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**Commentary**

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# Using artificial intelligence to improve administrative process in Medicaid

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## Abstract

Administrative burden across state–federal benefits programs is unsustainable, and artificial intelligence (AI) and associated technologies have emerged and resulted in significant interest as possible solutions. While early in development, AI has significant potential to reduce administrative waste and increase efficiency, with many government agencies and state legislators eager to adopt the new technology. Turning to existing frameworks defining what functions are considered "inherently governmental" can help determine where more autonomous implementation could be not only appropriate but also provide unique advantages. Such areas could include eligibility and redetermination of Medicaid eligibility as well as preventing improper Medicaid payments. However, while AI is promising, this technology may not be ready for fully autonomous implementation and instead could be deployed to augment human capabilities with robust safeguards until it has proven to be more reliable. In the meantime, the Centers for Medicare and Medicaid Services should release clear guidance around the use of AI by state Medicaid programs, and policymakers must work together to harness AI technologies in order to improve the efficiency and effectiveness of the Medicaid program.

**Key words:** Medicaid; administration; artificial intelligence; enrollment; eligibility; redetermination.

## Using artificial intelligence to improve administrative process in Medicaid

Administrative burden in public benefits programs is generally high, with joint state–federal programs adding additional complexity. Estimates for administrative spending range from 15% to 30% of total health care spending—half of which has been characterized as wasteful[1,2]—with recent estimates of annual administrative spending reaching $1 trillion.[3] There are a variety of definitions of what constitutes administrative spending; however, broadly speaking, administrative spending is generally characterized as spending that is nonclinical in nature, which includes spending in categories such as billing and insurance.[1,4] While there may be some divergence as to the exact proportion of overall health care spending that is attributed to administrative spending, there is no doubt that it represents a significant portion of overall health care spending.

High administrative burden in health care is typically attributed to the large number of nonclinical staff, many of whom perform routine or repetitive tasks that could readily be automated.[5] The recent boom in artificial intelligence (AI), which includes technologies such as machine learning, natural language processing, and large language models, has promised to create tools to automate and reduce administrative burden,[6,7] with some even estimating savings as high as $200–$360 billion in health care spending using existing technologies realized in the next 5 years.[6] Despite this potential, there are many who are skeptical of AI and even those who see potential for profound risks to society,[8,9] given recent advances that have come in leaps and bounds, sometimes referred to as emergent abilities. However, more recent evidence calls into question the claims of emergent abilities[10-12] and supports others' claims that such concerns may be exaggerated.[13,14] While it is important to create commonsense safeguards to prevent unethical or even dangerous applications of these technologies with unintended consequences, the potential uses of AI to reduce administrative waste and increase efficiency will be pivotal to making the US health care system more sustainable. In this commentary, we review governmental interest in adopting AI technologies, opportunities to improve administrative efficiency and operations in the Medicaid program, as well as associated targeted policy recommendations.

## Government is eager to adopt AI

Although the government at both the state and federal levels often lags in the adoption of new technology, AI technologies are already being used throughout the federal government, with a 2020 survey citing 45% of government agencies surveyed expressing interest in AI, with many having planned,

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piloted, or implemented such technologies.[15] As mandated by Executive Order 13960, "Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government,"[16] the Department of Health and Human Services[17] reported 23 use cases applicable to the Centers for Medicare and Medicaid Services (CMS), including fraud detection,[18,19] payment forecasting, and drug-cost anomaly detection.[17] At the state level, policymakers have started the conversation around setting boundaries and implementing certain AI applications, with at least 25 states, Puerto Rico, and the District of Columbia introducing AI bills, and 14 states and Puerto Rico adopting resolutions or enacting legislation in the 2023 legislative session.[20]

With these current and future impending waves of interest in and adoption of AI technologies, it is important to understand where these technologies will thrive and maximize their potential. There are certain functions within government that are designated as "inherently governmental functions." Per definitions in the Federal Activities Inventory Reform (FAIR) Act of 1998, the Office of Management and Budget Circular A-76, and most recently, the Office of Procurement Policy (OFPP) Policy Letter 11-01, certain government functions are considered to be "inherently governmental" in that they are "so intimately related to the public interest as to mandate performance by government personnel."[21] Functions that are not considered "inherently governmental" are designated "commercial functions" that can be performed by contractors. While there is a litany of different statutory, regulatory, and policy authorities designating specific functions as either inherently governmental or commercial, per most recent guidance given in OFPP Policy Letter 11-01, there are 2 tests that agencies are required to use to identify inherently governmental functions (see Figure 1), as follows:

1. "Nature of the function" test: functions involving exercise of US sovereign power are inherently governmental
2. "Exercise of discretion" test: a function should be categorized as inherently governmental when it allows for exercising of discretion that "commit[s] the government to a course of action where two or more alternative courses of action exist and decision making is not already limited or guided by existing policies, procedures, directions, orders, and other guidance that: (I) identify specified ranges of acceptable decisions or conduct concerning the overall policy or direction of the action; and (II) subject the discretionary authority to final approval or regular oversight by agency officials"[22]

At present, the determination of whether a function performed by AI is "inherently governmental" or "commercial" is, in many cases, a moot point as most AI applications are currently implemented as tools empowering users to more easily or more proficiently perform their duties and functions rather than as separate entities performing a function autonomously. However, these 2 tests become more important as AI advances and begins to function more autonomously. Functions that satisfy the "nature of the function" test and allow for exercising of US sovereign power would be of too high importance to allow for any possible error due to malfunction or otherwise unintended outputs from AI. It could also be argued that AI performs best in functions that have discrete and specific parameters that would preclude it from being categorized as "inherently governmental" per the "exercise of discretion" test. Together, these tests should help us identify functions that are not "inherently governmental" and would not only be appropriate but perhaps also even uniquely benefit from the application of AI technologies.

When specifically looking at CMS oversight of and actions of state Medicaid agencies, 1 area that has often been acknowledged as being more difficult and complicated than it needs to be is the oversight and procedural determination of Medicaid eligibility, both the initial determination as well as subsequent redetermination processes. Millions of Americans are unable to access benefits due to administrative holdups, prompting ongoing efforts to streamline and simplify the process,[23] while simultaneously, millions of other Americans remain inappropriately enrolled. Redetermination is a critical administrative process, with an estimated 17 of the 20 million Medicaid beneficiaries added during the pandemic who may lose Medicaid coverage with the unwinding of the continuous enrollment requirement of the Families First Coronavirus Response Act.[24] Medicaid eligibility requirements are codified by law, allowing for little to no discretion, so the processes of initial determination and redetermination of eligibility would

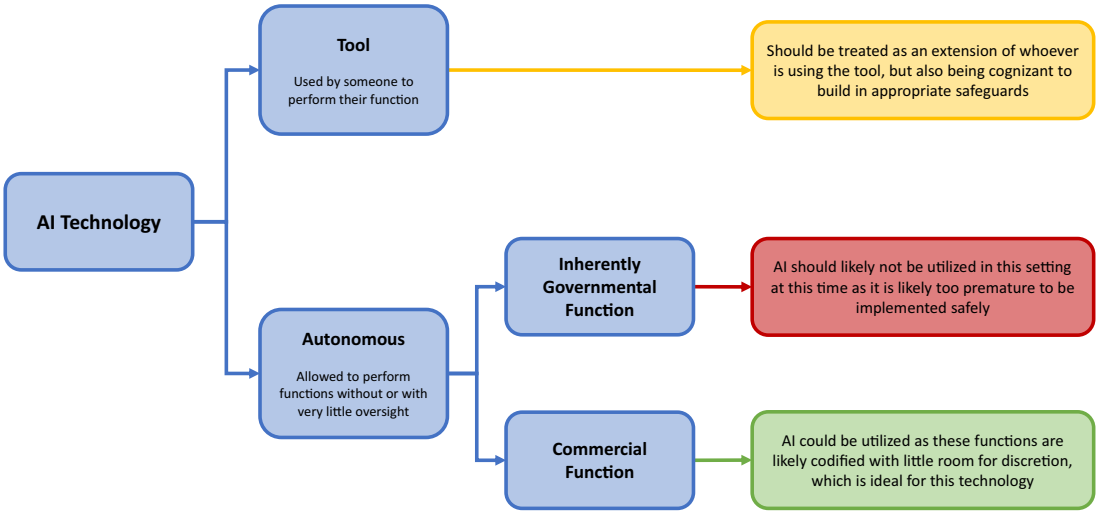


**Figure 1.** Flowchart for evaluation and classifications of uses of artificial intelligence (AI) functions (created by authors).

represent areas of immediate administrative need for states where AI could be used to help bridge the gap. Additionally, AI could further be used to augment and digitize the communications process to convey status updates to beneficiaries regarding their determination process as well as other important information even outside of the determination process.

Another notable area that may benefit from AI intervention is the prevention of improper Medicaid payments. Improper Medicaid payments are quantified and tracked as mandated by the Payment Integrity Information Act of 2019.[25] Improper payments do not necessarily indicate fraud but rather payments made that did not meet statutory, regulatory, or administrative requirements—most often due to missing information. They do, however, still create a significant financial burden, with improper Medicaid payments reaching $80.57 billion in 2022.[26] Although Managed Care represents 72% of the Medicaid marketplace,[27] just 0.1% of improper payments are attributed to Managed Care.[26] In contrast, eligibility is estimated to account for 73.7% (>$61 billion) in improper payments, with Fee for Service Medicaid accounting for 26.2% (nearly $22 billion) in improper payments in 2022.[26] These improper payments are made due to a variety of reasons that include insufficient or no documentation, coding errors, unbundling, and other errors.[26] Whether or not a Medicaid payment can be determined to be improper is again a codified determination with little to no room for discretion, making the prevention of improper Medicaid payments another area ripe for AI intervention.

## Avoiding potential pitfalls

Despite their promise, AI technologies are still works in process. Previous attempts to apply data-mining and algorithmic technologies to various areas of government, including administering welfare programs, have not been without controversies or failures.[28] This is not particularly surprising given that even the more advanced technologies underlying AI are prone to inaccuracies—some of which are referred to as "hallucinations"[29]—and improperly built (ie, using incomplete, skewed, or otherwise poor-quality training data) or implemented AI tools can also be prone to algorithmic bias,[30] which, if introduced into government functions, could prove disastrous. A prominent example of this includes facial recognition algorithms that are often heavily influenced by demographics due to training on incomplete datasets.[31]

Given these limitations, for now, AI technologies should be used to augment human capabilities until they have proven to be more stable and can be built upon more robust datasets. While it is likely that AI will eventually come to be implemented in many truly autonomous fashions, AI should be implemented more cautiously through the initial, liberal use of human review because of the potential for severe consequences should AI fail to behave as expected when implemented in government functions. Further safeguards include building in auditing functions to help with human review of outputs as well as implementing easy ways to rollback or otherwise "undo" AI-driven actions.

## Recommendations

In order to help advance the adoption of AI, CMS should release clear guidance detailing which functions that state Medicaid programs would be permitted or even encouraged to utilize AI tools to reduce administrative burden. This could be maintained in a public database that state Medicaid programs could then use to signal their desire to purchase, acquire, or otherwise work with vendors offering services as well as to specify technical specifications and requirements. An improvement over the status quo of a CMS webpage listing of state Medicaid IT procurement websites,[32] federal guidance would create regulatory clarity for state Medicaid programs and signal to the private sector where the need for AI tools in improving administrative processes is greatest. Additionally, in order to maintain this momentum, policymakers should establish a requirement for CMS to release clear guidance that should be updated yearly given the rapidly evolving nature of AI technologies. Together, these recommendations will help create a solid regulatory framework upon which both states and the private sector can collaborate to bring the fruits of AI to beneficiaries.

While perhaps not entirely ready to be unleashed without supervision, AI continues to demonstrate rapid development and positive potential to significantly improve administrative processes in Medicaid and other health benefits programs, public and private. Policymakers must work together to harness and implement AI technologies in order to improve the efficiency and effectiveness of the Medicaid program. With over $1 trillion in administrative spending nationwide, now is certainly a good time to try.

## Supplementary material

Supplementary material is available at *Health Affairs Scholar* online.

## Conflicts of interest

Please see ICMJE form(s) for author conflicts of interest. These have been provided as supplementary materials.

## Notes

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