

The Effectiveness of Thrombosis Service Model on Economic Outcomes of Patients with Venous Thromboembolism – A Systematic Review

¹Mpinganzima, Roxanne; ^{1,2}Lee, Tiffany; ¹Nguyen, Hai; ¹Bonsu, Kwadwo O; ³Farrell, Alison; ^{1,2}Young, Stephanie

1 School of Pharmacy, Memorial University, St. John's, NL, Canada, 2 Pharmacy Program, Eastern Region, NL Health Services, St. John's, NL, Canada, 3 Health Science Library, Memorial University, St. John's, NL, Canada



INTRODUCTION

- ❖ Venous Thromboembolism (VTE) mainly comprises of Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE), with PE having a higher mortality rate than DVT.
- ❖ VTE affects nearly 4 million people worldwide and incidence rates increase markedly with age.
- ❖ The economic burden remains substantial for VTE patients and the healthcare system, yet studies on economic analysis of thrombosis and anticoagulation care models aimed at alleviating the burden are limited.

AIM

- ❖ To consolidate all available evidence and identify the differences in economic outcomes observed by VTE patients utilizing a specialized thrombosis or anticoagulation care model versus those receiving usual care (care outside or in the absence of a specialized service).

METHODS

We conducted a **systemic review** following the PRISMA 2020 Checklist using the following processes:

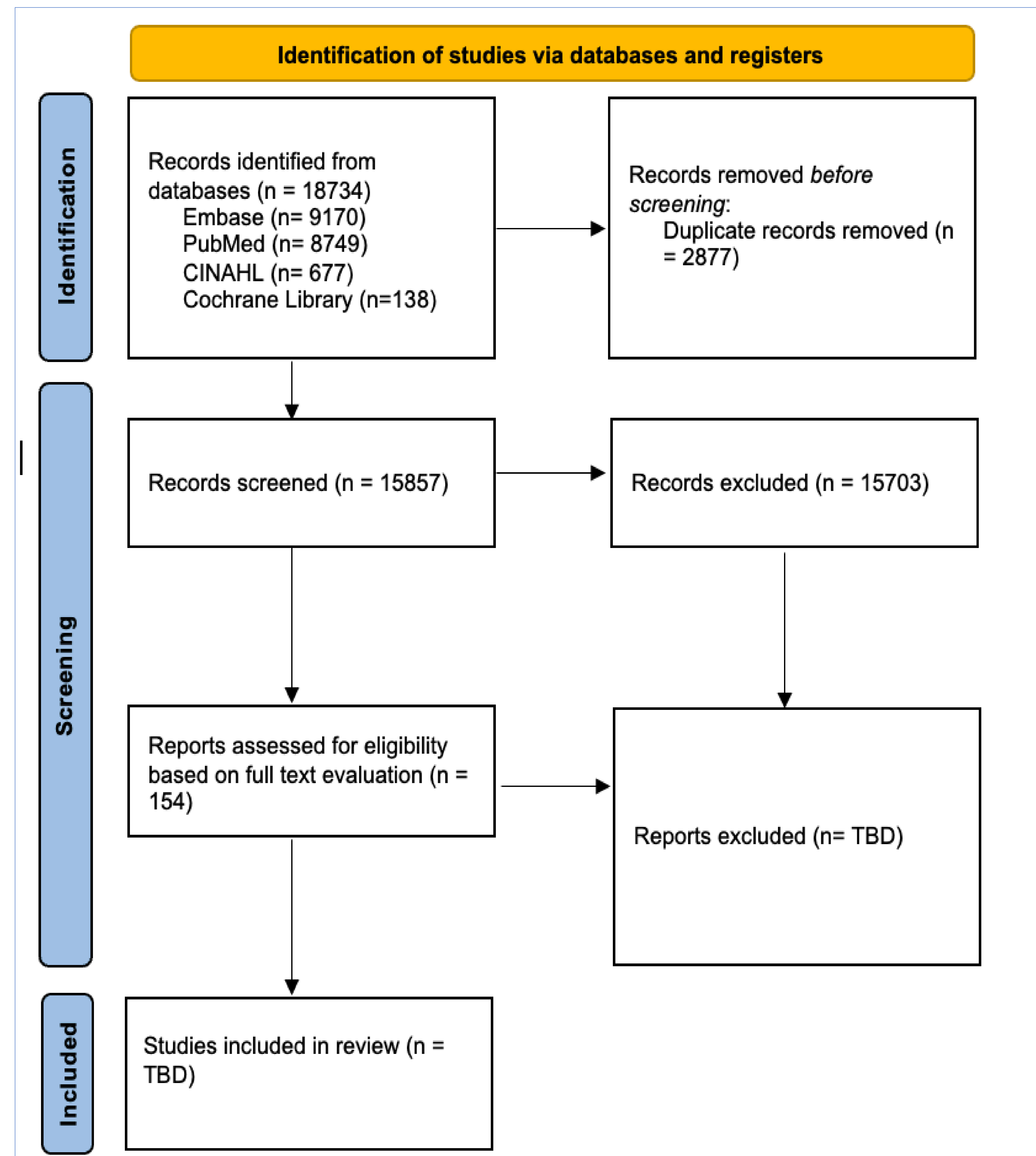
- ❖ A comprehensive search of PubMed, Embase, CINAHL, and Cochrane Library from inception to [date] was performed (see Figure 1) and papers were organized using COVIDENCE.
- ❖ A combination of headings and keywords for VTE, models of thrombosis or anticoagulation care, and economic evaluation were used to guide the search.
- ❖ Studies were included if they involved adult patients with a history of VTE, compared different models of thrombosis or anticoagulation services, included an economic evaluation of the different models of care, and could be classified as observational, experimental, quasi-experimental, mixed methods, or quantitative.
- ❖ Studies were excluded if they did not discuss thrombosis or anticoagulation models of care, had patients with no history of VTE, or were classified as systematic reviews, commentaries, newsletters, and opinion pieces.
- ❖ Title and abstract screening was carried out by two independent reviewers (RM and SY) following predefined inclusion/exclusion criteria.
- ❖ Full text screening is ongoing.
- ❖ Data extraction, and quality assessment will be performed by the two independent reviewers. Any discrepancies will be resolved by consensus.
- ❖ Data synthesis will include narrative summaries.
- ❖ The Consolidated Health Economic Evaluation Reporting Standards (CHEERS) Checklist will be used for quality assessment.

RESULTS

Systematic Review

- ❖ A total of 18734 articles were identified, and title and abstract screening was performed for 15857 articles according to a predetermined inclusion and exclusion criteria. Only 154 articles are currently undergoing full-text review.

Figure 1. PRISMA Flow Diagram



CONCLUSIONS

- ❖ The results of this review may be used by policy makers in formulating policies/programs to optimize care for patients requiring thrombosis and anticoagulation care.
- ❖ The results will also be used to inform an economic analysis of a current thrombosis service model of care.
- ❖ These findings may help in identifying knowledge gaps in existing research and pave the way for future research initiatives.

ACKNOWLEDGEMENTS

- ❖ I would like to express my gratitude to my supervisors, Dr. Stephanie Young, Dr. Tiffany Lee, Dr. Hai Nguyen, and members of my research team for their unwavering support and guidance in my academic endeavors.
- ❖ This work was supported by Mitacs through Mitacs Accelerate Program.

REFERENCES

1. White RH. The epidemiology of venous thromboembolism. *Circulation*. 2003;107(23_suppl_1)
2. Tagalakis V, Patenaude V, Kahn SR, Suissa S. Incidence of and mortality from venous thromboembolism in a real-world population: The Q-VTE study cohort. *The American Journal of Medicine*. 2013;126(9).
3. HEIT JA. Venous thromboembolism: Disease burden, outcomes and risk factors. *Journal of Thrombosis and Haemostasis*. 2005;3(8):1611–7.
4. Brækkan, S. K., & Hansen, J.-B. (2023). VTE Epidemiology and challenges for VTE prevention at the population level. *Thrombosis Update*, 10, 100132. <https://doi.org/10.1016/j.tru.2023.100132>
5. Buote, R., Asghari, S., Aubrey-Bassler, K., Knight, J. C., & Lukewich, J. (2019). Primary health care services for patients with chronic disease in Newfoundland and Labrador: A descriptive analysis. *CMAJ Open*, 7(1). <https://doi.org/10.9778/cmajo.20180091>

CONTACT INFORMATION

Roxanne Mpinganzima (rmpinganzima@mun.ca)