Cúram

Opportunities ahead: unlocking the future of artificial intelligence in government agencies

A framework to support government agencies as they modernize and explore AI use cases to achieve better outcomes in the delivery of health and human services benefits.

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Artificial intelligence (AI) and more recently, generative AI (GenAI) solutions, have captured imaginations around the world, creating high expectations for their potential to revolutionize the way we live and work.

Uncertainties surrounding AI have added caution to the excitement, but the ambition to harness the benefits of the technology is clear. With its evident growth and transformative potential, AI offers unparalleled opportunities for enhancing every facet of our lives. The next generation will likely view a world without AI much as we currently view a world without the internet – unimaginable.

Cúram believes in a human-centric approach to AI, with a focus on outcomes. In this paper we share learnings from engagements with our customers and various industry partners, mapping out potential AI applications for government organizations involved in benefits delivery. You'll find examples of how these technologies could impact caseworkers, citizens and developers. It includes our AI framework that can be used as a guide to help identify those key use cases that are likely to benefit from AI in both the short and long term, and have the potential to transform the face of health and human services.

Current and expected trends

Adoption of AI worldwide has increased dramatically in the past year, with organizations starting to apply it in multiple areas.[1] The growth trajectory of AI technology is undeniable. It is estimated that AI could contribute up to $15.7 trillion to the global economy by 2030.[2]

Research shows a surge in companies exploring GenAI in particular, to improve experiences at all touchpoints in an ecosystem.[3] Some forecast that GenAI will be the foundation for future AI innovation[4] with natural language interaction becoming the new standard for engaging with information.[5]

As with any new technology, there is considerable hype and unrealistic expectations initially. According to Amara's law, we tend to overestimate the effect of a new technology in the short run and underestimate the effect in the long run. As of 2023, Gartner's hype cycle for emerging technologies places various AI capabilities near the peak of inflated expectations with a forecasted 2–5-year timeframe before mainstream adoption.[6] In Gartner's 2024 global survey, 70% of CIOs say generative AI is a game-changing technology, but only 9% have already deployed this type of solution.[7]

Timing is everything. Get in too early and you are investing in experiments – too late and you are missing the benefits. So why now?

Keep in mind that AI represents a number of different technologies and capabilities with varying degrees of maturity and associated risk. Certain AI capabilities such as GenAI-enabled virtual assistants and workload accelerators for appropriate use cases are expected to be ready for prime time in less than 2 years.[8]

The potential productivity benefits from applying AI to routine tasks across the public sector are estimated to be worth billions.[9] Now is the right time for government health and human services (GHHS) agencies to evaluate AI technologies that have matured and determine which ones can be safely leveraged to achieve better outcomes. Evaluating the technology is just the first step.

Projected Growth of AI

$15.7

TRILLION CONTRIBUTION TO THE GLOBAL ECONOMY BY 2030[2]

"Embracing AI in government agencies unlocks the potential to transform experiences; for clients in the services they receive, and for caseworkers in how they are empowered to deliver them."

Eamonn Moriarty
Chief Technology Officer, Cúram

"AI brings complex ethical, regulatory and operational challenges that are unprecedented and require nuanced consideration especially in the delivery of government benefits and services."

Mark Curtin
Senior Director, Engineering, Cúram

The Cúram approach to AI

Cúram is embracing the potential of AI, exploring opportunities beyond our initial integrations with virtual assistants for both caseworkers and citizens. We are engaging with our customers and various industry partners with AI expertise to actualize the promise of AI for Cúram customers, with a human-centric approach and a focus on outcomes.

However, we are proceeding cautiously. AI brings complex ethical, regulatory and operational challenges that are unprecedented and require nuanced consideration especially in the delivery of government benefits and services.

Cúram's approach

- **Embrace** the potential
- **Proceed cautiously**
- Ensure **human oversight** and ultimate decision-making in GHHS
- Maintain focus on business objectives and **outcomes**
- Partner with **customers** who are ready to adopt
- Work with AI **partners**
- Bring **domain expertise** to partnerships

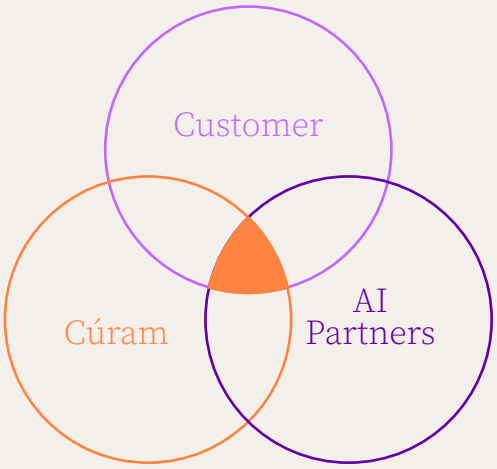


Figure 1: The Cúram approach

We want to take this journey with you

Customer data is at the heart of all AI journeys, whether it's client and case data, eligibility and entitlement data, customer configurations for rules and evidence, or even customer policy and training materials.

Because we do not host customer data here at Cúram, it is only through working in partnership with you that we will be able to jointly deliver on prioritized AI use cases which depend on your data. For such use cases, we intend to enable the appropriate AI technology integration points in the Cúram product to realise your goals. In addition, over time, we intend to augment the Cúram product with AI use cases which use the Cúram product itself as their knowledge repository.

We have mapped out potential AI applications for government organizations involved in benefits delivery (see figure 2) that we think you will find interesting as you continue to evolve your solutions for modernization. To help support your decisions we also share our framework (see figure 3) that you can use as a guide to help identify those key use cases that are likely to benefit from AI in both the short and long term and have the potential to transform the face of health and human services. We have also highlighted use cases that should be approached with caution due to the higher level of uncertainty and risk involved.

It's worth noting that not all solutions require AI technology to make the greatest impact. It should be considered whether advanced analytics or other technologies could drive insights and results more effectively at a lower cost. The end goal is not to build an AI-first strategy, but rather to assess where AI could make a meaningful difference to key objectives to improve outcomes.

Exploring AI use cases for government benefits delivery

The potential applications for AI across government services are numerous. At Cúram, our expertise lies in empowering health and human services organizations to transform the delivery of services, making it easier for individuals to access the programs they need to achieve better outcomes. We are committed to working with customers and partners to make the best use of AI in the coming years.

With that in mind, we have analyzed the end-to-end process of a human services eligibility and management system and mapped key AI use cases that optimize system efficiency and productivity making it easier for individuals and caseworkers. Figure 2 highlights examples at each step, from initial screening to recertification, showcasing how AI could enhance efficiency, accuracy, and service delivery.

This map is not intended to be exhaustive - numerous other AI applications exist in this domain – it does however provide a lens on how AI might be used to enhance the delivery of services.

Before becoming too consumed with Generative AI and its potential, it's important to remind ourselves that technological innovation should not divert focus from the pressing human needs that government agencies aim to address. Rather, it should supplement and/or accelerate existing processes to drive improved outcomes for agencies and the people they serve.

"It's important to remind ourselves that technological innovation should not divert focus from the pressing human needs that government agencies aim to address."

Marina Pascali
Senior Director, Product Management, Cúram

AI use case map for an integrated eligibility system

An overview of key AI use cases within the end-to-end process of an integrated eligibility system, highlighting examples at each step while acknowledging that it is not exhaustive and other use cases exist.

Screening

Virtual Assistants:
To assist clients with initial inquiries and direct them to appropriate resources.

Intake & Verification

Automated Document Verification:
Using AI to verify identity documents and other required paperwork.

Virtual Assistants:
To assist clients by explaining concepts, translating content, and providing round-the-clock support through the application process.

Generative AI
for enhanced accessibility in communications and information sharing.

Eligibility Determination

Virtual Assistants:
- To assist caseworkers with policy and legislation navigation.
- To allow for direct questions about a specific eligibility and entitlement decision.

Anomaly Detection and KPI monitoring:
AI systems to detect unusual patterns that may require intervention.

Program Delivery

Personalized Recommendations:
Leveraging AI to recommend specific programs and services tailored to individual needs.

Resource Allocation Optimization:
Utilizing AI to optimize the allocation of resources and the scheduling of services.

Virtual Assistants
Deploying AI virtual assistants to reduce operational costs and help beneficiaries understand, access, and ask questions about their benefits.

Case Management

Natural Language Processing (NLP):
For summarizing case notes and extracting important information from client communications.

Generative AI
Enhance caseworker efficiency by optimizing their access to and search for key policy, practice, and case information within the relevant context of their work.

Life Events and Recertifications

Personalized Recommendations:
Missing coverage identification and tailored client communications.

System Configuration

Development Augmentation:
Utilize AI-based code and configuration generation to help reduceimplementation times and costs.

Improve quality by identifying test cases and enhancing test automation.

Generative AI for Knowledge Management:
Leveraging AI Ito support documenting user flows, training aids, and user training.

Figure 2: Key AI use cases within the benefits delivery system

Approach with caution

IIntegrating AI into agency workflows and processes is more than a technical exercise. It brings to the forefront complex ethical, regulatory, and operational dilemmas that require careful consideration. Overreliance on AI when making automated decisions that can impact people's lives can be dangerous. Humans should remain in control and accountable. It should be obvious to users where AI has been used, and crucially any AI-rendered decisions should be explainable to end-users.

The following are examples of use cases that should be approached with caution due to the higher level of risk involved:

- **Fully automated decision-making**: any use cases involving significant decisions, such as those involving someone's health, wellbeing, or program eligibility, should not rely solely on AI.
- **High-accuracy results:** AI, and generative AI in particular, is optimized for generating plausible outputs rather than guaranteeing absolute accuracy. Therefore, it should not be relied upon as the sole source of truth. To ensure the accuracy of the information provided by generative AI, it should be supplemented with additional verification measures, such as cross-referencing with authoritative sources, human review, and incorporating feedback loops to correct errors.
- **High-explainability contexts:** the inner workings of generative AI solutions, like other neural network-based systems, can be complex and difficult to explain. As such, these solutions should not be used in contexts where it is essential to provide clear and comprehensible explanations for each decision-making step. In such scenarios, more transparent and interpretable models should be considered to ensure accountability and trust.

An AI framework for government

Incorporating AI into human services presents a transformative opportunity to enhance service delivery, increase access, improve efficiency, and support decision-making. However, realizing these benefits requires a well-structured, risk-aware and human-centered approach (see figure 1).

Applying a framework

Cúram has created a framework for a comprehensive, step-by-step process to ensure that AI applications are effectively and ethically integrated into human services, prioritizing the needs and experiences of users.

Why use this approach?

Our main goal is to provide a guide for the systematic identification, evaluation, and implementation of AI use cases that are aligned with business objectives and maintain a strong focus on human-centered principles. By engaging a diverse group of stakeholders—including end users, policymakers, legal representatives, and technologists—this approach ensures that multiple perspectives are considered, and issues are identified quickly through real world experience while fostering solutions that are both practical and impactful.

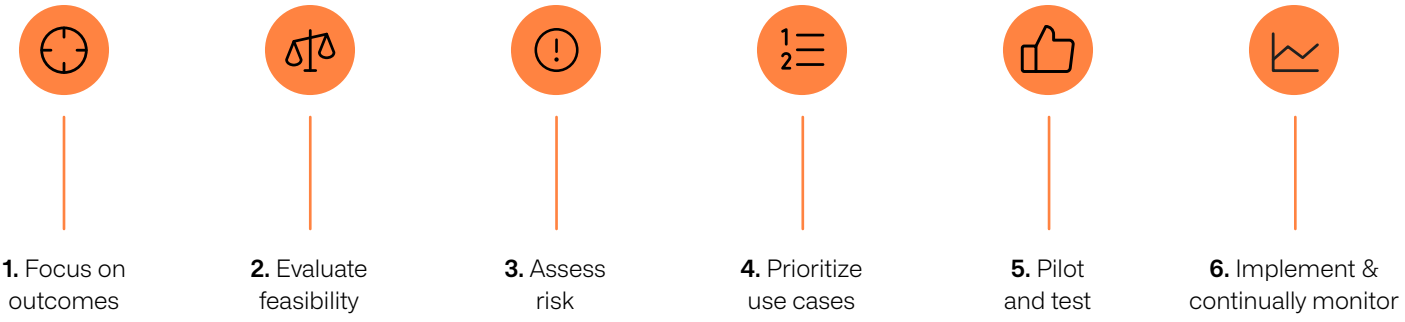


Figure 3: The Cúram framework

Six key components of the framework

Focus on outcomes to identify potential use cases.
Start with well-defined business goals and objectives. Rather than shoehorning technology into plans, focus on the outcome: improving efficiency, enhancing service delivery, increasing access, or supporting decision-making.

- Conduct user needs assessments that delve into user experiences, pain points, and desires to identify inefficiencies and opportunities for improvement.
- Engage a diverse group that includes end users, policymakers, and technologists and incorporate feedback from the beginning and throughout the process.
- Brainstorm potential use cases with workshops that include exercises such as empathy and journey mapping.

Evaluate feasibility of different AI technologies.
Evaluate each use case to determine if the technology will deliver the expected benefits. Consider:

- **Data.** AI relies on data – your data – large volumes of high-quality data are necessary to appropriately train AI.
- **Technology**. Identify the infrastructure and integration requirements and assess the AI model maturity.
- **Skill set**. AI requires user training – consider if the skill sets are available in house or through partnerships.
- **Costs.** Be sure to evaluate the total cost: training, implementation, ongoing maintenance.

Assess risk of incorporating AI to address the business problem.
Evaluate each use case to determine whether your organization is willing to accept the risk. Consider:

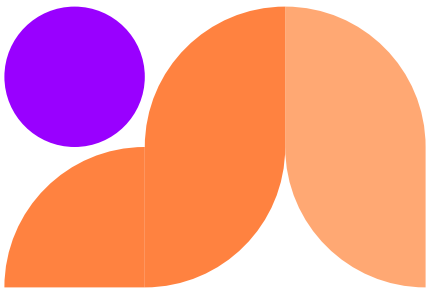
- **Potential bias.** All AI models are subject to bias – the risk level will depend on the data, the model and the business situation. Making the risk explicit assists in creating appropriate mitigation plans.
- **Traceability.** To be trustworthy, AI models must provide the ability to track, trace and explain the decisions made.
- **Security and privacy.** Ensuring personal information is not lost or inappropriately shared is crucial, as is ensuring that intellectual property rights, which are still evolving when it comes to AI, are respected.
- **Regulatory.** Regulations regarding the newest AI technologies are evolving – be aware of the grey areas when assessing risk.

Prioritize use cases.
Develop a scoring system to rank each use case including at a minimum the following three dimensions: perceived business value (outcomes), technical feasibility, and risk. Starting with the smaller, lower-risk use cases, where a human is kept in the loop, is advised.

Pilot and test.
Implement selected pilot projects for the top-ranked use cases to test their effectiveness in a controlled environment. Ensure that pilots include mechanisms for users to easily report issues and provide input. Also consider metrics and feedback to ensure validation of transparency, data security and privacy. In this phase the goal is to test, learn, and iterate.

Implement and continually monitor.
Include extensive user testing phases and ongoing user engagement in implementation. Monitor, evaluate, and continually improve - conduct continual oversight and regular audits to ensure ongoing impact, user satisfaction, accuracy, adherence to principles and quality standards, and minimization of bias.

By leveraging this framework, organizations can harness the potential of AI towards their goals of delivering benefits that are both meaningful and sustainable.



EXAMPLE IN ACTION:

Helping caseworkers deliver crucial services to citizens faster

Social worker shortages:

A shortage of

195,000

social workers expected in the U.S. by 2030[10]

Almost 10%

of roles in adult social care vacant in England[11]

Increasing demand for services:

Almost every New Zealander,

at some point in their lives, will receive support from the Ministry of Social Development[12]

Unmanageable workloads:

75%

of Canadian social workers in child welfare report unmanageable workloads as a critical issue[13]

More than two-thirds of the world's population live in countries where inequality has grown,[14] posing additional challenges to social welfare, including unemployment, financial hardship, homelessness and other threats to wellbeing. These trends create an increasing demand for services from these growing vulnerable groups in the community.

Balancing an increased workload can lead to high stress levels for most professions, but for social workers, an extended global pandemic and its effects on mental health have had a knock-on effect on their burnout. Even prior to the pandemic, economists expected a shortage of 195,000 social workers in the U.S. by 2030.[10]

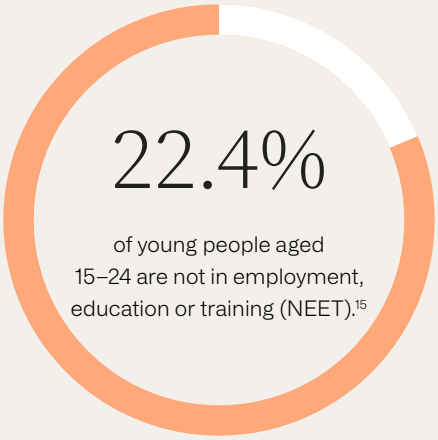
With struggling resources and a higher demand for social protection services, there is an increasing need for technology such as AI that can help caseworkers work efficiently to manage their high caseloads. This includes using AI to support the time-consuming repetitive tasks so that caseworkers have more time to focus on the complex work.

Improving the caseworker experience

AI can help caseworkers by providing a summary of policy and practice guidelines for specific cases or process steps. When presented in context as the caseworker needs the information, it reduces the need to search for training materials and helps caseworkers quickly get the answers they need. For example, a caseworker could ask how best to process an overpayment, with AI providing summaries, videos or even screen-level guidance. This can help simplify the process for caseworkers, reducing the mundane portion of their workload and improving their experience.

EXAMPLE IN ACTION:

Helping young people secure a better future



AI can be used innovatively to reestablish a sense of hope for young people that are not in education, employment or training (NEET). Early intervention helps avoid the long-term negative effects of unemployment and inactivity, reducing future cost to society, and helping young people secure a better future.

Government agencies can support this population and significantly enhance their engagement through the selective application of AI technologies.

A phased approach.

Leveraging the Cúram framework and AI use cases outlined in this paper, starting with lower-risk and lower-complexity use cases, agencies can build a foundation of AI capability and gradually incorporate more sophisticated applications.

This phased approach ensures manageable implementation, allowing agencies to improve service delivery and resource allocation while continuously refining their AI systems based on real-world feedback and outcomes.

Listed from lower to higher risk and complexity, key AI use cases to consider include:

- **AI-powered virtual assistants**: Provide immediate assistance and answer common questions related to training programs, employment, or volunteering opportunities, making support services more accessible ensuring 24/7 availability and personalized guidance in a familiar format for the younger generation.
- **Automated document verification:** Streamline the verification of identification and eligibility proofs during the application process for relevant courses or training programs, speeding up the process and reducing errors.
- **Predictive analytics for service needs:** Identify young people who are most likely to benefit from specific programs or those who may need additional support enabling proactive and targeted outreach.
- **Personalized recommendations:** Offer tailored support plans based on individual needs, increasing engagement and efficiency. For example, those with temporary versus longer-term NEET status may benefit from different activities.

By implementing these AI use cases, government agencies can better serve the NEETs population, helping them to gain experience, build networks, and contribute to their communities, while enhancing the overall operational effectiveness of services.

EXAMPLE IN ACTION:

Helping developers to efficiently support government modernization

Whether modernizing key systems for the first time, or continually upgrading and enhancing existing implementations, reduction of effort and cost is paramount for government agencies. AI technologies are uniquely positioned to speed up implementation quality and effort by automating key development and testing steps, and indeed many such technologies are already relatively mature and in production around the world.

Examples of such automation include:

- **Coding AI aids** (e.g. Microsoft Copilot): helping developers through the use of intelligent code complete and domain-specific code authoring
- **Testing AI aids:** AI assisted generation of Unit Tests and a shift-left approach to finding functional and non-functional defects
- **Knowledge management AI aids:** The use of generative AI in code documentation and training aids

Conclusion

AI is here to stay. Cúram is convinced that both traditional and generative AI can make a tangible, positive difference to how GHHS organizations operate. With momentum building for this technology, now is a great time to explore its benefits for social services and to speak with trusted partners about how to best deploy it in targeted ways that can improve outcomes while taking a balanced approach to minimize potential risks. While we know experimentation with AI technology will continue, our approach at Cúram is to focus on the proven technologies that will support improved outcomes.

Our goal is to explore opportunities with AI while recognizing that some technologies still require time to mature before they can begin to address the more ambitious use cases. We are committed to implementing AI in a responsible, ethical manner. Mistakes in human services are costly, often impacting the lives and well-being of children and families.

As governments prepare for the integration of AI into their systems, identifying the right partners is crucial to a project's success. Forging partnerships with other government agencies at a similar or more advanced stage of AI adoption can support shared learning and knowledge exchange. Additionally, working with industry partners for AI expertise and Cúram for solution expertise will streamline progress and future-proof the solution.

Bringing together all three elements of AI technology, Cúram expertise and government priorities will help drive a successful and seamless implementation that meets key goals and expectations.

How can AI support your goals?

Governments are already engaging with Cúram to explore options for a successful partnership. Let's discuss how we can achieve this synergy to maximize the potential of AI in your operations.

We continue to plan for the future and invite you to join us on this AI journey.

Learn more about Cúram's technology for improving the delivery of health and human services at merative.com/curam

Let's talk

About Cúram

Cúram by Merative has over 25 years of experience helping national, regional, and local governments, and organizations across health and social ecosystems, to transform the delivery of social services, empower caseworkers, and help individuals and families access the programs they need to achieve better outcomes. Cúram solutions and services expertise are trusted in 12 countries and jurisdictions, and support over 970 government programs. Available in 7 languages, the Cúram platform connects benefits administrators, social services agencies, and case managers, to serve and protect 187 million citizens annually.

Learn more at
merative.com/curam

About Merative

Merative provides data, analytics, and software for healthcare and government social services. With focused innovation and deep expertise, Merative works with providers, employers, health plans, governments, and life sciences companies to drive real progress. Merative helps clients orient information and insights around the people they serve to improve decision-making and performance.

Learn more at merative.com

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