BuySmarter team will "AI-enable" the process of bringing agencies together to acquire goods and services as one.

HHS has over 40 different contracting shops across the 20-plus operating and staff divisions, each buying similar and frequently the same goods and services at disparate prices. Due to siloed purchasing, HHS agencies have minimal buying power, and vendors thus have the advantage in contract negotiations. In other words, the vendors have an advantage as smart sellers.

To shift this power equation in favor of the government, HHS is using AI to centralize its contract information into a single data layer, converting contract and attachment data into metadata (plain text), structuring it by category and sub-categories, and building a universal taxonomy for how to understand the information in a common way. The AI identifies where we are buying "like-to-like" goods and services across our divisions utilizing data algorithms derived from the variables developed by HHS

contracting and mission subject-matter experts (SMEs).

The algorithms list every variable that could drive pricing (e.g., a registered nurse working in New York vs. Iowa). Our Category Collaboratives – the groups of SMEs and contracting professionals in charge of a category – will have the full suite of information on every vendor's pricing, delivery, logistics, quality, support and more for a group purchase of a product or service. The new AI tool will empower HHS divisions with new levels of negotiating power.

What new developments are in the works for BuySmarter?

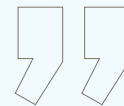
HHS is in the final phase of developing the AI capability described above, known as the Full Contract Scan (FCS) Tool, for the medical category. It has already ingested 1.37 million documents comprising 4.6 billion words with the taxonomy built from the primary category (product, equipment and service) down to the sixth sub-category level.

Using natural language processing, the team developed an inference protocol that allows the AI tool to "read" in a human way and make logical inferences when matching words and phrases. For example, when searching for "neonatal nurse," the AI tool makes the logical leap that "NICU" belongs alongside "neonatal" in other search results.

The user interface will be simple and familiar, with similarities to Microsoft Excel. Our initial human-centered design sessions received positive feedback, despite demonstrating just four screens while behind the scenes the tool is grinding through 1.37 million documents in mere seconds.



The new AI tool will empower HHS divisions with **new levels of negotiating power.**



We will complete the build of the FCS tool on March 31. After that, we will be in a great position to do some presentations to our fellow departments.

How has HHS prepared the acquisition workforce to embrace the new tools?

Stakeholder engagement and mission focus are the foundation of the entire BuySmarter effort. We engaged the agency heads of contracting activity to be our Planning and Development Committee from the onset. Every aspect of the people, process and technology for BuySmarter is designed with their guidance.

We have also staffed our Category Collaboratives to lead each category and sub-category with volunteers from across HHS agencies. These teams will then launch the Sub-Category Pursuit Teams on individual product or service acquisitions, which will bring together SMEs from all the buying agencies. This entire community is currently engaged in our human-centered design sessions for the FCS Tool.

What lessons have you learned along the way?

The success in designing AI is way more about the SME who knows your business than it is about the AI itself. In my first experience with an AI vendor for our proof of concept, I expected magic and soon realized this was an incorrect assumption. I realized this was going to be very different from any other IT solution I had been part of.

I learned to adapt my approach to a more hands-on engagement with the vendor where we built the tool together. The phrase “AI learns” holds true, but you have to “teach the teacher.” This translates to the need for experts in that domain to sit with the AI development team and teach them what the tool needs to do, how the data should be structured, what the outputs need to be and more.

We have all heard of agile as a quicker way to conduct development in two-week sprints. When it comes to building AI tools, the process is even quicker. I call it “full-contact development.” We meet daily with our AI vendor to give guidance and clarity on what the tool should do. Then we start bringing in waves of SMEs to study the tool and help teach the teachers to improve the capabilities. This full-contact development approach is truly what it takes to build a robust AI tool.

What impact is BuySmarter having on the department’s overall acquisition strategy?

Led by David Dasher, deputy assistant secretary for the Office of Acquisition and the HHS senior procurement executive, the BuySmarter initiative is incorporated into the department’s approach to category management. The BuySmarter initiative is scheduled to “graduate” from the ReImagine portfolio to become a program operating from the HHS Office of Acquisition, institutionalizing the change and shifting the acquisition culture of the department.

What advice do you have for other agencies that want to apply AI to their mission challenges?

From the many skinned knees experienced early on in this project, we have developed an AI Microservice Request Tool that clearly states the core elements needed to craft a comprehensive AI tool. Well before you endeavor to build an AI tool, you must fully and clearly define the following elements:

- **Define the mission challenge.** What exact problem are you trying to solve?
- **Define the impact statement.** What specifically is the tool going to do to improve your mission?
- **Identify the data and systems.** What data are you pulling from what systems, and who owns them?
- **Define the SMEs.** What SMEs will you need to engage to “teach the teachers” on what the data should do, and at what point in the development of the tool should they engage?
- **Define the users.** Who will be using this tool?
- **Define the customers.** Who will benefit from what this tool accomplishes?
- **Describe the process steps.** What are the detailed process steps that the tool will accomplish task by task?
- **Define the output.** What will the actual deliverables be for the tool?
- **Define the security requirements.** What data is resident in the tool, and what security protocols need to be in place for that data? ■