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Child Welfare tip sheet

Navigating GenAI in Child Welfare: Quick-Start Guide for Agency Leaders

Quick Start Guide

Introduction.

As generative artificial intelligence (GenAI) accelerates across sectors, child welfare agencies have opportunities to improve outcomes for children and families through enhanced case management, predictive analysis, and resource allocation. This tip sheet guides child welfare leaders in responsibly implementing GenAI while prioritizing the well-being and safety of vulnerable populations.

What Is AI? How Does GenAI Fit Into AI?

AI systems accomplish complex tasks through "training" on existing data and doing "inference" to apply that training to new situations. For child welfare, three AI systems are particularly relevant:

Data mining: Extracts information from complex data. Common examples include optical character recognition (OCR) for searching text within images and natural language processing tools that identify risk factors in text data or flag important information in case notes.

Outcome prediction: Forecasts specific outcomes as probabilities or expected values. Examples include risk scores, predicted case categories, and estimated impacts of potential interventions based on similar historical cases.

GenAI: Creates new content based on input prompts using large language models like ChatGPT or Google Gemini, which are trained on trillions of words from books, articles, and websites. These models understand the context of words and generate human-like responses.

GenAI strengths and weakness

GenAI systems develop intuitions for natural text but may "hallucinate" when lacking information. For example, asking "What product did Apple release on December 1, 1989?" might generate a plausible but fabricated answer because no product was released on that date. Several methods can improve dependability:

- Retrieving context from databases before generating outputs (RAG)
- Adding "reasoning" steps where models "think out loud"
- Fine-tuning models on task-specific examples ◢

Applications in Child Welfare: Examples and Best Practices

1. General efficiency: Secure chatbots

GenAI can assist with document summarization, editing, report drafting, and administrative writing tasks while protecting sensitive data. Chatbots also set the stage for integrating additional tools as advanced capabilities become more accessible.

For example, Mathematica has developed GenAI tools for document review based on our experiences prompting simple chatbots.

TIP: Start small and focus on pain points.

Begin with low-risk, specific use cases where you can clearly demonstrate time saved or quality improved. Consider measuring those outcomes with a pilot or comparison. GenAI is highly flexible, and learning effective prompting strategies for basic tools can provide significant value with minimal cost.◢

2. Understanding case histories: Summary tools

TIP: Ensure transparency by linking to raw data.

GenAI can produce "hallucinations" or plausible but untrue information. Present AI outputs alongside source data for verification and consider tools like RAG to explicitly cite underlying data. Build strong data collection and management practices that can grow as tools improve.◢

Case histories in child welfare span formal documents, case notes, and administrative data. GenAI can summarize and synthesize these details, enabling staff to better understand client histories and flag important information that might otherwise be buried in lengthy notes.

For example, Mathematica developed a GenAI tool for patient history summaries that flagged important information (such as suicidality) from case notes that were absent from administrative data. Mathematica's initial pilot for a similar application in child welfare shows promise.

3. Decision support tools

Decision points in child welfare involve intersecting details about case contexts and potential interventions. GenAI can help identify and present the most relevant information, such as family support programs for which clients qualify based on case history, or synthesizing information from research and similar cases.

For example, Mathematica has designed GenAI tools to provide tailored guidance to agricultural development teams based on research and experiences from projects in ecologically similar contexts.

TIP: Integrate AI tools into your service framework.

Tools should be part of larger continuous quality improvement and human-centered design processes. Involve diverse stakeholders, ensure transparent use, and clearly define acceptable applications. AI should support, not replace, professional judgment.◢

Table 1. AI tools for child welfare tasks

Child welfare applications	GenAI	Data mining	Outcome prediction
General efficiency	Drafting, editing, summarizing, and brainstorming	Converting PDFs, images, and recordings to searchable text	Not applicable
Understanding case histories	Generating structured information of case histories or case notes	Detecting risk factors, flagging participants in notes or recordings	Predicting important information (such as danger probability)
Decision support	Synthesizing information from relevant research, internal resources, and similar cases	Not applicable	Predicting intervention impacts based on similar cases

Technical Considerations for Adoption

Child welfare data comprise highly sensitive personal information including medical histories, criminal histories, and family relationships. Protection is paramount for compliance with federal and state security requirements. Agencies have two general options for adopting GenAI tools:

In-house development: More IT burden but offers greater control and flexibility

- Model access: Cloud services provide secure application programming interfaces with compliance features (Federal Risk and Authorization Management Program [FedRAMP], Health Insurance Portability and Accountability Act [HIPAA]) such as ChatGPT Government on Microsoft Azure or Claude on AWS Bedrock. Alternatively, agencies can download certain models for direct use, like Meta's Llama models.

- User interfaces: Options like Open Web UI emulate chatbot interfaces while keeping data locally stored within organizational systems. Custom user interfaces can be built using services like AWS Amplify and AWS Cognito.

- Example setup: A ChatGPT Government account using an Open Web UI-based user interface with authentication, all hosted in Microsoft Azure.

Vendor partnerships: Fewer technical obstacles but potential compliance challenges

- Key security considerations: Will your data train models? Are data encrypted in transit and storage? How long are data retained?

- Seek comprehensive guarantees including HIPAA compliance and zero/minimal data retention.

- Evaluate vendors on security features (non-training agreements, encryption) and ability to provide needed tools.

Looking Ahead

GenAI has the promise to fundamentally change how agencies understand cases and provide services, creating transparency and enabling continuous improvement. Future applications may include:

- **Community engagement tools**: Summarizing information and resources for clients and structuring information from community engagement efforts for agency staff

- **Interactive case documents**: Updating documents as new information enters the system and allowing exploration through chatbot interfaces

By taking thoughtful first steps now, agencies can build the internal capacity and data infrastructure needed to harness these technologies responsibly, creating child welfare systems that are more responsive, transparent, and effective in serving children and families.

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