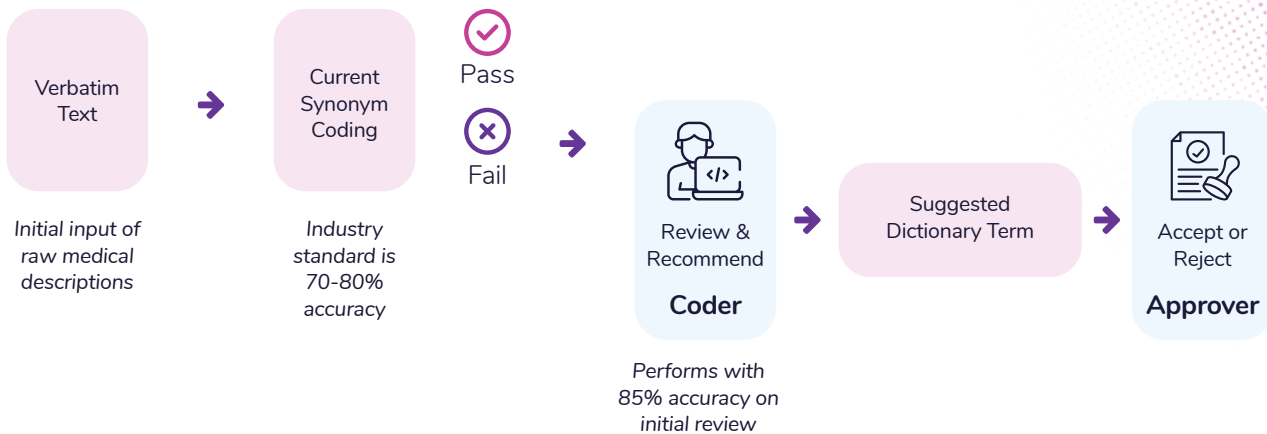# Intelligent Medical Coding

The Business Challenge

Medical coding has remained largely unchanged for decades. As data volume, complexity, and the number of patients in clinical trials increase, maintaining consistency and accuracy through traditional coding methods can become a critical and costly challenge.

Synonym lists help match terms from medical records to standardized medical codes. However, not all terms can be matched automatically. **About 20–30% require manual review,** which is a resource-intensive, error-prone process. Medical coders spend considerable time assigning codes, and any discrepancies are sent back for reevaluation. An approver then reviews all decisions, accepting or rejecting them, adding a second layer of scrutiny and quality control before finalizing the code.

Traditional Medical Coding

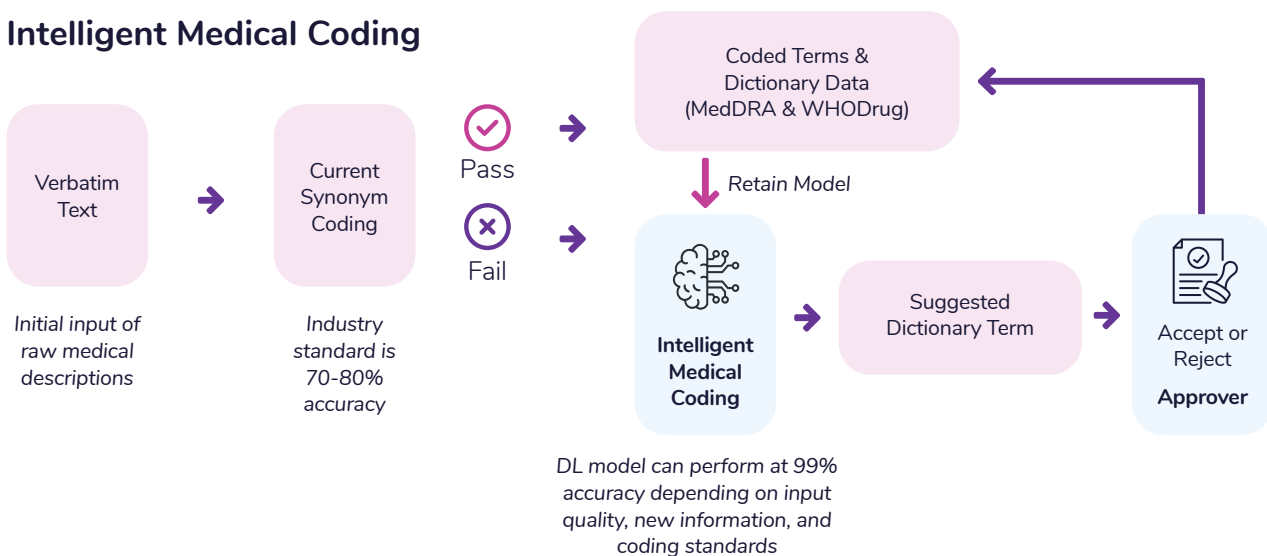| Verbatim Text	Current Synonym Coding	Pass / Fail	Review & Recommend **Coder**	Suggested Dictionary Term	Accept or Reject **Approver**
Initial input of raw medical descriptions	*Industry standard is 70-80% accuracy*		*Performs with 85% accuracy on initial review*		

Supplement Human Expertise with Deep Learning

Technology for Modern Medical Coding

CluePoints' Intelligent Medical Coding harnesses advanced Deep Learning (DL) technology to enhance the accuracy and efficiency of coding in clinical trials. Seamlessly integrating DL, it autonomously generates accurate suggestions, drastically minimizing the laborious task of manual coding while enhancing coding uniformity. With Intelligent Medical Coding, you can:

- Receive suggestions for adverse events and concomitant medications at up to 99% accuracy for MedDRA and 95% for WHODrug dictionaries

- Reduce manual quality control checks that frequently lead to inconsistencies across studies

- Simplify dictionary upversioning with a DL model that instantly adapts to new versions of medical dictionaries, offering coding suggestions with up to 80% accuracy for even new terms

- Ensure accurate coding across a broad spectrum of medical jargon, drug names, and emerging terminology.

- Automate understanding of nuanced medical terms like 'ache' and 'pain'

Intelligent Medical Coding uses DL to learn from medical coders' choices and improve coding suggestions, reducing manual input by 50%. **This transforms the role of coders from data management to data science, shifting their focus to approving, reviewing, and studying coding trends.**

Intelligent Medical Coding

Verbatim Text
Initial input of raw medical descriptions

Current Synonym Coding
Industry standard is 70-80% accuracy

Pass

Fail

Coded Terms & Dictionary Data (MedDRA & WHODrug)

Retain Model

Intelligent Medical Coding
DL model can perform at 99% accuracy depending on input quality, new information, and coding standards

Suggested Dictionary Term

Accept or Reject
Approver