HTA156

From Pilot to Platform - Expanding Generative AI Coauthoring Across Global Value Dossier (GVD) Sections with Proven Quality and Validation

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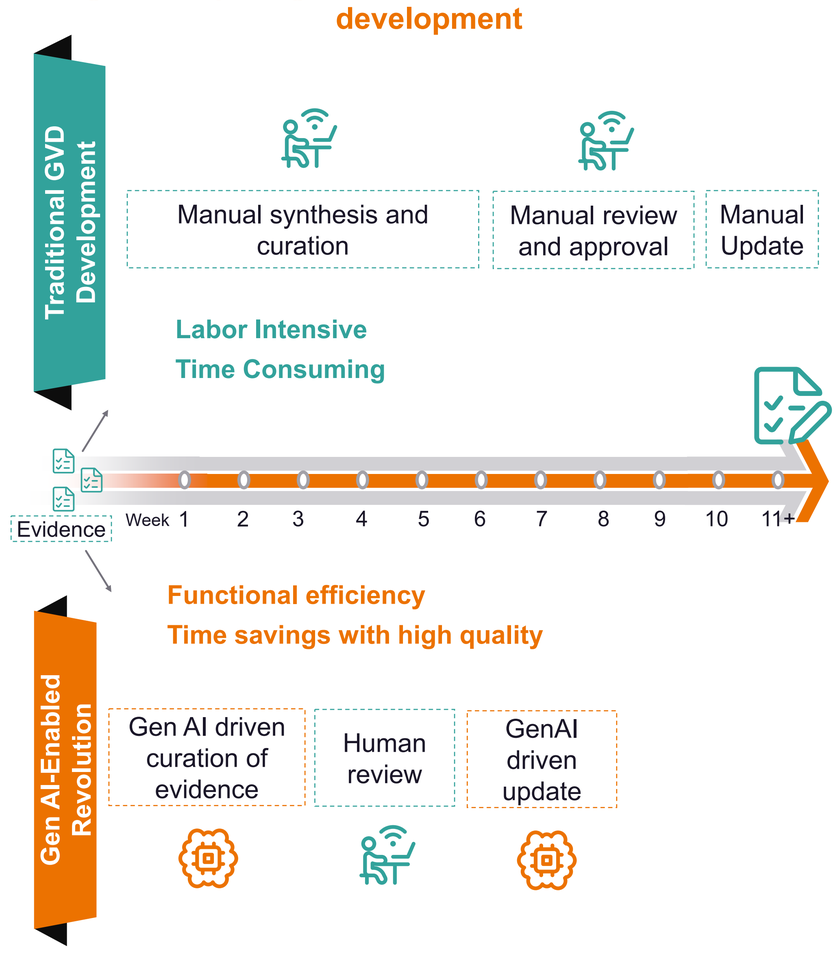
Background & Objectives

- Global Value Dossiers (GVDs) are essential for communicating a therapy's clinical, economic, and humanistic value to payers and HTA stakeholders
- Manual GVD development is resource- and time-intensive, requiring extensive evidence synthesis and cross-functional alignment
- Building on our validated GenAI GVD Coauthoring Accelerator, we explored its scalability to generate additional disease burden chapters with similar accuracy and quality
- Evaluate the scalability of our global value dossier (GVD) Coauthoring Accelerator in developing additional dossier chapters on disease burden; including clinical, humanistic, and economic; without compromising accuracy or quality

Methods

- Building on our existing methodology[1] and proof-of-concept of our Gen AI GVD Accelerator, we curated an outline template to demonstrate how our tool can support other chapters of a GVD including burden of disease which included clinical burden, economic burden, and humanistic burden
- Our Retrieval-Augmented Generation (RAG) framework was used to apply the configured prompts to the reference documents. Prompt engineering thoughtfully aligned with key evidence types relevant to each burden domain
- We evaluated prompts and quality of outputs for those three sections of the GVD to validate the following key metrics (1) accuracy of extracted content, (2) traceability to references of the original evidence sources, (3) efficiency and time to generate each chapter, and (4) completeness

Fig 1: Comparing traditional vs GenAI enabled GVD development



Results

- The tool demonstrated strong content development for all three chapters with efficiency and a similar accuracy rate to our previous validation (~95%) in extracting the key required evidence
- The tool validated strong accuracy, efficiency, and completeness for the additional sections (**Table 1**)
- Traceability to input references was observed, with similarity scores generally in the moderate-to-high range
- Creation time was reduced by ~70% compared to manual methods, accelerating the time develop an output

Fig 2: Dual agent workflow to generate a GVD output

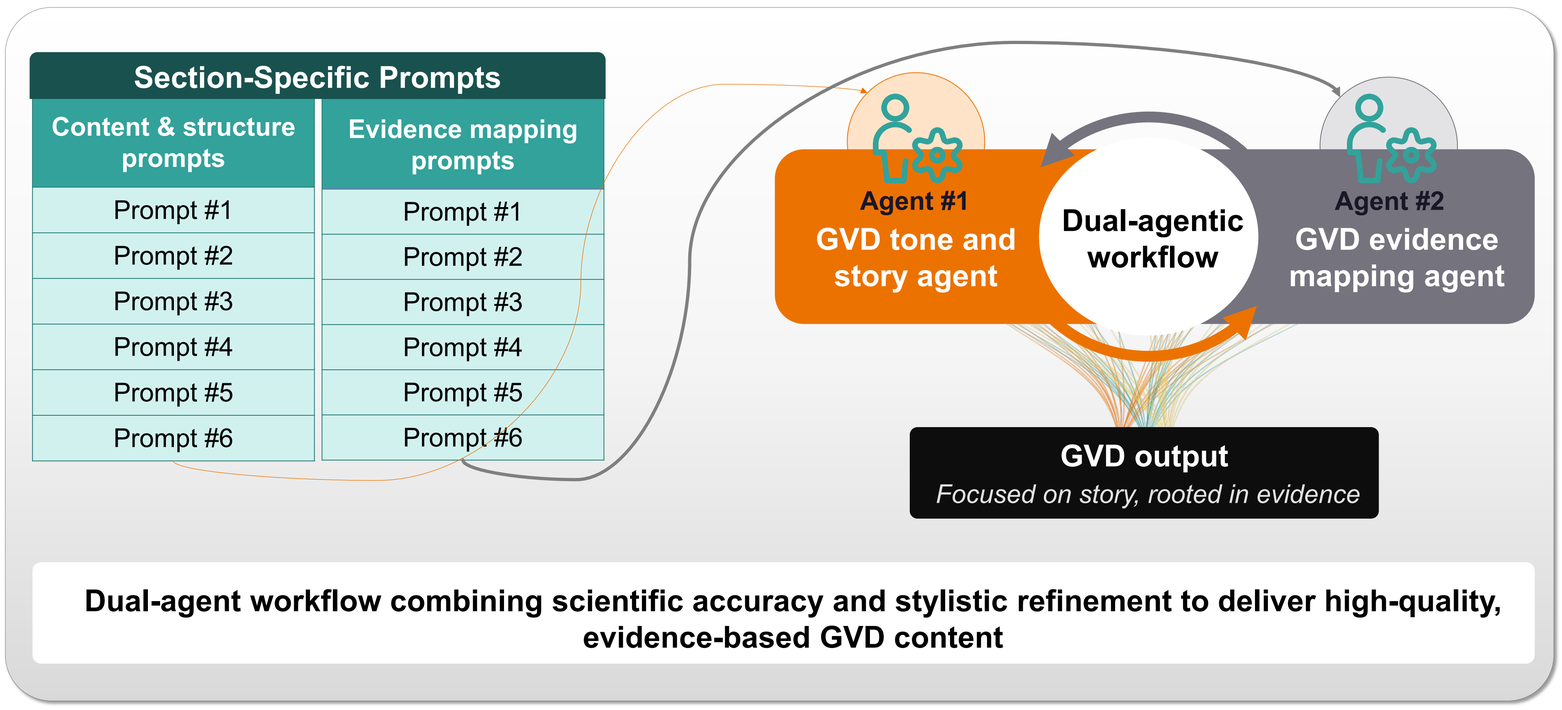


Fig 3: Reviewer's role in GVD output evaluation

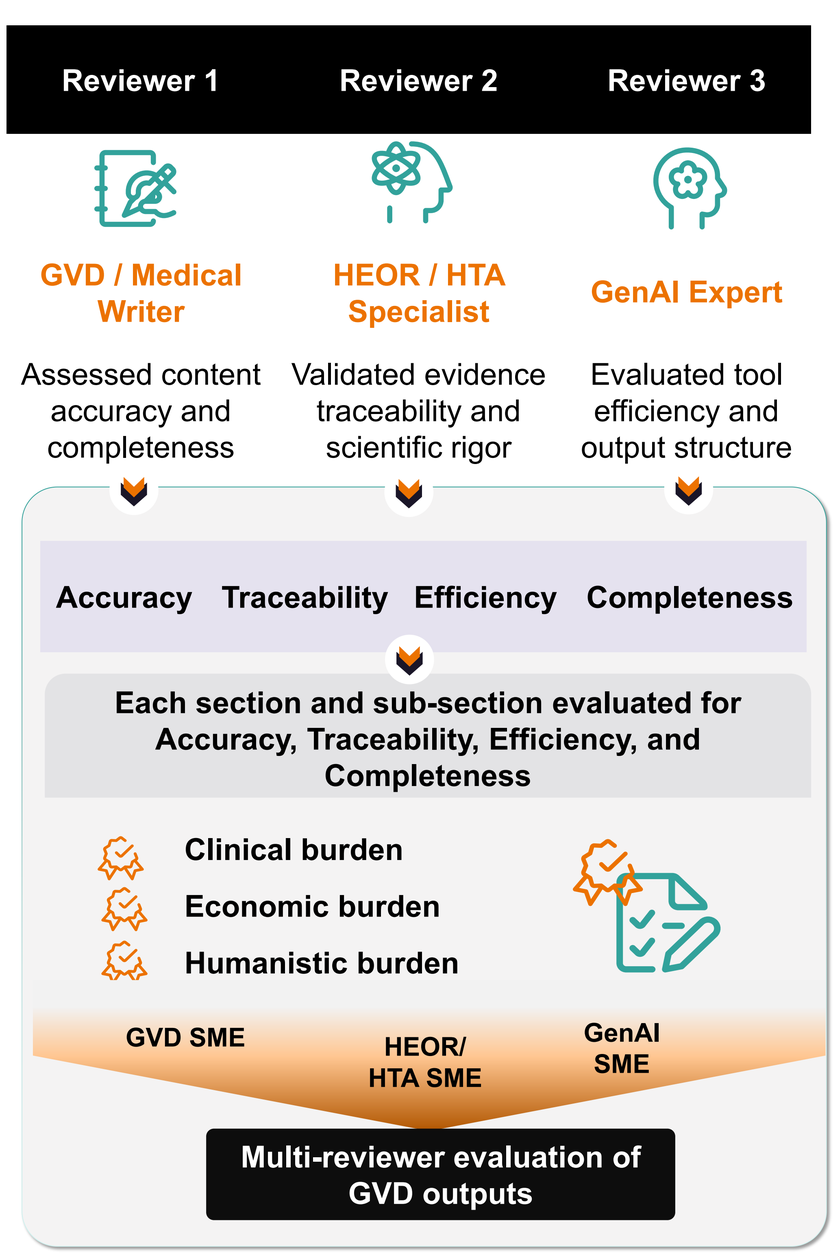


Table 1: Multi-reviewer evaluation of GVD outputs

Metric	How it was Assessed	Outcome
Accuracy	Cross-verification of extracted content vs. source evidence	**~95% accurate**, comparable to prior validations
Traceability	Mapping of in-text citations and references to original sources	**Strong linkage**, moderate-to-high similarity scores
Efficiency	Time comparison: GenAI vs. manual authoring	**~70% faster** than manual drafting
Completeness	Assessment of coverage for required GVD sections and subtopics	**High completeness**, only minor formatting refinements

Conclusion

- We produced modular GVD content across clinical, economic, and humanistic chapters of a GVD with high accuracy, completeness, and traceability
- This further demonstrates and supports our original proof-of-concept for the potential to leverage a GVD Coauthoring Accelerator to effectively support dossier development
- These findings further support strategic quality and value of using AI to expedite and support alignment across stakeholders in driving content generation with a focus on HTA and payer requirements

References

1. Gofman, Larisa et al. HTA74 Transforming Global Value Dossier (GVD) Drafting: Creation with a Generative Artificial Intelligence (Gen AI)-Driven Coauthoring Accelerator Value in Health, Volume 28, Issue 6, S260.