

Determining if Delphi panel qualitative insights can be useful when informing drug pricing-related decisions in the drug development stage

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Objective

To determine whether the use of Delphi panel methodology to investigate factors influencing pharmaceutical drug pricing-related decisions could provide insights for manufacturers and healthcare decision-makers.

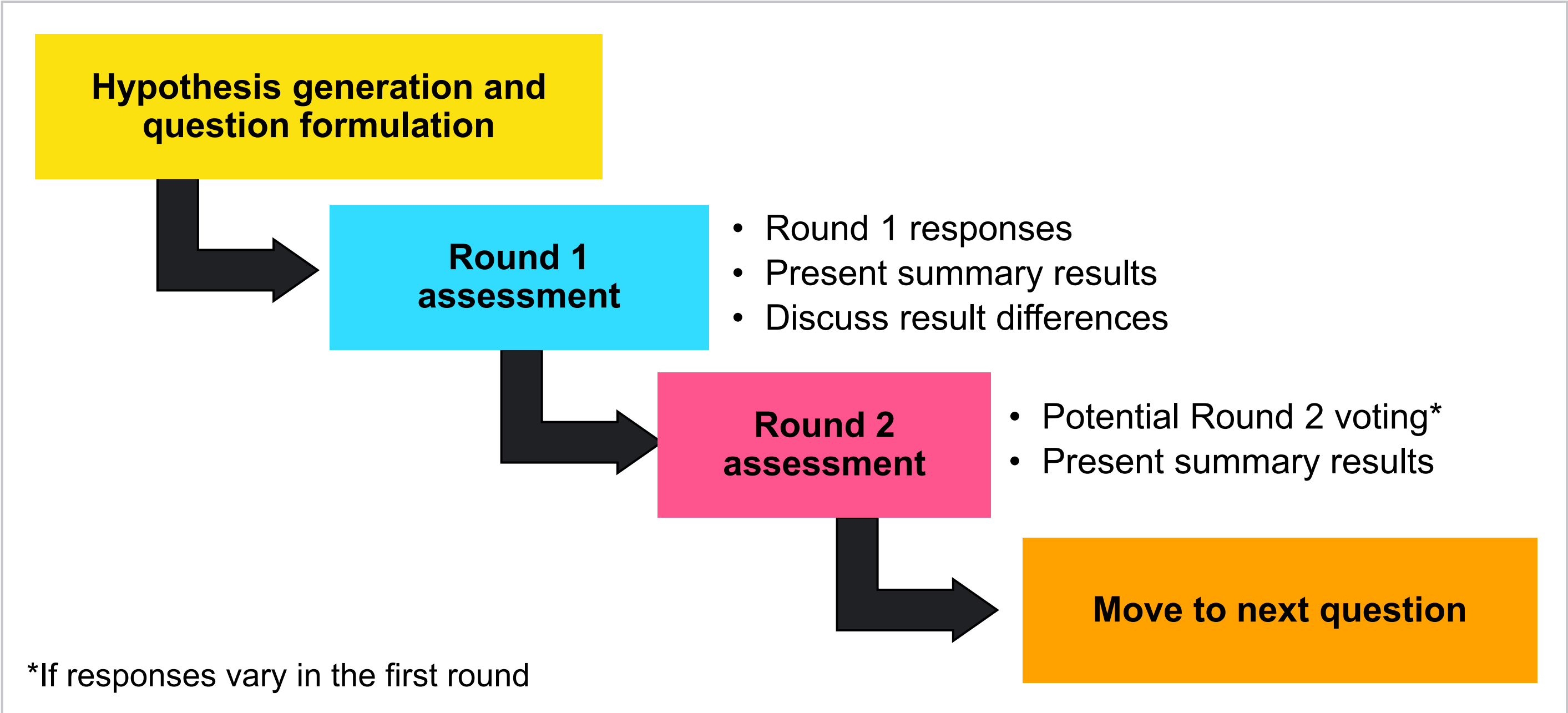
Background

Delphi methods can be defined as a structured process that relies on a panel of experts' collective opinion, refined through iterative feedback, to develop consensus on specific topics and is more reliable than individual opinions.^{1,2} The methodology involves two rounds of "voting" for each question presented to a panel of experts. After each round, a facilitator provides an anonymized summary of the experts' opinions and rationale. This process continues until the group reaches a consensus. Clear criteria for achieving consensus must be pre-defined (Figure 1).^{1,2} This methodology has gained acceptance in various fields of healthcare research for making informed decisions where direct evidence is scarce.^{1,2} The Delphi method helps to gain qualitative insights and a deeper understanding of stakeholder preferences by achieving consensus.^{2,3} Pharmaceutical drug pricing process is complex, and pricing decisions are influenced by multiple factors, including^{4,5,6}:

- Potential competitors/competitive landscape
- Demand for the drug
- Perceived value of the drug
- Patients' needs
- Acceptable price points
- Patient accessibility and affordability

Investigating these factors can provide manufacturers with valuable insights into pricing dynamics.

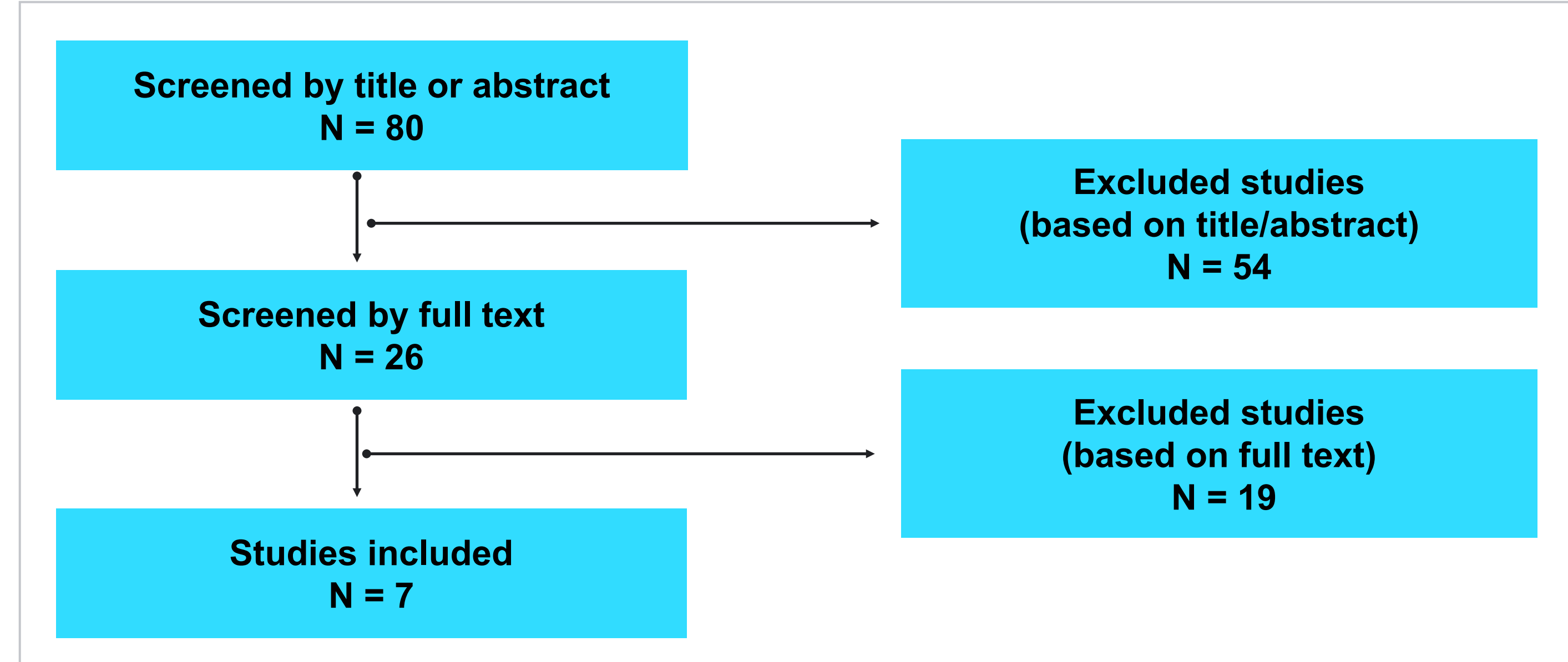
Figure 1: Delphi panel "voting" process



Methods

- A targeted literature review was conducted to identify published studies that used a Delphi panel to explore factors that need to be taken into consideration when pricing a drug (Figure 2).
- The key terms searched included "Delphi panel," "consensus study," "drug pricing," and "drug cost."
- All searches were conducted on PubMed and Google Scholar for articles published between 1995 and 2024.
- Abstracts and full texts were screened by two independent reviewers to select relevant articles based on the inclusion criteria.
- Studies published in English and covering all countries in the world were included.
- Studies addressing various factors such as coverage, reimbursement, and purchasing practices that could influence drug prices, as well as studies reporting minimal data, were excluded.

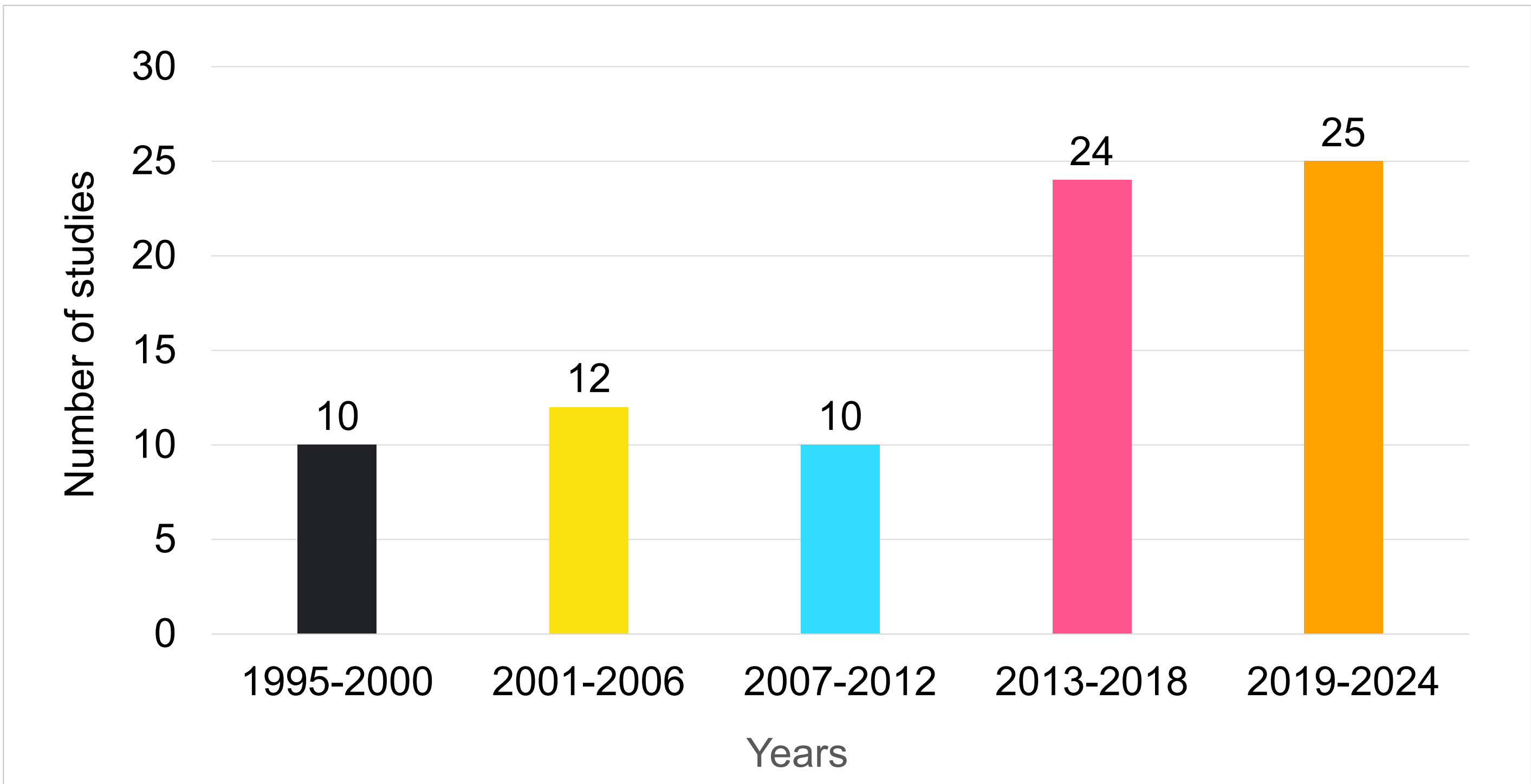
Figure 2: Study flow of literature selection and inclusion



Results

- Our search focused on articles published between 1995 and 2024; we found 80 articles that include "Delphi," "consensus study," "drug pricing," and "drug cost" in the title or abstract.
- Seven published studies utilized the Delphi methodology to address various aspects of drug pricing. These studies focused on:
 - Estimating drug costs and treatment price indexes^{7,8}
 - Forecasting shifts in drug price trends⁹
 - Evaluating the cost-effectiveness of drugs^{10,11}
 - Assessing drug spending policies¹²
- Our research demonstrated the growing use of Delphi panel over the past 11 years (Figure 3) in a wide range of pharmaceutical domains, including:
 - Policy development^{12,13}
 - Value-based contracting¹⁴
 - Drug sustainability in the market¹⁵
 - Forecasting trends in drug use and market stability⁹
 - Identification of unmet needs related to treatments and shaping treatment guidelines¹⁶
 - Drug management strategies¹⁷
- Based on broader level search in Google Scholar, we found published literature reviews that provided insights into various factors influencing pharmaceutical pricing.
 - These factors included market share, market competition, market dynamics, patient accessibility, pricing policies, and prescription drug affordability.^{4,5,6,18}
- Additionally, we discovered studies that highlight the use of qualitative techniques in gathering multiple stakeholder perspectives leading to make more informed decisions.¹⁹
- Swart et al utilized Delphi panel to align the interests of key stakeholders and inform the development of innovative pharmaceutical value-based contracts.¹⁴
- Delphi studies have limitations due to the lack of validated quality parameters for their evaluation.¹

Figure 3: Delphi method utilization trend in healthcare research studies over past 29 years



Conclusions

- Published research supports effective use of the Delphi methodology to build consensus among diverse stakeholders in drug pricing and healthcare research to inform policy decisions and contract development in the pharmaceutical industry.^{13,14,20}
- Despite the limitations of the Delphi methodology and concerns around its applicability in healthcare research,¹ the Delphi panel's potential value in gaining insights into the factors influencing drug pricing decisions remains evident.
- The findings of our literature review emphasize the need for further research.
- Expanding the applicability of the Delphi methodology could help collect expert or stakeholder opinions on various factors influencing drug pricing.
- This approach enables pharmaceutical companies to make more informed pricing decisions during drug development, specifically before launch.

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