

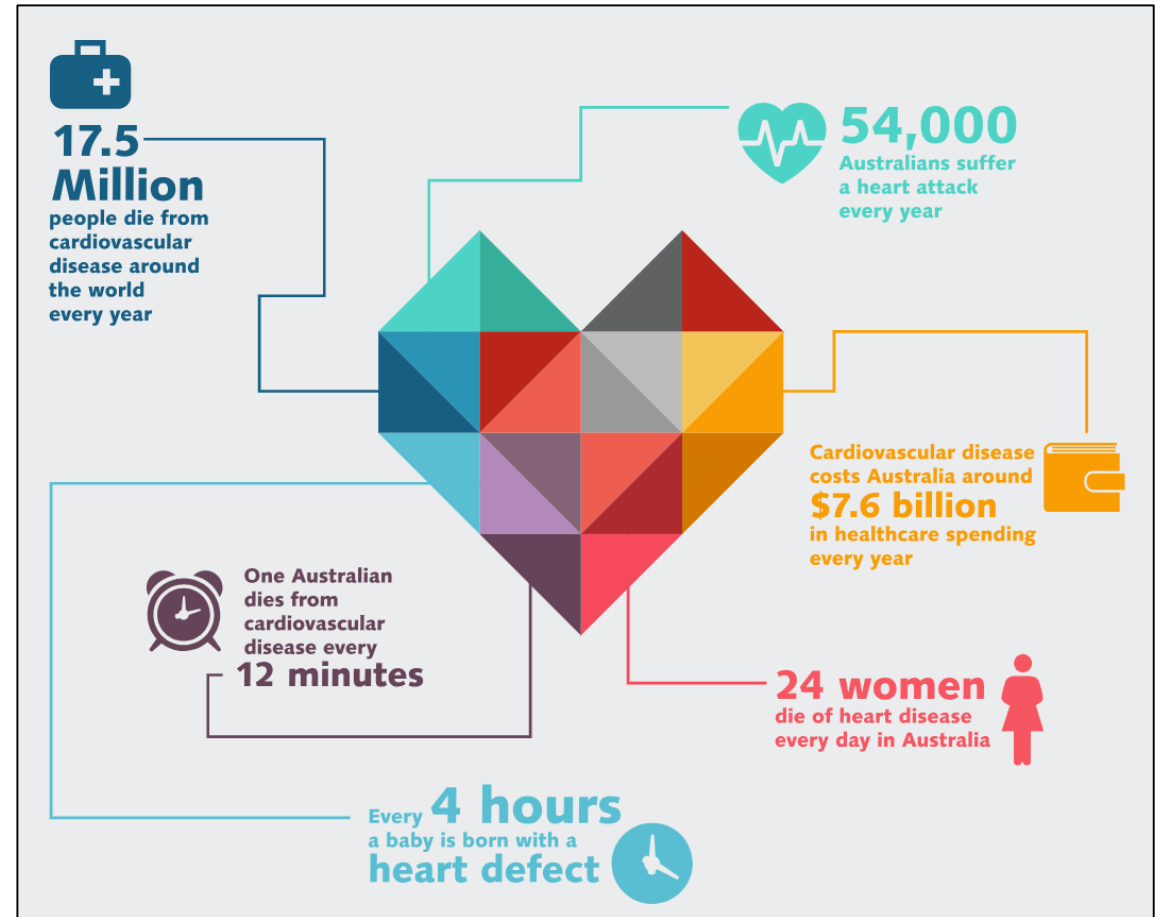
Strategies to improve statin medication adherence among patients at risk of cardiovascular disease identified through electronic health records: A literature review

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Cardiovascular Diseases (CVD)

- Disorders of the heart and blood vessels
- High cholesterol can contribute to various CVD
- Cholesterol is related to atherosclerosis, an inflammatory process that leads to the blocking of blood vessels



Statins

- Statins are a group of lipid/cholesterol-lowering medications
- Commonly used for primary and secondary prevention of CVD
- Statin use increases with age
- Adverse effects of statin include myopathy or impaired cognition
- 55% of people have >80% statin adherence in South-Western Sydney
- Statin adherence is higher for secondary prevention of CVD compared to primary prevention

Measuring statin adherence

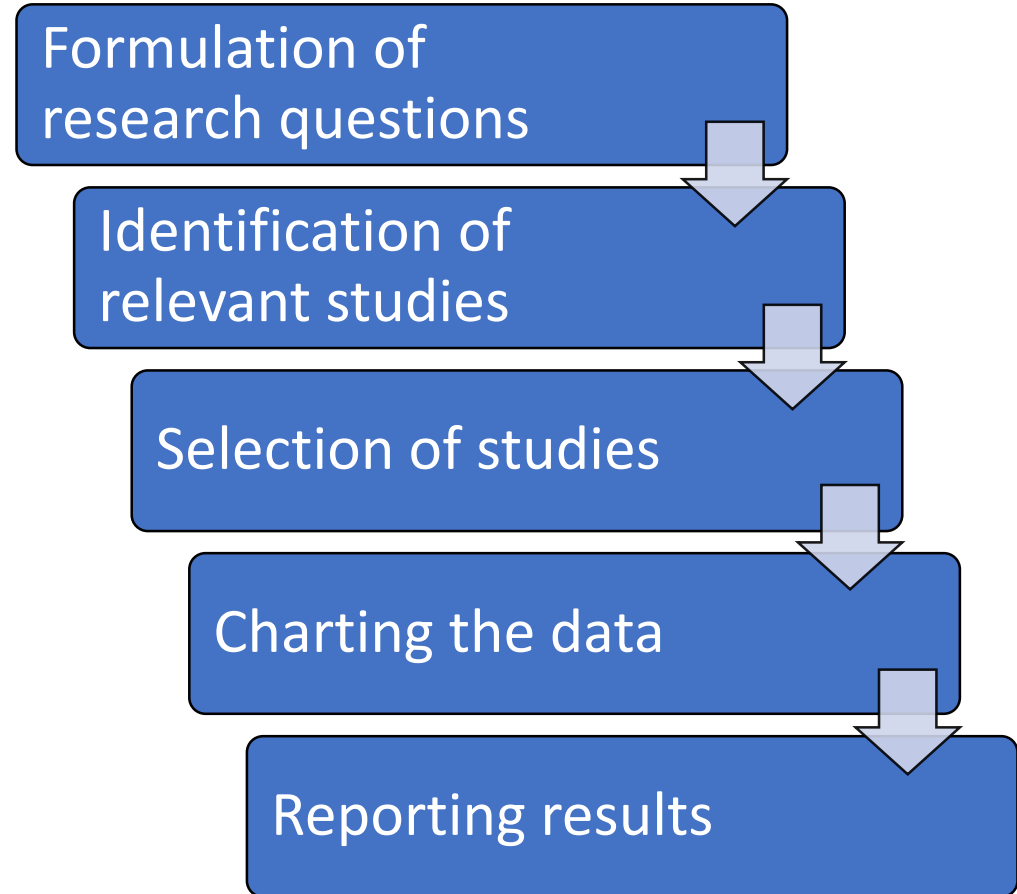
- **Direct method:** Drug concentration in blood or urine and biochemical assay
- **Indirect method:** Pill counts, self-reports, statin dispensation and refills, physiological markers like LDL-C levels, drug concentration, medication possession ratio (MPR) and proportion of days covered (PDC)

Objectives of this literature review

- To identify various strategies used to improve statin adherence among patients identified through electronic health records;
- To determine the effectiveness of these strategies in terms of the various measurements used in each study

Methods

- Articles published in the last ten years (2012 to 2022)
- The search was performed on 17 November 2022, using PubMed
- Search terms were related to adherence (i.e., “adherence strategies” AND “improving adherence”) and prescription drug (i.e., “statin”)



Inclusion and exclusion criteria

- **Inclusion criteria:**

- Intervention studies that measured the effect on improving statin adherence
- Study population of age ≥ 18 years, identified through electronic health records

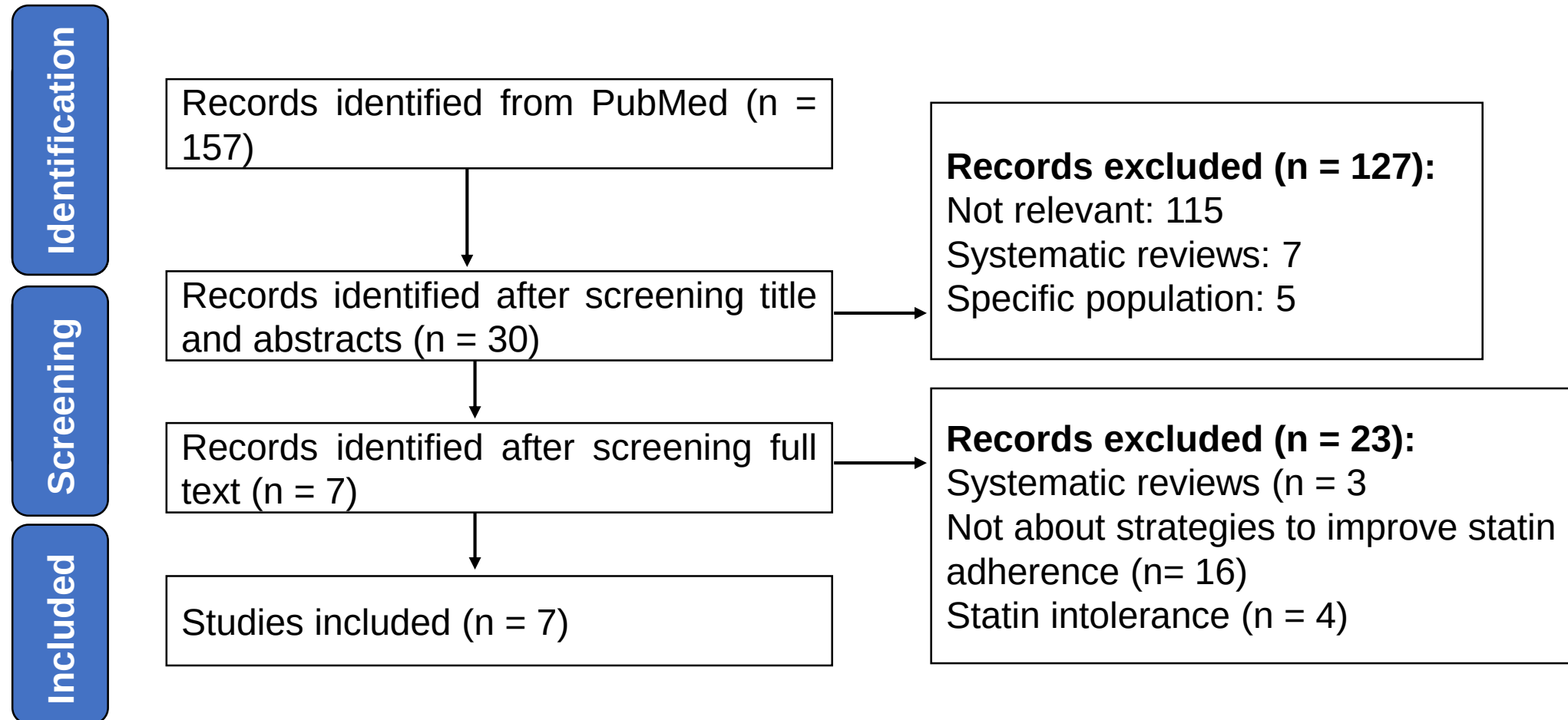
- **Exclusion criteria:**

- Interventions limited to specific populations, such as patients with Alzheimer's Disease
- Not written in English language

Extracted papers

- The initial search results showed 157 articles
- After the title, abstract and full-text screening, 7 articles were found
- All participants were identified through digital systems that store health information or EHR
- Extracted information: Place and duration of the study, information on study participants, description of the intervention, adherence measure, and outcomes

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)



Results

Strategies	No. of papers	Outcome measures	No. of papers
Face-to-face counselling	1	MPR	1
Reminders through texts/calls/letters	4	Self-reports	2
Medication refills	2	Medication dispensation	1
Motivational texts	1	PDC	2
Educational sessions	1	Composite medication adherence score (CMAS)	1
Social media-based interventions	1		
Follow-up visits	1		

Conclusion

- In this review, we identified and summarized several strategies to improve statin adherence
- Different strategies work in different populations
- Phone calls, text messages, counselling and motivating through face-to-face interaction, educational sessions, social media, frequent medication refills, and follow-up visits

Recommendations

- EHR use helps in identifying patients who are not adherent to statin
- EHR can also be used to provide targeted interventions to improve adherence to these patients
- A multicomponent intervention package can be co-designed with patients and family members of patients so that the best outcome is achieved in terms of statin adherence

References

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THANK YOU!