What Does Artificial Intelligence (AI) Mean for SNAP?

Generative artificial intelligence (AI) possesses significant potential in its growing use over the past few years. The role of AI for social service providers and medical professionals has not been studied yet, but some companies and practitioners are beginning to consider the impact that AI could have on expanding access to the Supplemental Nutrition Assistance Program (SNAP) and other crucial nutrition supports.

What Is SNAP?

SNAP is the nation's first line of defense against hunger, helping over 40 million individuals put food on the table throughout each month, improving health outcomes, and supporting local economies. SNAP provides eligible households with a monthly benefit that they can use to purchase food using an Electronic Benefit Transfer card, empowering them with flexibility to purchase food and beverages of their choice. The relationship between SNAP and health outcomes is well-documented, including a link between SNAP participation and lower health care costs.[1]

How Has Automation Been Integrated Into SNAP?

While states are exploring how to weave AI into SNAP administration, some states have begun to automate certain administrative processes using chatbots and virtual agents. States are already using what the U.S. Department of Agriculture (USDA) calls "Robotic Process Automation" (RPA), which are bots that provide outputs using "structured inputs and rule-based, non-discretionary logic."[2] As of 2023, nine states were using RPA, including to assist in recertification processing by deploying chatbots to communicate with clients in gathering updated information and entering data, freeing state merit staff to focus on eligibility determinations and other, more complicated processes.[3] (Merit staff are nonpartisan public service employees who receive extensive training to guide SNAP applicants through the process, conduct SNAP certification interviews, and make final decisions on SNAP eligibility and benefits.) RPA systems are different from AI. The federal government has defined AI as an "artificial system that performs tasks under varying and unpredictable circumstances without significant human oversight, or that can learn from experience and improve performance when exposed to data sets."[4,5]

How Can Electronic Health Records Leverage AI?

Apart from SNAP administrators, health care providers can take advantage of AI.

Food insecurity has a clear and demonstrated relationship to health outcomes, so improving health care and reducing costs go hand in hand with combatting food insecurity and connecting eligible patients to benefits. Public health organizations, including the Department of Health and Human Services, have defined access to nutritious food and food insecurity as a "social determinant of health" — a nonmedical, environmental influence on health at the systems level.[6]

Health care providers, recognizing that food insecurity is a major social determinant of health, have deployed interventions to screen for food insecurity and intervene to refer patients to programs that connect patients to food.

While implementation of food insecurity screenings has grown since the development of the Hunger Vital Sign, key chokepoints reduce the effectiveness of these interventions. One crucial roadblock is challenges in the electronic health records (EHRs) themselves. Ideally, information in electronic health records is interoperable — meaning that data can be shared easily across EHRs and between state agencies while following all applicable regulations on patient privacy.[7]

Aside from barriers inherent in having patient information stored in EHRs made by different vendors, a lack of consistent coding for food insecurity data adds to the challenge of creating interoperable EHR systems. A 2019 study noted that the greatest needs to integrate social determinants of health (SDH) include "more standardization of SDH performance measures across various federal and state programs, better mapping of SDH measures to multiple types of codes, and development of more codes for all SDH measures of interest."[8] Practitioners should utilize existing codes, including under the interoperable Logical Observation Identifiers Names and Codes (LOINC) coding system.[9] For example, LOINC code 88121-9 is the Hunger Vital Sign screen, allowing physicians to record answers to and bill for the Hunger Vital Sign. They should also utilize recent changes to the Systemized Nomenclature of Medicine — Clinical Terms (SNOMED — CT) language that has been deployed across EHRs, which includes coding for the Hunger Vital Sign.[10] AI-enhanced features could help physicians identify other codes relevant to the prevalence and degree of food insecurity that patients experience and find linkages between codes across different records to ensure that patients experiencing food insecurity get the support they need even when changing providers.

Clinicians are neither experts on SNAP nor food insecurity, and they should not be expected to be. Nevertheless, they are at the intersection of a crucial role. AI that has a knowledge base of "Food Is Medicine," nutrition programs, and food insecurity, can help physicians directly understand the risks of food insecurity on health and give clinicians information to directly assist their patients in accessing the programs. By loading AI with information about program requirements, recertification processes, and state policy options, clinicians will also be able to refer patients to SNAP and take advantage of all resources available. With automated notetaking, which EHR providers like Cerner Oracle are exploring, doctors will be freer to have difficult and vulnerable conversations about food insecurity with their attention on their patients.[11]

AI may assist in food insecurity screenings even if physicians miss the signs of food insecurity. Generative AI can enhance access to resources that help combat food insecurity like SNAP by disseminating resources where the EHR is the conduit. EHRs could be programmed to send patients struggling with food insecurity information about SNAP via a variety of communication methods and connect them to SNAP applications and outreach. Textbots that leverage AI may even be able to directly communicate with patients and prescreen for SNAP eligibility after the appointment is over.

What Is the Guidance Governing AI's Role in Health Care Settings and in SNAP?

President Biden's 2023 Executive Order on AI called for equitable development and deployment of AI that protects civil rights and privacy, directing federal agencies to develop guidance. In December 2023, the administration received voluntary commitments from AI companies, health care
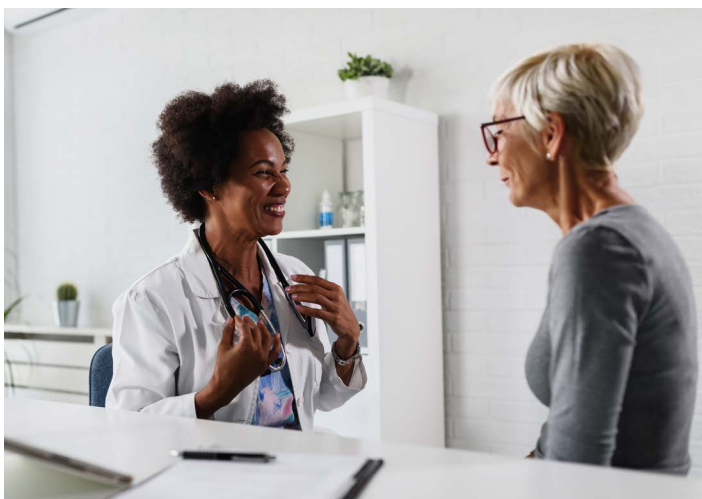
providers, and payers to align the integration of AI in health care along the "FAVES principle" — prioritizing outcomes that are Fair, Appropriate, Valid, Effective, and Safe.[12]

In response to the 2023 Executive Order, USDA released their guidance on the responsible use of AI in Food and Nutrition Service benefits administration in April 2024, applicable to state, local, Tribal, and territorial administrators. This guidance evaluates the risk of deployment of AI in SNAP administration, underscoring the importance of human oversight and appropriate, representative training for AI systems to enhance risk mitigation to prevent bias and protect privacy. The guidance notes that using AI for food insecurity screenings and referrals to other social services may be both "safety-impacting" and "rights-impacting," meaning FNS may need to be notified before states begin to implement these practices.[13] The guidance includes other crucial information for state agencies who use AI, including an emphasis that AI may not replace the function of state merit personnel in making SNAP eligibility determinations. While this guidance applies solely to SNAP administrators, private sector vendors and practitioners must be aware of the risks inherent even in AI's significant potential and state agencies must follow all FNS guidance before partnering with outside organizations deploying AI.

What Are the Risks of Using AI in SNAP?

AI could present false or misleading information as fact in cases where AI is not trained, in a well-documented phenomenon known as "hallucination."[14] This could mean directing someone to/away from SNAP despite their actual eligibility status being different or directing people to SNAP resources that are not real. This risk is heightened with more complex cases, cases with clients who have Limited English Proficiency, and by the fact that eligibility is different in every state according to different policy options, so AI must be trained on each state's unique requirements and policy options.

There are possibilities for malicious actors, or people who are not well-versed in SNAP, to contribute to training algorithms with inaccurate, incomplete, statistically insignificant, or biased information, especially information that is biased on account of race, gender, immigration status, or other identity categories, that perpetuates stereotypes and inequities and prevents people from accessing the benefits they would otherwise be entitled to. Replacing merit staff in the guise that AI can perform their tasks will likely never be a reality and such rhetoric may contain profit motives from private contractors. However, today's AI limitations should neither be a distraction nor interfere with exploring its potential to expand access to SNAP and to address systems-level interventions impacting SDH.

AI is one more tool in the toolbox of all those seeking to improve SNAP and end hunger, including physicians. Leveraging this new technology thoughtfully and strategically, with an awareness of its limitations and a commitment to using it to enhance equity, will allow for new partnerships between health care providers, advocates, and the tech sphere in a shared goal to improve health outcomes and ensure everyone has the food they need to thrive.

Endnotes

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