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Implementation Science in the Pharmaceutical Industry: Current Initiatives and Future Opportunities

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ADMINISTRATIVE INFORMATION

Support - No support.

Review stage at the time of initial registration - Data extraction.

Conflicts of interest - All four authors are affiliated with Merck Serono Co., Ltd., and there are no other conflicts of interest.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 November 2026 and was last updated on 12 November 2026.

INTRODUCTION

Review question / Objective This review provided the first overview of implementation science (IS) applications within the pharmaceutical industry and discussed the potential opportunities of using IS to enhance industry-initiated medical activities. Pharmaceutical industry, through the conduct of medical activities, plays a critical role in bridging the gap between evidence of medicinal products and routine clinical practice. This review provided the first overview of implementation science (IS) applications within the pharmaceutical industry and discussed the potential opportunities of using IS to enhance industry-initiated medical activities.

Background Biomedical research has long focused on whether a treatment/device/technology is effective in highly controlled populations, while translation into routine practice takes an estimated 17–20 years.

The pharmaceutical industry bridges the evidence–practice gap through medical education, patient support programs (PSPs), and field medical work, but these activities are mostly designed on the basis of individual perception of unmet needs rather than a systematic methodology — which can render the whole effort futile (e.g., the real barrier may be hospital workflows/governance, not lack of training).

Implementation science (defined as the scientific study of methods to promote systematic uptake of EBPs into routine practice) dates to ~2006 but has only recently become a hot topic for the industry, offering a rigorous, framework-driven methodology with precisely defined targets and measurable impacts.

Rationale Current medical activities lack systematic methodology and measurable effects; IS provides a rigorous framework and implementation outcomes, so this review offers the first overview of its applications in industry and identifies opportunities.

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METHODS

Strategy of data synthesis Data were presented in both narrative and tabular formats.

Eligibility criteria Inclusion: published studies that evaluated the adoption, acceptance, implementation, scale-up, or sustainability of an evidence-based practice or intervention; use of an IS framework/theory was not a prerequisite; restricted to original articles published in English; where multiple publications from the same study were eligible, all were included if they provided additional information.
Exclusion: articles not considered core implementation science — i.e., those that only mentioned future implementation relevance, scalability, or practical implications without conducting an implementation-focused analysis.

Source of evidence screening and selection A profile for implementation science was searched with a profile for Top 25 pharmaceutical companies covering the period from inception to 15 March 2026. Two reviewers independently screened and extracted the data; any disagreements were resolved through further review and discussion.

Data management Data were extracted using a standardized data-extraction form that captured the first author, publication year, geographic location, disease area, study design, implementation-related framework/tool, EBP, implementation strategy, outcome measures, and pharmaceutical involvement; quality control involved dual independent extraction with discrepancies resolved by discussion. In addition, semi-structured group interviews were conducted (without audio recording), with a real-time AI-assisted transcription tool (Qwen) capturing key content, and the findings were synthesized thematically across the three functional groups and integrated with the literature review.

Language restriction English.

Country(ies) involved China.

Keywords Implementation science, pharmaceutical industry, medical activity, review, application.

Contributions of each author
Author 1 - Chen Chen - Literature search and review; data synthesis; Writing – original draft
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Author 2 - Ziqi Pan - Literature search and review; data synthesis; Writing – original draft
Author 3 - Su Zhou - Conceptualization: proposed the study concept.
Author 4 - Bin Wang - Conceptualization: proposed the study concept; Writing – original draft.

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