

Drug Repurposing: Policy Barriers to Using Existing Pharmaceuticals in
New Indications: Results of a Systematic Literature Review

HPR155

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INTRODUCTION

- The current pharmaceutical innovation model is increasingly unable to meet the healthcare demands of an increasing, and ageing, global population.¹
- Drug repurposing (DR) - finding new therapeutic uses for existing medications - offers a promising strategy by potentially reducing development time and costs.²
- Currently, significant hurdles restrict the broader application of DR³; however, these have not yet been examined comprehensively.

OBJECTIVES

- This study was conducted within the European Union funded REMEDI4ALL Consortium to systematically identify and analyze the key policy obstacles hindering the success of DR.

METHODS

- A systematic literature review (SLR) was conducted in 2023 searching PubMed and Embase databases for articles published after January 1st, 2013, complemented with grey literature search and reference searching.
- As an extension to the SLR, expert interviews were carried out with all partner organizations within the REMEDI4ALL consortium.
- The results of the SLR and interviews underwent thematic analysis to create a barrier list. Barriers were categorized into main themes and subthemes.
- Validation workshops were held with consortium members and external experts from all major stakeholder groups to validate and further adjust the final list of barriers.
- The development process is described in detail in Figure 1.

RESULTS

- 875 barrier extracts were processed in the thematic analysis.
- A total of 80 experts participated in the validation workshops.
- After the validation workshops the final barrier list contains 33 barriers in 9 main themes and 20 sub-themes, as shown in Table 1.

Perception on repurposing of off-patent medicines	3 barriers, on general perception and R&D cost perception
Business case for repurposing on-patent compounds	2 barriers, on data exclusivity and incentives for originators
Business case for repurposing off-patent medicines	2 barriers, on free ridership and return-on-investment
Non-industry funded DR	5 barriers, on interest, availability of funding and funding models
Ecosystem for non-profit or SME driven drug repurposing	5 barriers, on infrastructure, resources and know-how
Market Authorization	6 barriers, on evidence generation, pathway and off-label use
Exclusivity rights	5 barriers, on regulatory and patent protection
Health technology assessment	2 barriers, on evidence requirement and process
Pricing	3 barriers, on price potential and differential pricing

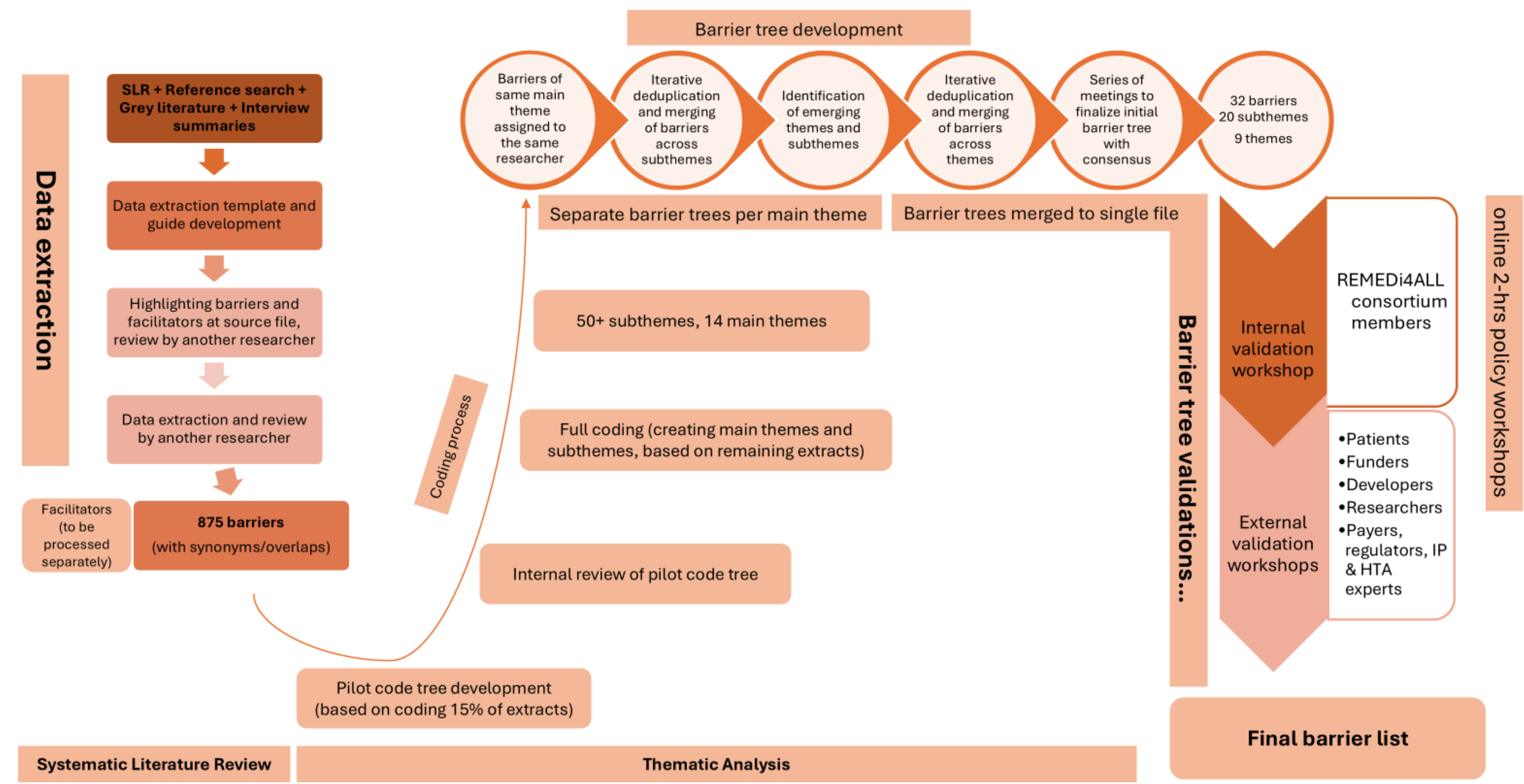


Figure 1. Process of the barrier list development

Table 1. Final Barrier List

CONCLUSION

- Our comprehensive list of policy barriers provides a robust starting point to prioritize policy issues according to their perceived impact and actionability by different stakeholder groups.
- Future research should focus on developing actionable policy recommendations to enhance the DR ecosystem and facilitate broader access to repurposed medicines.

REFERENCES

1. Naja, S., Makhlof, M. M. E. D., & Chehab, M. A. H. (2017). An ageing world of the 21st century: a literature review. *Int J Community Med Public Health*, 4(12), 4363-9.
2. Ashburn, T. T., & Thor, K. B. (2004). Drug repositioning: identifying and developing new uses for existing drugs. *Nature reviews Drug discovery*, 3(8), 673-683.
3. Krishnamurthy, N., Grimshaw, A. A., Axson, S. A., Choe, S. H., & Miller, J. E. (2022). Drug repurposing: a systematic review on root causes, barriers and facilitators. *BMC health services research*, 22(1), 970.

