# Article information:

Development of a human genetics-guided priority score for 19,365 genes and 399 drug indications | Nature Genetics  
<https://www.nature.com/articles/s41588-023-01609-2>

# Article summary:

1. The cost of research and development for therapeutics is high due to the high number of clinical trial failures, primarily due to poor efficacy.

2. Drug indications with human genetic support are more likely to advance through clinical trials and be approved.

3. A genetic priority score (GPS) has been developed that can effectively prioritize drug targets based on genetic evidence, improving the efficiency of drug discovery.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article titled "Development of a human genetics-guided priority score for 19,365 genes and 399 drug indications" discusses the development of a genetic priority score (GPS) to prioritize drug targets during the early stages of drug discovery. While the article provides valuable information on the potential benefits of incorporating human genetics into drug development programs, there are several points that need to be critically analyzed.

One potential bias in the article is the focus on the positive aspects of using human genetics in drug development while downplaying any potential limitations or challenges. The article highlights studies that show drugs with human genetic support are more likely to advance through clinical trials and be approved. However, it fails to mention any studies or evidence that may contradict these findings or raise concerns about relying solely on genetic evidence for drug target prioritization.

Additionally, the article claims that drugs supported by the GPS were more likely to progress through clinical trials without providing specific data or evidence to support this claim. It would be helpful to see actual success rates or statistics comparing drugs supported by the GPS with those that are not.

Furthermore, while the article mentions multiple levels of genetic support associated with drug indications and side effects, it does not explore any potential risks or limitations of relying solely on genetic evidence. Genetic variation can be complex and influenced by various factors, and it is important to consider other factors such as environmental influences and individual variability in response to medications.

The article also lacks discussion on potential ethical considerations related to using human genetics in drug development. For example, there may be concerns about privacy and consent when using data from electronic health records linked biobanks for phenome-wide studies.

Another limitation is that the article does not provide a comprehensive overview of all available genetic and functional resources used in developing the GPS. It briefly mentions some sources such as ClinVar, HGMD, and OMIM but does not provide detailed information on how these databases were utilized or any potential biases associated with them.

Additionally, the article does not explore any potential counterarguments or alternative approaches to drug target prioritization. It presents the GPS as the solution without considering other existing frameworks or methodologies that may also be effective in prioritizing drug candidates.

Overall, while the article provides valuable insights into the development of a genetic priority score for drug target prioritization, it lacks a balanced and critical analysis of the limitations, potential risks, and alternative approaches. It would benefit from providing more evidence to support its claims and addressing potential biases or limitations in the data sources used.

# Topics for further research:

* Limitations of using genetic evidence for drug target prioritization
* Risks and challenges of relying solely on human genetics in drug development
* Ethical considerations of using human genetics in drug discovery
* Alternative approaches to drug target prioritization
* Critiques of the genetic priority score (GPS) methodology
* Comprehensive overview of genetic and functional resources used in drug target prioritization

# Report location:

<https://www.fullpicture.app/item/dae9afa1be51897e71b54fb5a10e1ecb>