

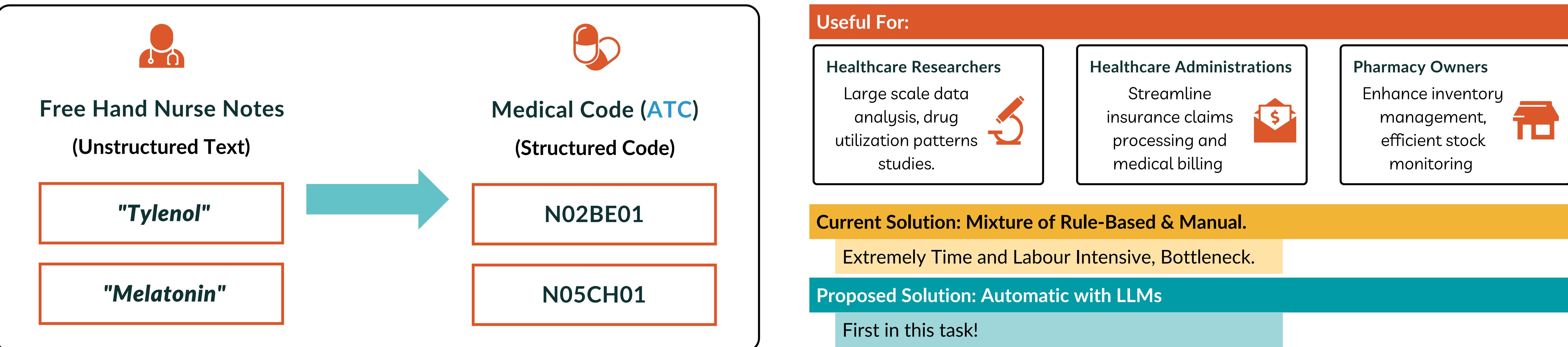


Zero-Shot ATC Coding with Large Language Models for Clinical Assessments

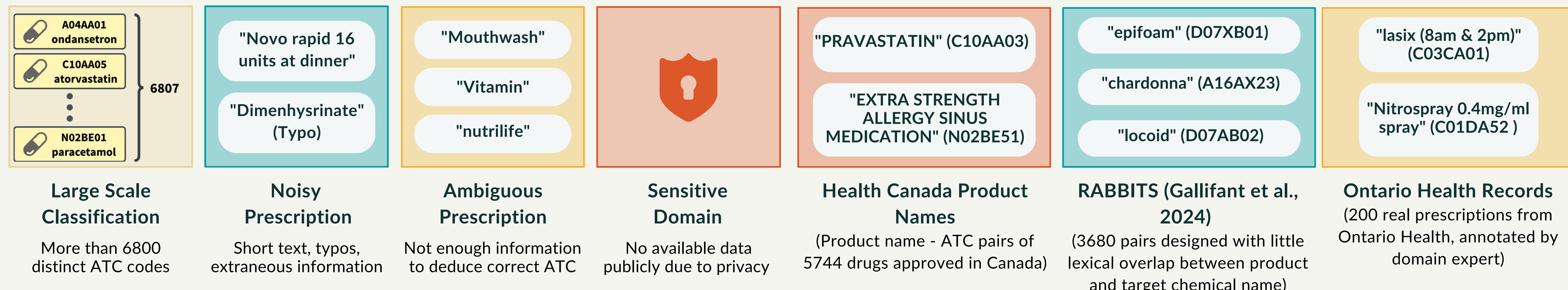
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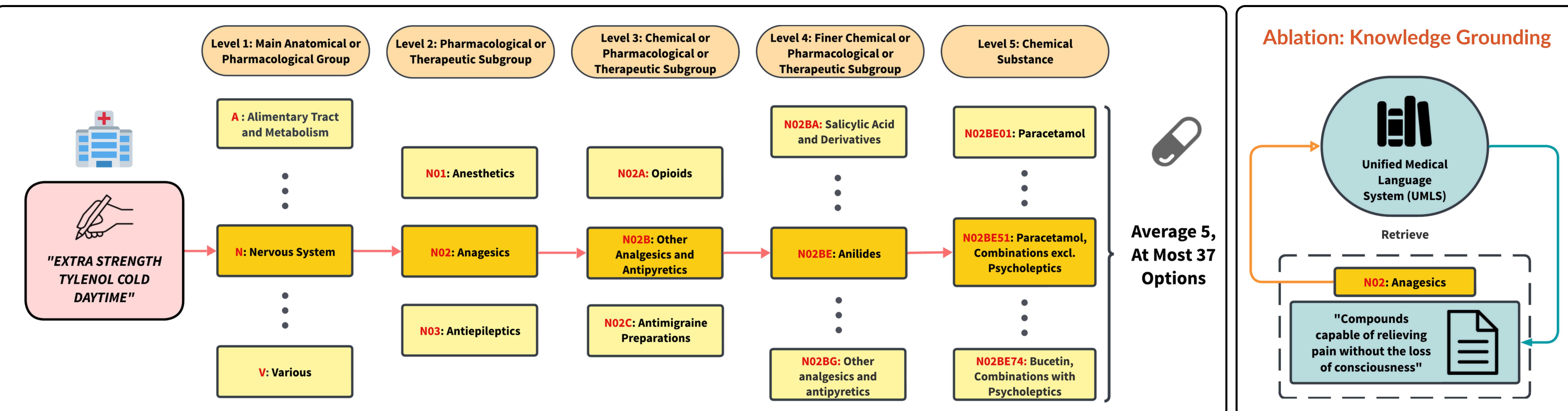
What Is ATC Coding?



Challenges

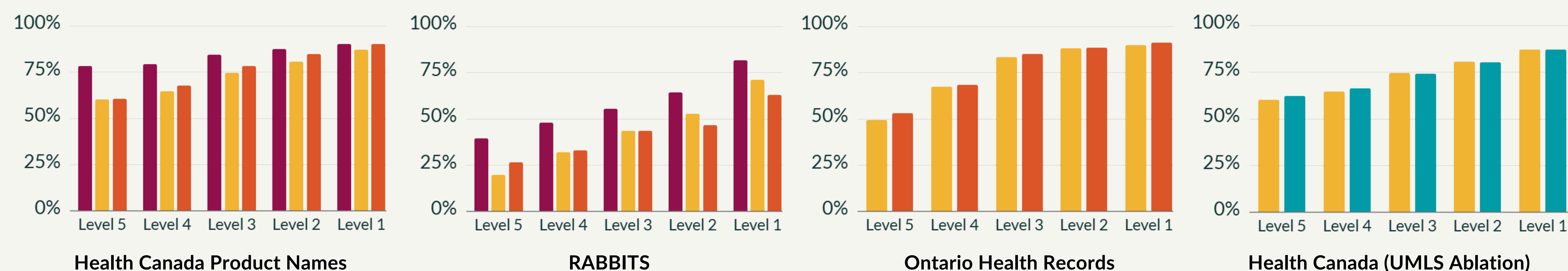


Method



Results and Discussion

● GPT-4o ● Llama 3.1 70B ● Fine-tuned Llama 3.1 8B ● Llama 3.1 70B with UMLS



- Automatic ATC coding is feasible with LLMs. Strong Zero-Shot accuracy of 78.4% exact-matches on Health Canada.
- Product name is good proxy for the scarce medical record data, where LLMs demonstrate meaningful effectiveness.
- When supervision is available, a fine-tuned model can match a much larger model.
- While UMLS augmentation demonstrated modest improvements at the deeper levels, more effective knowledge grounding solutions should be investigated.
- Current LLMs' ATC coding capabilities rely heavily on string similarity between prescriptions and their chemical counterparts, suggesting an area for future improvement.