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How Sponsors Could Gain Advantage by Embracing Dose Optimisation in Asia by 2026

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Regulatory scrutiny on dose justification is likely to increase

In 2026, oncology drug development in Asia may move away from the historical maximum tolerated dose (MTD) paradigm toward evidence-based dose optimisation. Sponsors might consider adopting strategies similar to the FDA's Project Optimus, which emphasises selecting doses that balance efficacy and safety rather than relying solely on toxicity thresholds. Doing so could improve patient outcomes and position companies favourably as regulatory expectations evolve.

Early-phase oncology trials have traditionally focused on identifying the MTD, assuming higher doses produced greater efficacy. While this approach was appropriate for cytotoxic chemotherapies, it is increasingly unsuitable for targeted therapies and immuno-oncology agents, where efficacy often plateaus below the MTD and toxicity rises unnecessarily. Excessive dosing can lead to avoidable adverse events, dose interruptions, and discontinuations, reducing patient benefit and increasing healthcare burden.

Why Sponsors Should Act Now

Japan's Pharmaceuticals and Medical Devices Agency (PMDA) has signaled interest in model-informed approaches and exposure–response analyses for dose selection. Reviews of oncology new molecular entities approved in Japan between 2020 and 2022 show reliance on MTD-based designs, but regulators appear to be encouraging randomised dose optimisation trials and pharmacometric modeling to justify lower, better-tolerated doses.

China's National Medical Products Administration (NMPA), seems to be moving toward harmonisation with international standards, supported by adoption of ICH guidelines including E17 for multi-regional clinical trials. The gap between labeled doses and real-world practice, such as Apatinib's MTD of 850 mg compared with common clinical use at 250 mg, suggests

that formal optimisation frameworks could become more important. Guidance aligned with FDA principles may emerge, requiring integrated pharmacokinetic and pharmacodynamic data early in development.

Singapore's Health Sciences Authority (HSA) currently emphasises robust clinical justification for dose selection. By 2026, requirements could include multi-dose comparative trials and patient-reported outcomes, consistent with ASEAN harmonisation efforts and global best practices.

Implications for Sponsors

Sponsors may want to embed dose optimisation in early-phase trials to inform and document dose selection rather than defaulting to MTD. Patient-centric endpoints such as quality of life and tolerability should be integrated alongside traditional efficacy metrics. While regulatory scrutiny on dose justification is likely to increase, adopting these strategies early could reduce post-approval uncertainty and strengthen payer confidence in clinical value.

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