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The Real-World Data Disconnect: Why Insights Still Fall Short in Complex Populations

This article covers:

- **Current Perspective: Where RWD Still Falls Short**

- **Addressing Limitations with Technology, Culture, and Accountability**

Real-world data (RWD) has become a powerful tool for understanding healthcare beyond the controlled environment of clinical trials, shaping research, informing regulations, guiding population health, and enabling precision care. Despite its benefits, however, RWD often falls short of capturing the full complexity of patients' real-world journeys—especially for those with chronic or rare conditions, multiple comorbidities, or significant social risk factors.

"Even with more data than ever before, we still miss the context that matters most—what drives decisions, what shapes outcomes, and the challenges patients face in everyday life," says Gina Wang, director of product management at Veradigm.

Wang's extensive career across healthcare analytics—in provider, payer, and life sciences sectors—has given her a firsthand view of both the advancements made and the persistent challenges in RWD. This broad experience provides her with valuable insight into the complexities of integrating and utilizing diverse healthcare data effectively.

CURRENT PERSPECTIVE: WHERE RWD STILL FALLS SHORT

Early RWD efforts leaned heavily on claims data. While these datasets offered scale and coverage, they lacked nuance. "Claims gave us a wide lens," says Wang, "but vulnerable populations—those with mental health conditions, social risks, or multiple diagnoses—were often invisible or reduced to billing codes."

The introduction of electronic health record (EHR)-derived data added clinical depth, capturing lab values, vitals, demographics, and assessments. But key questions still go unanswered. "We often lack the 'why' behind care decisions—why medications change, appointments are missed, or treatment stops. That context is often buried in unstructured notes or missing entirely," says Wang.

Stakeholders across the healthcare ecosystem feel the impact. Researchers struggle to interpret outcomes without understanding patient complexity. Clinicians make care decisions without reliable insight into caregiver support, functional limitations, or quality-of-life goals. And payers face blind spots in risk models when behavioral health and social factors go unseen.

"Disconnected EHRs mean incomplete histories," says Wang. "A patient may receive care across five systems—and no one has the full picture." Fragmentation leads to missing labs, undocumented treatment changes, or patients appearing treatment-naïve simply because a prior therapy was delivered in a different care setting or paid for by a different insurer.

Social context is another obstacle. "Food insecurity, transportation barriers, unstable housing—these aren't background issues," says Wang. "They're often the reason a patient delays care or doesn't adhere to treatment. Without that visibility, we risk misunderstanding what's actually happening."

And when underrepresented populations are also underrepresented in the data, the consequences are far-reaching. "Our insights may be biased, and our interventions risk missing the mark entirely."

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ADDRESSING LIMITATIONS WITH TECHNOLOGY, CULTURE, AND ACCOUNTABILITY

"We need to improve how we extract and link data across systems and formats," says Wang, suggesting that leveraging technology can be instrumental to addressing current obstacles.

Technologies like natural language processing (NLP) and artificial intelligence (AI) are making it possible to capture insights buried in unstructured information—surfacing barriers like language, affordability, and caregiver burnout that too often go unrecorded.

Just as important is the ability to follow patients over time. "Longitudinal data reveals patterns that snapshots simply can't—like delayed diagnoses, care interruptions, and the compounding risks faced by marginalized groups," she adds.

But technology alone isn't the answer. "Even the best tools fall short without a strong commitment to equity," Wang explains. "We have to rethink how we design and evaluate data—from measuring representativeness to building inclusivity and holding ourselves accountable to the communities we aim to serve."

That shift is already beginning. "The conversation is moving—from quantity to quality, from completeness to context," Wang says.

Wang explains that organizations like Veradigm Life Sciences are helping drive this evolution, not only through advanced technologies but also by embracing the cultural and structural changes needed to make real-world data more inclusive and actionable.

"We are working to uncover the lived experiences of patients that too often go unseen-by extracting meaningful insights from unstructured notes and enabling longitudinal views through linked clinical and claims data, including via our collaboration with Merative," says Wang.

There's also growing pressure from regulators to advocacy groups to embed equity into the evidence base, explains Wang. "Veradigm is helping stakeholders meet that challenge by making richer, more representative data available and usable."

Overall, Wang is pleased with the progress she sees. "We're starting to ask the right questions. We have the data. Now, we need the will—and the wisdom—to use it better."

Closing these gaps will require more than new tools-it will require sustained investment, cross-sector collaboration, and a shared commitment to health equity.

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