

The fate of drug discovery in academia: Why is it so difficult?

February 5 2024

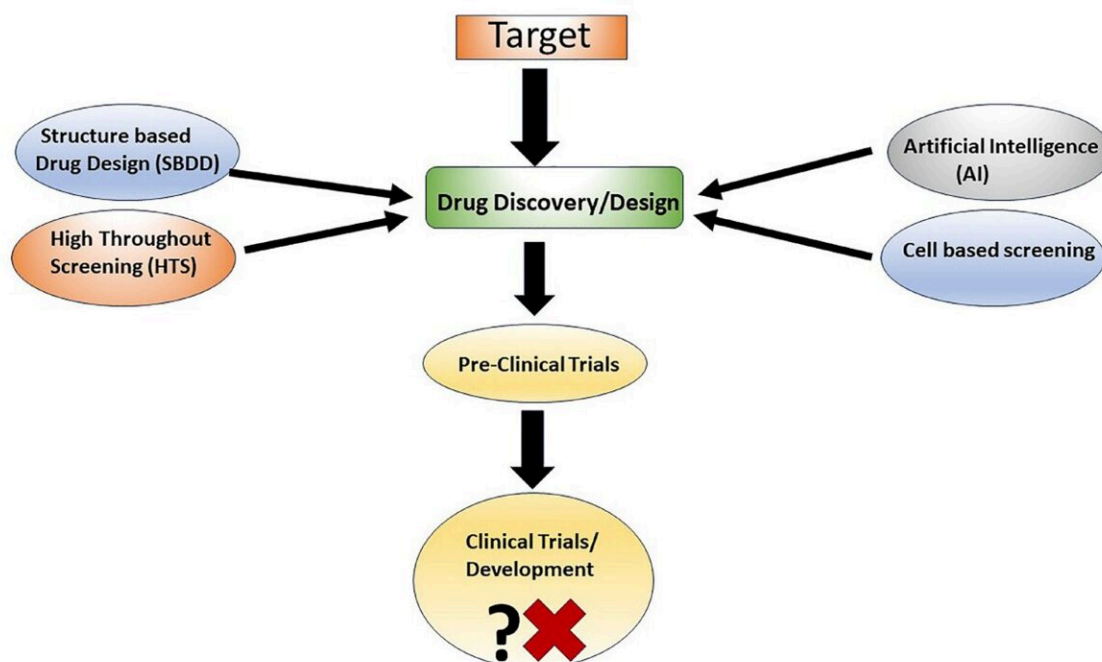


Figure 1: A typical drug discovery and development strategy.

A typical drug discovery and development strategy. Credit: *Oncotarget* (2024). DOI: 10.18632/oncotarget.28552

A new editorial paper titled "The fate of drug discovery in academia; dumping in the publication landfill?" has been [published](#) in *Oncotarget*.

In this new editorial, researchers Uzma Saqib, Isaac S. Demaree,

Alexander G. Obukhov, Mirza S. Baig, Amiram Ariel, and Krishnan Hajela, from India's Devi Ahilya Vishwavidyalaya, Indore, discuss drug discovery—a tedious process that is time-consuming in both divulging whether a molecule is efficacious and specific in hitting the target, and also in confirming that the potential drug does not cause severe adverse effects.

Many [drug candidates](#) fail crossing multiple checkpoints of this long journey; they lag in one or several aspects and never move beyond the research bench to contribute to public health. These setbacks make the process of drug discovery very time-consuming, expensive, and tedious.

"This viewpoint is focused on delineating how and why the multi-million [dollar] research efforts in the field of drug discovery often fail to reach its full potential," the researchers explain.

There is no shortage of studies focusing on drug discovery. They are published on a daily basis describing the efforts encompassing conventional and/or modern [drug discovery](#) technology, including structure-based drug design (SBDD), virtual screening, [high-throughput screening](#) (HTS), [artificial intelligence](#) (AI), and cell-based screening approaches. However, many drug development strategies are rather fuzzy in their advancement.

Thus, there is a large gap between drug "discovery" and "development." This part could be attributed to the lack of synergy between academia and industry at multiple levels. A significant part of this failure results from the lack of streamlining within the drug development process.

The researchers summarize, "In the current perspective, we discussed why many therapeutic molecules never make it to [clinical studies](#) despite being proven efficacious pre-clinically. Additionally, we discussed the possible solutions to overcome this défaut of the drug development

process."

More information: Uzma Saqib et al, The fate of drug discovery in academia; dumping in the publication landfill?, *Oncotarget* (2024). [DOI: 10.18632/oncotarget.28552](https://doi.org/10.18632/oncotarget.28552)

Provided by Impact Journals LLC

Citation: The fate of drug discovery in academia: Why is it so difficult? (2024, February 5) retrieved 12 May 2024 from <https://medicalxpress.com/news/2024-02-fate-drug-discovery-academia-difficult.html>

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