Empowering medical coders with AI

Faster, more precise medical coding at ProSciento

By 2025, nonalcoholic steatohepatitis (NASH) — a severe form of nonalcoholic fatty liver disease (NAFLD) — will be the leading cause of liver transplants in the US, researchers forecast. Often called a silent liver disease, NASH occurs when fat buildup in the liver leads to hepatitis (inflammation) and potentiallycirrhosis(scarring) and liver cancer.

NASH and NAFLD generally don't cause signs or symptoms until progressing to these more serious and life-threatening stages. In response, clinical researchers worldwide are racing to develop diagnostic biomarkers and effective treatments.

ProSciento helps lead research in this area and for other related, metabolic diseases, including diabetes and obesity. A full-service specialty clinical research organization (CRO), the company supports biopharmaceutical, biotechnology and medical device companies worldwide with a comprehensive portfolio of services, from strategic planning to completion of multinational clinical trial programs.

David Provenghi, Director of Clinical Data Management at ProSciento, understands that every moment counts in his team's work. Several years ago, he adopted the Zelta™ clinical trials platform by Merative to facilitate data management. Today, his team uses it to develop, validate and launch all clinical studies, saving them the chore of maintaining multiple in-house systems. Designed to help life sciences organizations bring therapies to patients faster while reducing clinical trial times and costs, the unified, cloud-based clinical data management system (CDMS) helps streamline critical data management functions.

For example, the team must accurately and consistently code trial data for study analysis and reporting. The process involves reviewing raw text submitted in electronic case report files (eCRFs) and then mapping terms — such as those pertaining to drugs, adverse events and patient medical history — to identifiers used in the Medical Dictionary for Regulatory Activities (MedDRA) and other standardized medical dictionaries.

Medical coders use no more than one AI-enabled search to rapidly code

84%

of terms.

Helps speed metabolic disease research, including for NASH, soon to be the

#1

cause of liver transplants

For many years, data managers at ProSciento used basic search functions to automate medical coding for commonly used terms. A more efficient, precise method was not yet available, but eCRFs can contain misspelled, unusual, unclear, or lengthy descriptions that do not result in exact dictionary matches. In these cases, coders had to perform tedious, time-consuming manual searches and repeatedly refine their searches until they located appropriate codes. This process could cause coder fatigue and errors.

“Coders would get frustrated,” says Provenghi. “It could take so long to find a suitable match that when they saw something that looked close they chose it.”

“Using AI in our medical coding, we can get through the volume more quickly but also more intelligently.”

David Provenghi
Director of Clinical Data Management
ProSciento

Greater productivity and precision

To ease medical coder fatigue and frustration, ProSciento adopted the Zelta Medical Coding with AI module, Powered by sophisticated AI technologies instead of standardized algorithms, the solution reads unstructured text and automatically generates appropriate code suggestions.

If coders prefer, they can also perform AI-powered manual searches and then make a selection. Either way, coders can find an appropriate term much faster and also one with more granularity, says Provenghi.

"For example, someone manually searching the MedDRA dictionary for 'wrist fracture' might find 'fracture' and select that term, thinking it's good enough," he explains. "That's where the AI really assists, because it recognizes that the word 'wrist' is included so recommends both 'wrist' and 'wrist fracture.'"

In addition, AI-generated and traditional search results appear on the same screen, so coders can work faster yet continue to draw on their own expertise.

"I think there needs to be some human intervention, some oversight," says Provenghi. "Even though the majority of time we're happy with the AI suggestions, this blended approach allows the coder to quickly view several options and apply critical thinking before committing to one."

Provenghi says that because coders can overrule AI-generated suggestions if needed, the system doesn't introduce bias into clinical data. "Ultimately, it's our responsibility to make sure those recommendations are accurate. So we're basically performing quality control," he says. "I feel strongly that the overall quality of our coding is even better since we started using AI more consistently."

The Medical Coding with AI module provides the data management team with a versatile tool that is helpful in coding data across a range of clinical studies. Coders in particular appreciate the solution when they work on highly complicated studies focused on NASH and other fatty liver diseases. These studies generally have larger patient populations, who tend to have more extensive medical histories. In addition, during trials these individuals are more apt to experience several adverse events, descriptions of which can be more challenging to code.

"Using AI in our medical coding, we can get through the volume more quickly but also more intelligently," Provenghi explains.

“Coders can find an appropriate term in a much shorter period of time and with more granularity.”

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Dramatic time savings

With AI technology, ProSciento medical coders can code 84% of terms using no more than one search. Previously, prior to using the AI-enabled function, coders could find only 5% of terms with one search.

The time savings are significant. “Now, it can take just a matter of seconds, less than a minute, to code a single term using AI, whereas it might take a few minutes using the traditional method,” says Provenghi. “When you compound the volume, it really does make a difference.”

The ProSciento data management team performs several other responsibilities besides medical coding, so every minute saved in prepping trial data is a minute saved for other productive work, he emphasizes. Medical coders also indicate that AI searches help enable more accurate coding, because the searches generate terms they might have otherwise missed.

Using the AI-enabled searches, the team now codes more frequently, helping ensure availability of higher quality, up-to-date clinical data for monthly reporting and analysis. Sponsors rely on this data to pinpoint trends that might signal safety issues, such as concerning patients’ adverse reactions to early trial drug dosages.

With the Zelta CDMS, ProSciento is positioned to stay at the forefront of complex research. In addition to taking advantage of AI-assisted functionality, the company also benefits from fully integrated, automated workflows; user-friendly interfaces accessed through a single sign-on site; and rapid scalability to handle distributed teams and huge data volumes.

“I see the platform continuing to keep up with the times, the technology and the needs we have for our growing business.” Provenghi says. By using a leading-edge solution, the team can help researchers worldwide more quickly and efficiently advance timely treatments for NASH and other patients.

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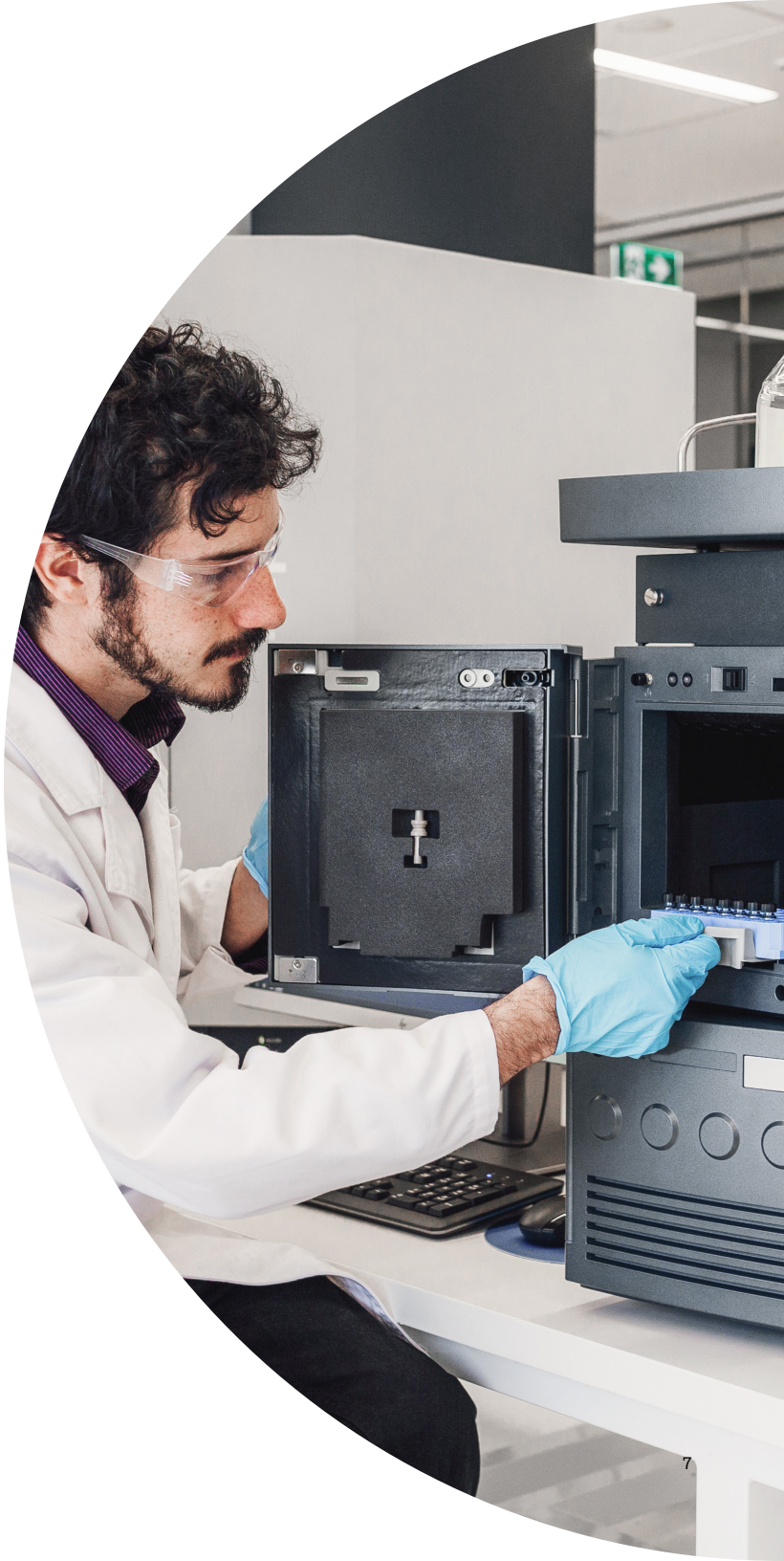

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About ProSciento

ProSciento is a specialized CRO focused on NASH, diabetes, obesity and related metabolic diseases. Founded in 2003, the company has conducted more than 300 clinical projects for biopharmaceutical companies worldwide and supported development of many approved metabolic drugs and devices available globally. Based in Chula Vista, California, in the US, ProSciento employs approximately 130 people.

About Merative

Merative is a data, analytics and technology partner for the health industry, including providers, payers, life sciences companies and governments. With trusted technology and human expertise, Merative works with clients to drive real progress. Merative helps clients reassemble information and insights around the people they serve to improve healthcare delivery, decision-making and performance. Merative, formerly IBM Watson Health, became a new standalone company as part of Francisco Partners in 2022. Learn more at www.merative.com.

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