

The Impact of Pharmacist Care on Diabetes Outcomes in Primary Care Settings: An Umbrella Review of Systematic Reviews

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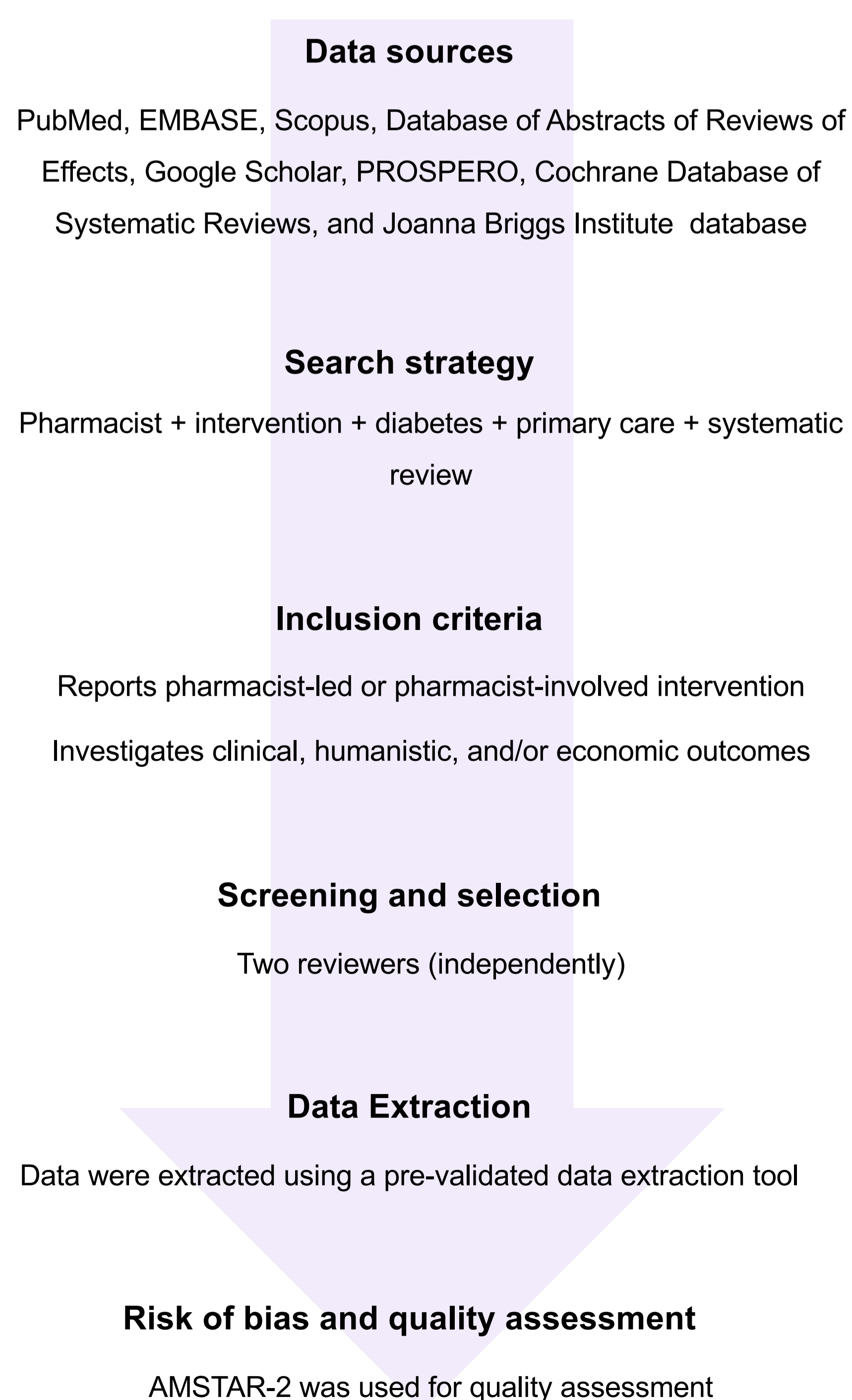
Background

- Diabetes is a chronic, debilitating illness of an escalating prevalence worldwide¹
- In Qatar, the prevalence of diabetes is 15.5% in 2019²
- By 2030, diabetes will be the seventh cause of death³
- Primary care plays a role in diabetes management – a focus in Qatar National Health Strategy 2018-2022⁴
- Several systematic reviews of primary studies evaluating pharmacist's impact on diabetes outcomes in primary care setting were published^{5,6}
- Common pitfalls are the focus on limited number of outcomes, inclusion of multiple types of studies, and consideration of a small number of studies
- Moreover, clinicians and policymakers have a challenge in decision making using reviews of diverse outcomes
- Therefore, an umbrella review of systematic reviews will compare and contrast the findings of separate reviews

Objectives

- To perform a comprehensive review of systematic reviews evaluating pharmacist's impact on diabetes-related clinical, humanistic, and economic outcomes in primary care settings
- To synthesize and summarize the main outcomes of pharmacist's interventions in the management of diabetes in primary care settings

Methods



Results

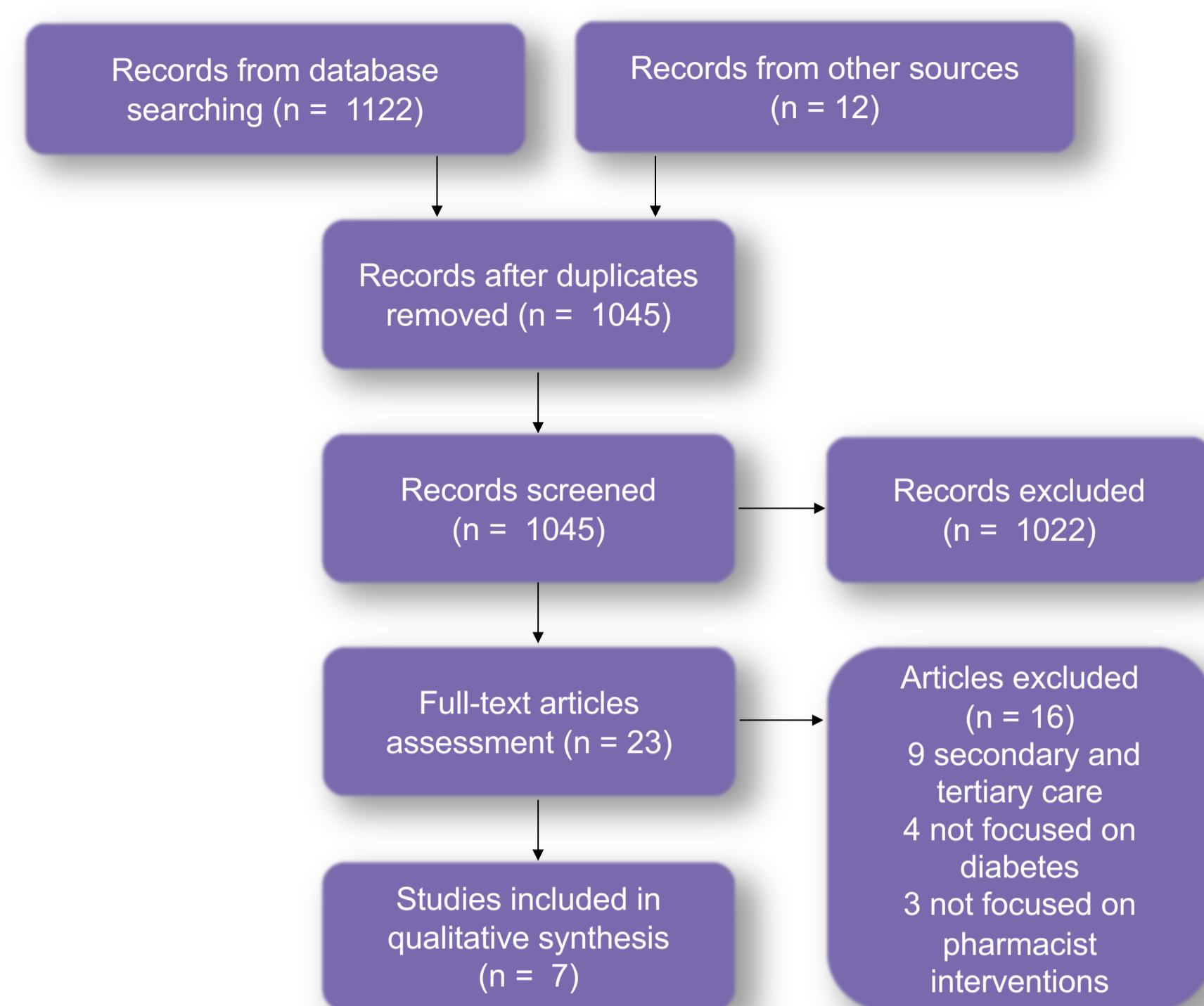


Figure 1. PRISMA flow diagram of the study selection process

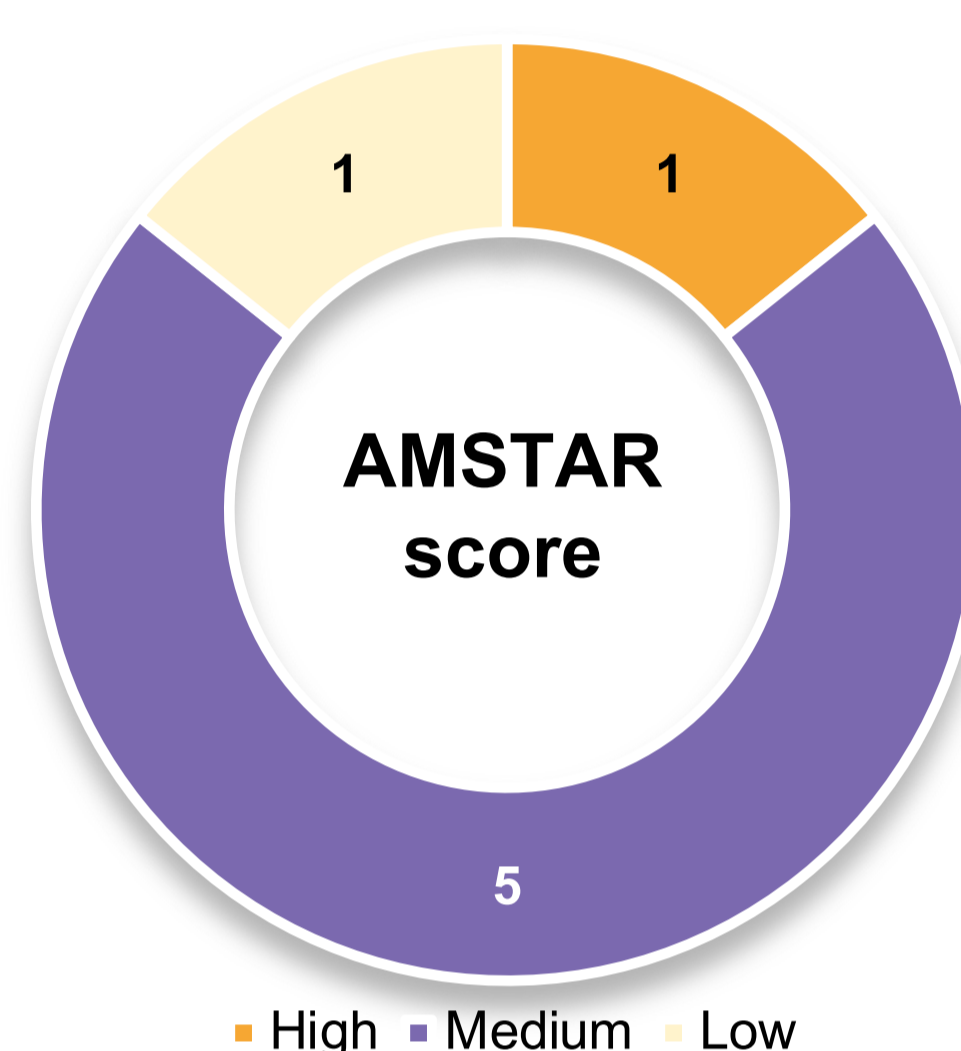


Figure 2. AMSTAR-2 score of the included systematic reviews

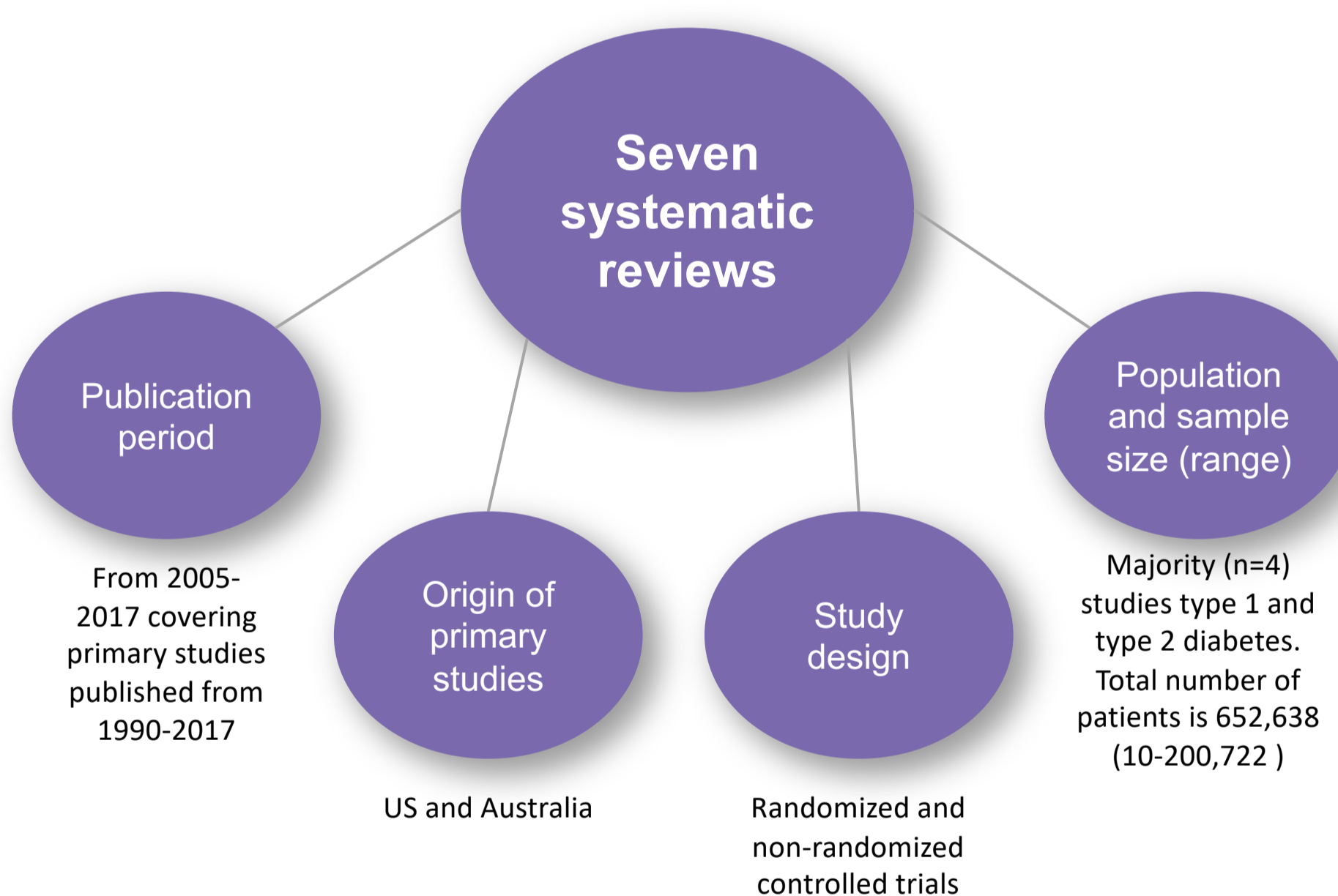


Figure 3. Characteristics of the included systematic reviews

Clinical outcomes

- Improved HbA_{1c} by 0.5-1.1%
- Improved systolic BP by 2.92-7.58 mmHg
- Improved diastolic BP by 1.01-6 mmHg
- Improved BMI by 0.19-0.79 kg/m²
- Improved total cholesterol by 0.24-0.53 mmol/L, LDL by 7.1-14.1 mmol/L, HDL by 0.02-0.61 mmol/L

Humanistic outcomes

- No conclusion can be made due to the use of different assessment tools

Economic outcomes

- Benefit-to-cost ratios: 1:1 - 8.5:1
- Cost-saving: \$8 - \$85,000 per person per year
- Cost-utility: Pharmacist-managed group dominated the usual care group
- Cost of avoiding a diabetes-related cardiovascular and cerebrovascular event: \$62,803 and \$114,576
- Average cost per 1% HbA_{1c} reduction: \$174/person

Figure 4. Impact of pharmacist's interventions on ECHO model

Results (Cont'd)

Below is a summary of the reported impact of pharmacist's interventions by the 7 systematic reviews:

- Providing patient and family education about diabetes self-care, lifestyle changes, exercise, smoking cessation, medication adherence, and medication side effects
- Performing drug therapy management
- Clinically assessing patients, reviewing medications, and reviewing medical health records
- Training patients on the use of blood glucose meters
- Following patients up regularly
- Prescribing medications
- Preventing diseases through immunization provision
- Evaluating drug therapy
- Communicating with other healthcare professionals and aiding clinical decision-making through providing therapeutic recommendations

Limitations

- There is a high heterogeneity among the primary studies as a result of the variations in original studies setting, number of patients, type of pharmacist's interventions, and outcomes measures
- Each systematic review stratified the primary studies differently (based on study setting, disease, outcome, or not stratified)

Conclusion

- Various pharmacist's interventions provided to patients with type 1 or type 2 diabetes in primary care setting were shown to improve clinical, humanistic, and economic outcomes.
- There is a need to develop a comprehensive conceptual framework regarding the types of pharmacist's interventions that target patients with diabetes attending primary care facilities, their families, and healthcare systems

References

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