[HCG THOUGHT LEADERSHIP]

TRUST, TRIALS, AND TRANSFORMATION

AI's Place in the Future of Oncology

Across the business world, artificial intelligence (AI) has exploded as a force driving efficiency and innovation. Even if you aren't personally exploring it, the person next to you likely is, as is the person next to them. Healthcare is no different, and with oncology at the forefront of healthcare innovation, it's no surprise that AI had a major (make that mAIjor) presence at this year's ASCO annual meeting. That said, the ways AI manifested its presence at the annual meeting were varied, and the impact of that presence is best evaluated by considering two of the annual meeting's major audiences: oncology HCPs and industry stakeholders.

> 64% of faculty, fellows, nurses, and advanced practitioners reported having used AI.[1]

Oncology clinicians' perspectives on AI in clinical practice

Several sessions at ASCO highlighted the numerous functions AI is already contributing to. In fact, in one single-institution survey, 64% of faculty, fellows, nurses, and advanced practitioners reported having used AI.[1] And while the survey respondents reported using AI more for personal use than clinical practice, it is clear that across the landscape, AI is informing diagnoses and prognoses, enhancing training, streamlining documentation, and more. AI's value is clear. As Douglas Flora, MD, noted, "To not use these tools anymore, it's actually impeding your ability to care for patients."[2]

So if AI's already here, what's working, what's not, and where is the opportunity for industry based on discussions at the ASCO annual meeting?

ASCO 2025: what's working

Across education sessions and data presentations, it was clear that much progress has been made in some critical areas.

Diagnosis, prognosis, and symptom management: Several presentations touched on AI-driven models to improve core aspects of patient care. AI models applied to radiology and pathology improved biomarker testing and assessing treatment response.[3,4] AI approaches were also

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able to help identify patients at risk of financial toxicity or who could potentially derive greater benefit from specific treatments.[5,6] Add in the growth of ambient dictation tools, and it's easy to see how these assistive roles for AI are being welcomed.

Where there's optimism: Two areas where it's clear that AI is close to redefining oncology are education and clinical trials. For education, 94% of the aforementioned survey respondents expect AI to be incorporated into medical education, including for replacing traditional materials, creating simulations, or even in developing patient educational materials.[1] As an example, assistive AI was shown to improve pathology training and HER2 scoring in breast cancer, something that would have obvious benefits for treatment selection.[7] And with only 5%-8% of adult cancer patients participating in clinical trials (when 70% are "very willing" or "inclined"),[8] the potential for AI to enhance trial recruitment through prescreening and trial-matching algorithms is downright exciting. AI could identify and match patients to trials and even help fight systemic biases that have limited trial inclusivity.

ASCO 2025: What's not working, and where there are challenges

Despite all this progress, challenges remain, especially when we think about AI moving from assistive to more influential roles.

Clinical decision support: If there was one area that has generated the most controversy and concern for AI in oncology, it's in the realm of clinical decision support. The opportunity for AI to empower accurate clinical decisions is great, but results in the literature so far are mixed at best: some successes, but also some embarrassingly poor results.[9,10] Leading up to the annual meeting, ASCO announced the results of a partnership with Google to create the ASCO Guidelines Assistant, an AI-powered tool to enable rapid access to the ASCO clinical guidelines. Even with these two powerhouses driving it, there are still some bugs in the system, with several users reporting errors in the application during a live chat session with ASCO and Google.

Trust issues: Trust remains the biggest barrier to broader AI adoption. Clinicians are cautious, concerned about consistency, bias, transparency, and accuracy. They are wary of hallucinations, mistakes, and lost time checking to avoid mistakes.

> Until trust is built and, more importantly, proven to be warranted, the full potential of AI won't be realized.

And there's good reason: "the FDA only regulates a subset of all AI tools that are out there" and "the standards of evidence the FDA has for some of these tools are not up to what you'd think for a typical device or drug," according to Ravi Parikh, MD.[8] So until trust is built and, more importantly, proven to be warranted, the full potential of AI won't be realized.

Pharma's opportunity in an AI-empowered world

In an oncology landscape that is under constant pressure from rapid evolution and increased demands for efficiency and productivity, AI tools could truly be of great value to oncologists. So where can pharma help and further strengthen industry-HCP partnerships and education?

Training: Effective and appropriate incorporation of AI starts with training that equips users to understand what AI can, can't, and shouldn't do. As noted by Douglas Flora, MD, "We need to upskill our own workforce so that we can make sure that we're watching this closely." Industry can partner with leading cancer centers to co-create AI training resources, ensuring clinicians are confident, capable, and compliant in their use of new tools. And in a likely future where AI will identify biomarkers and other tools for patient selection, industry will be the ideal partner to support their understanding and incorporation.

Using AI to elevate education: Across the industry, stakeholders are exploring the responsible use of AI to inform compliant, up-to-date, and relevant content. AI has the potential to identify gaps and tailor

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resources based on the learner's existing knowledge, but only if it's developed with accuracy and rigor. With industry's deep experience developing scientifically accurate content tailored to regulatory and industry standards, there's a wealth of knowledge that can be drawn from to inform effective AI-driven education. Industry can partner with academic centers, for example, to create AI-literacy modules or pilot AI-driven platforms, to the benefit of clinicians.

Continuing to push innovation: Already, AI is being used by industry to inform oncology drug development, trial design, and trial recruitment, and it's appreciated by clinicians. We can't stop here. How can AI better predict response to treatment? Find opportunities to de-escalate therapy? Identify patients who are more likely to need intervention for adverse event management? Or match underrepresented patient populations to clinical trials? These are all areas discussed at the ASCO annual meeting, and are areas where industry's expertise in clinical research and education could translate to better outcomes across the oncology landscape.

Bringing it together

Yes, comments about "AI replacing doctors" echoed through McCormick Place, but the reality is simpler: AI is here to help, not to substitute. As Douglas Flora, MD, succinctly stated, "it has to be man plus machine."[2] AI is here, AI will continue to grow in clinical utility, and the end result will be to make the clinical team stronger. Knowing that this future is coming, the industry opportunity is to lead the way, partner with clinicians, and empower care teams to use these tools to deliver better outcomes for more patients.

Here at HCG, we're exploring every day how to make this reality possible. Reach out to us (we promise we're human, not machines!) to have a conversation about how we can explore these frontiers together.

(Full disclosure: we felt it was only fair to let AI have a say in this piece. Language models were used to consolidate our conference notes, shape the outline, and review the completed article. The article itself was written by a human.)

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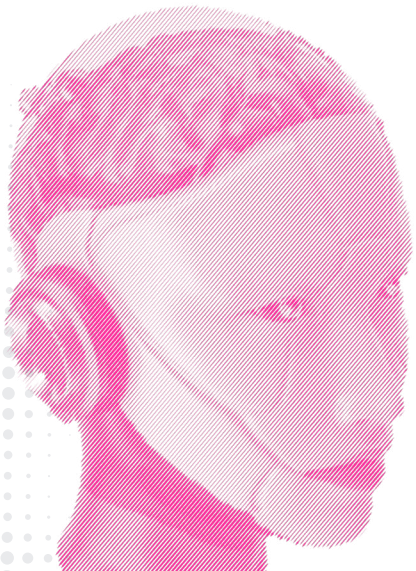

What we saw and heard at ASCO 2025

Thinking beyond the drugs

Discussions at ASCO often focus on novel therapies and regimens, but two of the most discussed presentations at ASCO were less about the treatments and more about how care was delivered.

The CHALLENGE study (Booth et al, abstract LBA3510), a randomized trial of a structured exercise program, showed that providing patients with the support to exercise can have a dramatic effect on outcomes.

Another randomized trial (Zhang et al, abstract 8516) reported better outcomes for administration of immunotherapy earlier in the day for patients with NSCLC. Hypotheses and questions abounded, and answers were sought. For now, oncologists will do their best to apply the data to practice.

Thinking beyond ASCO:
Major conferences continue to emphasize a holistic approach to cancer treatment. With trials like these communicating clear general benefit, learnings can be incorporated into future trial designs and communications.

> Funny how two of the more interesting pieces of data at #ASCO25 have little to do with extraneous medications per se
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> **Anirban Maitra, MBBS (via X)**

ctDNA monitoring coming of age?

The SERENA-6 trial (Turner et al, abstract LBA4) reported significant improvements in PFS and PFS2 for patients with HR+, HER2- metastatic breast cancer. Patients receiving a CDK4/6 inhibitor were switched from an aromatase inhibitor to camizestrant upon detection of an *ESR1* mutation via ctDNA. The data generated excitement and drove a LOT of discussion around the full benefit of the approach and need for more follow-up.

Thinking beyond ASCO:
This is the strongest evidence yet of the potential clinical benefit for ctDNA monitoring. While some of the loudest voices (and potentially regulatory bodies and payers) will need to see more data, the patient-centric benefits continue to portend the arrival of a new treatment strategy. ■

> Amazing presentation & subsequent discussion – need clinical utility before adoption
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> **Icro Meattini, MD (via X)**

/ What we saw and heard at ASCO 2025 (cont'd)

Earlier immunotherapy marches on

Not just earlier in the day – immunotherapy continues show its benefit when incorporated earlier in treatment paradigms. NIVOPOSTOP (Bourhis et al, abstract LBA3), KEYNOTE-564 (Haas et al, abstract 4514), and MATTERHORN (Janjigian et al, abstract LBA5) were just a few of the trials discussed that showed significant and, in some cases, sustained benefit of periadjuvant or adjuvant checkpoint inhibitors.

Thinking beyond ASCO:
The bar in earlier lines continues to be raised to the benefit of patients. Multidisciplinary education will be essential for optimal incorporation, and future research will need to account for these landscape shifts.

> One slide [KEYNOTE-564]. One shift in standard of care.
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> **Yüksel Ürün, MD (via X)**

#ASCO25 stays social

With approximately 44,000 attendees, ASCO continues to be one of the most impactful events on the calendar. Online discussions were strong, and X led the way, but year-over-year mentions on X were down. Bluesky gained steam, and LinkedIn also had ASCO-related activity.

Thinking beyond ASCO:
The social landscape continues to evolve. Consider your goals and tailor your listening and engagement based on those goals and your target audience. X may still be the right place, but due diligence is necessary. ■