

BACKGROUND

- Pharmacogenetics (PGx) testing reveals genetic differences influencing variation in patients' responses to medications.¹
- This variation could negatively impact the effectiveness and safety of medications.²
- Since community pharmacists are highly accessible drug experts, they can provide PGx testing and make therapeutic recommendations within the community pharmacy setting.²
- Therefore, a scoping review of research addressing PGx provision in the community pharmacy is needed to offer insight(s) for future research to widely implement this service.

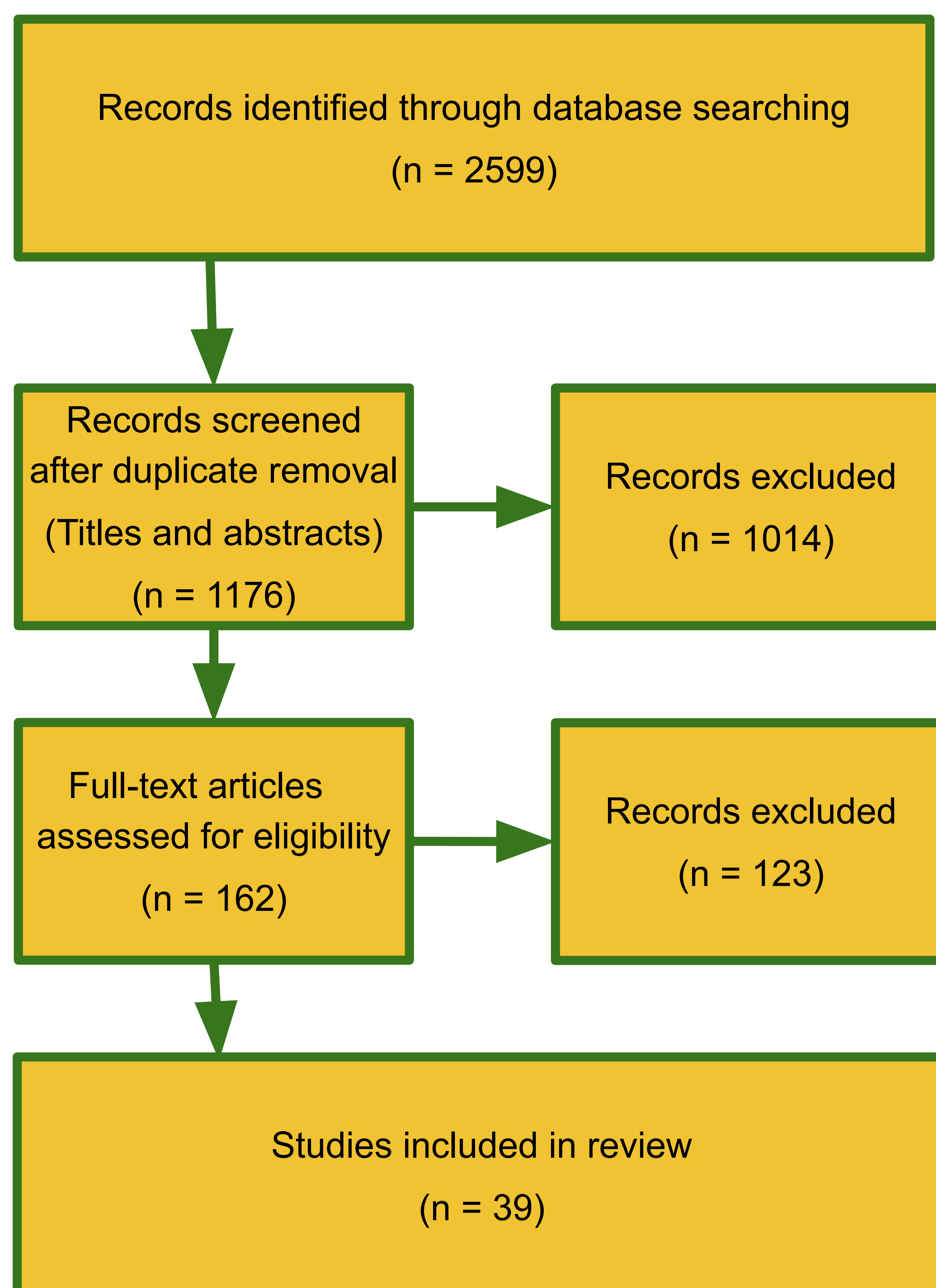
OBJECTIVES

This review aimed to explore research on PGx provision within the community pharmacy setting and summarize the 1) objectives, 2) study designs, and 3) main findings of this literature.

METHODS

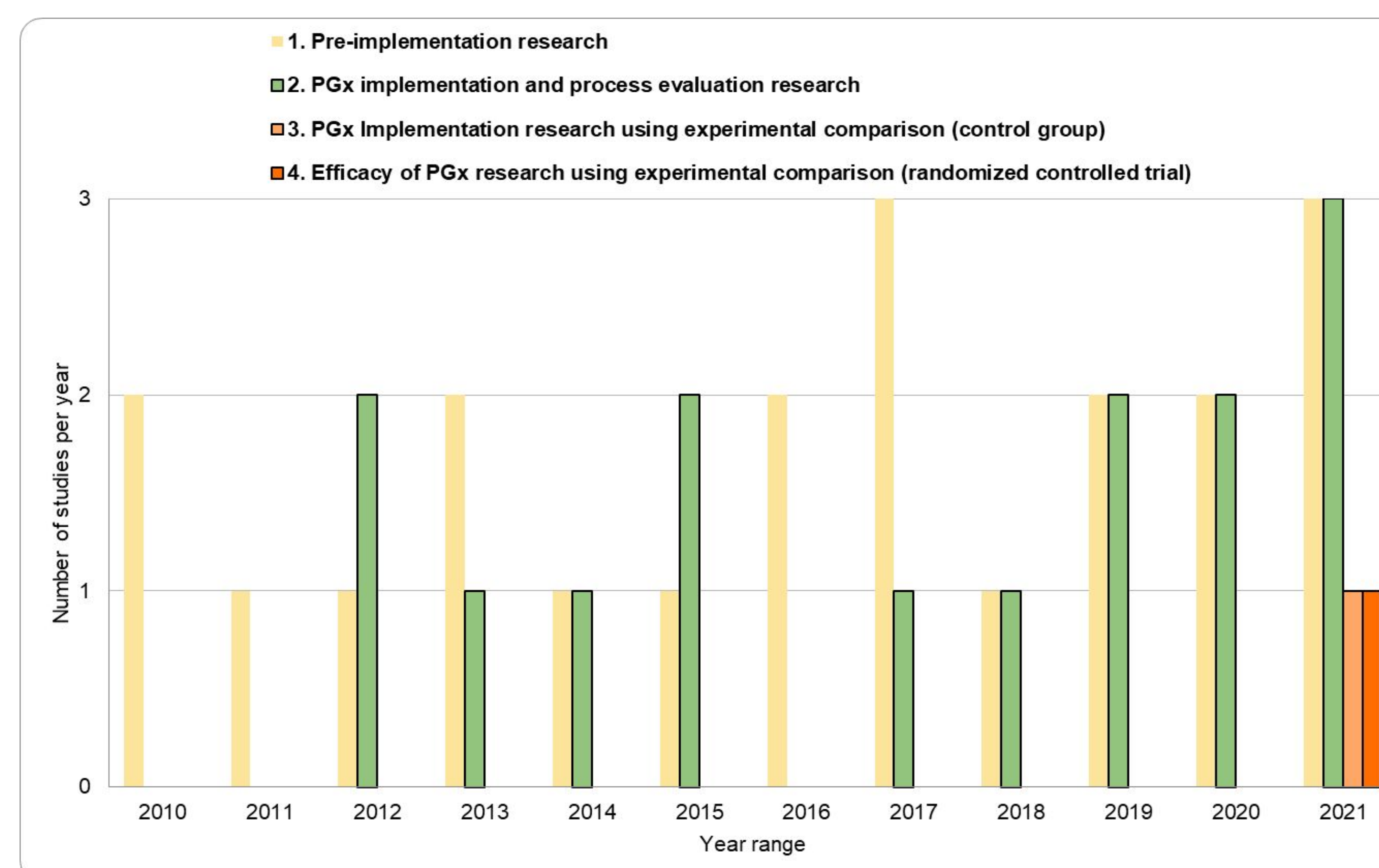
PRISMA Flow Diagram of The Literature Search

- Database:** Ovid MEDLINE, Embase, CINAHL, and Scopus
- Keywords used in search strategy:** "Community Pharmacy" + "Pharmacogenomic Testing"
- Inclusion criteria:**
 - Community pharmacy is the setting of research
 - Community pharmacists, and/or patients recruited from a community pharmacy constitute all or part of the sample
 - Empirical research in English
- Exclusion criteria:**
 - Genetic testing not for medication management
 - Non-full paper research (posters or abstracts) .



RESULTS

Figure (1): Number of studies in each research group*



*One study that had the inclusion criteria, but PGx was not the main focus, was published in 2003. Publishing studies that focused on PGx implementation within the community pharmacy setting started in 2010 as shown in the figure.

Table (1): Categories of included studies

Category*	Range of publication date	Definition of category	Percentage of studies (n)
1. Pre-Implementation Research	2003-2021	Research conducted with participants who had not experienced PGx testing using surveys and interviews	56 (22)
2. PGx implementation and process evaluation research	2012-2021	Prospective single cohort studies that assess feasibility	38 (15)
3. PGx Implementation research using experimental comparison (control group)	2021	Control group to pilot efficacy	2.5 (1)
4. Efficacy of PGx research using experimental comparison (randomized controlled trial)	2021	Randomized controlled trial to assess efficacy of PGx	2.5 (1)

*Studies were categorized based on objective and research design

- Majority of the included studies were quantitative studies addressing pharmacists' perceptions in North America.
- Studies in four groups revealed that, overall, pharmacists and patients had positive beliefs about PGx, yet challenges exist.

CONCLUSION

- Research in this field is dynamic and follows an anticipated path for new clinical services.
- Leveraging research paradigms such as qualitative research and mixed methods research would provide new dimensions.
- Researching effective communication between stakeholders (i.e pharmacists, patients, prescribers, and healthcare policymakers) is essential.
- Challenges to address are cost effectiveness, PGx data confidentiality, providing pharmacists' training that support self-efficacy, and providing patients with tools that allow for improved awareness and understanding needed to make informed decisions about PGx testing.

FUTURE DIRECTIONS

- Data from this scoping review will be mapped on the Theoretical Domains Framework (TDF)³ and the Behavior Change Wheel (BCW)⁴ to inform intervention development for behavior change supporting PGx implementation within the community pharmacy setting.

LIMITATIONS

- Some publications might have been missed if they were not full papers published in English language.

REFERENCES

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